United Nations Office for Sustainable Development
Incheon, Republic of Korea

2021-22 Executive Training Course for Policymakers on the 2030 Agenda for Sustainable Development

Incheon, Republic of Korea,

11-14 April 2022 (8:00pm – 10:30 pm – Korea Standard Time)

Training Report

Submitted by

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Training Report on the
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"TO CHANGE THE WORLD, MY DEAR FRIEND SANCHO,
IS NEITHER MADNESS NOR UTOPIA; IT IS JUSTICE".

(Don Quijote, Miguel de Cervantes, 1605-1615)

Introduction

The Executive Training Course for Policy Makers on the 2030 Agenda for Sustainable Development (inter alia ETC) is a flagship programme of the United Nations Office for Sustainable Development (UNOSD) based in Incheon, Republic of Korea. This course is sought "to provide policymakers in central and subnational governments with the knowledge, skills and tools for implementation of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs) at all levels of society" (Concept Note, 2022 ETC for Policy Makers)[1].

Owing to the continuation of COVID-19 pandemic, it was again not possible to bring the participants to Incheon for the course as it has done till 2019. This year, the 7th edition of the ECT course took place for the second time on 11-14 April 2022 via internet. A series of online webinars over four days were organised in order to continue the ongoing effort of UNOSD in supporting countries to prepare themselves to implement the 2030 Agenda and the SDGs as well as, to some extent, to effectively conduct their voluntary national reviews (VNRs). The focus of this year's ETC continued to align its learning objectives to examine the impacts of the current COVID-19 pandemic crisis and identify potential solutions to support a swift recovery from the pandemic and advance the delivery of the Sustainable Development Goals in the Decade of Action. In this context, a set of targets were shortlisted to be given specific attention so that policy options in addressing their fulfilment can be highlighted.

[1] https://unosd.un.org/sites/unosd.un.org/files/etc_2021-22_concpet_note_only_7_april_2022.pdf

Policy Context

Since the Resolution adopted by the General Assembly on 25th September 2015 on "Transforming Our World", the 2030 Agenda for Sustainable Development has been implemented globally for the past five years. While progress is being made concerning different individual sustainable development goals, the overall picture of progress regarding the necessary transformations as outlined in the 2030 Agenda for Sustainable Development remain uneven across countries and across different goals and targets.

The requisite transformations underpinned by the principles of *leaving no one behind, circularity and de-couplings* are:

1) education, gender and inequality (SDGs 1, 5, 7-10, 12-15, 17);

2) health, wellbeing and demography (SDGs 1, 2, 3, 4, 5 ,8, 10);

3) energy, decarbonisation, and sustainable industry (SDGs 1-16);

4) sustainable food, land, water, and oceans (SDGs 1-3, 5, 6, 8, 10-15)

5) sustainable cities and communities (SDGs 1-16)

6) digital revolution for sustainable development (SDGs 1-4, 7-13, 17)

(Source: Sachs, Schmidt-Traub, Mazzucato, Messner, Nakicenovic & Rockström, "Six Transformations to Achieve the Sustainable Development Goals (SDGs), 2019)[2], [3]

The Political Declaration of the 2019 SDG Summit[4] stresses the urgent need for concerted, accelerated action by all stakeholders at all levels to achieve the 2030 Agenda and ushered in the renewed commitment to redouble of collective effort to transform our world with greater scale and greater speed. With the aim to deliver the global SDGs and tackling the world's biggest challenges – ranging from poverty and gender to climate change, fairness and closing the financing gap - the "Decade of Action and delivery"[5] captures the essence of critical levers identified in the Global Sustainable Development Report (2019): "The Future is Now". In this context, ten areas requiring accelerated actions were confirmed in the 2019 Declaration:

- Leaving no one behind
- Mobilizing adequate and well-directed financing
- Enhancing national implementation
- Strengthening institutions for more integrated solutions
- Bolstering local action to accelerate implementation
- Reducing disaster risk and building resilience
- Solving challenges through international cooperation and enhancing the global partnership
- Harnessing science, technology and innovation with a greater focus on digital transformation for sustainable development
- Investing in data and statistics for the SDGs

[2] https://sdsn.eu/six-transformations-to-achieve-the-sustainable-development-goals-sdgs/
[3] Nature Sustainability. doi: DOI 10.1038/s41893-019-0352-9
[4] https://undocs.org/en/A/RES/74/4
[5] https://www.un.org/sustainabledevelopment/decade-of-action/

- Strengthening the high-level political forum

The Secretary General proposed three levels of action, i.e., global, local and people, to mobilise leadership, resources and citizen's action to generate an "unstoppable movement pushing for the required transformations" [6]. The online version of ETC for Policy Makers opened the possibility for people operate at these different levels to participate and benefit from the deliberation.

While more actions are necessary to push forward the 2030 Agenda, monitoring and regular stock-taking are the prerequisites for "doing the right thing" for effectiveness. As part of the 2030 Agenda for sustainable Development, adopted by the General Assembly on the 25th September 2015, there is an explicit commitment to systematic follow-up and review of implementation of this Agenda over the whole duration of the 2030 Agenda. It was recognised in the original Declaration that "A robust, voluntary, effective, participatory, transparent and integrated follow-up and review framework will make a vital contribution to implementation and will help countries *to maximize and track progress in implementing this Agenda in order to ensure that no one is left behind*" [7] (Clause 72, p. 31. *Italic added*). This political commitment also outlined a systematic approach to regular and inclusive reviews of progress at the subnational, national, regional and global levels. The United Nations High-level Political Forum on Sustainable Development (HLPF) has been designated attributing a central role to oversee a network of follow-up and review processes at the global level (Clause 82, p.33). As stipulated in paragraph 84 of the 2030 Agenda, regular reviews by the HLPF are to be voluntary, state-led, undertaken by both developed and developing countries, and involve multiple stakeholders.

Under the auspices of the Economic and Social Council, the HLPF shall host regular reviews in line with the 2030 Agenda and the SDGs. Since its inception in 2016, to date, a total number of 247 Voluntary Reporting by countries have already taken place and another 45 country VNR reports will follow suit in July this year.[8] It is obvious there has been great interests by countries, both developed and developing countries, to engage in this voluntary review exercise. More importantly, after a closer look at the landscapes of VNR reporting between 2016-2022, an important picture emerges. Some countries have already presented their country reviews for the third time, such as Switzerland and Columbia, Qatar and a host of other countries are making their second VNR report. It is not hard to imagine that these countries are motivated by the benefits derived from such voluntary review process and therefore continue to seek such opportunities of HLPF VNR reporting. This observation is also supported by some of the international organisations, including the United Nations and its Regional Commissions such as the UN Economic and Social Commission for Asia and the Pacific (ESCAP), when examining the added values of the second generation of VNRs[9].

[6] https://www.swissuniversities.ch/fileadmin/swissuniversities/import/11_Peter_Messerli.pdf
[7] https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E
[8] The countries who will present a VNR report in July 2022 are Andorra, Antigua, Argentina, Belarus, Botswana, Cameroon, Côte d'Ivoire, Djibouti, Dominica, El Salvador, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia (Republic of the), Ghana, Greece, Grenada, Guinea-Bissau, Italy, Jamaica, Jordan, Kazakhstan, Latvia, Lesotho, Liberia, Luxembourg, Malawi, Mali, Montenegro, Netherlands, Pakistan, Philippines, Saint Kitts and Nevis, Sao Tome and Principe, Senegal, Somalia, Sri Lanka, Sudan, Suriname, Switzerland, Togo, Tuvalu, United Arab Emirates and Uruguay. Source: https://hlpf.un.org/countries
[9] http://sdg.iisd.org/news/escap-paper-reflects-on-benefits-of-second-generation-vnrs/

Key benefits for the countries that have gone through the internal process of a national SDG review has seen the galvanisation of multi-stakeholder support domestically and the strengthening of a coherent implementation in progressing toward the SDGs (UNDP, 2017)[10]. More on the benefits from the VNR process have been reported by Irena Zubcevic, one of the speakers during the March 2021 ETC webinars.

While it is important to identify areas of progresses made, the review process also revealed that in some of the participating countries, entrenched blockages exist that make SDG implementation more difficult. In view the interconnected nature of the 17 SDGs and its 169 targets, these entrenched blockages are often situated at the nexuses of different SDGs and are often complex and require higher level of policy coordination and coherence across sectors. This interdependence between SDG goals is making progress harder to achieve. The VNR reviews are known to be catalyst for transformation. To support the countries to be ready for the HLPF VNRs, ETCs are filling an important need by strengthening the countries' capacity for SDG implementation and participate in the global review process. Here, UNOSD through its ETC courses, is making important contributions, especially in the context of the post COVID-19 pandemic recovery when much hard-won progress regarding SDGs have been eroded in many countries, including vulnerable and war-torn countries and communities.

Major Themes of 2022 HLPF Review

Guided by the overarching theme of the 2022 HLPF, that is, "Building back better from the coronavirus disease (COVID-19) while advancing the full implementation of the 2030 Agenda for Sustainable Development". Under this framing, the HLPF will "reflect on how recovery policies can reverse the negative impacts of the pandemic on the SDGs and move countries on to a path to realize the vision of the 2030 Agenda."[11]

Sustainable and resilient recovery from the COVID-19 pandemic that promotes the economic, social and environmental dimensions of sustainable development: building an inclusive and effective path for the achievement of the 2030 Agenda in the context of the decade of action and delivery for sustainable development", the 2020-21 ETC for Policymakers also explored the following SDGS in depth that will be reviewed by the HLPF in depth. They are: Goals 4 on quality education, 5 on gender equality, 14 on life below water, 15 on life on land, and 17 on partnerships for the Goals. [12] (Concept Note, 2022 ETC for Policy Makers). Due to the cross-cutting nature of the SDG 17 on partnerships, SDG 17 will be treated as an universal topic covered within the context of each sector specific SDG.

[10] https://www.undp.org/content/dam/rbap/docs/meetTheSDGs/Overviewpercent20reportpercent20topercent20guidepercent20thepercent20preparationpercent20ofpercent20apercent20VNRpercent20andpercent20SDGR.pdf

[11] https://hlpf.un.org/2022

[12] https://sustainabledevelopment.un.org/hlpf/2021

Course Design

Objectives

The 7th edition of the Executive Training Course has as its general objective to build the knowledge, skills, mindsets, and general capacities of Member States for implementing sustainable development by effective policy planning, policy making and policy shaping based on an integrated approach. In the context of the ongoing challenges posed by the COVID-19 pandemic, the designing of the ETC 2022 sought to identify and contribute to potential solutions that support a swift recovery from the pandemic and accelerate the delivery of the SDGs in this Decade of Action.

While all targets are equally important in attaining the desired goals, a more layered approach could be applied to focus the limited resources on the key nodes of the network of targets as elaborated by David L. Blanc.[13] Making progress on these nodes of the network of targets will amplify the improvement made throughout the entire network of SDGs that are connected to these nodes.

The following specific objectives were identified:

Areas for Knowledge & Information Sharing

The Executive Training Course for Policymakers on the 2030 Agenda for Sustainable Development is normally structured around the overarching theme of the forthcoming HLPF and explores all of the SDGs that will go under in-depth review. This year the following five thematic areas will be addressed in order to resolve some of the long-standing human rights challenges (education, gender equality and ecosystem security). Specifically, they are:

- SDG 4, Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (with 10 targets and 11 indicators)[14],
- SDG 5, Achieve gender equality and empower all women and girls (with 9 targets and 14 indicators)[15]
- SDG 14, Conserve and sustainably use the oceans, seas and marine resources for sustainable development (with 10 targets and 10 indicators)[16],
- SDG 15, Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss (with 12 targets and 14 indicators)[17], and

[13] Towards integration at last? The sustainable development goals as a network of Targets, 2015, https://www.un.org/esa/desa/papers/2015/wp141_2015.pdf
[14] https://www.sdg4education2030.org/the-goal
[15] https://en.wikipedia.org/wiki/Sustainable_Development_Goal_5
[16] https://sdg-tracker.org/oceans#:~:text=The%20UN%20has%20defined%2010,whether%20these%20Targets%20are%20achieved.
[17] https://sdg-tracker.org/biodiversity#:~:text=The%20UN%20has%20defined%2012,whether%20these%20Targets%20are%20achieved.

- SDG 17, Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development (with 19 targets and 25 Indicators)[18].

Broad Course Objectives

There were six broad course objectives which were established across previous editions of the ETC for Policy Makers. However, in view of the limitations due to the remote participation, the following two course objectives were attempted:

1. Knowledge and skills acquisition for integrating Agenda 2030 and the SDGs into ongoing and future activities of development;
2. Sharing experiences across sectors and countries.

Specific training Objectives for each of the sessions of 2021

These two broad course objectives of the ETC for policy makers mentioned above were broken down into the following five training objectives to guide the design and implementation of each session of the ETC 2021.

1. Raising awareness on key issues within each SDG areas,
2. Sharing information and experience in tackling some of the nodal issues within each SDGs and tools developed,
3. Identifying useful edge information and tools for the analytic aspect of the policy making,
4. Hearing reflection from countries and practitioners on their effort in making progress on the 2030 Agenda and overcome barriers,
5. Supporting the effective use of VNR process for institutional innovations by pointing to some gateways and progress in SDGs

Process Objectives

Within the limited time available, efforts were made to:

1. To embed an interactive component within the 2.5 hours available either between different presenters, between presenters and participants,
2. To apply appreciative inquiry to deepen the conversation with presenters,
3. To provide participants a moment of reflection through a post-session survey questionnaire concerning the key content areas, structure and planning of the ETC 2022.

Methodology

Recognizing the knowledge and experiences that already exists amongst the participating policymakers and policy shapers, the course adopted a methodology that highlighted often neglected critical aspects of each SDG. Critical thinking involves what Bloom considered as higher-level cognitive skills including analysis, synthesis, evaluation and create[19]. It is hoped by providing novel information on the topic, the audience will be stimulated and induced to initiate an intellectually disciplined process of actively and skilfully conceptualizing, applying, analysing,

[18] https://sdg-tracker.org/global-partnerships#:~:text=The%20UN%20has%20defined%2019,whether%20these%20Targets%20are%20achieved.
[19] Bloom's Taxonomy, https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/

synthesising, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication.

As these sets of sessions were recorded and made available on the UNOSD site, it is possible for the participants and other interested parties to (re-)view the videos and follow each session of the training course at their own pace and draw new insights independently. (https://unosd.un.org/events/2020-21_ETC)

Specifically, the follow learning methods were adopted for the 2021 ETC course.

1. Structured Content, Information Transfer and Critical Questioning

Structured presentations provided the conceptual framework and highlighted the issues of 2030 Agenda and the SDGs. These presentations by well-known experts were complemented by concrete policy practices, and options presented in the country practices segment for each module. Finally, each module was concluded with a panel reflection.

2. Supplemental Peer-to-Peer Learning through Selected Country Case Examples

A peer-to-peer knowledge transfer was part of the design of this course. It was expected that through the country case examples within each session and the ensuing discussions on various SDGs would be addressed during this edition of ETC and eventually the HLPF would be contextualised and made more relevant to the policy concerns of the policy makers and shapers.

Structure of the Course

The course was structured around the five pillars of the 2030 Agenda – people, prosperity, planet, peace and justice and partnership, recognizing that the five pillars are interconnected and need to be integrated in practical policymaking and operational activities for advancing sustainable development. Following an opening speech on the negative impact of COVID-19 pandemic on many of the SDGs. Coupled with on-going climate change and various related crisis of flooding, draught, and other man-made disasters, human security is fundamentally threatened. These emergencies as summarised in the Special Report of the UNDP on Human Security[20] are compounding the post-pandemic effort to To-Build Back Better". It was with this frame of mind that the 7th edition of ETC for Policy Makers and Shapers was designed and curated.

Training Content of the 4 Webinar Sessions

What follows are titles of the sessions, the speakers who contributed to the delivery of the sessions, a description of the exercises and pertinent outputs of the sessions. They are presented in key points and results of the discussions that were relevant for understanding the session's learning impact.

Day 1 (11th April 2022)

Opening Ceremony and Theme Sessions on SDG 4 Quality Education for All

Formal Opening of the ECT

Mr. Jean D'Aragon, Senior Sustainable Development Expert, UNOSD

[20] https://hdr.undp.org/content/2022-special-report-human-security

Dr Jean D'Aragon opened the session by welcoming the more than 110 online participants and reiterated that the focus of this year's Executive Training for Policymakers was placed on the 2030 Agenda for Sustainable Development and the main theme of the High-Level Political Forum (HLPF). This year's discussions revolved around sustainable and resilient recovery from the impact of the COVID-19 pandemic. The purpose of the training was to help participants understand and actively take part in the implementation and review process of SDGs in their own countries.

Opening Remarks by Mr. Alexander Trepelkov (Officer-in-Charge, Division of Sustainable Development Goals, UN DESA), delivered by **Mr. Jean D'Aragon** (Senior Sustainable Development Expert, UNOSD), formally opened the ECT. He stated that the COVID-19 pandemic has exposed and exacerbated poverty and inequalities within and among nations and put multilateralism into question due to vaccine nationalism and war in Ukraine. These external factors and uncertainties have led to devastating impact on all of the 17 SDGs, and reversed some of the gains on the achievements of the SDGs, that have been made before the pandemic hit.

Even before the conflict, developing countries were struggling to recover from the pandemic, with record inflation, rising interest rates, and looming debt burdens, especially for the highly indebted poor countries. All these developments are hitting the poorest and more vulnerable countries and people the hardest. To get back on track and build back better, efforts to accelerate implementation of the SDGs must to be redoubled. Recovery from COVID-19 can be done by leveraging the innovative ideas in the Secretary-General's report on "Our Common Agenda"[21] that calls for a new global deal to ensure power, wealth, and opportunities are shared more broadly.

To address the ground lost during the pandemic, Member States will be meeting in July at the UN HLPF to discuss building back better from COVID-19 while advancing the full implementation of the 2030 Agenda for Sustainable Development. This theme is at the heart of policymaking and international cooperation across the world, including this year's ETC.

At this year's HLPF, countries will have opportunities to exchange experiences and lessons on policies that they have implemented for recovering from COVID-19 while addressing the negative impacts of the pandemic on the implementation of the 2030 Agenda and moving onto a track to realize the SDGs within the Decade of Action and Delivery[22].

UN DESA is the thinktank of the UN, dedicated to sharing knowledge and expertise with as broad a range of stakeholders and decision makers as possible, including Member States, Major Groups, the general public, and others. In that regard, a series of policy briefs were published on the impact of the COVID-19 crisis as well as making available online tools and platforms for

[21] https://www.un.org/en/content/common-agenda-report/
[22] https://unsdg.un.org/2030-agenda/decade-action

stakeholders to share examples of SDG implementation including SDG Acceleration Actions (https://sdgs.un.org/partnerships/action-networks/acceleration-actions), an online database of new and ambitious voluntary initiatives such as announcing or financing a new or enhanced policy, program, or project that would lead to the 2030 Agenda. As of February 2022, a total of 325 such actions have been published, supplied by governments, civil societies, UN entities, the private sector, and academia.

This year's ETC program takes its cue from this year's HLPF and will focus on SDGs on Quality Education, Gender Equality, Life Below Water, Life on Land, and Partnerships for the Goals. It will examine the effects and opportunities arising from the pandemic on these specific goals and the entire SDG spectrum. While the 2022 HLPF serves as the backbone of the ETC, the latter is also guided by the scientific assessments in the 2019 Global Sustainable Development Report[23] that underscores the importance of approaching these goals through the lens of governance, capacity building and education, policy and institutional coherence, and individual and collective behaviours.

Given the complexity and expanse of these issues and themes, as well as the technical challenges of participating online, this four-day program is an ambitious one. Through personal commitment and participation this course will help the participants better contribute to accelerating implementation of the SDGs, and review and report on the progress made in one's respective countries.

2022 is the midpoint to 2030 along a roadmap that began with the adoption of the SDGs and the climate agreement in 2015. This year also marks the 50th anniversary of the 1972 UN Conference on the Human Environment in Stockholm, the first ever UN conference on sustainable development. Preparations are also underway for major UN conferences on ocean, water, and climate. These major conferences and events are an important platform for UN Member States to continue searching for sustainable solutions to the myriad challenges that countries are facing.

Dear participants, you have a role to play in these deliberations and I encourage you to take back home the lessons you will learn over the next 4 days and translate them into sustainable solutions in your national context to achieve sustainable development within the remaining 8 years of the Decade of Action for the SDGs. Let us all strongly reaffirm the importance of multiculturalism, global solidarity, and peace to build back better everywhere, address inequalities between and within countries, and leave no one behind.

Mr. Chun Kyoo PARK, Head of Office, UNOSD, reminded the audience that collective efforts to accelerate the implementation of the 2030 Agenda for Sustainable Development is a must. Every year, the ETC brings together senior government officials, international experts, scholars, practitioners and representatives of regional and international organizations, civil society, and

[23] https://sustainabledevelopment.un.org/gsdr2019

the private sector for building and sharing knowledge, skills, mindsets, as well as general capacities of Member States for implementing sustainable development policies through an integrated approach.

The pandemic has further unveiled the underlying socioeconomic challenges that have been prevailing for far too long. Reflecting and deriving from this, the objective of this year's ETC is to identify challenges and potential solutions for our COVID-19 crisis recovery efforts and implementation of the 2030 Agenda by discussing the impacts of the pandemic, particularly on SDGs 4, 5, 14, 15, and 17.

A short overview of the overarching themes of the training modules

Today's presentations will be on the topic of advancing the 2030 Agenda through education, vocational training, and capacity building. The pandemic has a direct impact on SDG 4 (Quality Education) as access to education has drastically fallen with over 1 billion children at risk of falling behind, and about 31 percent of schoolchildren worldwide having no access to Internet-based remote learning. Presentations today will help develop a strong understanding of how SDG 4, which is about ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all, can be achieved as we build back better from the COVID-19 pandemic.

Tomorrow's session on SDG 5 (gender equality): a gender perspective on building back better from the COVID-19 pandemic will help further discuss the significant impact the crisis has had on progress in gender equality, particularly for women in developing countries who are facing growing inequalities as a result. There has been a sharp rise in gender-based violence, child marriage, and unpaid work, for example, since the beginning of the pandemic. Echoing the focus of SDG 5 on achieving gender equality and empowering all women and girls will help us examine how the gender lens can be incorporated into analysing and achieving the other SDGs.

Day 3 on SDG 14 (Life Below Water) - How oceans can help fight against and recover from COVID-19 and deliver the SDGs. The presentations will let dissect the impact of the COVID-19 pandemic on the ocean and marine life, and highlight the short- and long-term impact on different communities such as small-scale fisheries and marine tourism, and learn from national experiences and research on how to protect life below water as the process of building back better begins.

Day 4 on SDG 15 (Life on Land) - How a COVID-19 recovery and how the 2030 Agenda can be fully achieved through addressing SDG 15 . It will focus on building a deeper understanding of the integral role of climate action in our COVID-19 recovery efforts and the implementation of the 2030 Agenda.

Hence participants will not only analyse the impact of the pandemic on environment but also learn how to protect, restore, and promote sustainable use of territorial ecosystems,

sustainably manage forests, combat desertification, and halt and reverse land degradation and biodiversity loss.

Importantly the pandemic has shown that in order to achieve the 2030 Agenda for Sustainable Development it is not sufficient to only build back better but should also help build forward better. To do so, it is a must to fully understand the important and strong interlinkages between different SDGs, which will be further highlighted through the invaluable discussions from the distinguished speakers at this ETC.

UNOSD is committed to promoting the implementation of the 2030 Agenda through strengthening cooperation with members of international organizations, national institutions, and civil stakeholders. As highlighted in SDG 17, the challenge is enormous - but so are the collective capabilities when all of us act together. UNOSD will continue to foster knowledge sharing and capacity building platforms through various forums such as the ETC.

Synthesis of Individual Sessions on 11-14 April

While synthesis is made in this report, only the most salient messages are recaptured for further exploration and reflection. It is a supplement to the complete recordings of each day of the ETC 2021/22. These recordings are available at the UNOSD dedicated UNOSD web portal, https://unosd.un.org/events/2021-22_ETC, for revisit.

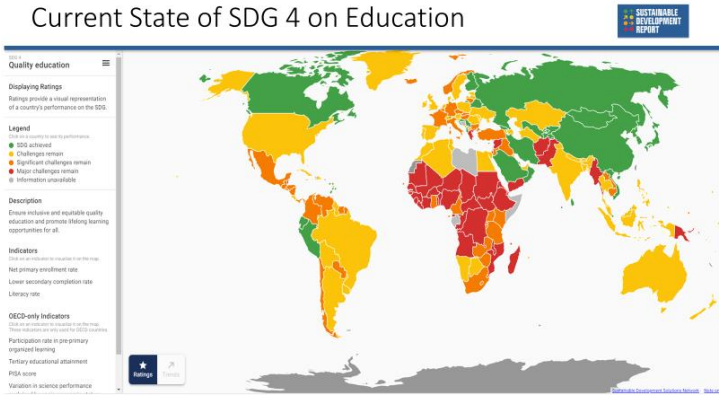
Day 1: Quality Education – Advancing the 2030 Agenda through Education, Vocational Training and Capacity Building (SDG 4)

Presentation 1: Quality Education – Advancing the 2030 Agenda through Education, Vocational Training and Capacity Building

Presented by **Ms. Lichia Saner-Yiu**, UNOSD Consultant & President, Centre for Socio-Eco-Nomic Development

A quick scan of the current state of SDG 4 based on the visualisation provided by the SDSN Dashboard[24] shows that the situation remains worrisome seven years into the implementation of SDGs.

[24] https://www.sdgsdashboard.org/home



(Data Source: Sustainable Development Report, 2022, interactive data, https://dashboards.sdgindex.org/map)

While many countries (in green) have achieved SDG 4, others continue to lag behind with either significant challenges remain (in orange) or are facing major challenges (in red). Overcoming these challenges will require not only national efforts but also international collaboration and collective effort.

Attainment of SDG 4 is not simply about student enrolment[25]; nor about other quantitative indicators, but also about qualitative indicators as well. It is about the mission of education and what is it for or what outcomes the investment in education should generate. Answers to this pertinent question should be seen from three levels: individual (livelihoods), national (national productivity) and global connectivity to the global supply and value chains (enterprise performance).

Prosperity, an integral part of the Five Ps of 2030 Agenda, which are People, Planet, Prosperity, Peace and Partnership, cannot be achieved if education failsed to equip the people with the right skills, talents, imagination/creativity, desire and commitment to thrive. The qualitative aspect of SDG 4 is about enabling the schools and educational institutions to achieve this mission which is highly connected to the place of work and relevance of educational outcomes. It is also about the students' ability to continue adopting to the changing world of work where humans are competing with the robots and artificial intelligence for the opportunities to work and to extract values from personal effort.

A total number of seven experts address this critical goal of SDGs on Quality Education for All which laisse the basis for citizenship, employability, sustainable livelihood, social and economic mobility and wellbeing of the citizens in each society. Speakers review different targets in more depth that aim toward skills development, lifelong learning, future world of work and observations by the youth representatives. The youth representatives spoke on education fulfilment of their needs and wishes.

A key note speech was given by Mr Andreas Schleicher on the challenges that education sector has been facing and the need to remain relevant.

[25] More data on progress can be found at SDG Tracker at https://sdg-tracker.org/quality-education

Presentation 2: Keynote speech "From formative education to skill development: Pathways and policy considerations"

Presented by Mr. **Andreas Schleicher**, Director, Directorate of Education, OECD (via video)

The core message is organised around the theme of "Learning for Uncertain Futures" and the urgent need for the education policy and institutions to catch up with the rapid evolution and accelerating disruption of our world and society, which includes the world of work. It is now both fluid and diverse in terms how work is organised, where work is done, by whom and when. Even increasing the definition of work is being challenged. What is work and how tangible is the "produce"?

This uncertain future has been triggered by the pandemic, but even more greatly by forces such as climate change, ageing, energy shocks, internet disruption, technological advancement. The arrival of artificial intelligence and consequent secondary effects has altered the work, the organisation and the source of economic growth from raw material, efficiency to that of innovation and intangible assets. Companies like Facebook, Apple, Amazon and Google have a combined wealth of more than 4.7 trillion USD[26] but with little tangible assets and proportionally speaking relatively small number of employees, of 1 million (December 2019)[27] in contrast to the traditional economy.

The COVID pandemic has exposed the vulnerability and accelerated existing disruptions of the global system and the polarisation of the society and its workforce. In particular the educational system is faced with a daunting challenge of ensuring education for all children when faced with all sorts of resource constrains. But the demand for retooling and rethinking about what is education and for what purpose is here to stay.

The impact of AI has already been felt in the world of work and directly and indirectly changing the education system as well, on how it is delivered and what is delivered in terms of learning and who benefits from the alternative ways of providing education. Business as usual no longer possible.

The Education sector has been good at teaching "second class robots" who are very good at repeating what was told and execute that accordingly. But digitization and automation has started to replace existing jobs, while simultaneously creating new opportunities and positions. AI and automation for example have already started to replace the instructors when delivering programmable teaching and conducting testing.

Knowledge and intangible assets are the new currency. Other trends are also shaping the future of education and our societies. Economic growth is now more driven by the intangibles. Intangibles are about people and people are about skills. In education, one should ask what competencies are needed for participating in the increasingly intangible economy. What could be the knowledge, skills, attitudes, values that education needs to generate? These could be new

[26] https://ceoworld.biz/2021/01/09/apple-microsoft-amazon-google-facebook-and-tesla-are-now-collectively-worth-more-than-8-1-trillion/

[27] https://asia.nikkei.com/Business/Technology/Now-a-million-people-work-for-Amazon-Apple-Google-and-Facebook

ideas, new products, or new forms of organizing and governing – all leads to new ways of working and producing.

Technology firms are also increasingly getting involved in the business of education itself. Particularly during the pandemic, they developed new learning platforms, new ways of learning (pedagogy), giving people/students greater ownership over what they learn, how they learn, when they learn and where they learn.

Human capital and polarisation of the labour market.

Besides the new places of work, another emerging trend is the polarization of our labour markets. Those with the right skills never had the life chances they have today, but those who struggle with the transition to the future, without the right skill set, have never faced greater risks than they do today.

According to the OECD Survey of Adult Skills (PIAAC), that assesses and analyses adult skills in key information-processing area, i.e., literacy, numeracy and problem solving, the higher of the PIAAC numeracy skills, the less likely there will be a risk of replacement by automation . Countries like Peru, Mexico, Turkey are faced with the greatest danger of seeing its work force being replaced by automation due to the lower numeric skills of their adult workforce in this new technological era while countries like Demark, Sweden, Australia, UK, etc, face such risks much less.

That's the new economy and the new labour market that is so much more sensitive to the skills of people, and in a way also better at extracting value from the skills that people have, translating better skills into better jobs and better lives. Ironically, when younger students were asked about what kind of jobs they aspire to have in the future - by asking "What do you want to do in your life?" - some 30% up to 50% of the youngsters in Slovakia, Lithuania, Japan for example were aspired to find jobs that are at high risk of automation (PISA study)[28], even more so for the young from disadvantaged backgrounds. Other OECD countries are also facing a similar challenge of effectively preparing the young for the future not the past in terms of knowledge, skills, attitudes and values.

Other questions that also arise in this shifting new context of education and lifelong learning are the following ones. Today people actually work a lot less than some decades ago. There has been a shift from work to leisure, but is our society equipped for that? Do people use the free time well in ways that actually lead them to greater life satisfaction?

Peer to peer markets and platform business models are blurring boundaries between buyers and sellers, between employers and employees. What are the consequences for on-the-job learning and training if increasing numbers of workers are freelancing on line as gig workers[29] and no longer have a fixed employer who could sponsor their continued professional development? What does that shift mean for education systems, for formal and nonformal education, and for educational professionals?

A few decades ago, there were very small elites who determined what people would be reading such as television anchors or newspaper authors. A few people who thought carefully about what they would be writing and who curated the resources that we would all be drawing from in the

[28] https://www.oecd.org/pisa/

[29] Online Labour Index, https://ilabour.oii.ox.ac.uk/online-labour-index/

future. Today we are all authors, everybody contributes to knowledge. Just look at the rise in the number of Wikis. If you don't know the answer to a question, you look it up on Google and nobody will tell you what is right and what is wrong, what is true and what is not.

Digitalisation of Skills and Knowledge Requisite.

Literacy is no longer about extracting knowledge. It is about *constructing knowledge*. Yet when one actually looks at the navigation skills of 15-year-olds in the PISA study, can (they) distinguish fact from opinion? Can they triangulate different information resources? Countries like Singapore, Korea, parts of China, are teaching literacy with the digital era in mind. But even in those countries it is just about half of the 15-year-olds who are really good at that. In many other countries, a significant majority of 15-year-olds are not equipped for the digital world in which we now live.

To be born in the digital world does not mean one is a digital native! There are great technologies available but so many people lack those skills to make sense out of this technology. Schools need to step up to the plate and deliver the needed new curricula!

Integrating environmental sustainability into the curricula.

Since 1917 the human's ecological footprint has consistently exceeded the Earth's biocapacity. In 2021 it was exceeded by over 70 percent, which means that globally the world consumed 1.7 planets available instead of just the one that is there.

How to build those skills? When asked, school leaders were very optimistic about this situation. 9 out of 10 school leaders in OECD countries said, "climate change and global warming are included in the curriculum - by the way, also gender equality, conflicts, poverty, migration, everything covered in the SDGs." But a different picture emerged when students were surveyed.

Most of the young people said that looking after the global environment was really important, urgent and personally important for young people. But when asked, "Can you do something about it? Do you think what you do is going to make a difference for people in other places?", the responses were much less optimistic.

This is the fundamental challenge of education today! Current education is making young people *passive consumers of prefabricated content instead of* developing personal *agency* to mobilize their cognitive, social, and emotional resources. So, what can educators and policy makers do, particularly after this COVID pandemic?

Suggestions:

1. Maybe providing more flexible, more resilient education and training, particularly vocational education.
2. Using technologies better and smarter.
3. Looking more to the future and futureproof jobs, and enhancing a broader range of knowledge, skills, attitudes, and values.

The following should be considered when thinking about more flexible and resilient means for reskilling namely more training breaks, more extensions, greater modularization, giving people more ownership over what they learn, how they learn, when they learn, and where.

Maybe structuring the learning path differently by moving away from those long, lumpy programmes, instead of focusing more on fast track licensing, the recognition of prior learning, making learning more adaptable to the situations and needs of people.

Can training be made more adaptive to provide youth with the tools to get into those sectors where they're most needed?

Technology can enhance new learning experiences - technology holds the promise to bring learning to learners in new ways. While studying mathematics on a computer, the computer can study how the learners study and then make the learning experience so much more granular, adaptive, and personal.

Learning analytics can give educators a better picture of how different learners learn differently and then engage with them in personalized ways.

One of the biggest mistakes made over the last decade is probably to divorce learning from assessment. People were asked to pile up lots and lots of learning, and then one day they were asked to come back and tell everything that they know in a very constrained, contrived setting. This process has then led to the narrowing of teaching and learning. Technology can help reintegrate learning and assessment in new ways and what is needed in societies with the individual career aspirations. For the short term, focus needs to be more put on retraining for essential jobs; in the long term, focus needs to be more on those sectors that hold the greatest promises.

Some of the knowledge, skills, attitudes, and values that are particularly important in the 21st century are best learned in the early years: curiosity, courage, empathy, leadership. When older, they become personality traits; in childhood, empathy is a skill like mathematics to be learnt.

Tertiary education needs to be much better integrated with the world of work and the world of learning.

Learning is much harder to organize. Tough questions are: How to share the costs and benefits of lifelong learning between workers, companies, taxpayers? How to set quality standards? How to provide micro credentials that give people greater ownership about what they learn, how they learn, where they learn? What to do with people outside firms?

For the unemployed, it is easy to say that governments should provide for their training. But what about people at risk of losing their jobs? Who is going to take care of truck drivers whose job might disappear over the next decade? How to encourage, enable, and support the people their competence is obsolete in the labour market and help them to learn for the next job? Or for people who want to change jobs, or for people in the gig economy who do not have a fixed employer?

There are also tricky governance questions. New forms of work often mean that it's harder to collect tax from people, for instance, in the case of gig workers working informally, and as the link between formal education and jobs is weakening, governments may have a harder time keeping track.

These policy considerations can be summarised as a race between education and technology. Before the great Industrial Revolution, neither education nor technology made a big difference for the vast majority of people. But then came the Industrial Revolution, suddenly moving technology ahead of the skills of people, and people were so badly left behind. This Revolution

caused so much social pain; eventually public schooling was established. Skills of people became compatible with the norms of working in the Industrial Age and actually created generations of prosperity.

But now once again the Digital Revolution is moving technology ahead of the skills of people. And everywhere that same kind of social pain exists of unemployment and of being left behind. Even university graduates sometimes have difficulties finding a good job and at the same time employers lament "We cannot find the people with the skills we need." So, the question again is how to move people ahead of the technologies of our times? What are the knowledge, skills, attitudes, and values needed to develop? What education can do and what educational policies need to be in place to enable the necessary transition? These are the questions to address when pondering on the implementation and attainment of SDG 4.

These are the questions we all need to strive to answer today!

Presentation 3: Current state of education for sustainable development and impact of COVID-19 on its achievement in the context of SDG 4: Challenges and needed interventions

Mr. Manos Antoninis, Director of the Global Education Monitoring Report Team, UNESCO

Introduction by Ms. Lichia Saner-Yiu. The following findings were reported through the pre-course online survey when registering for the 2021/2022 ETC for Policy Makers:

1) the integration of the 2030 Agenda and the SDGs into school curricula), dealing with Target 4.7, "By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development"; and
2) linking labour market demands and requirement with schooling in education policy planning – connected to Target 4.4 - Relevant skills for decent work. "By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship".

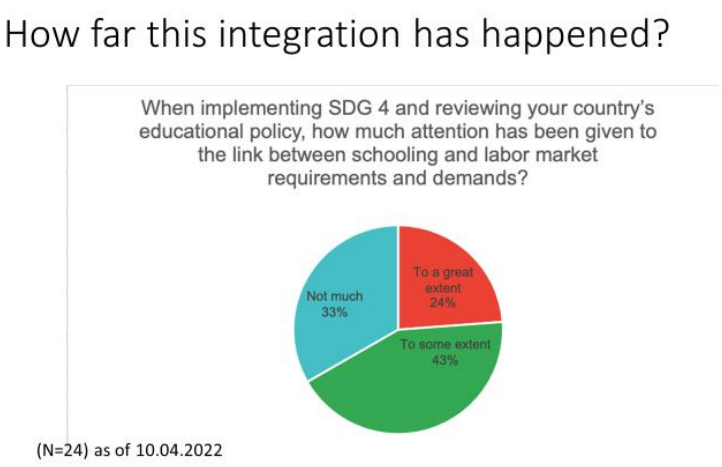
A total number of 24 registered participants answered these two questions with important signals in terms of the gap of achieving SDG 4 concerning specific Targets.

Has your country integrated sustainability issues into your country's core curriculum of education? (Target 4.7)

Yes	22	92%		
Single sub-system (79%)			elementary schools	4
			in secondary schools,	2
			in tertiary schools	
			higher education institutions (e.g. college, university, institute)	11
Total System (21%)			Total system embedding (from elementary to university)	3
			Substantial system embedding (from secondary onwards)	1
			Greater system embedding (from tertiary onwards	1
No	2	8%		

(N=24) as of 10.04.2022

How far has this integration (Target 4.7) been achieved?

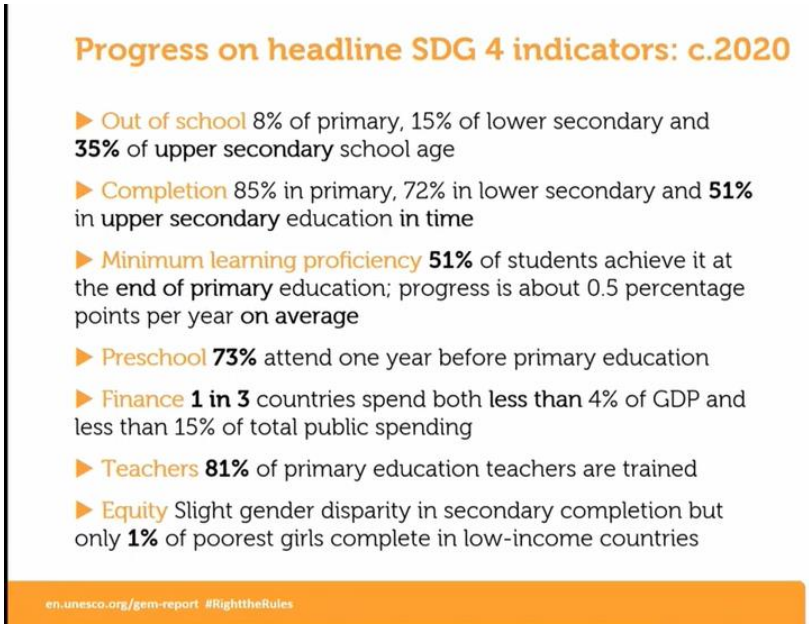


Keynote Speaker**: Manos Antoninis**, Director of Team, Global Education Monitoring Report Team, UNESCO

Mr Antoninis stressed the educational inequality among countries a cause for considerable concern when many countries are so far behind what some of the rich countries consider as their daily reality. Achieving the targets of SDG 4 by 2030 is the wish of all countries, yet the distance to the goal and targets are too far to achieve for a considerable number of countries. The Global Education Monitoring Report is in its 20th edition and since 2015 started to monitor progress on education in the SDGs. This why in the annual GEM Report, besides the highlighted thematic part to "hold all partners accountable", there is also a monitoring part covering target by target. The report addresses also finance issues and issues related to education and the other SDGs. [30]

[30] The Global Education Monitoring Report, 2021-22; Non-state Actors in Education, UNESCO, https://en.unesco.org/gem-report/non-state_actors

Based on the report jointly published by GEM and UNESCO [31], [32] the Institute for Statistics focused on quantitative progress regarding SDG 4 when reviewed in 2019[33] generating the following findings:



- 1 in 3 young people are out of school these days, for example, young people aged between 15 and 17 who should be in school and yet they're not. Even worse, many of those children who are in school at that age are actually overage; they started late or had to repeat several grades.
- Currently 85 percent of children complete primary school globally on time; there's an extra 4-5 percentage points to be added for children that might be completing primary school at age 17 or 18 around the world today. So still, in 2020, just before the pandemic struck, 1 in 10 children were not completing primary school, nor secondary school.
- The percentage of completion is 72 percent for lower secondary and just over 50 percent for upper secondary. This situation impacts discussions on higher level skills that are acquired at the university level.
- On learning outcomes, which is a major step forward that have been achieved through the SDGs implementation. For the first time, measuring learning outcomes has been added for reading and mathematics at 3 levels. Data showed that 51 percent of students achieved a minimum level of proficiency in reading at the end of primary education. That means not just being able to read but also (being) able to comprehend and analyse texts.

A word of caution, OECD's assessments are not the benchmark of international education. In fact, OECD does not monitor education outcomes of primary education. The PISA study is a

[31] Global Education Monitoring Report 2019 (UNESCO, November 2018), https://www.sdg4education2030.org/global-education-monitoring-report-2019-unesco-november-2018
[32] Global education monitoring report, 2019: Migration, displacement and education: building bridges, not walls, https://unesdoc.unesco.org/ark:/48223/pf0000265866
[33] 2019, Beyond Commitments: How do countries implement SDG 4. https://en.unesco.org/gem-report/node/3093

measure for children of age 15, and PISA is one of several assessments that exist around the world. There are assessments that existed before PISA such as the IEA[34], PIRLS[35] and TIMSS[36]. There are also regional assessments -ERCE[37] from Latin America led by UNESCO ; PASEC[38] from western Africa or Francophone Africa that CONFEMEN is leading (Conference des Ministres de l'Education des États et Gouvernments de la Francophonie)[39]; the Assessments in Southeast Asia, SEM-PLM that is a collaboration between SEAMEO and UNICEF[40]; (and) there is also an assessment in the Pacific EQAP, Educational Quality and Assessment Programme[41].

UNESCO is helping to put all those assessments together and make them comparable which is not an easy task.

Challenges of Educational Transformation or Reform

Statistics show that 1 in 2 children actually achieve the minimum of education that one would expect for a child. But this only applies to those children that do reach the end of primary education (see Figure below). Other statistics reveal that 1 in 4 children do not attend preschool the year before they are supposed to enter the first grade.

[34] IEA (International Association for the Evaluation of Educational Achievement) is an international cooperative of national research institutions, governmental research agencies, scholars, and analysts working to research, understand, and improve education worldwide. https://www.iea.nl/

[35] PIRLS 2021: Progress in International Reading Literacy Study 2021. https://www.iea.nl/studies/iea/pirls/2021

[36]TIMSS and PIRLS are international assessments that monitor trends in student achievement in mathematics, science, and reading. Currently 70 countries participate in the assessments, which have been conducted at regular intervals since 1995. https://timss.bc.edu/

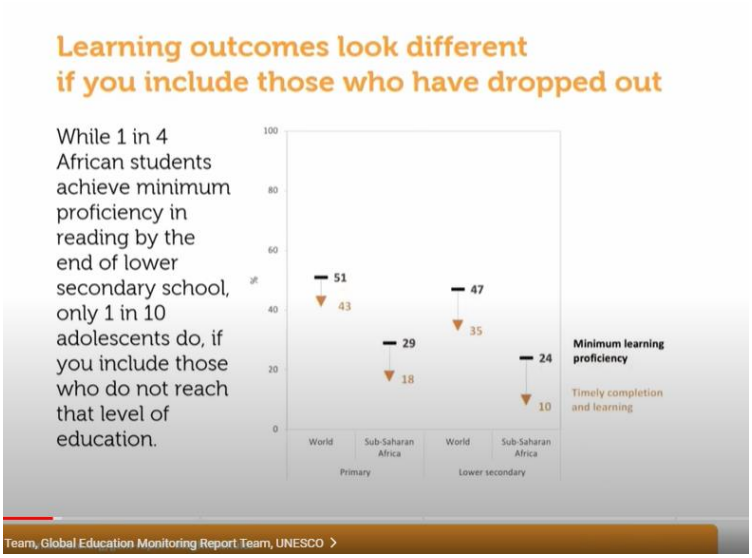
[37] https://learningportal.iiep.unesco.org/en/blog/erce-assessment-launch-of-the-fourth-study-on-learning-in-latin-america

[38] PASEC2019 international report, an evaluation under the theme "Quality of education systems in French-speaking sub-Saharan Africa: performance and teaching-learning environment in primary education", concerned 14 countries, namely: Benin, Burkina Faso, Burundi, Cameroon, Congo, Côte d'Ivoire, Gabon, Guinea, Niger, Madagascar, Democratic Republic of Congo, Senegal, Chad and Togo. https://www.confemen.org/rapport-international-pasec2019/

[39] https://www.confemen.org/

[40] The Southeast Asia Primary Learning Metrics (SEA-PLM) is a regional learning assessment and capacity building programme designed by and for Southeast Asian countries to improve relevant and equitable learning outcomes for students in basic education. https://www.seaplm.org/index.php?option=com_content&view=article&id=60&Itemid=473&lang=en#:~:text=The%20SEA%2DPLM%20programme%20transpired,of%20education%20through%20regional%20collaboration.

[41] Educational Quality and Assessment Programme of the Pacific Community, https://eqap.spc.int/about-eqap.



1 in 3 countries spend below both international benchmarks that were agreed in 2015[42] in regard to education, "To ensure that countries have enough financial resources to provide education for all without pushing out anyone, UNESCO and its partner agencies have established an International benchmark advising countries to spend at least 4-6 % of the GDP and 15-20% of its total government spending on education" (page 3); that means public education expenditure are both under 4 percent of GDP and less than 15 percent of their budgets. As a result, it is perhaps no surprise to see that 1 in 5 primary education teachers globally are not trained according to national standards, the standards that countries themselves have set.

Equity, which is one of the main contributions alongside learning outcomes of this new agenda, in secondary completion shows some slight gender disparity on average, but huge differences exist between countries. Some of the poorer countries have large disparities at the expense of girls; richer countries have large and growing disparities at the expense of boys, but one statistic to take home and remember is that only 1 percent of the poorest girls in low-income countries complete secondary education.

So before talking about some of the challenges confronted in transforming economies, one should not forget that there is also a *right to education* and that right is not respected around the world! There are millions of children who do not benefit from the lowest possible fulfilment and respect of that right.

Although statistics show 51 percent of children achieve minimum proficiency at the end of primary education, but when considering that many of those children in disadvantaged circumstances do not reach the end of primary education or do not reach the end of lower secondary education, where also about half of the children achieve minimum proficiency, the percentage of children and adolescents, regardless of whether they are in school or not, who achieve this minimum proficiency is much lower than what the headline statistics tell. In the extreme case of sub-Saharan Africa where only 1 in 4 young people complete lower secondary school, many of them do not achieve minimum proficiency. Therefore only 1 in 10 young people

[42] Producing Internationally Comparable Education Expenditure Data: Data Sources, Coverage and Challenges. Page 3. "https://tcg.uis.unesco.org/wp-content/uploads/sites/4/2020/10/WG-F-3-Education-expenditure-data.pdf

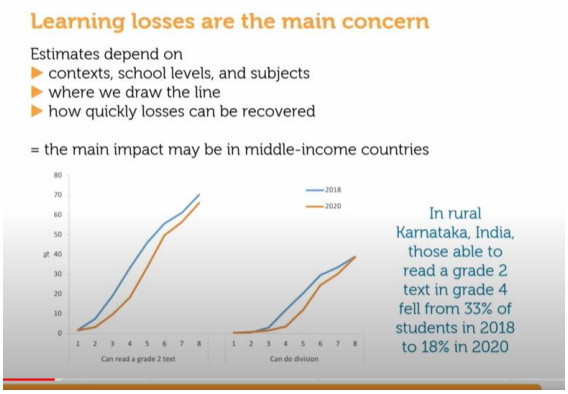
achieve the objective of SDG 4 to complete lower secondary school in time and come out of school with the minimum skills, not advanced skills, that are required either for today or tomorrow's world of work.

Impact of COVID-19 Pandemic and Evaluating Progress

Between March 2020 (all these statistics refer to the period just before COVID started) and October 2021, schools were closed fully or partially for 55 percent of the days. Yet conditions between countries vary enormously; there were countries where schools did not close at all, and countries where schools remained closed throughout this period of a year and a half. School closure has been longest in many countries in Latin America, Western Asia, and Southern Asia; and shortest in Oceania and in many sub-Saharan African countries. The combination of this variation in the duration of school closures and the fact that almost half a billion children did not have an opportunity for continuous learning means that in practice learning losses are not a shared concern for all children around the world.

This learning gap is widening. In regard to the poorest countries, learning levels were already very, very low before the pandemic. The main challenges are how to improve these learning levels and close the gap. In the richest countries with abundant resources, children were able to continue their learning by distance, and also many countries actually did not close their schools for too long. But the big problem is middle-income countries where we know that on average schools remained closed for longer and children had less opportunities to continue their learning.

Comparing the most basic skills (for) children of grades between 1 and 8, being able to read a text of the level of difficulty of grade 2 and between 2018 and 2020, there was a considerable decline, and that affected primarily children of grades 4 and 5. At the older ages it doesn't affect them very much because these age groups already had reached the maximum potential, which already was quite low in many cases, but it means that there is a potentially grave risk of learning outcomes reversing in middle-income countries (see Figure below) There is also a need to observe very closely the long-term consequences of learning disruption. It is unknown whether the reversal of educational gains was a one-off phenomenon or whether there would be consequences that will continue into the future.



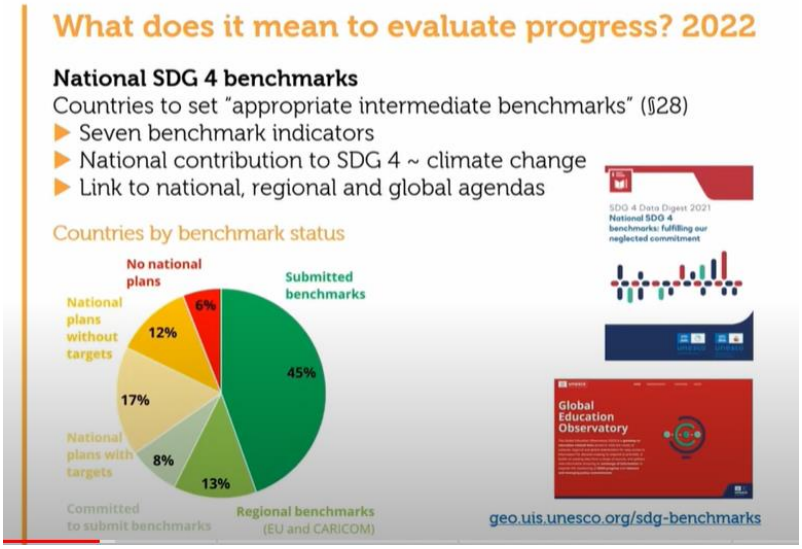
What does it mean to evaluate progress then and today?

An important message for all attending this session today is that it is not realistic to achieve the SDG 4 100 percent by all countries and all learners but inspirational. Of course, targets need to be set to guide the process of collective effort, nationally and internationally. What is very

important for accountability purposes is for countries to set explicitly the targets they are planning to achieve by 2025 and 2030. This is a process that UNESCO is currently leading.

SDG 4 consists of 7 targets, 3 means of implementation, and 12 indicators[43]. Eight of the targets are supposed to be achieved by 2030, while one target is supposed to have been achieved by 2020 (i.e, 4.b)[44], and the remaining one, Target 4.a has no target years[45].

Global Education Monitoring Report together with the UNESCO Institute for Statistics and jointly with countries set 7 of the SDG 4 indicators that can be benchmarked. This is essentially a replication of the approach that has been used successfully in climate change negotiation process toward the Paris Agreement in 2015. Such nationally determined contributions - what each country is prepared to contribute to achieve the global agenda, which might not be 100 percent of the SDG 4 targets and goals, but it will be important to know what it is that they're contributing so that links can be made regarding national, regional, and global agendas[46].



A recent publication early this year on Non-State Actors in Education reported on the progress of this process[47]. By the end of last year, about 2 in 3 countries participated, submitting benchmarks - some directly, some through their regional benchmarking framework in Europe and in the Caribbean - and some are still working to submit them[48]. The remaining countries are invited to provide their benchmarks so that their data can be included in the report at the HLPF. This use of Nationally Determined Contributions would be a major change to the way UNESCO has been

[43] https://sdgs.un.org/goals/goal4

[44] Target 4.b, By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries. https://sdgs.un.org/goals/goal4

[45] Target 4.a, Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all. https://sdgs.un.org/goals/goal4

[46] https://en.unesco.org/gem-report/sdg-goal-4

[47] Graduate Education Monitoring Report, 2021/22, https://en.unesco.org/gem-report/non-state_actors

[48] UNESCO SDG Benchmarks. https://geo.uis.unesco.org/sdg-benchmarks

monitoring progress because it is based on the benchmarks that countries themselves set on their own initiative and as a result of the commitment, they made in 2015[49].

What are the policies that countries are establishing to fulfil the vision of the SDGs?

In 2019, we had a companion publication that we presented at the HLPF, which was called Beyond Commitments[50], which reported on the benchmarks that are quantitative but also qualitative on what countries are doing, what policies they are proud of and which ones contribute to the vision of the SDGs. This 2019 report benchmarked various ways to classify those SDG enforcing policies, i.e., the extent to which countries focus on equity, the extent to which they amend the content for sustainable development, the extent to which they bring sectors to collaborate, the extent to which they focus on learning and not just on filling seats in classrooms, the extent to which they see learning beyond schools for adults, and the extent to which they work with each other, which is also an important message of the agenda.

Regarding education for sustainable development, there is an implementation framework that was agreed by Member States through UNESCO which has 5 priority areas: 1) how to advance policy, essentially to integrate content through guidelines that are linked to sustainable development policy; 2) what is the way to learn more from each other, through peer learning; 3) how to develop the capacity of educators to teach these elements; 4) how to engage youth, the target audience, our hope for the future, through communication and advocacy activities; and 5) how to engage all individuals to monitor trends of education for sustainable development.

From the perspective of the Global Education Monitoring Report, the big question here is how prepared are countries to enable a mechanism for monitoring and reporting education for sustainable development beyond the current self-reporting? The big challenge is to enable independent experts advising and monitoring countries what they are doing well and how they could learn from other countries about how they implement SDG 4 but countries need to be more open and be able to listen to what others might have to say on that.

Question & Answer Session.

Question: On your last point (concerning) this framework for ESD (Education for Sustainable Development), there are 5 different priority areas. From your observation of countries and your deep, in-depth experience from directing the Global Education Monitoring Report, what do you consider to be a possible first step for countries to actually take? Regarding your last slide, the community could also play a very important role in terms of co-contributing and monitoring of education, but we are yet to have a better understanding of how to get everyone engaged in following the trend and monitor progress. What would you suggest? (Lichia Saner-Yiu)

Answer: Target 4.7 in SDG 4 said, "by 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development". It is a target that is actually reviewing how countries are introducing elements of sustainable development and global citizenship - which of

[49] Integrating Action for Climate Empowerment into Nationally Determined Contributions: A short guide for countries. https://unfccc.int/sites/default/files/resource/Guide_Integrating%20ACE%20into%20NDCs.pdf

[50] 2019, Beyond Commitments: How do countries implement SDG 4. https://en.unesco.org/gem-report/node/3093

course overlap to a considerable degree - to their education policies, in their curricula, in their teacher education programs, and in their assessments. Currently countries are self-reporting.

There's a process within UNESCO, it is the 1974 Recommendation that countries agreed on education for international understanding, peace, and human rights[51]. But when countries conduct self-report on this Target 4.7, it is hard for some of the more difficult messages to be (truthfully) conveyed. For instance, in the first report of the review cycle of the 2030 Agenda, UNESCO had commissioned expert studies of textbooks, which are of course not identical to the curriculum but an essential element. It is the mechanism through which curricula are communicated, and that showed how particular elements, particular components of Education for Sustainable Development were reflected. There is an observable increase over time. It is also evident that a large percentage of countries were not including those specific components of the SDG Target 4.7. It is this kind of information that countries are not going to admit nor are able to compare. Textbooks are good proxies to assess the most objective parts of the human rights and cultural norms in promoting sustainable culture and norms.

There (are) also the more subjective and difficult parts. For example, education for international understanding of course needs to include a discussion of elements that are quite difficult, about coexistence, solidarity. These are very difficult for countries to self-report. There needs some expert advice to say, OK, countries could do better on that front. However, education in general remains a national prerogative, and that is a big challenge to face. Looking from the outside, countries are expected to be doing more things in certain directions. In reality, no country wants to be told how its educational system should be organised.

That is the big challenge that international community is facing, where lofty ideals for certain concepts are promoted, but at the end there is no right framework to engage countries for implementation. So implementation framework is what needed. Peer learning opportunities need to be emphasized, yet how to achieve the desired impact is a good question. It may be very difficult to promote peer-to-peer learning at a global level, rather a smaller aggregate level might be more effective. That is a line that UNESCO have been advocating for a long time. Regional contexts might be more appropriate. Some regions are more likely to find ways to sit down and discuss with each other while other regions may find it more difficult. But at the global level it is quite constrained in the extent to which we can initiate such discussions.

Question: What are the best examples of how to do nongovernmental assessments? (Ida Manton)

Question: How do you address missing qualitative data? Qualitative data could (satisfy) the need for polycentricity in research. (Ramadhani Marijani)

Answer: It depends on how qualitative data are defined. For instance, the GEM Report has published qualitative data on the extent to which countries focus on equity in their education financing or the extent to which countries promote inclusion in their laws and policies. But qualitative data are more complex require a detailed framework, and there is little agreement, especially on sensitive issues of citizenship and sustainability. The report can be found here: https://www.sdg4education2030.org/20212-global-education-monitoring-gem-report

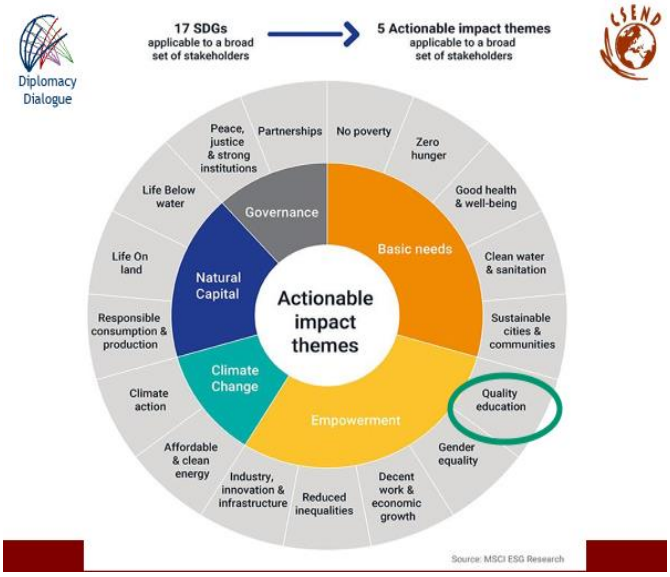
[51] Revision of the 1974 Recommendation concerning education for international understanding, co-operation and peace. https://en.unesco.org/themes/gced/1974recommendation

Presentation 4: Partnerships for Learning Outcome, Productive lives & National Development – Aquality assurance approach

Speaker: **Mr. Raymond Saner,** Professor Titular, Organization and International Management, University of Basle, Switzerland co-founder, Centre for Socio-Eco-Nomic Development (CSEND), Geneva.

The focus of this presentation is more from a civil society perspective, a non-state actor perspective on what could be done about education and how all this fits with SDG 4. Additional focus of this presentation will be on the partnership component of SDG 17 and the educational development which is embedded in a larger system containing meta, macro, meso, and micro levels. Partnerships can also be cross border and international. It is not just peer learning, but also participation, engaging with each other to provide educational services so that efficient use of resources can be used to create synergy.

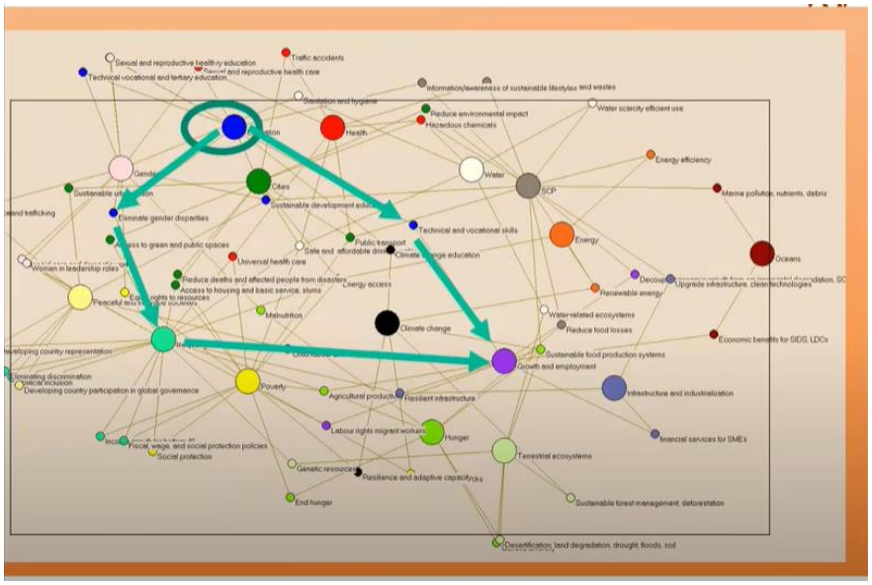
Finally, the focus of this presentation will be on quality of education. How to improve quality even though the resources and conditions are not very helpful? But there are things that can be done. Quality education is part of empowering people (UNESCO, 2019)[52] (see Figure below). It is no longer applicable to view education from an assembly line perspective that one goes to school, learns, goes to work, and that is it. Instead, lifelong learning is a must to empowering people for continuous adaptation in an ever-changing future. So when talking about quality of education, can one think of it on a more lifelong basis? There should be no age limitation to learn, nor limitation where and how learning takes place. In this context, the 17 DSGs are applicable to a broad set of stakeholders, where quality education needs to consider the five actional themes to achieve the desired flexibility, diversity and adaptability of a high-quality education system.



(Source: MSCI ESG, "Incorporating sustainable impact in your investment process", https://www.msci.com/zh/esg-sustainable-impact-metrics)

[52] Education transforms lives: empowering people and ensuring inclusiveness and equality. 2019. https://unesdoc.unesco.org/ark:/48223/pf0000369012

The 17 SDGs are interdependent and form an interrelated network of targets. In the analysis of David Le Blanc (2015)[53], the Figure below showed that all the SDGs interact and are linked to each other; some very strongly, others to some extent, some are even mutually restraining creating the needs to have policy trade-offs, often times contentious and difficult. As illustrated, quality education could be linked to technical vocational skills; while providing very good technical and vocational skills training also means that economic growth and social development, such as decreasing gender disparity, could be improved.

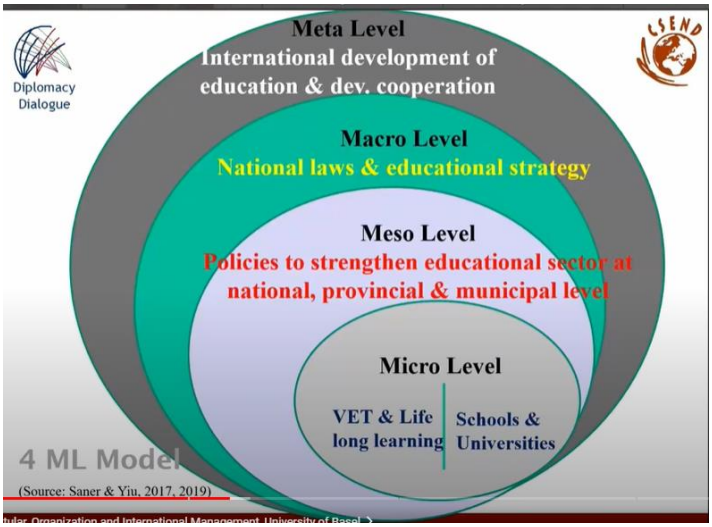


(Adopted from D. Le Blanc, 2015, Towards integration at last? The sustainable development goals as a network of targets, p.4 https://www.un.org/esa/desa/papers/2015/wp141_2015.pdf)

By eliminating or trying to eliminate gender discrimination, it then also leads to less inequality, and less inequality means girls, and later on women can contribute more effectively to economic growth, and in that sense, society could benefit from greater inclusion of girls and women.

Placing education into a larger context and going beyond individual learning, four level of analysis can be conducted to understand how to achieve quality education (see Figure below).

[53] Towards integration at last? The sustainable development goals as a network of targets, https://www.un.org/esa/desa/papers/2015/wp141_2015.pdf



(Source: Saner & Yiu, 2017, 2019; p.5)[54]

At the very top, the meta level, is the international system of education, mostly focused on the higher education, concerning education facilities and opportunities available in the developed countries and in the less developed countries - how do universities link with each other, how do they share knowledge and when they create knowledge? The meta level, the international component of education, is often times not as sufficiently discussed. But it can be observed sometimes how the larger universities opening up campuses in other countries, or having joined research projects, or faculty exchanges from one continent to the other.

The dynamism of knowledge creation means most of it is also cross-border cooperation. These aspects have been captured in two of the SDG targets of SDG 17 on Partnerships for the goals and in the SDG 4 as well. They are:

Target 17.6: Knowledge sharing and cooperation for access to science, technology and innovation.

Target 17.8: Strengthen the science, technology and innovation capacity for least-developed countries are directly relevant to the meta level of analysis.

Target 4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries.

At the macro level, it is more about the country's laws and its educational strategy to foster country's competitiveness, economic prosperity, social cohesion and national human capital formation. To improve education and its outcomes, it should also take into account what kind of policy exists in the country; what kind of national labour market policies exist in connection to its economic development policy, and crucially, how national education policy and human resource development align so that the acquired knowledge, skills and attitudes be sought after within the

[54] Financing Education in Developing Countries: Philanthropic Organizations need to monitor their investment for impact. CEPS Working Paper Series, No. 15, Basel: CEPS. https://ceps.unibas.ch/fileadmin/user_upload/ceps/2_Forschung/Publikationen/Working_Papers/15_Financing_Education_in_Developing_Countries.pdf

labour market. Finally, national budget for education constitute an important dimension of the macro level analysis.

The meso level addresses the educational sector, its structure, governance and regulatory tools and stakeholders (including business, teachers union and other trade associations) participation mechanisms. Internally, discussion on the curricula development, selection of textbooks, qualification of teachers and budget allocation are also relevant.

The meso level is very important but oftentimes not discussed. What are the relationships between teachers and society and also the power of the teachers' unions? How much do they limit experimentation or innovation for teaching? How many ideological positions are taken by governments or the different political parties that limit the adaptiveness of the school systems? How to get key stakeholder groups on board, so to speak, to help improve the quality of education?

Finally, at the micro level is to examine the educational providers, vocational and occupational skill development and the lifelong learning aspects. Bridging the learning and working often requires cooperation between the schools and employers or enterprises where learning and ongoing training need to take place. Within a company or enterprise, how is such learning or training organised. What kind of education is being made available to the young entrants - is it apprenticeship-based, is it just a few formal moments of a few days of training, is the training they offer also linked to the company's performance or is it treated as if it were to be a standalone training experience? For the older workers/employees what opportunities exist for continuing education?

Financing for Education

Countries need to unlock large amounts of resources. An IMF study by Vitor Gaspar and his colleagues estimated to improving outcomes in five key areas (education, health, roads, electricity, water and sanitation) would require additional spending till 2030 of about 0.5 trillion US dollars or 0.5 percent of the global GDP for low income developing countries and , or 2.1 trillion US dollars in emerging market economies, representing the average *additional* spending of about 4% of GDP. The challenge is much greater for low-income developing countries, where the average additional spending represents 15% of their GDP in 2030[55] (page 5).

So, the urgent question is how to finance education, and/or other basic public goods. Should it be through tax increases? IMF in contrast to their traditional position joined a large majority of countries saying that the SDGs require financial resources – the task is to figure out where to get these additional financial resources and then invest them smartly. Some of that is simply a measure of countries' ability to collect taxes, to make their taxes as equitable and fair as possible, but for the financing of SDGs including education, many countries are to increase their tax ratio by 5 percentage points of GDP. This requires strong administrative and policy reforms. A recommended starting point for many countries would be to adopt a medium-term revenue

[55] Vitor Gaspar, David Amaglobeli, Mercedes Garcia Escribano, Delphine Prady, and Mauricio Soto (2019) Fiscal Policy and Development: Human, Social, and Physical Investment for the SDGs, IMF. https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2019/01/18/Fiscal-Policy-and-Development-Human-Social-and-Physical-Investments-for-the-SDGs-46444

strategy to develop multiyear, holistic, and realistic plans for revenue reform in line with the countries' development (Gaspar et. al. 2019). Regardless, novel financing models are needed.

In this context, there exists also discussions about who should organize education and also pay for it. On one extreme, the assumption is that everything could be done by the government, hence it means the government collects taxes in order to have a budget for financing and organising the delivery of education. If that's not the case, there are other options being discussed - to do it through procurement, public-private partnerships (PPPs), or even to privatise education. The latter can be very controversial but happened in some countries.

If it is a PPP solution, as described in SDG 17.17, it is important to recall that PPPs are time limited, but most of the time they go beyond a generation. In other words, maybe there is an arrangement made over a time span of 20 or 30 years, and at a certain time, the private investment has to be paid back to the private sector, which has been invited to invest in education. (Target 17.17 is about "Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships")[56].

That means the young generation of today will have to pay up, hence it would it be fair to also involve the younger generations in setting investment targets in the area of infrastructure development that includes education. Are they in agreement or not for the PPP deal? Do they see the need for improving the quality of education as well as access in which aspects? At what levels?

International Market for Educational Services as A Strategic Consideration. Revenue could be generated through international cooperation, and a lot of that also has a commercial component to it which makes it a very controversial proposal.

There are countries, so-called educational exporters, (mostly) from Anglo-Saxon countries who actively engage in exporting educational services by recruiting international students to the campus and by setting up campuses abroad or conducting teaching abroad. For example, 11.8 percent of all of Australia's services that it exports which could also be financing, insurance, etc. were generated by universities who offered education in other countries. Canada, the U.S., and some European countries are also involved in offering education in other countries, which also includes offering education to foreign students who come to for example, France or Germany, to receive education.

There are points for or against the idea of a partially commercialised sector to allow for private sector participation. On the one hand, those who are more in favour of liberalising the education sector argue that through competition, through private schools, more new ideas would pop up, because they all try to outdo the competition and attract more students. This protective and less liberalising perspective has valid concerns that, by inviting private investors or private universities to open offices and campuses in other countries, might contradict the laws that are in place and it might lead to conflict with the public universities. The protecting side, those who are against more participation or involvement of private universities from abroad also has the perception that this is against the idea of public service, that it will eat away some of the resources because private universities are expensive and will attract more of the well-to-do students of the upper parts of society. Hence it would contradict the goal of education to be more inclusive and more

[56] https://sdgs.un.org/goals/goal17

integrating rather than dividing the kids into the wealthier and the less wealthy by going to different universities.

How country used the market opening to foreign investment as means to improve educational supply and to improve quality of higher education through foreign investment-based strategy. Shanghai is a big city that needs to improve education and has been busily doing so. The Shanghai government allowed Australian universities, public or private, to open campuses in Shanghai, but the government set conditions about the amount of tuition fees they can ask of Chinese students, give clear indications (as to) where they can set up the campus, what kind of degrees they can offer, and oftentimes they also insist that the Australian universities allow the good students to then go to Australia to continue their education, even up to a PhD, with maybe possibilities of entering the labour market in Australia for practical experiences.

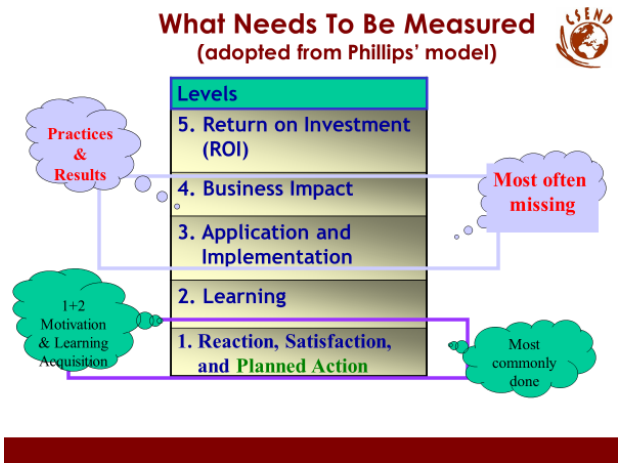
So, there is strategic thinking behind letting foreign universities participate in the production of education, especially higher education - how to use the university or the educational market in favour of a strategy which countries and cities have set in terms of country development and improvement of the educational competence of their students.

Role of business in Achieving SDG 4. To meet the SDG targets, companies like communities and the country will need to re-orient their decision-making criteria and reshape their business practices. Ample room for innovation, retooling and reskilling. Such skill re-development will demand in-house learning opportunities and using formal education to contribute to the knowhow of their own employees and improve the performance of the company in the process.

Companies can also have a more active role in demanding evidence based training or educational outcomes from the service providers. Such demand may assist the school systems including the higher educational institutions to consider more in addressing the need of the users and improve on the relevance of their teaching. After all, being relevant helps students to develop employability and to secure employment with development prospect. This can form a positive cycle where educational institutions bridge the world of learning with the world of working and contribute to the overall transformation toward a more sustainable economy and society in a sustainable environment.

To conclude, quality should be somewhat predictable. It should have a consistency in delivery, and at the end it should be linked to a purpose. In-service training, part of the lifelong learning process shouldn't be a standalone activity. Instead, it needs to be part of the continuum from learning to performing. Following this logic, learning assessment and results evaluation need to be part of the process in ensuring quality of education and/or training.

The figure below addresses the content of such assessment and evaluation for adult learning but with useful implication to the formal education as well. Should education have a purpose beyond individual level, but for the organisations, communities and society as well, then the value for people and value for society need to be measured and validated. Such an approach can be supportive of the mission of delivering SDG 4 quality education for all.



Comments by Moderator:

It is important to bring in the resource question and link it to the performance of education system. Keeping on doing resources mobilisation without getting to the desired outcomes at the macro level will not be sustainable. A study by the IMF mentioned that most countries need to spend additional four percent of their budget on education to meet the SDG 4 requirements. For the least developed countries, this would mean fifteen percent. Where would these 15 additional spending could come from? Mention was made by the adoption of technology, PPP partnerships and also other means. In light of this resource demand, more care has to be given when conducting VNR to review SDG 4 and raise the transparency on how teaching and learning are done and how educational benefits are realised.

One factor that often impedes on the quality of education, according to the UNESCO and OECD research, is that the working conditions of teachers are in such a way makes the slogan or the objective of quality education for all almost impossible. Therefore, the resource mobilisation question requires further deliberation.

PART 2 Country Experiences:

Presentation 5: Education for Economic and Social Mobility: The Swiss Dual System of Learning

Speaker: Mr. Erik Swars, Head for International Affairs, Swiss Federal University for Vocational Education and Training SFUVET

The Swiss Federal University for Vocational Education and Training is a public institution under the Swiss ministry of education, which focuses on working towards the development of vocation, education, and training.

Some fact and figures about Switzerland: it's a small country with a population of 8.637 million as of 2020. There are four national languages: German, French, Italian and Romansh. The backbone of the Swiss economy are small and medium enterprises.

The Swiss education system consists of dual track and has different paths and options for educational advancement. It is decentralized and spreads across 26 regional authorities or so-called cantons. Each canton develops and implements its own standards and educational plans. The structure of the educational system is composed of primary education, lower secondary education followed by upper secondary education, and tertiary level education.

There are two options when choosing a path in the upper secondary level: high school or vocational education training (VET)[57]. In the tertiary education level, choices are amongst the classical universities, university of applied sciences and professional education and training.[58]

The Vocational Education Training (VET) programme showcase the following figures: Two thirds of young people who come from compulsory school choose vocational education training. The programmes last between 2 and 4 years, and students can choose among 245 different professions. The programme possesses a high level of permeability allowing students to choose a dual track and to work with companies while studying by offering apprenticeships opportunities.

The Vocational Education Training (VET) programme has a strong reputation in society, and it is not seen as second choice for a learning pathway. A reason for that is the profitability of the programme and also its flexibility. Young people can start a 2- or 3- or 4-year programme with different levels of qualification. But there is always the option for them to continue their education later on.

Out of the 245 occupations/professions available, 10 are the most frequently chosen for the VET studies (see Table below). This high demand study list compares well with the most demanded jobs in Switzerland.[59]

Occupations	Total
Commercial employee Federal VET Diploma (all profiles)	12814
Health care worker Federal VET Diploma	4920
Retail clerk Federal VET Diploma	4339
Social care worker Federal VET Diploma	3795
IT technician Federal VET Diploma	2194
Electrician Federal VET Diploma	1891
Logistician Federal VET Diploma	1778
Retail assistant Federal VET Certificate	1556
Cook Federal VET Diploma	1540
Draughtsman Federal VET Diploma	1536

Federal Statistical Office (2020c). Including school-based VET programme

(Source: Federal Statistical Office, 2020c. Including school-based VET programme)

[57] Vocational education and training. https://www.edk.ch/en/education-system-ch/post-compulsory/upper-secondary/vet

[58] Vocational and professional education and training in Switzerland – Facts and figures 2022. file:///C:/Users/lichia/Downloads/fakten_zahlen_bb_e.pdf

[59] List of Most Demanded Jobs in Switzerland, 2021, *Switzerland, Work Abroad. https://russianvagabond.com/list-of-most-demanded-jobs-in-switzerland/*

The Dual track programmes on upper-secondary level education combines practice and theory. Students have to apply to a company, write CVs and attend interviews, if successful they get hired by a company with a training (apprenticeship) contract which is also entailed with a monthly wage coupled with social benefits. Apprentices are expected to spend 3 to 4 days per week in the company to get training, and 2 days for learn the theory in their schools according to their vocational subjects. Students are rapidly integrated in different production and/or commercial processes. Teachers' capacity building, both pedagogy and technical skills, is one of the keys to the success of this apprenticeship programme. Additionally, companies receive approval to provide apprentice position(s) based on infrastructure, availability of qualified training instructors. Finally, the programme is hinged on *competence orientation* in learning arrangement. Competence in this context means the ability to apply knowledge, skills and behaviour in a context.[60]

Public Private Partnerships in Vocational Education Training (VET). The Swiss system is based on Public Private Partnerships. It's also a collaboration between the confederation, private sector and the canton administrations. The confederation is responsible for the strategic management, and approving the qualification profiles. The regional authorities run the vocational schools and offer career guidance. The private organizations define the training content, qualification process for each profession. At the end of the apprenticeship, the young professionals' skills correspond to the needs of the labour markets.

In this apprenticeship market the government does not intervene. Basically, it's about supply and demand, so companies offer apprenticeship positions and there's a demand for the use. This is a win-win situation, where young people enjoy financial advantages and vocational training, while companies also get financial benefits approximately 3400 CHF per apprentice per year.

To summarize, the Vocational Education Training (VET) is really well integrated into the Swiss education system, and is not considered as a second-choice pathway. It offers an opportunity to start in the labour market while continuing further studies. There is permeability in the system to allow for different career pursuit late on. Public Private Partnerships are pivotal for this approach, and they are rooted in the Labour market. These programs are cost-efficient, and also there's international cooperation.

Question: Would you mind to elaborate a little bit more on how a young student could be first introduced through career guidance the possibility of pursuing an apprenticeship study as the first step to their career development? (the moderator)

Answer: In Switzerland there is a "the future day" activity for the students between10 to 12 years old. It is when the young pupils can visit the working place of their parents or also of other companies so this is the first step to get the feeling of how it is like to be in the world of work. Afterwards, about two years before the end of compulsory schooling there are these representatives of the career guidance offices coming to the classes to explain what are the possibilities in general education but also vocational education and training. In addition, there is

[60] Statistical overviews on VET – Switzerland. For each country, they quantify and compare key aspects of VET and lifelong learning. The selection is based on the indicators' policy relevance and their importance in achieving the Europe 2020 objectives. https://www.cedefop.europa.eu/en/country-reports/statistical-overviews-vet-switzerland

also the possibility to have individual guidance. Throughout the process, the role of the parents in this context is also very important and crucial.

Question: About literature, if you can put it on our website and it helps one way of dealing with resource shortage and there is another way by building collaborative effort at the country level for using education as a main driver for development. (Ramadani Marijani)

Answer: If one look back in terms of the Swiss history the apprenticeship model probably played a very major role since 1848.

Presentation 6: Lifelong learning, Skill upgrading and recognition of prior learning: Country experience to date and challenges.

Speaker: Mr. Paul Comyn, Senior Skills and Employability Specialist, Skills and Employability Branch, International Labour Organization (ILO)

This presentation addressed the following points:

- Highlight the key SDGs related to Technical and Vocational Training (TVET) and skills development,
- Consider the links between reskilling, upskilling and lifelong learning where skills recognition forms an important part of this cycle.
- Share some country examples of recent initiatives

SDG 4, Quality Education, contains the following targets that are directly related to TVET. These targets consist of important requisites to what quality meant from a systemic perspective, which are underlined:

- Ensure equal access to affordable and quality TVET programmes (target 4.3)
- Substantially increase the number of youth and adults with relevant skills for employment, decent jobs and entrepreneurship (target 4.4)
- Eliminate gender disparities in education (target 4.5)
- Ensure that all learners acquire the knowledge and skills needed to promote sustainable development (target 4.7)

SDG 4 is to “"Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". This is a significant step to internationally recognise the importance of lifelong learning [61] and set the inspirational targets for member states to strive toward. Connected to SDG 4 is SDG 8 on promoting inclusive and sustainable growth, employment and decent work for all. Particularly, the following two targets are interrelated to the target 4.5 mentioned before:

- By 2030, achieve 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),

[61] Lifelong learning is becoming an economic imperative, The Economist, 2017. https://www.economist.com/special-report/2017/01/12/lifelong-learning-is-becoming-an-economic-imperative

- By 2020, substantially reduce the proportion of youth not in employment, education or training (target 8.6).

Indicators that exist for these different targets in SDG 4 and in fact other SDGS don't necessarily capture the full richness of the sort of attainment and outcomes that are required. But it certainly is a start. SDG 4 but also SDG 8 relates to employment that have placed significant fresh attention on the skills development agenda concerning technical and vocational education and training as well as a general education. This also reflects a shift in international thinking. VET and skills development have fallen into a copy of the Geneva and often funded as a second-best option and a poor cousin of other sectors of education. This perception continues to constrain the capacity of education and training systems to respond more effectively to the needs of individuals and particularly adults given the emerging labour market transitions due to robotisation and automation that will replace many traditional jobs relying on either physical labour or programmable and repeating tasks.

This trend is expected to become more apparent and it is in this international context that policy makers, shapers, teachers and educators need to reflect on. To some extent in the presentation from Andreas Schleicher references to some of the mega trends have already been made. Yet it will be worth repeating as they are affecting the nature of jobs, the type of skills that are required and triggering clearly the covert economic and employment crises. These crises, including the COVID-19 pandemic, in turn accelerate some of the trends that are already in place in terms of how work and skill requirements were evolving.

Some hints regarding trends in relation to the future of work are given here. The supply chains are being restructured due to COVID-19 that disrupted the logistic services and connectivity, and more recently due to the war in Ukraine. Evidence already exists: reshoring starts to take place. The war in Ukraine will accelerate the process. Implications or consequences of these two developments on the economy and employment will be profound. Inevitably there will be a redistribution of work (tasks) among countries. Some may lose and others may gain.

Digital transformation has not only changed the number of workplaces needed to produce specific workplaces, they are also demanded to make a closer link between education, VET and work and lifelong learning and finally also to new occupations. During the Industrialisation 3.0 when digitalisation and automation replaced many manual jobs, only 3.7 final assembly line production workers a day per car produced in the Japanese facilities in the US. That was 1991.[62] Today with the Fourth Industrial revolution[63], industry 4.0[64] is adopting technologies such as AI, augmented reality, 3D printing, robotics and virtuality which continue to impact the way humans create, exchange and distribute value, for instance, in designing a car and carrying out many other higher valued tasks. What is predictable is that many of the previously better paid jobs will

[62] U.S. Industrial Outlook. U.S. Department of Commerce, Bureau of Industrial Economics, 1993. P. 35-7. https://books.google.ch/books?id=jyXbfE2kiGEC&pg=SA35-PA7&lpg=SA35-PA7&dq=how+many+workers+are+there+in+a+toyota+car+assembly+line+in+average&source=bl&ots=JlmbYE7gqk&sig=ACfU3U2POpa_O8xjhh_BPB35nPpyU_gCuQ&hl=en&sa=X&ved=2ahUKEwjhn-6U0Kf4AhUR57sIHfesB5MQ6AF6BAgwEAM#v=onepage&q=how%20many%20workers%20are%20there%20in%20a%20toyota%20car%20assembly%20line%20in%20average&f=false

[63] The Fourth Industrial Revolution. https://www.britannica.com/topic/The-Fourth-Industrial-Revolution-2119734

[64] Industry 4.0:Opportunities and Challenges of the New Industrial Revolution for Developing Countries and Economies in Transition. 2017. https://www.unido.org/sites/default/files/2017-01/Unido_industry-4_NEW_0.pdf

no longer exist, at least not in the same quantity. What will remain to be in high demand will be occupations and jobs that demand higher cognitive skills[65]. Many of which are not taught or well developed in the educational institutions at present time.

Some of the new demand for competence with growing activities are related to the transition to the low carbon economy, for example, which includes increasing circularity of our economy. Demands for technicians, maintenance engineers, data scientists, material scientists, chemists, biologists, social scientists, communication specialists etc will increase significantly. TVET system and general education system need to be ready for this change. Lifelong learning opportunities need also to be there in order to help older workers from 35 years onward to upskill and reskill their competences.

Ongoing demographic change will also play a role regarding labour force composition, especially in the developed countries with high or middle incomes while many developing countries may enjoy a "demographic dividend" [66] if the educational and TVET systems are effective in developing the right talents with knowledge, skills and values that fit well the economic opportunities presented due to demographic changes and economic realignment. By 2030 it is estimated that world population will have grown to 8.7 billion. This will exert great pressure on the policy makers to think out of box and look for ways enhancing and amplifying the capacity of TVET and education in general in producing the right skills mix at the right levels and at the right places.

In sum, all these forces mentioned above are having a substantial impact on the labour market and also subsequently on education and training systems[67], which often are already challenged to maintain quality and maintain their relevance when it comes to supporting the economic imperative for education and training let alone the sort of social imperative[68], [69], [70] in terms of some of the changing skill needs such as those referred to by Andreas, i.e., the end of routine tasks, growing importance of soft skills, digital skills etc. The future of work might see more jobs that are not present or remain a niche job today, for example, autonomous work, digital platform-based work, compliance with environment rules and standards, work requiring greater complementarity between soft skills and digital services and the creative industry.

The traditional model of a single job career following a period of education has been replaced by multiple jobs in a life time. These job changes might involve even work in different fields. This would mean multiple work transitions requiring support from the education and TVET systems. These systems need also be more nimble, more flexible and more responsive to support those

[65] According to Bloom's taxonomy, these will involve skills to analyse, evaluate and create. https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/

[66] Population 2030. https://www.un.org/en/development/desa/population/publications/pdf/trends/Population2030.pdf

[67] Transforming learning for the 21st century: An economic imperative. 2005, Chris Dede et. al. https://www.researchgate.net/publication/228664188_Transforming_learning_for_the_21st_century_An_economic_imperative

[68] The Social Imperative in Workforce Skills Development, 2013, https://www.researchgate.net/publication/255980088_The_Social_Imperative_in_Workforce_Skills_Development

[69] Social Imperatives for Better Education: Putting Wisdom on the Agenda, 2009, https://eric.ed.gov/?id=EJ868684

[70] The Five New Imperatives for Educational Change: Opportunities and Challenges to Shape Our Future. DENNIS SHIRLEY, https://www.routledge.com/rsc/downloads/EDU13US223_-_Educational_Change_Snapshot_r2.pdf

transitions particularly for adult workers and potentially low skilled adult workers who are going to bear the brunt of these transitions and need the most support to manage them effectively.

This is the starting point of talking about lifelong learning. In its broader sense it reflects the idea of learning from cradle to grave. Yet, often some organizations focus only on the andragogical dimensions of adult education while labour market transitions and the need for upskilling and reskilling have not been so well articulated when these institutions talk about lifelong learning. Therefore, the language of lifelong learning in the policy discussion can be a little confusing and somewhat contested. Reality is that more and more people are going to require further education in order to remain engaged in the labour market and also to continue to actively contribute to society. This is the raison d'être for the demand of lifelong learning.

There are other key factors besides labour market transition that draw increasingly policy interest concerning lifelong learning. These factors are both social and economic. Preparation of youth for the labour market and reduction of NEET (Not in Education, Employment, or Training) is also an important mission of the lifelong learning paradigm. Lifelong learning structure and mechanisms will provide the NEET an easier way to re-enter the learning environment and join the labour market successfully. Therefore the lifelong learning policy encourages the educational institutions and TVET organisations to support sector expansion and economic diversification of the country, as in the case of Bangladesh[71]; to stimulate entrepreneurship in green field, as in Kenya and ICT [72];to increase female participation in the labour market[73], [74] as in the domain of tele-working[75] and customer services. Ultimately, a flexible and responsive education and TVET system will generate a national based skills pool, as in Egypt and its combined policy interventions for youth employment[76].

Centrality of Skills Recognition

Skills are developed through various formal, non-formal and informal types of learning. Throughout the life course, different types of skills are developed and are in need of recognition particularly with mature age workers without necessarily gaining degrees of higher learning or other occupational skills. Often, existing workers who have spent some years in the workplace and developed their skills through practice without ever acquiring formal qualifications. This situation becomes unattainable when the world of work is changing and job transition is

[71] Human Resource Development, *Bangladesh Economic Review 2017,* Chapter 12. https://mof.portal.gov.bd/sites/default/files/files/mof.portal.gov.bd/page/e8bc0eaa_463d_4cf9_b3be_26ab70a32a47/Ch-12%20(English-2017)_Final.pdf

[72] Building ICT Entrepreneurship Ecosystems in Resource-Scarce Contexts: Learnings from Kenya's "Silicon Savannah", 2017. Johannes Ulrich Bramann. https://www.researchgate.net/publication/310499965_Building_ICT_Entrepreneurship_Ecosystems_in_Resource-Scarce_Contexts_Learnings_from_Kenya's_Silicon_Savannah

[73] Female participation in labour markets grew remarkably in the 20th century, 20220612. https://ourworldindata.org/female-labor-supply#female-participation-in-labor-markets-grew-remarkably-in-the-20th-century

[74] International Labour Organization, ILOSTAT database. https://data.worldbank.org/indicator/SL.TLF.CACT.FE.NE.ZS

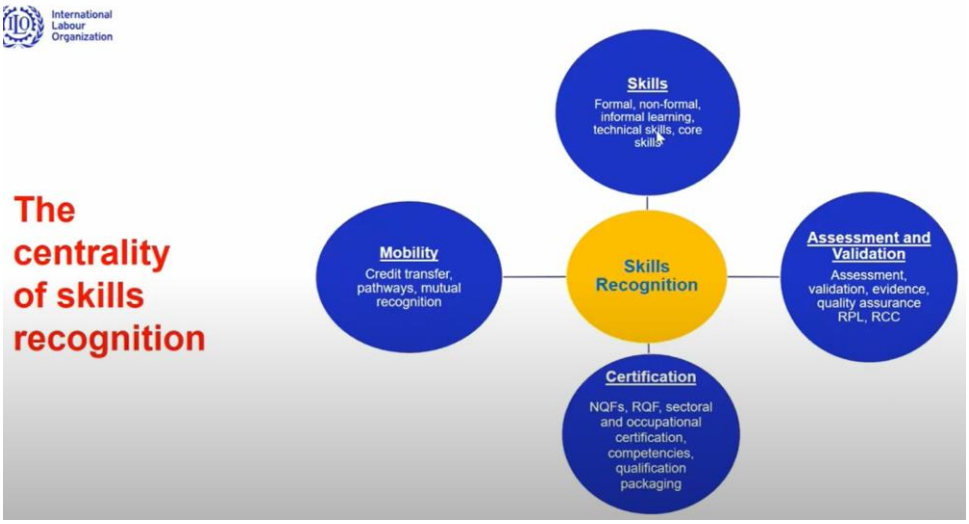
[75] An ambitious future for Europe's women after COVID-19: mental load, gender equality in teleworking and unpaid care work after the pandemic. 2022. https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/719547/IPOL_BRI(2022)719547_EN.pdf

[76] Policies and interventions on youth employment in Egypt, 2015, https://europa.eu/capacity4dev/public-employment-social-protection/documents/policies-and-interventions-youth-employment-egypt-2015

involuntary. These individuals need some form of recognition when looking for new employment and even when going back to learning institutions to update their learning.

Some form of recognition process that gives individuals some validity of their work and life experiences may provide some mobility of their skills and acquired competence. Therefore, skills recognition[77] process is really central to the concept of lifelong learning as it applies to mature age workers and those in transition for employment.

A skill recognition system consists of four elements, skill (classification)[78], certification, mobility, and assessment and validation (See Figure below).



(Source: ILO Skills and Employability Branch)

Recognition Prior Learning[79], and validation of non-formal, formal and informal learning are not the same thing. There are some technical features that differentiate these ideas (see a quick reference in Table 1). Skills recognition is a process to assess and certify the competences and knowledge of a person *regardless of how, when and where the learning occurred.* Assessment is done against prescribed standards (learning outcomes) for a partial or full qualification.

Often, the common practice of providing formal recognition is based on an input rather than output model. In other words, how many hours of learning leads to how many credits without necessary paying close attention to the actual ability to perform. Vocational training and skills development, in contrast, are about the ability to perform at a prescribed level according to established common or universal standard of the country or the industry. At the same time, the assessed is expected to demonstrate underpinning knowledge and skills.

Skills recognition is improved guidance and support related to learning and career paths not just for young people, but also for mature age workers. They can better understand their skills and how those skills connect to jobs in different sectors. This demand will continue to increase in the

[77] Qualifications & Skill Recognition in Australia. https://www.vetassess.com.au/qualifications-skills-recognition
[78] Three Types of Skills Classification, https://www.skillscan.com/sites/default/files/Three%20Types%20of%20Skills%20Classification.pdf
[79] Recognition of Prior Learning (RPL), https://www.vetassess.com.au/qualifications-skills-recognition/recognition-of-prior-learning

short and mid-terms until young workers who are educated and trained under a new paradigm benefit from the world of work driven by the Fourth Industrial Revolution.

Public and private as well as training organizations play a role in providing guidance and advice. One scheme for supporting skills recognition is creating learning and career pathways. There is also the need for more flexible learning solutions to provide better access.

It is also important to acknowledge that skilling and upskilling are important in the context of community development. Skills development does not exist nor happen in isolation. There's the need for coordinated action across different levels of government and across different policy domains. There needs an ongoing conversation between the education and training sector, and between the local economic development and regional development sector. Equally important is to give voice to the recipients and potential beneficiary of the system, i.e., students, employed and unemployed youth, women and mature workers. South Africa and its District Development Model (DDM)[80] is a good example. Through a partnership arrangement between Ministry of Cooperative Governance and Traditional Affairs (COGTA) and the UN in South African, an DDM initiative is launched in 2021.

Table 1: Mapping Some of the Better-Known Recognition of Prior Learning Initiatives

Different Schemes	Applicable Countries and Areas	Technical Features	Web Address
RPL	South & East Africa, South Asia, Australia	Recognition of Prior Learning	https://www.ilo.org/skills/areas/work-based-learning/WCMS_672345/lang--en/index.htm
PLAR	Canada	Prior Learning Assessment & Recognition	https://capla.ca/what-is-rpl/
APL	England	Assessment of Prior Learning	https://www.educatinguk.com/recognition-of-prior-learning-policy/ https://london.ac.uk/applications/how-apply/recognition-prior-learning
VNFIL	Countries in Europe	Validation of Non-formal and Informal Learning	https://www.cedefop.europa.eu/en/projects/validation-non-formal-and-informal-learning https://www.youthpass.eu/hu/recognition/validation/

[80] South Africa and District Development Model, https://www.cogta.gov.za/ddm/

(Note, a comparative study on RPL initiatives in Brazil, Portugal and Germany by Alves et. al, 2020 is available[81], as well as the application of RPL in higher education[82])

While RPL is gaining momentum, its adoption is not without challenges. Yet, due to the demonstrating effect of COVID in terms large scale job losses, job transition and redefinition, there are also opportunities as well. Table 2 lists some of this challenges and opportunities.

Table 2: Skills Recognition: Mapping Challenges and Opportunities

Challenges	Opportunities
▸ Very slow implementation and up scaling	▸ Don't compromise with the quality of assessment
▸ Confusing language and differing definitions	▸ Establish an effective M&E system
▸ Parity with formal training	▸ Collect and publicise information about impact and benefits of RPL
▸ Time consuming and expensive	▸ Involve all stakeholders in RPL and ensure their ownership
▸ Individualised, rigorous assessment	▸ Ensure close matching between Occupational Standards and Qualification Standards
▸ Complex methodology	▸ Promote awareness about RPL and it benefits
▸ Extensive guidance to candidates (needed)	▸ Make provision for skills upgrading opportunities
▸ Challenging to assess persons with low literacy skills	
▸ Native language vs language for assessment	

(Source: Summary from the publication by Braňka, Jiří, 2016; presented by Paul Comyn, 2022)[83]

An increasing number of apprenticeships programmes are not just targeted to young learners, adult learners are included as well. A growing number of apprenticeships programmes are

[81] Contexts of recognition of prior learning: A comparative study of RPL initiatives in Brazil, Portugal, and Germany, 2020. https://www.researchgate.net/publication/354840433_Contexts_of_recognition_of_prior_learning_A_comparative_study_of_RPL_initiatives_in_Brazil_Portugal_and_Germany

[82] Mapping Institutional Experiences of Recognition of Prior Learning in Higher Education, 2021. Michal Karpíšek, Federica Garbuglia, EURASHE. https://www.uhr.se/contentassets/e9abf4935ad94f308eaf84082313a608/rplip-survey_report_final.pdf

[83] Jiří Braňka. 2016. Understanding the potential impact of skills recognition systems on labour markets: Research report. International Labour Organization. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_532417.pdf

showing positive results[84], [85], [86], [87] and literature exists which shows how such programs are helping individuals to labour market transitions[88].

Financing TVET

To make TVET work, it is necessary to look at the incentive schemes to encourage the participation of the private sector. These could be incentives for employers to increase the levels of investment in education and training for individuals through in-service training. France and Singapore have integrated systems for individual learning entitlements. These are best when it comes to providing holistic support, and the financial means for individuals who want to take upscaling lifelong learning opportunities.

Some elements of such systems require a mature and coordinated approach. Systems of support, such as legislation, a centralised body to manage, sufficient and sustainable financing, adequate training and information systems, (for instance as a training passport), and promotion should be in place also for adult learners who want to engage with that learning systems. Korea, Japan, Thailand, USA, Morocco, England and EU are putting elements of an integrated system in place.

In conclusion we need to recognize that lifelong learning is a growing policy priority and central to achieving the SDGs.

- Skills recognition forms are a central part of lifelong learning strategies but that requires integrated and flexible support, financing and programming, based on labour market intelligence, and required to support effective reskilling and upskilling for all.
- Tripartite participation is key amongst the three actors in the labour market: employers, workers, and government.
- These actors need to be equally consulted and involved in the design and implementation of solutions around upskilling and reskilling lifelong learning from youth and mature workers alike.

Presentation 7: Raising awareness for Sustainable Development in Nigerian Schools

Speaker: Mr. Joshua Alade, Executive Director, Nigeria Youth SDGs Network[89], Nigeria

[84] Apprenticeship in low- and middle-income countries: Ways for development, 2013 https://www.cedefop.europa.eu/files/11_Apprenticeship_in_low-_and_middle-income_countries_-_Ways_for_development_Helmut_Zelloth.pdf

[85] Apprenticeships the recipe for Swiss success , 2017. https://houseofswitzerland.org/swissstories/economics/apprenticeships-recipe-swiss-success

[86] Some of Switzerland's top CEOs did apprenticeships instead of high school. 2021. https://www.iamexpat.ch/education/education-news/some-switzerlands-top-ceos-did-apprenticeships-instead-high-school

[87] Cross-country comparison of engagement in apprenticeships. A conceptual analysis of incentives for individuals and firms. 2019. https://files.eric.ed.gov/fulltext/EJ1238347.pdf

[88] Apprenticeship-toolbox. 2018. https://www.apprenticeship-toolbox.eu/austria-all-docs/12-key-features

[89] https://nigerianyouthsdgs.org/about/

Youth in Nigeria represents 65% of the population with a median age of 17. With the technology advantage, young people represent the demographic dividend and creative energy for Nigeria. Youth are looking at the digital technology as a means to access decent work and brighter future.

However, the challenge for the youth today is represented in situations such as: school and university closures due to strikes, the education curriculum, and COVID-19. In about 264 months since Nigeria had its democratic election, universities have been on strikes for more than 50 months. Currently universities lecturers in Nigeria are on strike. They have been on strike for the past two months in 2022. COVID-19 pandemic has also caused school closure for about a year. The impact of COVID-19 compounded other social tensions. The end result is the loss of schooling at different levels.

(Source: Premium Times Newpapers)

The question that begs an answer is concerned with education and skill development. How are children and youth able to get educated or trained in order to compete meaningfully in the world of work?

The average Nigerian is not competing with someone in Lagos alone but in fact competes with someone in the UK, U.S.A and South Korea in order to enter the coveted IT sector and work internationally. Due to the strikes, young students end up staying at home spending extra years to get a university degree over six years.

Education curriculum presents another challenge. Most of the youth profess their wish in becoming civil servants due to job security, assured pension. The school and university do not prepare the young to be innovative and entrepreneurial and assume agency for one's own career.

With the changing world of work, youth in Nigeria do not feel prepared for the future. Consequently, following results been noticed include youth unemployment, skills mismatch, brain drain, and violent extremism.

- Youth Unemployment. It's not that the students do not want to learn but the education system is not preparing them for the jobs of today and of the future. Combined with the effect of COVID-19, youth unemployment went to about 54 percent. Prior to the pandemic, the youth unemployment rate stood at 33.3 percent. It goes to show that even without the pandemic itself there are underlining issues when it comes to youth and their preparation for sustainable livelihoods through education and training.[90]
- Skills mismatch and labour market demand and supply imbalance are two interrelated challenges. While the employers are looking for skilled workers to fill vacancies, young people are left out of gainful employment. There is no guidance services on campus to assist the young students in mapping out a career path as one would see in countries like UK for example.
- Brain drain. Nigerian talents are not retuning. Instead they pursue a new life abroad with varied success. Many young Nigerians received scholarships to study abroad, but chose not to return.
- Young people have become easy targets of violent extremism when not meaningfully engaged in schooling or working. NEETs are often victims of recruitment for the extremist groups.
- Young people are treated as a homogenous group.,

There has been meaningful youth engagement through campaigns and movements asking the government for job creation and to ensure safer lives. Young people are asking for an adequate education system and an enabling environment to thrive. They also request government authorities to engage and involve young people in issues that have to do with the transition from school to work, to understand what their needs are, and to create spaces for vocational education. Youth engagement will ensure meaningfulness and relevance in the process of policy making, program planning and implementation.

In the 2020 protests, the government shot at the youth, because they were asking for a better environment; since there is the need for electricity, access to communication technology and the Internet to work. Better skill development programmes and youth employment strategy could help dispel this social tension and promote an inclusive climate.

The Nigeria Youth SDGs Network[91] works with international organizations and the Ministry of Education, and Sports in order to ask youth about their aspirations and gather youth opinions on policy regarding decent work and training. 230,000 young people gave their opinion across Nigeria. The key findings through the survey are that 1) young people are seeking meaningful engagement with society at large, 2) they are looking for opportunities to learn about sustainable development, 3) they miss an enabling environment for them to thrive.

The government has launched a Nigerian Youth Employment Action Plan[92] (2021-2024) (together with the International labour Organisation) for entrepreneurship development, employability

[90] Adebimpe, O. I.; Adetunji, A. T.; Nwachukwu, C.; Hieu, V. M.. 2021. "Covid 19 Pandemic Challenges: The Youth Unemployment In Nigeria". *Journal of Contemporary Issues in Business and Government*. 27(1):2004-2012. Abstract at https://pesquisa.bvsalud.org/global-literature-on-novel-coronavirus-2019-ncov/resource/pt/covidwho-1170687

[91] https://nigerianyouthsdgs.org/

[92] Nigerian Youth Employment Action Plan 2021-2024, https://www.ilo.org/wcmsp5/groups/public/---africa/---ro-abidjan/---ilo-abuja/documents/publication/wcms_819111.pdf

and equal rights. Government funding (approximately 9 million USD.) will be made available to finance this comprehensive programme. The goal is to create 3.9 million jobs for young people over the next three years. Especially those affected by COVID-19. The organization's goal is to make sure this action plan works; thus, a research was conducted in order to learn about the skills youth want to learn and further develop. Government also launched a Special Public Works Programme (SPW) to address the economic woe due to COVID-19 pandemic[93].

NYSN also launched a parallel programme, The Skill for Employment Programme"[94] focusing on digital marketing, graphics design, website development and soft skills. This is part of the partnership with the ILO and technology hubs in the states of Nigeria. 90 young people under the age of 29 participated in the survey. Since launch the training, over 500 young people applied for this programme.

A SDG playbook[95] has been prepared to inform the young people and to create stakeholders engagement programme across the country.

Comments by Lichia Saner-Yiu: There's a need for greater social dialogue. SDG 16 may be considered as a good goal to apply, which focuses on "Promoting peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels".[96]

Answer: We need to understand power dynamics and how to reach out a dialogue. The government has plans; however, it does not carry along youth by failing to communicate, inform and engage the youth in the process of policy design, or implementation.

Notes from Moderator: Similar to many countries in Africa, Nigeria is facing major challenges in achieving SDG 4 Quality Education for All and related Targets, especially Target 4.4 according to the Sustainable Development Report 2021 (see Map below).

COVID-19 pandemic has further exasperated the performance of the public education system in these countries. Negative impact from the pandemic in Nigeria is affecting psychologically and cognitively the youth in both urban and rural areas yet with unequal wight due to the digital divide and other infrastructure deficiencies.[97], [98].

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[93] Akintunde Oyebode, 2020. "Nigeria: 'What is most important is we put millions of young people in jobs, and quickly',*The Africa Report.* Wednesday, 5 August. https://www.theafricareport.com/36412/nigeria-what-is-most-important-is-we-put-millions-of-young-people-in-jobs-and-quickly/

[94] Supported by the Nigeria Youth SDGs champions in the states. 2021. https://nigerianyouthsdgs.org/the-skill-for-employment-programme/#:~:text=Supported%20by%20the%20International%20Labour,their%20access%20to%20decent%20work.

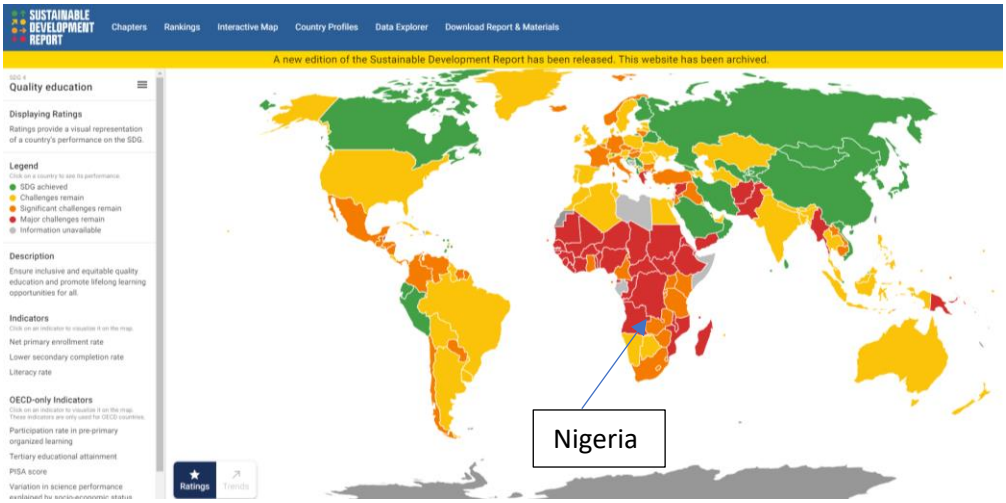
[95] https://drive.google.com/file/d/1IOPqZJQagUr7JDkYHkXd8hmiuLBS8_j9/view

[96] https://sdgs.un.org/goals/goal16

[97] Ebohon, O., Obienu, A.C., Irabor, F. et al. 2021. "Evaluating the impact of COVID-19 pandemic lockdown on education in Nigeria: Insights from teachers and students on virtual/online learning". *Bulletin of the National Research Centre.* 45, 76 (2021). https://doi.org/10.1186/s42269-021-00538-6 / https://bnrc.springeropen.com/articles/10.1186/s42269-021-00538-6

[98] Feyisetan Christianah Toyin, 2021, "The resultant effects of COVID- 19 pandemic on education in Nigeria: A need to review special education programme", *IFE PsychologIA*, Vol. 29 No. 1. https://www.ajol.info/index.php/ifep/article/view/211031

There needs a holistic plan for the skill development of the population, of which the formal education systems (from elementary to high education) is part of the skill development and lifelong learning infrastructure. Without linking the skill development with gainful employment and meaningful career development prospect in the future, the risk is high that younger population can fall into easy prey of criminal and terrorist groups or decide to leave the country[99] via clandestine channels.



(Source: Sustainable Development Report, Interactive Data Base, 2021. https://2021.dashboards.sdgindex.org/map/goals/SDG4)

Presentation 8: Youth Empowerment and Sustainable Development

Speaker: **Mr. Stevie Leonard Harison**, Master's student, School of Environmental Science Universitas, Indonesia; Founder of Inspirator Muda Nusantara – a youth empowerment organization based in Bandung, Indonesia

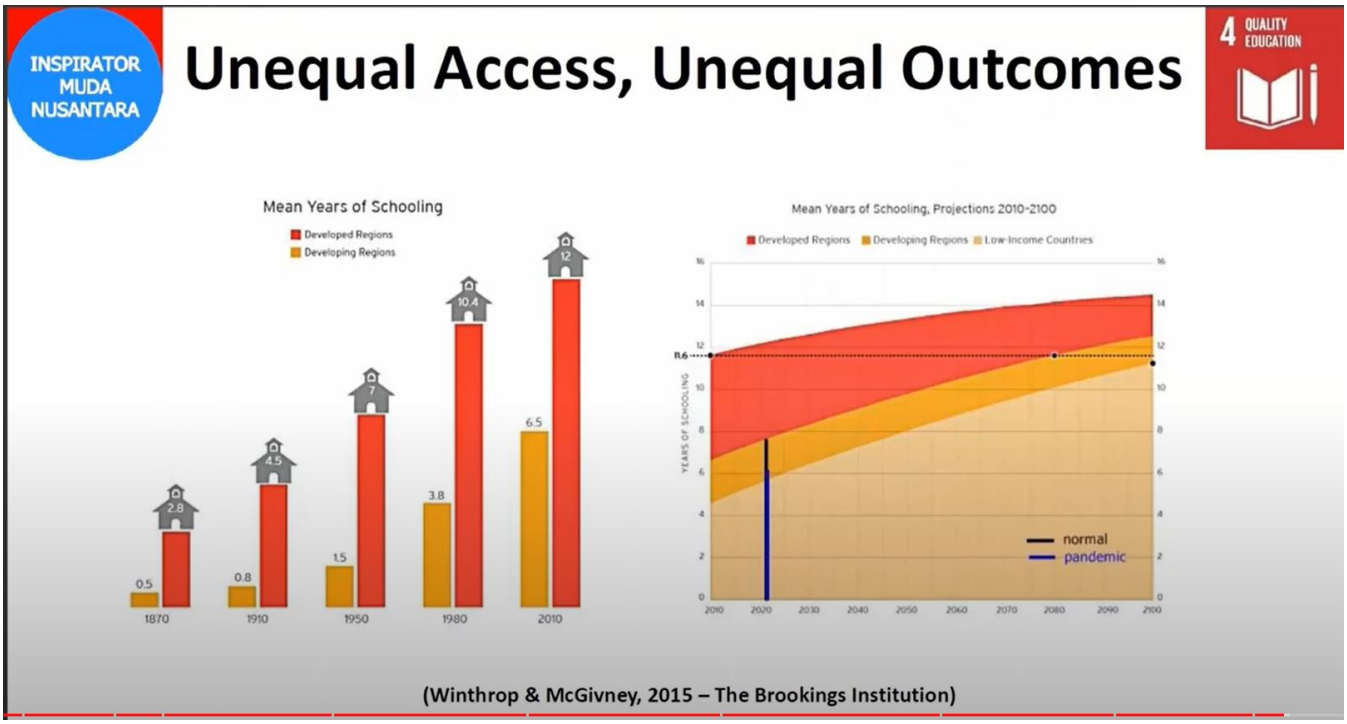
The theme of this presentation is digital transformation in education as a catalyst for the 2030 Agenda, a reflection from Indonesia. About 825 million children around the world are not learning the skills they need. Policy breakthroughs in digital learning sustainability are needed.

In Indonesia there are approximately 170,000 primary schools, 40,000 junior-secondary schools and 26,000 high schools. There is also an increasing trend on education spending. According to a report by the ministry of finance, the government has spent more than 30 billion dollars on education.

Due to the COVID-19 pandemic around 68 million students are learning from their homes. In general, the education system faces constraints to deliver online education, such as weak infrastructure and poor internet connectivity. The digital skill gap is also widening as results of

[99] Kaamil Ahmed, 2022, "Growing numbers of young Africans want to move abroad, survey suggests". *The Guardian.* 13 Jun. https://www.theguardian.com/world/2022/jun/13/young-africans-want-to-move-abroad-survey-suggests

the unequal access as depicted by the Brookings Institute in 2015 (Winthrop & McGivney, 2015).
[100]



(Source: cited in Winthrop & McGivney, 2015, Brookings Institute, "Global Education Enrolment and Attainment: Unequal Access, Unequal Outcomes",. The left by Morrison and Murtin, 2013 [101]; Projection on the right by Wittgenstein Centre for Demography and Global Human Capital, 2014[102])

Based on a study by UNICEF in 2020, to strengthening digital learning across Indonesia[103] will require the following elements: 1) Strengthening the digital learning content and platforms; 2) Developing digital skills and teachers training; 3) Expanding digital connectivity.

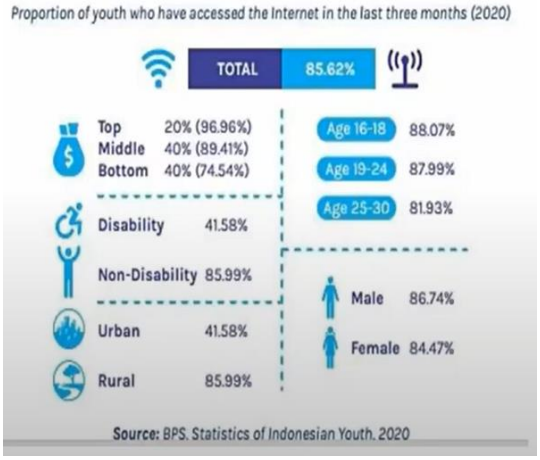
Proportion of the youth in Indonesia is around 86% and varies according to the age groups. See the Figure below.

[100] Winthrop & McGivney, 2015, "Global Education Enrollment and Attainment: Unequal Access, Unequal Outcomes", Brookings Institute, https://www.brookings.edu/research/why-wait-100-years-bridging-the-gap-in-global-education/

[101] Morrisson, C. and F. Murtin, 2013 "The Kuznets curve of human capital inequality: 1870–2010". *The Journal of Economic Inequality*, 11(3): p. 283-301.

[102] Wittgenstein Centre for Demography and Global Human Capital http://dataexplorer.wittgensteincentre.org/wcde-v2/

[103] Strengthening Digital Learning Across Indonesia: A Study Brief. UNICEF. 2020. https://www.unicef.org/indonesia/media/10531/file/Strengthening%20Digital%20Learning%20across%20Indonesia:%20A%20Study%20Brief.pdf



These statistics provide a good insight into the existing challenges regarding digital access due to location, disability and income levels. The gap between age groups from 16 to 24 years of age is not that wide. In contrast the age group from 25-30 years of age is visibly behind. It can be assumed that the mature adults might be facing greater gap in this regard. What is surprising is the access gap is much greater in the urban areas than the rural.

Opportunities for digital transformation exist in Indonesia. There has been an upward trend over the last 4 years when higher education enrolment has been increasing. Some priority areas for schools to improve in Indonesia include electricity, internet and computers, and infrastructure related to drinking water, basic sanitation facilities per gender, hand washing facilities (water, sanitation and hygiene) for all. The government can make better policies which have been presented in the Indonesia Voluntary National Review in 2021.

To improve digital connectivity involves policy actions in four major areas: digital education, digital literacy, competitiveness and digital entrepreneurship. As the result, it would be envisioned that educational outcomes in terms of participation in the future oriented digital work can be strengthened. The first toward this outcome, in addition to improve on the digital infrastructure and teachers' competence, shall be effective digital education. It is suggested that digital education in Indonesia can be improved through strengthened digital learning and an educational platform awareness on the base of improved physical as well as digital infrastructure. A national roadmap on educational digitalisation from 2020-2025 is captured below.

For digital inclusion and equity, it will be important to partner with the private sector and other stakeholders on digital education development. Such a move will enhance the national roadmap on education from 2020-2025.

To conclude, digital transformation to improve education aims to shape the competitiveness of young people in Indonesia through digital connectivity, digital literacy, competitiveness and digital independency. In order to improve digital education, what is needed is digital learning and basic technological literacy, awareness of educational platforms, and improving physical as well as digital infrastructure. The necessary first steps are to facilitate digital inclusion and equity for all, and partnering with the private sector and other stakeholders on digital education development are. These are potential elements to enhance in Indonesia's national roadmap on education from 2020-2025.

Concluding Remarks

Within limited time, speakers covered the whole continuum of a learning process from education to skill development, upgrading, reskilling to the need for greater relevance of education to the labour market requirements, or employability for the youth. Digitalisation of education delivery, an unexpected consequence, needs to be further integrated to support the aspiration of many young people to participate in this segment of the economy.

Lifelong Learning is applicable for all age groups. The acceleration of the digitalisation of goods and services due to the pandemic has impacted profoundly the perception of governments, business employers and society regarding digital literacy and competences. The impact on the mature workforce and responses to this challenge needs to be addressed through more effective apprenticeship (can also be applicable for adults learning new knowledge, skills and behaviour) and recognition of prior learning for career transition.

Finally, the question of resources for SDG 4 "quality education for all" was raised. It is estimated by one study (Wils, A., 2015)[104] at a sum of US$222 billion on average between 2015 and 2030 will be needed for low- and -lower-middle income countries; while a second study by The Education Commission (2016) entitled "The Learning Generation report"[105] estimated cost of achieving SDG 4 is a total of US$3 trillion per year by 2030. Both estimated costs are staggering which are well described in the research by Amy Dodd, Cecilia Caio, Polly Meeks. 2020. [106]

Innovative approaches for resource mobilisation are necessary. Yet more effective governance could also help in deriving better results for the learners. Quality education requires quality assurance tools to ensure the desired outcomes are attained.

Day 2 (12th April 2022)

Theme Sessions on Gender Equality – A Gender Perspective on Building Back Better from the COVID-19 Pandemic

Moderator's Introduction

Speaker: **Lichia Saner-Yiu**, UNOSD consultant

ETC Session 2 today celebrates the fact that women representatives have come together to further discuss gender equality and women's empowerment.

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[104] Wils, A. 2015, Reaching education targets in low- and -lower-middle income countries: Costs and finance gaps to 2030 for pre-primary, primary, lower- and upper- secondary schooling.

[105] "The Learning Generation: Investing for Education in a Changing World". A Report by the International Commission on Financing Global Education Opportunity. (Executive Summary). https://report.educationcommission.org/wp-content/uploads/2016/09/Learning_Generation_Full_Report.pdf

[106] Amy Dodd, Cecilia Caio, Polly Meeks. 2020. "The cost of achieving SDG 3 and SDG 4: How complete are financing estimates for the health and education goals?". *Background Paper.* Development Initiative. https://devinit.org/resources/cost-achieving-sdg-3-and-sdg-4-how-complete-are-financing-estimates-health-and-education-goals/

Human rights are about universal rights for everybody. It can also be specifically about economic, social, and cultural rights, which have a strong relationship with SDG 5, Achieve gender equality and empower all women and girls. Gender equality and dignity cannot be achieved without women's participation.

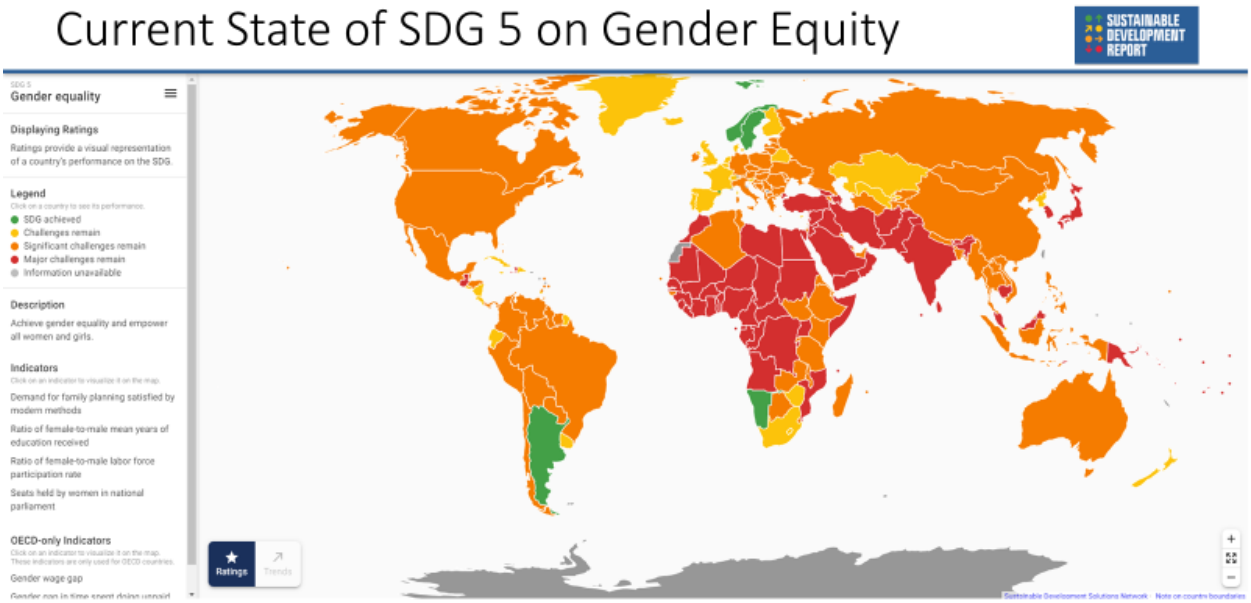
SDG 5 has nine targets and 14 indicators. Six of the targets are "outcome-oriented". They are:

- Target 5.1 End all forms of discrimination against all women and girls everywhere
- Target 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
- Target 5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation
- Target 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
- Target 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
- Target 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
- Target 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
- Target 5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women
- Target 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

Current State of the SDG 5 Implementation

What is the Current State of SDG5 on Gender Equity? According to the Sustainable Development Report 2021[107], the following results have been achieved: Green means SDG 5 achieved; Yellow means Challenges remain; Orange, Significant challenges remain; Red, Major challenges remain; Grey means no data available. The visual web shows that Norway, Sweden, Namibia, and Argentina have met the commitment regarding SDG 5. It also reveals that major challenges remain across various countries especially in most of the Africa, Middle East and South Asia. Work remains to be done.

[107] https://2021.dashboards.sdgindex.org/map/goals/SDG5

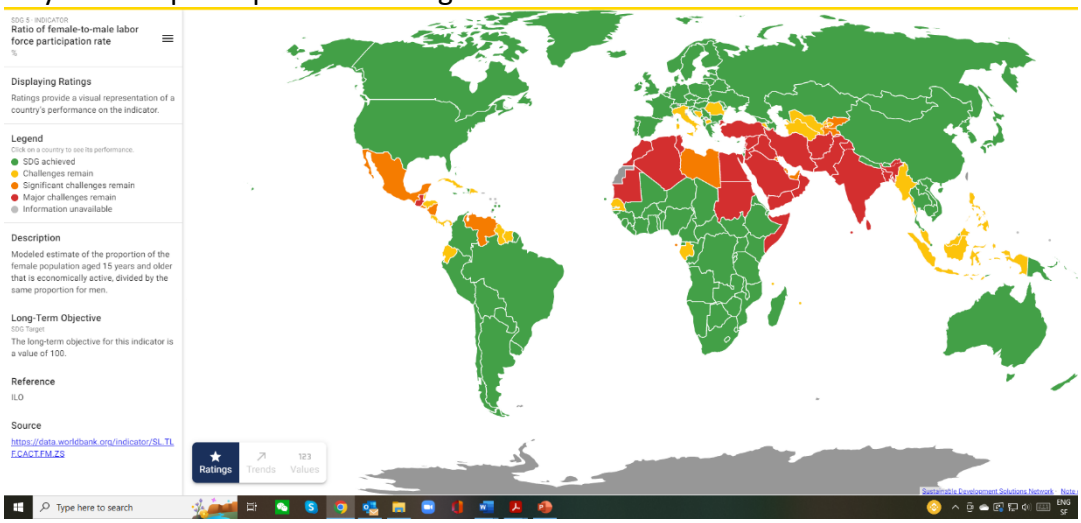


Indicators: 1) Family planning & Modern methods, 2) Ratio of female-to-male mean yrs of ed received, 3) Ration of female-to-male labour force participation rate, 4) seats held by women in national parliament

(Source: https://2021.dashboards.sdgindex.org/map/goals/SDG5/ratings)

Labour Force Participation

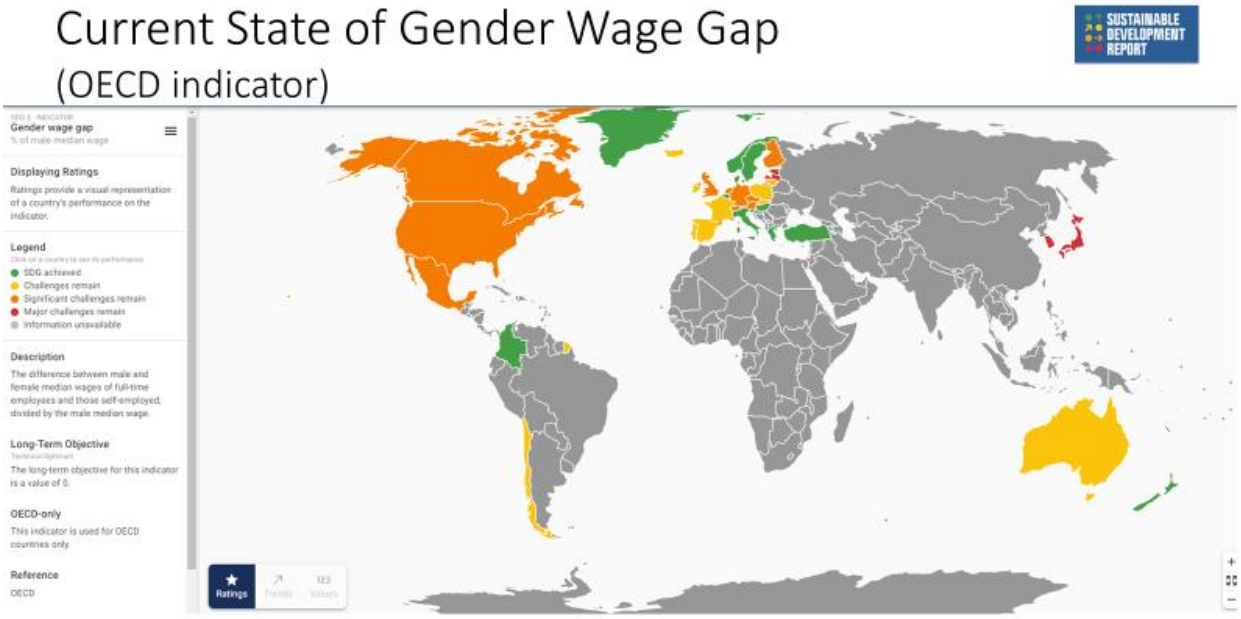
A second element to consider regarding progress in empowering women is labour force participation. This indicator is measured by the female-to-male labour force participation rate. Results are quite promising. Countries in North Africa, Middle East and South Asia are lagging behind. Although the overall situation looks promising, it is nevertheless important to look into the quality of work participation and wage.



(Source: https://data.worldbank.org/indicator/SL.TLF.CACT.FM.ZS, https://2021.dashboards.sdgindex.org/map/indicators/ratio-of-female-to-male-labor-force-participation-rate)

Gender Wage Gap

Surprisingly, little information is available concerning this indicator. In most of the countries there aren't data for benchmarking. Such transparency can only be found among some of the developed economies within the OECD countries. South Korea and Japan are faced with strong gender disparity concerning wage; which Turkey, Greece, Hungary, Italy, Belgium, Norway and Sweden have achieved their commitment in this regard.

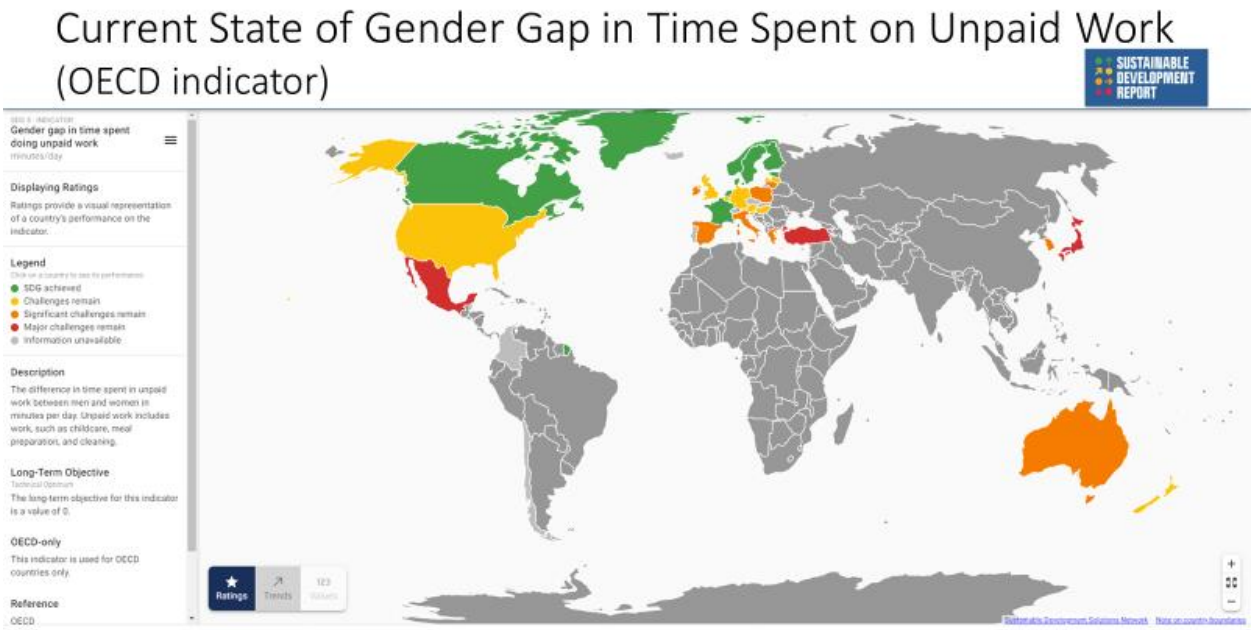


https://dashboards.sdgindex.org/map/indicators/gender-wage-gap

(Data Source: https://data.oecd.org/earnwage/gender-wage-gap.htm
https://2021.dashboards.sdgindex.org/map/indicators/gender-wage-gap)

Time Spent on Unpaid Work

Unpaid work keeps women in a poverty trap and without social protect, which often tied to the formal work contract. Unpaid household work and/or work in the informal economy increase the precarity of women and reduce their freedom of choice. Therefore, discussion centred on basic income in Switzerland and inclusive social protection floor can help to reduce vulnerability of women. Better still, the society needs to take a closer look and monetise care giving and household work provided by women. Has the conversation started?



https://dashboards.sdgindex.org/map/indicators/gender-gap-in-time-spent-doing-unpaid-work

(Data Source: https://stats.oecd.org/index.aspx?queryid=54757, https://2021.dashboards.sdgindex.org/map/indicators/gender-gap-in-time-spent-doing-unpaid-work)

Data on this indicator is also scanty. Women are carrying disproportional amounts of time doing unpaid work in Mexico, Japan and Turkey. While situation in Australia, Greece, Ireland, Italy, Latvia, Poland, South Korea and Spain. The situation in most part of the world remains in a Blackbox. What is known is that unpaid work and disparity have increased since the COVID-19 pandemic. According to some research, COVID is causing secondary effect on women due to teleworking, is negatively impacting women in "pushing" back into unpaid household work and caring role.

Presentation 1: Achieving Gender Equality: Economic Empowerment of Women, Policy Gaps and Blind Spots

Speech by **H.E. Ms. Young-Sook Cho**, Ambassador for Gender Equality, Ministry of Foreign Affairs, Republic of Korea; Chair of International Solidarity Centre, Korean Women's Association

"There is not a single OECD country in which men do the same or more unpaid work as women."

Amb. H.E. Ms. Young-Sook Cho

While the COVID-19 crisis affects everyone, women and girls face specific and often disproportionate economic, health, and social risks due to deeply entrenched inequalities, social norms, and unequal power relations.

Understanding the gender-differentiated impacts of the COVID-19 crisis through sex disaggregated data is fundamental to designing policy responses that reduce vulnerable conditions and strengthen women's agency, placing gender equality at their centre. This is not just about rectifying longstanding inequalities but also about building a more just and resilient world. As policymakers, whether we will really take the low road or the high road in dealing with the gender disparity in the thrust of build-back-better.

<u>How should we as a policymaker, understand the disproportionate economic impacts of the COVID-19 between women and men?</u>

Some of the consequences of COVID-19 have had a greater impact on some countries and groups within countries, as pre-existing horizontal inequalities can magnify the effects of the crisis. Across social, economic, and political dimensions, women and girls are disproportionately affected by the crisis simply because of their sex. The immediate effects of COVID-19 on gender inequality are already showing themselves in health and education, on the burden of unpaid care work and gender-based violence.

In many countries, women are overrepresented in the accommodation and food services, real estate, administrative activities, manufacturing such as garment sector, and the wholesale/retail trade sectors. These have been identified as among the sectors to be most heavily impacted by the COVID-19 pandemic.

Widespread lockdowns around the world mean many women are being asked to stay home and isolate in a space that is supposed to be safe, but many households are not prepared to provide this safety to women and girls. These measures have important implications over food security, the division of unpaid care work, and increased risks for gender-based violence. At the household level, gender inequalities can persist through a vicious cycle of powerlessness, often rooted in gender social norms that force women to face heavily restricted or even "tragic" choices.

Due to the division of unpaid care work, globally, women spend, on average, 3.2 more hours on unpaid care and domestic work than men. With quarantine measures, the workload in caring for children, the sick, and the elderly, as well as household tasks have increased. The pandemic's economic impacts that have left no country or population unharmed, and women are, again, disproportionately affected. Compared to men, women have less capacity to absorb economic shocks because they have lower earnings, savings, and job security, and they are over-represented in the informal sector: 740 million women worldwide, and over 70 percent of women in informal employment in developing economies.

Due to the nature of the informal work, women are less likely to have protection against dismissals, paid sick leave, and other worker rights if their employment is affected by the crisis. Moreover, many women in high-risk sectors own micro or small enterprises or are self-employed. They are now facing increased risks of bankruptcy due to gaps in financing, which translate to women having less access to capital and loans: 80 percent of women-owned enterprises with credit needs are either unserved or under-served.

Furthermore, the gradual reopening will pose additional challenges for women as it could push them out of the labour force or into part-time jobs while increasing their responsibilities at home, and this pressure intensifies for single mothers.

How can we address policy gap and blind spots to realise gender inclusive build back better?
One key entry point to deal with existing policy gap should be questioning women's burden of care and obligation to undertake unpaid work. Around the world, women continue to be at the forefront of the battle against the pandemic (OECD, 2020c). Women make up two-thirds of the health workforce worldwide, for instance, including 85% of nurses and midwives (Boniolet al., 2019); across OECD countries, they also account for 90% of long-term care workers (OECD, 2020b). This exposes women to greater risk of infection; at the same time, women are under-represented in leadership in the health care sector, and often lack a seat at the table when decisions are being made.

Therefore, during the recovery phase, men's employment improved more quickly than that of women (Perivier, 2014). In this regard, the policies needed to reduce risks of increasing gender inequalities and support the labour market participation of women, both in general and for vulnerable groups during the pandemic, are not fundamentally different from those that were needed before the pandemic.

For example, the pandemic has provided further proof of how important it is for working parents to be able to access affordable quality childcare. During the pandemic, many OECD countries including Republic of Korea assisted parents by providing additional paid or unpaid leave, cash benefits and emergency childcare facilities for essential service workers. But in countries where childcare is more often privately rather than publicly provided, such as Australia and the United States, many childcare facilities closed and there is now a supply shortage (The New York Times, 2021; Jackson, 2021).

The pandemic has also increased the burden of unpaid work.

Caregiving can have an immediate impact as caregivers –typically women –might drop out of the labour market to take care of children and elderly relatives. But there is also a longer-term negative impact on gender equality. As caregivers, i.e. mostly women, reduce their working hours or switch to jobs which may have more flexibility and shorter commuting times, they may also limit their potential of increasing their earnings over time. This is due to a more limited pool of jobs meeting these criteria, possibly weaker bargaining power and fewer opportunities for career development compared to full-time workers. These effects of the pandemic might become apparent over the longer term and be felt for many years (OECD, 2021c).
Even before the pandemic, unpaid work was disproportionately taken on by women. There is not a single OECD country in which men do the same or more unpaid work as women. Across the OECD on average, at just over four hours per day, women systematically spend around two hours per day more on unpaid work than men (OECD, n.d.; OECD, 2021a). Gender gaps in unpaid work are largest in Japan and Korea (2.5 hours) and Turkey (four hours per day), where traditional norms on gender roles prevail. However, even in Denmark, Norway and Sweden –countries that express strong and progressive attitudes towards gender equality –gender gaps in unpaid work still amount to about one hour per day.

Increased contribution of men to unpaid work.
Due to the COVID-19 crisis, according to early evidence, women have often been taking on much of the additional unpaid work caused by school and child-care closures. And this has been happening even when both parents were confined to the home and a more equal distribution of additional care and non-care household work would have been possible. Despite the increased burden on women in many countries, men have (also) increased their contribution to household chores during the pandemic, despite their generally low contribution. In the long term, this may shift gender norms around unpaid work as men have become more exposed to the burden of domestic work and primary caregiving (Alon et al., 2020; Hupkau and Petrongolo, 2020).

Finding leverage for more equitable gender norms.
Based on the Findings from the literature review about the impact of the COVID-19 pandemic on gender norms in the Philippines, Indonesia and Vietnam show that the pandemic has a significant economic impact on women and girls in Indonesia. In the Philippines, women face increased care burdens, while Vietnamese women experience reduced work hours due to the pandemic. The report also shows that there is increased gender-based violence during the pandemic. Despite the negative economic impacts of the COVID-19 pandemic on women and girls, the report finds that there are opportunities that different stakeholders can leverage to shift towards more equitable gender norms.

Way to go: Low Road and High Road on building back better after COVID-19
Countries that chose the low-road avoided structural gender inequality and disproportionate burden on women. This is the case in Korea. Building back better depends not just on resources, but on priorities that govern the use of those resources. In this regard, it can be said that Korea's gender governance on the road to build back better is close to the level of disaster.
In South Korea, a new policy direction has emerged to abolish Ministry of Gender Equality and Family, , , and Gender Quotas pushed by the upcoming new government that denies structural

gender inequality. Strong resistance from Korean women to the upcoming anti-feminist backlash led by the new government is now raging.

Countries that chose the high-road amidst structural gender inequality are building policy networks with access to higher level decision makers. A good example in this regard is Canada. The first national feminist economic recovery plan appeared in Canada . Many of the ideas related to building back better were flagged early in the pandemic, as Prime Minister Justin Trudeau's experts advised him in April 2020, that economic recovery included addressing what they called the "she-cession", meaning an economic recession shaped largely by women's exit from the labour force. And addressing funding childcare as a measure of 'she-cession'.
Through collaboration between feminist groups and governments, the funds include additional funding beyond child-care to realize a NAP for responding to national investigations of missing and murdered indigenous women and girls. And the women's groups were very proud that they were able to reflect the voices of indigenous peoples and LGBTQIA.

In September 2020, Trudeau's Speech echoed much of the language used in the plan and committed to a feminist economic recovery, but then progress stalled. Finally, in November 2020, Minister of Finance presented the Fall Economic Statement, which billed itself as "a feminist plan" and stated, "our recovery must be feminist and intersectional". At last, in April 2021 when presenting the 2021 budget to the Canadian Parliament the Prime Minister's commitment became a reality.

To conclude, "Listening to women's voices and recognizing the disproportionate burden on women" is an entry point on the high road to building back better after COVID-19. At different levels, question can be asked in order to raise awareness regarding the structural impediment to gender equality.

Individual level: Do you think structural gender inequality still remains in your country?
National level: Through what institutionalization does your country hear the women's voices to eradicate structural inequality?
Global level: Does your country's gender policy meet globally agreed gender equality norms and standards?

Some key information that needs to shared by all who are committed to act in promoting the rights of women and girls everywhere. Information concerning key UN resolutions, substantial databases and key actors will all contribute to our effective actions in eradicating gender inequality for all women and girls need (CEDAW[108], BPfA[109], UNSCR 1325[110], SDGs[111], etc.).

The following references are recommended for further reading.

[108] Committee on the Elimination of Discrimination against Women, https://www.ohchr.org/en/treaty-bodies/cedaw
[109] Beijing Platform for Action, 113 indicators, https://eige.europa.eu/gender-statistics/dgs/browse/bpfa
[110] The Security Council adopted resolution (S/RES/1325) on women and peace and security on 31 October 2000. https://www.un.org/womenwatch/osagi/wps/
[111] Sustainable Development Knowledge Platform, https://sustainabledevelopment.un.org/index.html

- UNDP's Human Development Working Paper on Gender inequality and the COVID-19 crisis: A Human Development perspective, 2020 (https://hdr.undp.org/sites/default/files/covid-19_and_human_development_-_gender_dashboards_final.pdf)
- The impact of the COVID-19 pandemic on gender norms in Indonesia, the Philippines, and Vietnam, A literature review, Shane Harrison and My Linh Nguyen, Australian Aid, October 2021 (https://investinginwomen.asia/?s=The+impact+of+the+COVID-19+pandemic+on+gender+norms+in+Indonesia%2C+the+Philippines%2C+and+Vietnam
- Monika Queisser, COVID-19 and OECD Labor Markets: What Impact on Gender Gaps?, 2021 GENDER-RESPONSIVE COVID-19 RECOVERY: STRENGTHENING COUNTRY SYSTEMS THROUGH OFFICIAL DEVELOPMENT ASSISTANCE AND GENDER-RESPONSIVE BUDGETING, OECD Development Policy Paper, December 2021 (https://www.econstor.eu/bitstream/10419/247754/1/10.1007_s10272-021-0993-6.pdf)
- Promoting Women's Economic Empowerment in the COVID-19 Context, Megan O'Donnell, Mayra Buvinic, Charles Kenny, Shelby Bourgault, and George Yang, Center for Global Development, April. 2021 (https://www.cgdev.org/publication/promoting-womens-economic-empowerment-covid-19-context)
- Pathways to Building Back Better: Advancing Feminist Policies in COVID-19 Response and Recovery, UNWOMEN, July 2021.

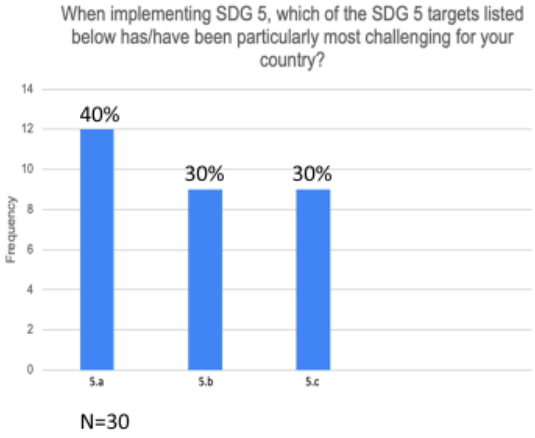
(https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Publications/2021/Think-piece-Pathways-to-building-back-better-en.pdf)

Comments and Observation by the Moderator

The entry point in dealing with the structural challenges, as you suggested, starts from a review of the unpaid work that women have been carrying on. Your question to the policy makers concerning high road or low road was also questioning the "business as usual" mentality. To truly progress in ensuring women to enjoy equal opportunity and lead a life with dignity, you confronted all of us to reflect three fundamental questions. We should all take them to heart and address them in a transparent manner.

To connect to the online audience, a pre-course survey was conducted. The participants were asked a question "which of the SDG 5 targets on means of implementation has/have been particularly most challenging for your country?" The result was not surprising whereas respondents felt the most challenging aspect of the Means of Implementation for SDG 5 was to 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. When implementing SDG 5, which of the SDG 5 targets listed below has/have been particularly most challenging for your country?



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.b Enhance the **use of enabling technology**, in particular information and communications technology, to promote the empowerment of women

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

Question: Of the three Means of Implementation (SDG 5a, 5b, 5c), in the context of future trend in Korea in this regard, which target do you think the Republic of Korea should start with?

Answer: Korea is one of the most economically developed countries in Asia. But the gender gap and wage gap are wide. Women's wage is 65 percent to 70 percent of men's salary or wage. Korea is much more lagging behind regarding Target 5.a, meaning that there is a structural gender inequality in the country. Economic development of Korea therefore fails to reflect women's economic development.

If the government and policy makers did not pay attention, data is just data. We must utilise the data to change the policy and integrate gender disparity and gender disaggregated data into the policy making and review processes. We must have the political will of policymakers and the government support to achieve the goal of gender equality in the long run.

Question. What actions can women take to improve their daily unequal situation? (Laila Veneniu Nueva)

Answer: The women's movement, collective movement is (the answer), I think. So nowadays in Korea there is a huge women's movement especially the ones lead by the young generation of young 20s and 30s. They started to get together before this kind of situation coming from the previous presidential election. They were much active in politics and they have raised their voices, especially after the emerging political situation. The young generation started to acknowledge their position and also started to raise their voices and intervene the policy making process. I think this is the initial entry point to respond to this kind of problem especially the wage gap.

Comment:

An additional point is the demographic change. The world is getting older and it is s the first time since 2019 having more people over 64 outnumbering the children under 5[112] since 2019. Countries across the world have been going through an important demographic transition: from young to increasingly ageing populations. Some countries in East Asia are already facing this demographic shift with the percentage of older persons (above 60 years of age) reaching beyond 17% similar to the European countries. In addition, women are living longer and with longer life expectancy. So, in some ways, without intervention, I think that will come to a point maybe some rethinking and re-imagining of gender roles could be more possible than the more rigid definition today. I don't know whether you agree with this or not, but I am hoping.

Answer: Yeah, I do agree. The Asian society is another issue. Compared with the action of young generation, the elderly women's voice is not much raised and organised. It is only recently that the women's group started to, as you mentioned earlier, rethinking of their whole life cycle. In this context, intergenerational dialogue is very much needed so to see the whole picture and rebuild the policy based on the life cycle perspective.

Presentation 2: Global landscape of Women entrepreneurship: Global overview / Women Entrepreneurs: A Force for Innovation & Impact

Speaker: **Amanda Elam**, Fellow at Babson College & Lead Author of the Women Entrepreneurship Report 2020-2021

"We need to focus on changing the system, not just the women"

Presentation will focus on two reports by the Global Entrepreneurship Monitor (GEM)[113]. First; "Women's Entrepreneurship 2020/21: Thriving Through Crisis"[114]. The second report is "COVID-19 Impacts on Women Entrepreneurs in Emerging Economies; Insights and Indicators".[115]

(Moderator's Note: GEM 2021/2022 Global Report: Opportunity Amid Disruption[116] could be also a relevant source of data and insights for entrepreneurship development programme)

Women Entrepreneurs Make Big Impacts! It is estimated that over 400 million women are currently business owners/managers worldwide. A large population of women active in informal and formal sectors. The GEM defines entrepreneurs as people who are starting new businesses (defined as less than 42 months old). A breakdown of the GEM estimates looks like this: about 274 million women globally are at the very early states of starting and running new businesses; and about 139 million women globally running established businesses i.e., old than 42 months. It is important to note however the data are biased towards advanced economies.

[112] https://ourworldindata.org/population-aged-65-outnumber-children
[113] https://www.gemconsortium.org/report/gem-2019-2020-global-report
[114] https://www.gemconsortium.org/reports/womens-entrepreneurship
[115] https://www.gemconsortium.org/images/media/covid-19-impacts-on-women-in-emerging-economies-1644427445.pdf
[116] https://gemconsortium.org/report/gem-20212022-global-report-opportunity-amid-disruption

As a whole 42% of the world entrepreneurs are women even though women continue to face stereotypes that go against them. One in three innovative, growth-oriented entrepreneurs worldwide is a woman, while trailing slightly behind men in terms of start up rate, which is 11% globally for women versus 14% globally for men. Other evidences of the high performance of women entrepreneurs are equally stunning. Other features of women run business are also important, in terms of employee numbers, export performance and innovative product offerings (see Figure below). Significantly, women are also representing 40% of informal investors, often to informal businesses.

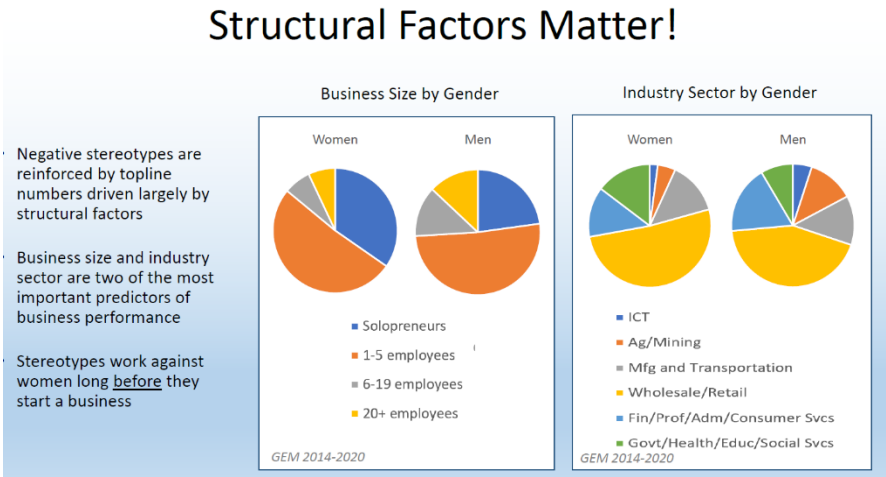
Unfortunately, most of the time when the subject on women entrepreneurship and women in business come up, they tend to centre around stereotypes and reenforce gender norms.

A word of caution concerning stereotypes. It is a complicated social construct. They can be general but can also be tied to very specific types of work or activities. Gender bias isn't always expressed in the moment. For example, when some one goes for a loan or when some one decides to start a business, the idea has been germinated for a long while. The entrepreneur creates this cycle of self-fulfilling dynamics, or also known as Pygmalion effect[117].

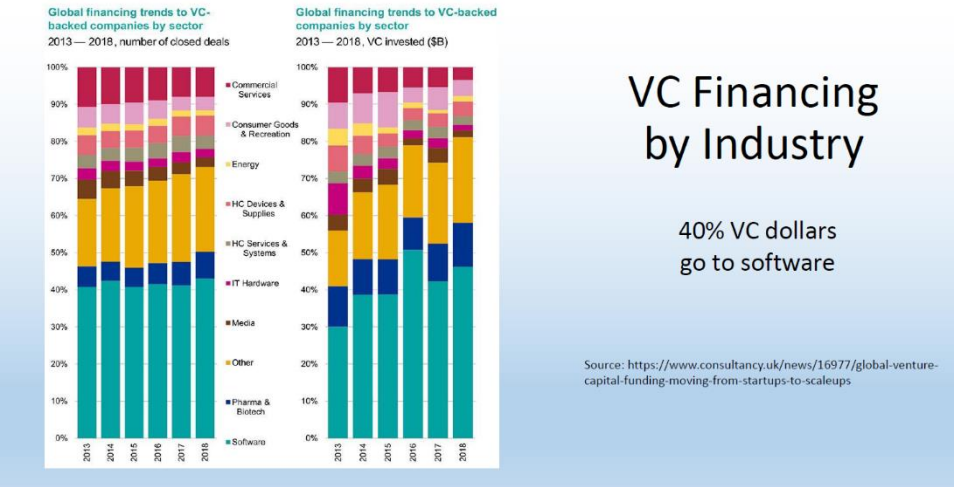
Stereotypes influence perception of credibility; self-confidence; alertness to opportunities; fear of failure or risk taking; and access to and mobilisation of resources. These all have implications to the decisions taken and choices made. In business studies the two most important factors that predict business performance and explain gender differences in business activities are typically characteristics of the business. It is not the individual or the founder and not who is on the management team, but how large the business is and which are the sectors that businesses were started in. Research at the GEM found that while most businesses for men and women

[117] Pygmalion effect. https://www.google.com/search?q=pygmalion+effect&source=hp&ei=AmmnYt6wFJmJur4Pj5WxuAg&iflsig=AJiK0e8AAAAAYqd3Eub9rwKC0VGOw0Vs31f2nHv-oEzq&oq=Pygmalion+effect&gs_lcp=Cgdnd3Mtd2l6EAEYADIFCAAQgAQyBQgAEIAEMgUIABCABDIFCAAQgAQyBQgAEIAEMgUIABCABDIFCAAQgAQyBQgAEIAEMgUIABCABDIFCAAQgARQAFgAYOENaABwAHgAgAFbiAFbkgEBMZgBAKABAqABAQ&sclient=gws-wiz

started with one to five employees, men were more likely to start businesses at larger weight with six plus employees or ever more (see Figure below). Women in contrast tended to start as solopreneurs than men and tended to remain as a solo business woman. In terms of sectors, there is also a gender difference in the type in the industry sectors where men and women are starting businesses. Structural factors built on stereotypes worked against women. When women have no bank account, for example, it would not be possible to open a line of credit and get a loan. This pattern can be found heavily in emerging economies where there might be one bank account per household and that bank account is held by the head of household.



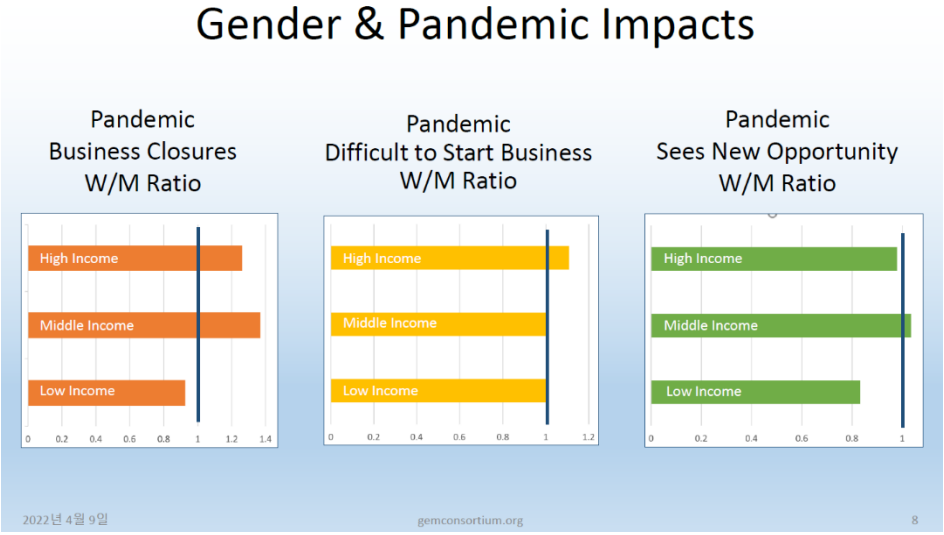
When 40% of the venture capital globally go into software development where women entrepreneurs are underrepresented. This reveals the underlying structure and the link to cultural norms. Women are less likely to mobilise venture capital for business growth in this sector (see Figure below). To consider access to financing is a structural impediment, then it is closely tied to cultural factors when ownership and gender roles are tied together.



Women in Emerging Economies. Compared to women in higher-income countries they are more active in entrepreneurship, tend to have smaller start-ups with higher growth aspirations,

produce higher amount of innovative and new offerings; but have lower export activities and higher level of informal investment or informal investors. These evidences point to the fact that women in emerging economies are a force for change in their economies and better ways to support and invest in these women need to be found!

Pandemic Impacts. In the survey 2020 GEM survey on the impact of the pandemic on business closures and the difficulty of starting a business. On an optimistic note, questions were slso asked considering business opportunities. Findings are reported in the GEM publication mentioned earlier. As the data set is limited due to the fact that only six low income countries are included, the conclusion drawn from the data is biased towards high income and middle-income countries. Yet, there is a lot heterogeneity in the data. Comparison was also made between men and women entrepreneurs by income levels (see Figure below).



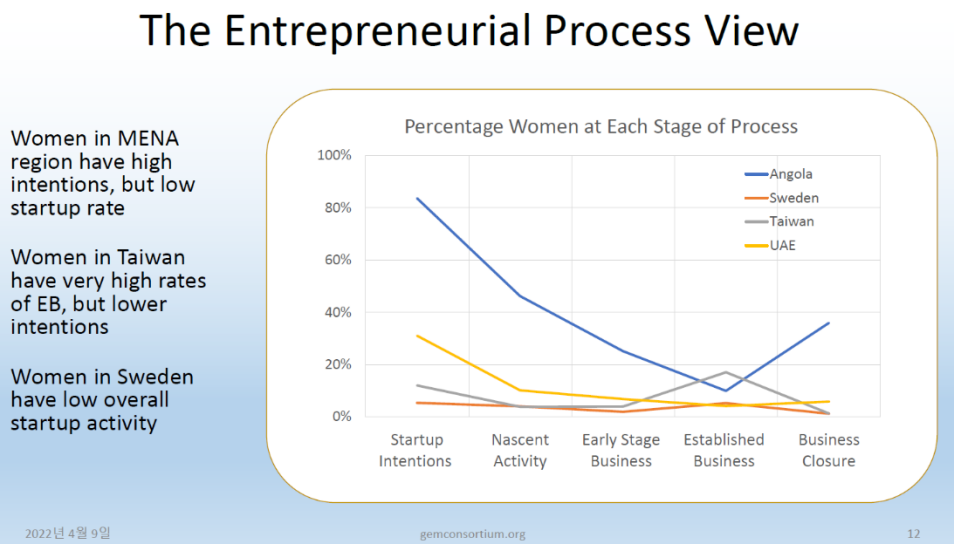
Data available on the GEM site is interactive and can be explore on a country by country basis. https://gemconsortium.org/data

Limitations of Global Statistics: There a few important limitations when using the data from GEM studies. They are: 1) Definitions of 'entrepreneur', which was mentioned earlier, 2) Units of analysis; 3) Participating countries tend to be from the high income and middle-income countries; 4) Samples sizes; 5) Data quality, and 6) regional/historical context.

(Note: For methodological question, reference can be seen at, https://gemconsortium.org/wiki/1599)

The Entrepreneurial Process. It varies from country to county along this continuum, i.e., 1) Startup Intentions, 2) Nascent Activities, 3) Early Stage Business, 4) Established Business, and 5) Business Closure. This process varies from country to country. Figure below illustrates this country variation. The samples used are: Angola, Sweden, Taiwan and UAE.

(Note, for definition of terms, check: https://gemconsortium.org/wiki/1154)



General Recommendations for Policy and Programming.
Based on the GEM research and analysis, the following points are highlighted

- Support growth-oriented women entrepreneurs by focusing on what women are doing well and build on their strengths,
- Champion women entrepreneur in male-dominated sectors because this is where negative stereotypes against women are most often triggered and most often used against women,
- Encourage women investors and women-focused investment which turning out to be one of the most important ways to provide access to financing, growth financing, for women-owned businesses - Women are starting to organize as angel investors. Big investors are starting to realize that they are missing out on really good investment opportunities when not giving equal measure to women's businesses which might not be about the CEO or the founder but actually about the market like FemTech[118],
- Develop better policy that directly supports women business owners, especially small and family business.

Some further thoughts for Emerging Economies:
Bear in mind there were only six low-income countries that participated in the last round of GEM studies. There is a need for a lot more economies participating in this research to strengthen policy recommendations. Hence the following recommendations:

- Sponsor global research and data initiatives measuring the interaction between gender and business in emerging economies
- Launch entrepreneurship support programs focused on network connection and empowerment – two factors which women are quite different from men and really benefit from such a focus.

[118] The dawn of the FemTech revolution, https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/the-dawn-of-the-femtech-revolution

To conclude, a word of reflection. Is gender parity the right answer? If gender parity to be reached, it means women have to start businesses in the same sectors as men. But women are already starting businesses that tend to go after social values and solve very real social problems that markets with its neo-liberal economic models don't solve. Is gender parity the eight goal?

Remember the complexity of culture and structure built on stereotypes leading to structural barriers for women's economic participation. The goal is to change the system, NOT necessarily women. There are a lot women can do to better by navigating the system but ultimately it comes down to policy making and address the structural changes by cultivating women entrepreneurs and investors, and by helping women use money in ways to create the world women want to live in. We need to expand the conversation right now. Presently stakeholders are talking in their won silos. Forums need to be created to bring all stakeholders together to bridge the design divide.

Question. Why are women more likely to start as solo entrepreneurial business? (Lichia Saner-Yiu)
Answer: Women who are juggling with family and motherhood are more likely to start as solo entrepreneurs for more flexibility. There are other trends too. In the us for example a lot of people chose solo entrepreneurship who are really running virtual businesses. Everything is outsourced but the income and the businesses can get quite large. Yet again, men are more likely to do that than women. The idea of managing employees on top of family is a little overwhelming to a lot of women business leaders so women leaders are reluctant to take that next step.

Question: Can you (cite) examples of countries (recognizing the) importance of and examples of using media and creative multimedia campaigns sharing stories, i.e. of women entrepreneurs across sectors that can help illuminate and elevate women businesses to break through stereotypes? (Karen Feinberg)

Answer: Celebrating the success stories of women entrepreneurs is very important and one way to build on the contributions that women are already making to social and economic development. Most of the media activities are driven by specific programs like the Cartier Women's Initiative[119] which is global as well as national and local entrepreneurship support programmes, like women-focused incubators, accelerators and training programs.

For some specific examples of effective policies supporting women entrepreneurs in different countries, please see this recent OECD policy report:
https://www.oecd.org/publications/entrepreneurship-policies-through-the-gender-lens-71c8f9c9-en.htm)

Question: I am very (interested to know) why Sweden has a low rate of (women) entrepreneurs as (it is a) highly developed country and (enjoys) gender equality. (Yueh Chun Wang)

[119] https://www.cartierwomensinitiative.com/impact-awards

Answer: Sweden and other Scandinavian countries enjoy a strong culture of gender equality. But women and men continue to choose very different types of work and often conform to a traditional division of labour where women take the lead as primary caregiver. Household division of labour matters a lot for occupational choices. What your spouse or partner does for a living can limit one's choices even when the national or regional culture is supportive of gender equality.

Also note that entrepreneurship rates for both men and women are typically low in Scandinavian countries. Same is true in Japan and some other countries. One reasoning is that collective cultures are more likely to innovate and drive social and economic growth through large firms.

Presentation 3: Economic empowerment of women through digital policies

Speaker: **Gitanjali Sah**, Strategy and Policy Coordinator International Telecommunication Union (ITU)

This presentation highlighted the aspects of digital gender equality while in reality gender equality remained a distant future.

Some Facts and Figures[120]

The flagship report of the International Telecommunication Union (2021) highlighted that gender divide remain. Online access could potentially most powerful equaliser.

Within the global SDG indicator framework, ITU is responsible for the indicator 5 3.1 which talks about the proportion of individuals who own a mobile phone by sex. Ownership of mobile phones is an important tool to reduce gender inequalities and empowering more women with the mobile phone has shown to be an accelerator of social and economic development. Globally 62 percent of men are using the internet compared with 57 percent of women while that digital gender divide has been narrowing across all regions. However, a gender gap for this indicator is persistent.

The World Summit for Information Society (WSIS)[121] is a process that ITU coordinates with more than 32 UN agencies to explore through various practical means on how the digital gender divide would be addressed. It is a process that provides a framework of the business Action Lines[122] that encompass all the technologies, for example ICT infrastructure, cyber security, providing an enabling environment. Since 2015 ITU have been trying to strengthen the linkages between the business action lines and the sustainable development goals. There was a major discussion in 2015 amongst member states and all stakeholders to explore how a separate business action line on digital gender inclusion. It was decided that since gender inclusion is a cross-cutting topic, across all the sectors and issues digital gender inclusion is to be addressed within the framework of all the business action lines. This decision has been executed ever since.

[120] Measuring digital development: Facts and figures 2021. https://www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx
[121] https://www.itu.int/net/wsis/
[122] WSIS Action Lines. https://www.itu.int/net/wsis/stocktaking/help-action-lines.html

Gender mainstreaming in ITU is about incorporating different technologies in promoting gender equality in the field of ICT to encourage women getting involved in technology and encourage girls to pursue careers in STEM [123] (Science, Technology, Engineering, and Mathematics) education.

ITU in collaboration with other UN partners in raising awareness on the social and economic issues women and girls face around the world and sharing of best practices on the use of ICTs to help tackle gender issues. For example, in view of increasing violence against women during the COVID pandemic, several women developers and women organizations approached ITU in order to share their ICT best practices (APPs) which they developed to tackle this issue during the pandemic. ITU also strives to support 50/50 gender balance at ICT related events like WSIS Forum. After 10 years, participation rate of women at WSIS has gone up.

During WSIS conference, different activities, such as Women's Breakfast and Networking events, session with women leaders in ICT, hackathons, boot camp events, workshops and technology courses were offered for women to participate. There is a gender repository for knowledge sharing and information exchange. In addition, it also contains a pool of women experts sorted by WSIS Action Lines to allow for easy identification of speakers or partners. Moreover, this Repository of Women in Technology [124] has also evolved into capacity building and training workshops. To date, some workshops were done with NASA, National Geographic, for example. A training session for visually impaired girls is under planning.

Technology is a powerful tool to bring together stakeholders to solve common problems. WSIS is a platform for exchange, networking and to set new trends.

Question: Half of the world population remains digitally locked-out. In light of the 'leaving no one behind' philosophy of the 2030 Agenda, what can ITU do to encourage many who cannot afford to participate? (Lichia Saner-Yiu)

Answer: ITU works closely with member states. Our member states have recognised that closing the digital gender divide is crucial. From the business perspective, mainly from the Action Line C2 concerning ICT infrastructure and cyber security perspective. Cyber security of women online has gained broad attention. Member states are providing an enabling environment through inclusive policies. It's a multi stakeholder initiative. It is up to each stakeholder how to implement it, so the ITU provides equal and just platforms for partnerships and discussions. It is expected that member states will take forward all activities in their respective countries for different stakeholder types.

Comments: This trickle-down strategy is very interesting. One of the main challenges in this regard is the continued acceleration of digitalisation. For the people who are already being left behind on the other side of the divide could find themselves stuck and with even less opportunities for development. Action Line C2 will be very crucial to make the online process truly inclusive.

[123] What is STEM Education? https://www.liysf.org.uk/blog/what-is-stem-education#:~:text=STEM%20Education%2C%20at%20its%20core,(collectively%20shortened%20as%20STEM).
[124] WSIS Stocktaking Repository of Women in Technology. https://www.itu.int/net4/wsis/stocktaking/Flash/Newsletter/Newsletter/16273146435886273

Country Experiences (Part 2)

Presentation 4: Gender equality and empowerment through access to land, inheritance, and natural resources in the Comoros

Speaker: **Ms. Fatouma Abdallah,** Project Coordinator, Ministry of Environment, Comoros

The Comoros is a Small Island Developing State, composed of 4 islands and located in the Indian Ocean. The Comoros is committed to gender equity and equality; thus, a National Policy for Gender Equity and Equality (PNEEG) was developed in 2008 and updated in 2017, considering new challenges related to gender, particularly those mentioned for SDG 5.

In the last census of 2017, the Comoros had 742,287 inhabitants, of whom 49.88 percent were women, compared to 575,660 inhabitants with 50.35 percent women in 2003. This decrease in the proportion of women can be explained by the increase in the number of women emigrating outside the archipelago in search of decent work. Currently the population is estimated at 800,000 inhabitants with more than 51 percent of women.

Legal Condition on Gender Equality. The National Policy for Gender Equity and Equality (NPGEE) was updated in 2015. Despite such efforts, as well as significant national and international legal commitments to gender equality, significant challenges to their effectiveness persist in the archipelago and gender inequalities persist. It is a very good policy, according to many researchers, addressing as many as 13 themes but the problem is in implementing it. For example, even now, in some families only the boys go to school and not the girls.

The following themes are included in the NPGEE of Comoro: 1) Transportation infrastructure, 2) Energy and cooking, 3) economic management and public finance, 4) empowerment, 5) women's entrepreneurship, 6) agriculture, fisheries and livestock, 7) climate change, 8) poverty. , 9) health and nutrition, 10) access to drinking water and sanitation, 11) gender based violence, 12) access to justice, and 13) governance.

Despite efforts made at the political and regulatory levels and the progress made in education, health, and sanitation, the challenges regarding gender equality remain significant. It is difficult to clear the hurdles for women's empowerment. These challenges are linked to the social and economic weight of women, the patriarchal cultural background that is concealed by matrilineal filiation, and the fragility of the socioeconomic context, which make it difficult to reverse heavy trends of poverty and gender inequality.

In spite of the law, women are not represented in the political sphere. Women are also very poorly represented in the labour market and the glaring under representation of women in the political sphere characterise the archipelago. However, the 2018 Constitution recognizes the right of women to have access to political bodies. In 2017, the Assembly adopted a bill establishing a quota of 30 percent of women in nominative and elective positions but which has not been enacted. There are 3 competing laws coexisting - traditional, Islamic, and national (similar to French law). With 3 laws it is difficult to manage and give real rights to women.

Labour Market Participation. Working women mainly work in the agricultural sector; Comorian women are well represented in agriculture. They actively participate in the development of agriculture and livestock sectors. This sector provides a third of GDP - 31.8 percent in 2017.

The proportion of women who are active has been evolving for a few years and reached 63.01 percent in 2018 while the proportion of men was at 52.4 percent. Women are increasingly numerous in the agricultural sector. This is so because Comorian society is matrilineal; property goes to women, especially land and houses, which favours them in their position as owners. In Comoros, the groom comes to the bride's house/family because it's the women who have the house and land.

Women landowners generally practice food crops and produce primarily for their own consumption and then, to a lesser extent, for income generation. They organize themselves into agricultural cooperatives in the regions and help each at all levels.

Various associations and/or projects try to support these women in improving their productivity or in opening new markets. These initiatives encourage them to register land and access credit; they feel more secure. They introduce materials and improved seeds and carry out agricultural extension. In terms of animal husbandry, women mainly practice poultry farming. They are beginning to invest in cash crops, especially vanilla and ylang ylang (for essential oil production).

Women and Protection of Biodiversity. In all the villages, there are associations for the protection of the environment, and women actively participate in the protection and enhancement of land (forests), coastal (coastal materials and mangroves), and marine (fish and other marine species) and associated ecosystems. They also work as eco-guards in terrestrial and marine protected areas.

Challenges. These women often work in remote areas and in very difficult conditions. The transport of agricultural produce is thus done on their back, on their head, and "on foot" for 91.94 percent of women farmers in Anjouan and 96.23 percent in Mohéli[125], despite advances in road infrastructure.

This situation perpetuates the difficulty in agricultural work, food insecurity, and poverty of the rural population with differentiated impacts on women and men. The disadvantages linked to the status of Comorian women further weaken the situation of rural women. The precariousness of their jobs is amplified by the effects of various shocks, including those resulting from climate and health change.

Finally, the mechanization of agriculture, which could lighten the tasks and reduce the time of their execution, has not yet adopted by the customs. Nevertheless, this work fully contributes to their fulfilment and empowerment.

Partnerships. Projects and other institutions are increasingly participated in the activities of rural women and provide them with support. Some NGOs are mobilizing to support them in training on adaptation to climate change and some are introduced to smart agriculture.

Question: Since women actually have access to land rights, they can control some of the properties of the family. Is that correct? I am puzzled by this; if women control the economy of

[125] Mohéli, also known as Mwali, is an autonomous island that forms part of the Union of the Comoros. It is the smallest of the three major islands in the country. https://de.wikipedia.org/wiki/Moh%C3%A9li

the family, produce the income by and large, how come they don't have a greater say? (Lichia Saner-Yiu)

Answer: Women work in the informal sector. But at the political level they don't have a lot of opportunities because they are not given enough responsibilities. For example, there is only 1 woman among the 14 government ministers. There are 44 deputies, of whom only 4 are women. So, in the legislation, everything is there, but in practice it is not (the case).

Question: Ms. Soma Kishore Parthasarathy, do you have anything to add to the conversation, because you are also dealing with women in rural areas without much representation? (Lichia Saner-Yiu)

Answer by Soma Kishore Parthasarathy: Ms. Abdallah has highlighted the ecological role women are playing as biodiversity protectors and ecological warriors even as they set up their economic activities. She also highlighted the matriarchal system (in Comoros). In India too we have a matriarchal system in various societies. One is in the state of Kerala and another is among the indigenous tribes in Meghalaya in the northeast of India. But we find that whatever rights women have had in matriarchal societies, their rights seem to be increasingly eroded by the footprints of patriarchy which overwhelm their traditional cultures. And the uncles tend to dominate when it comes to women taking rights or owning rights. Also, in the formal systems women seldom get the rights because they are hugely patriarchal in their understanding of how governance should happen.

Question to Fatouma Abdallah- Do you see the same phenomenon in the family dynamics in Comoros, in terms of women controlling the property and the land and doing the productive work but men have a bigger voice? (Lichia Saner-Yiu)

Answer - Fatouma Abdallah: Agriculture is one sector where this phenomenon exists; but there are a lot of other sectors (including politics). We have a matrilineal system and the man comes to the woman's house (in marriage) but he is the (head) of the family and he takes all the decisions. Even (though) the land and the house are the woman's, he is the chief. (But) we do have a lot of rights and the chance to have betterment.

Presentation 5: Partnerships for Women's Empowerment and Participation: Experiences from Kyrgyzstan

Speaker: Ms. **Nurgul Djanaeva**, President, Forum of women's NGOs of Kyrgyzstan

Kyrgyzstan is in Central Asia, formerly part of the old Soviet Union. The Forum of women's NGOs of Kyrgyzstan was set up in 1994 and was registered in 1996 and has granted consultative status with UN ECOSOC.

The Forum works for the advancement of women and is working at the programme level, e.g., on women's political participation, women's economic rights and violence against women.

All the work of the Forum is based on partnership and cooperation. Such an approach helps to strengthen diverse linkages between rural women, local authorities, national parliaments, state bodies, women's groups, and the private sector. It leads to advancing women's rights and gender equality at various levels; for example, at rural level they were trying to integrate gender equality and women's rights through mechanisms as rural needs assessments.

When initially partnering with the local authorities, their plans, strategies, and budgets were not integrated with SDG 5. Needs assessment was decided as an entry point to partner with local authorities so that rural women can be included in decision making and not left behind.

Partnership and cooperation help a lot to strengthen not only women's voices but also increase their impact and opportunities to be heard - it is impact on women and impact by women.

What results achieved?

- Partnership helped raise the issues that women are concerned with and address these issues.
- Partnerships played a significant role for making development much more effective. Development effectiveness has 4 pillars – improvement of local ownership, speeding up achieving results, bringing policy coherence, and improving (the) monetary (aspects) of community.

Formalising Partnerships. Because there are a lot of state officials among participants of the Forum, it is important to formalize partnership arrangements by signing Memoranda of Understanding for specific partnerships. Sometimes the partnership worked in a formal way; many times, it's a very informal way of working. It is more a cultural tradition to address issues jointly.

Successful Case. Several years ago, the Forum started cooperating very strongly with the local electoral committee and with local parliament, in order to raise voter's participation for rural elections. For local elections the turnout rate was about 10 percent, and the majority of women live in rural areas. This has resulted in disparities in everyday women's and rural community's life. The Forum started to work on women's political participation as a programme. The goal was to increase women's voice and participation in local decision making, and to change the local agenda. It was also intended to speed up SDG achievement.

The Forum developed many years ago a programme which is long term and is based on partnership between women's organizations, civil society organizations and also state officials.

Although in Kyrgyzstan there is no gender ministry but there is a department in the ministry of social protection and labour which works on women's issues. This department became a partner of the Forum.

Implementation of this programme helped to increase the level of rural women's participation in politics from 10 percent to 38 percent last year.

This programme shows how women's organizations can help state officials, government, parliamentary and local authorities to get better and faster results, it's important for them to cooperate. The Forum tested their preparation programme for women to engage in electoral processes in several rural districts and found out that in the target areas there were 47 percent of women in politics and in rural elected bodies. This result is even higher than the average number in the country and it is 5 times more than it was.

It means partnership can increase the effectiveness of the work by 500 percent.

There is a lesson to be learnt. When work in local government, or at the governmental level in general to achieve gender parity, even at the quantitative level, engagement with women's groups can help. Partnerships help not only to bring women into the political body but it helps these women to increase accountability of the local authorities.

Pathways: 1) securing commitment; 2) promote accountability; 3) collect data through programme activities, such as entrepreneurship development, for rural women including informal sector; 4) create a database by catalogue; 5) scaling across to other districts of the country.

Both women's groups and local authorities are now strongly engaged in order to start pushing, creating, enabling (an) environment for women's rural entrepreneurship.

Presentation 6: Economic empowerment of women through team learning & coaching - The story of Mondragon Team Academy

Speaker: **Ms. Kaisu Tuominiemi,** Mondragon Team Academy at Travelling University

A short comment by the Moderator: Empowerment through learning is an old adage. Yet, how to achieve this objective requires fresh thinking, pedagogic innovation and new methodologies. The learning technology at Mondragon Team Academy presents such an innovation. Through collaborative learning and learning by doing/creating, communities aiming to contribute to social innovation sprung up. Connecting these communities through mutual learning, these social innovations then can be scaled up to create real impact. The presentation by Ms Tuominiemi told of the story of the Mondragon Team Academy (MTA), its history, its mission and its activities. The MTA model has gone through different iteration to reach its current operational model.

Talk by Ms Tuominiemi

Genesis. Mondragon Corporation[126] is one of the largest workers' cooperatives in the world and it has its values rooted (in) human values and seeing companies and entrepreneurship as a way to transform people, the surroundings - and this socially driven mission is to contribute to others.

[126] History. https://en.wikipedia.org/wiki/Mondragon_Corporation

Part of the Mondragon group is the Mondragon University[127], and these entities came together to think (about) how to educate youth and senior students to have more leadership skills, initiative, innovation skills, and entrepreneurship skills, with shared values and mission of Mondragon. One of the programs created was a program called entrepreneurial leadership and innovation (LEINN)[128], an undergraduate program that empowers youth to create their own businesses and start to learn by doing. Travelling University, [129] , [130]comes to the picture as a cooperative, born from the network as well, that takes these programs, especially the LEINN program, into a multicultural and international environment.

Mondragon Team Academy (MTA)[131] is an entrepreneurial unit of Mondragon University but also goes beyond that. It's a network of changemaker entrepreneurs, -The educational model encourages team entrepreneurship through experimentation. Mondragon Team Academy (MTA) is an international community of +2.500 team-entrepreneurs which co-creates a global network of social innovation ecosystem Labs. Real businesses are being born from the very beginning and the whole learning experience is *learning by creating together* in those collaborative settings and in those teams, where the students are not taught about entrepreneurship but they are given the tools and opportunities to start their own ventures. It was started in the Basque Country with 21 empowered youth and has grown into the network of 2,500 teams today. The purpose of MTA is to create an international community of passionate "teampreneurs"[132], [133] blooming to create radical positive impact together.

This network model enables MTA to start ventures toward a positive impact at the same time in different locations with mutual support and shared learning.

Model of Change. Transformation of individuals occurs through an entrepreneurial spirit that empowers communities around them, and the belief in how individuals working as a collective can have that ripple effect of building change and leading change and making the world become a better place.

By developing and implementing entrepreneurial initiatives and also entrepreneurial projects inside of Mondragon and beyond, team changemakers are empowered and team changemakers are created. By interconnecting learning laboratories of different places a learning ecosystem also called social innovation ecosystems, is born.

The learning modality for the undergraduate and master's degree programmes is to mix formal higher education and team entrepreneurship –where the collectives come together and start learning by doing in teams. Such approach has also been tried within corporates on how they can start this type of team cooperation and promote collaborative learning. One important aspect is that such collaboration programmes with other partners must be aligned with the key

[127] Mondragon University. https://en.wikipedia.org/wiki/Mondragon_University
[128] The Official European Bachelors Degree in Entrepreneurial Leadership and Innovation (LEINN). https://leinninternational.com/
[129] https://travellinguniversity.com/
[130] https://www.thenews.coop/155026/topic/education/mondragon-and-the-travelling-university/
[131] https://mondragonteamacademy.com/
[132] 21 Skills to develop as TEAMpreneur in Mondragon Team Academy, https://www.mondragon.edu/documents/20182/23872/21-skills-mta/fcffe916-a14a-4073-bfba-d073505b13d4
[133] Team Academy at the HES-SO Valais-Wallis and learning trips. https://www.teamacademy.ch/en/category/news-en/

values of Mondragon: intercooperation, grassroots management, corporate social responsibility, innovation, democratic organisation, education and social transformation [134].

One of the recent examples was from the World Organization of the Scout Movement - Africa Region, together with the Mondragon Team Academy to empower social entrepreneurship in the youth of different African members countries.

Pedagogy. The Mondragon Team Academy was inspired by a Finnish education model coming from TIIMIAKATEMIA Finland[135] that embraces collaborative and experiential learning. Teachers or educators have more of a team coaching and facilitative role to make sure that the collective learns from each other. Emphasis on this remains; also, the international experience - students travel to new contexts to learn from those realities, and try to see how the team may add value to the place.

The companies are real from the very beginning which enables the team to continue with the initiative they started but also reduces the fear of risk taking by starting ones first venture in a safe environment. Students are encouraged to experiment and learn from mistakes or fail and then try again. The learning formula consists of 4 aspects: 1) The spaces, the learning laboratories in different countries; 2) the programs - undergraduate, master's, and collaboration programs with different organizations; 3) the start-ups that spined off the programmes and served as inspirational stories to others or even offered employment to the network; and 4) the corporate business cooperation.

Women's empowerment. Mondragon views entrepreneurship from (a) social entrepreneurship lens, which offers another way of doing business and seeing entrepreneurship as a way to impact.. This orientation has brought more women closer to business studies. Another key is "cooperativism"[136] as a philosophy and as a concrete business model. It sets the flat hierarchy structure for leadership and decision making. One person one vote. Both males and females are on the decision-making structures. Another part is the learning methodology underlining the team learning that might enable self-confidence, (less) fear of failure, and also building a network from (scratch).

The fact of having team learning companies, the women learn in a safe environment and build capacity for business skills. Entrepreneurship is a way of self-finance and opportunity creation. Positive ripple effect comes from the fact that different women entrepreneurs build their businesses inside of this network - they inspire others and empower new opportunities for the collective. For example, two of the "teampreneurs", currently present in Kenya, are voicing concerns about teen pregnancy; others working on empowerment of senior citizens; and on sex education, etc.

[134] https://www.mondragon-corporation.com/en/about-us/#:~:text=MONDRAGON%20is%20the%20outcome%20of,and%20social%20transformation%2C%20among%20others.

[135] https://www.ub-cooperation.eu/pdf/cases/N_Team_Academy.pdf

[136] WHAT IS COOPERATIVISM? https://www.concamex.coop/media/cooperativism/what-is-cooperativism.html#:~:text=COOPERATIVES%20OF%20MEXICO-,What%20is%20cooperativism%3F,the%20satisfaction%20of%20their%20needs.

Question - The SDGs and the 2030 Agenda are about leaving no one behind. How can we help the informal sector, especially women, through mutual support for learning, and actually make their business a little bit more sustainable rather than just subsistence? (Lichia Saner-Yiu)

Answer - One of the programs that was run with the World Organization of the Scout Movement - Africa Region, that gathered together social entrepreneurs of Africa from different regions to start communities at where they live and support others to learn the same skills that they have learned. Impowering that sort of ripple effect to happen in different communities (and) gather communities to learn from each other by building on that old wisdom of mentor and mentee. Helping the women in informal sector by starting women communities or gatherings where people can teach each other and share their knowledge.

Presentation 7: Women's collectives for economic empowerment

Speaker: **Ms. Soma Kishore Parthasarathy,** Policy analyst/specialist gender and development/ evaluator/advisor; Mahila Kisan Adhikar Manch (MAKAAM)[137], Women Farmers Rights Forum - forest agroecology common rights, India

In India 79 percent of women are engaged in agriculture and related activities as against 63 percent of men. Most of the 79 percent are marginal and smallholder agriculturalists in farms, forests, and pastoral lands. The definition adopted for farmers is all those activities related to the natural resource economy which includes those who are working in pastures, forestlands, ponds, and the sea to collect, forage, and build up their own livelihoods as well as strengthen their economy through the sale of surplus.

Research shows a feminization of agriculture in India, where more and more women are responsible for agricultural work. There is also an accompanying masculinization of agricultural systems by which extractive investment into the farm system occur at the cost of soil fertility and women's unpaid labour, resulting in a system of profiteering without adequate consideration given to the labour, the resources on which the labour is performed, and technologies that are often contrary to the interests of women.

Does market integration really serve women? How to balance these activities with women's interest? These trends and the issue of land ownership and resource rights are very important in the context of rural marginalized working women in India. For them, life, livelihoods, and everything that goes with it are based on their access to the natural resources such as food. Their survival is dependent on the access.

Many of these marginal women in the rural area don't own land. They are dependent on the commons, on the social solidarity economy, as well as a sharing of those resources to earn a small income. When access to common resources are denied, captured, or practices destroy these resources in their vicinity, women then often grapple with the struggle for survival and displacement. This was most explicit during the COVID period.

[137] About Us - MAKAAM - Mahila Kisan Adhikaar Manch. https://www.facebook.com/MahilaKisanAdhikaarManch/

Many organizations in the northeast of India, e.g. the North East Network have tried to organize their communities to raise these issues and work collaboratively to co-learn what could be the solutions and how they can address them. The consolidation of opportunities for capacity and perspective development and solidarity among organizations across India, was the agenda with which MAKAAM began it work.

MAKAAM is an Urdu word which means a goal to aspire towards. But for members it means representing women farmers' rights, a platform, a platform for *unregistered* women's rights - as farmers, as producers - to get them the recognition that they so rightly deserve in the farming systems at their household level where they are doing all the invisible work but seldom get the income. These women's contributions are recognised through registration on the data systems, and through the recognition of their work contribution as workers in the economy as well as the care work.

The care work is not only about their work to maintain the household and the cattle but also the ecological care work that women do for the protection of farming systems, in the maintenance of soil fertility, in the maintenance of forest biodiversity.

The focus of MAKAAM is on recognition, capacity enhancements, so that marginalised rural women are able to represent their issues. The practices that women have already in their traditional basket of activities can be enhanced through appropriate technological innovation, but not of the kind that is destructive to the environment and extractive from the people who are producing for the market systems. In capacity enhancement women can represent their own interests as well as protect their own rights.

Amongst the rights the key is the land rights. Only about 14 percent of women own land in their name. Many of these are actually notional land rights, because the family transfers a marginal amount of land in women's name for tax discounts, but actually the land is held by the men. Because women lack the land ownership, they are very often left out of the entitlement regimes.

For instance, the government has introduced a system called the eNAM process and also the eSHRAM Card and the Kisan Credit Card, which are recognition of farmers and provide development opportunities to them. But none of these systems register women yet. MAKAAM is campaigning to build up recognition and registration of women in each of these government schemes so that women can get equal access to technologies, training, institutional care, and recognition for the work they do.

[Note:

- National Agriculture Market (eNAM) is a pan-India electronic trading portal which networks the existing small farmer cooperatives to create a unified national market for agricultural commodities.[138]
- eSHRAM[139] is a portal developed by the Ministry of Labour & Employment for creating a National Database of Unorganized Workers (NDUW) which is intend to achieve optimum realization of their employability and extend the benefits of the social security schemes to

[138] eNAM, https://www.enam.gov.in/web/
[139] eSHRAM, https://eshram.gov.in/e-shram-portal

them. It is the first-ever national database of unorganised workers including migrant workers, construction workers, gig and platform workers, etc.

- The Kisan Credit Card (KCC) scheme was introduced in 1998 for issue of Kisan Credit Cards to farmers on the basis of their holdings for uniform adoption by the banks so that farmers may use them to readily purchase agriculture inputs such as seeds, fertilizers, pesticides etc. and draw cash for their production needs. The scheme was further extended for the investment credit requirement of farmers viz. allied and non-farm activities in the year 2004. The scheme was further revisited in 2012 by a working Group under the Chairmanship of Shri T. M. Bhasin, CMD, Indian Bank with a view to simplify the scheme and facilitate issue of Electronic Kisan Credit Cards. The scheme provides broad guidelines to banks for operationalizing the KCC scheme. Implementing banks will have the discretion to adopt the same to suit institution/location specific requirements.[140]

It is our analysis, the keys to turn the table against gender discrimination are a) promoting gender disaggregated data[141] (any data on individuals broken down by sex) and gender budgeting by which to restructure revenues and expenditures in order to promote gender equality[142], b) recognition and land rights for women in their names, especially for single women. It is estimated that at least 20-24 percent of rural households are headed by women. Lack of entitlement to the land that they work on leads to even greater vulnerability. This means 1 in 4 households in rural areas. Amongst these there are many households where the male members have committed suicide due to the burden of debt or due to the entrapment of their lands by the loan sharks.

Farmer suicides has become a common woe in areas with commercial cropping[143], [144]. Women are left behind to manage the debt as well as the patriarchal control of their families, the work on their fields and the future of their children.

MAKAAM works particularly with them as a segment as well as with and for women forest dwellers who are working the land and maintaining the forest but are seldom recognized for the knowledge they hold and the work they do to maintain the ecological balance and the biodiversity in their vicinity.

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[140] Kisan Credit Card (KCC) Scheme. https://www.rbi.org.in/commonperson/English/Scripts/Notification.aspx?Id=2311

[141] Sex-disaggregated data. https://eige.europa.eu/gender-mainstreaming/methods-tools/sex-disaggregated-data

[142] What is gender budgeting? According to the Council of Europe's widely used definition,[1] gender budgeting is an application of gender mainstreaming in the budgetary process. It involves conducting a gender-based assessment of budgets, incorporating a gender perspective at all levels of the budgetary process, and restructuring revenues and expenditures in order to promote gender equality. In short, gender budgeting is a strategy and a process with the long-term aim of achieving gender equality goals. Council of Europe (2005), Gender Budgeting: Final report of the Group of Specialists on Gender Budgeting, Council of Europe, Equality Division, Directorate-General of Human Rights, Strasbourg. https://eige.europa.eu/gender-mainstreaming/toolkits/gender-budgeting/what-is-gender-budgeting

[143] The disadvantages of commercial farming. https://www.virtualkollage.com/2017/01/the-disadvantages-of-commercial-farming.html#:~:text=One%20of%20the%20disadvantages%20of,farmlands%20to%20cultivate%20cash%20crops.

[144] Caroline Pinder and Denis Wood. 2003. THE SOCIO-ECONOMIC IMPACT OF COMMERCIAL AGRICULTURE ON RURAL POOR AND OTHER VULNERABLE GROUPS. For Department For International Development – Zambia. https://cdn.odi.org/media/documents/8206.pdf

Women's collectives. How have women's collectives evolved in India? In the 1950s, after independence, there were unions that were formed by organizations like SEWA (Self-Employed Women's Association) and the Working Women's Forum. But these were formed mostly in urban areas for working class women. The first rural cooperatives that came up were milk dairy cooperatives and producers for Lijjat Papad[145], for instance.

These models of organizing women made the government realize that women in informal groups are producers, they need to be recognized, and need to be organized. The government in fact in the early 1980s started forming the DWCRA (Development of Women and Children in Rural Areas) groups which became a thematic area for the government to pursue through the rural development ministry and the organizing of women into (what later became) SHG groups.

Many NGOs at that time also undertook this project with government support. The SHG system and MYRADA was the first organization to do that and to put forward a model that could be adopted for organizing a larger scale of women. The model involved first organising rural women into small, informal groups where they practiced thrift and credit right from the 1970s, and then to federate them into larger organizations, like MYRADA[146], SSP, PRADAN[147], and others. They have shown that they can be a bankable and viable economic entity to undertake economic activities collectively.

After this period, the NABARD Bank[148] - the bank for rural development in India which is government supported - undertook a support program for these self-help groups and provided them the recognition as bankable institutions. Thereafter a large number of organizations such as the DHAN Foundation[149] emerged. However, PRADAN worked from a microcredit lens, but not from a feminist lens to organize women for holistic empowerment. Actually, very few of other microcredit organisations do so as well.

To name a couple of organizations that have in fact focused on a feminist approach: ANANDI[150] in Gujarat and Deccan Development Society[151]. The latter is well known for working with Dalit women - the most downtrodden, supposedly untouchable groups - organizing themselves first for land rights, then for seed rights, protecting their own seeds, and making the infertile land in

[145] Papad is a pancake cracker that is often consumed with other food in rural households.
[146] MYRADA, an NGO established in 1968 and working for micro-credit initiatives and sustainable development in Southern India.
http://web.mit.edu/urbanupgrading/upgrading/resources/organizations/MYRADA.html#:~:text=Established%20in%201968%2C%20MYRADA%20is,Refugees%20with%20the%20Indian%20government.
[147]Professional Assistance For Development Action (PRADAN), a non-government, non-profit organisation that works with India's rural poor. Across seven of the poorest states in the country, PRADAN professionals engage with disadvantaged communities to help them emerge from poverty and lead a life of dignity.
https://www.linkedin.com/company/professional-assistance-for-development-action/?originalSubdomain=in
[148] National Bank for Agriculture and Rural Development (NABARD) is an apex regulatory body for overall regulation of regional rural banks and apex cooperative banks in India. https://www.nabard.org/
[149] Development of Humane Action (DHA) Foundation, a professional development organisation, was initiated on October 2, 1997. It brings highly motivated, educated young women and men to the development sector through innovations to root out poverty. https://dhan.org/about-us.php
[150] ANANDI's vision is to bring rural women's concerns in the centre of all development processes so that all can live in a just, equitable and peaceful society. https://anandi-india.org/
[151] Deccan Development Society works in the Zaheerabad region of India with Dalit ('untouchables') and tribal women to develop climate-smart agricultural practices that secure community nutrition, health, and livelihoods.
https://www.equatorinitiative.org/2019/07/30/deccan-development-society/

their area fertile enough for them to be able to till the land and manage their own food security. Now they produce a surplus which their federation markets to the economy, but on their terms and based on the produce that they choose to grow, which is largely millets and food for consumption rather than for the market system based on the commercial cropping methods.

A large number of microfinance interventions have led to the proliferation of self-help groups across the country, but many problems arose. Some of it is documented in her research. For example, Kudumbashree[152] is a state-sponsored program in the state of Kerala, where the state has invested in organizing women into collectives and into farmers' federations as well as service federations.

In the rural area, women producers are now producing different kinds of produce, bringing it to their panchayat (the local centre for decentralized governance), and selling their produce. And if they have commercially viable produce, then they aggregate that and bring that as well to the market. But Kudumbashree's systems of organizing are not only around the economic but also around social security for their members as well as providing care services, counselling services, and dealing with issues of domestic violence - this has become an increasingly important part of their work.

The government's recognition has enabled the model of women's collectives to thrive but mostly around an economic focus. It is when the CBOs (collective business organisations), the NGOs and the feminists have come together and upscaled these efforts that real change happened and transformative changes happened in society changed the practices of patriarchal power.

Organizations such as NRLM[153] and PRADAN model have adopted the practices and learnings from feminist organizations to focus on a much more holistic approach to the economic organization of collectives, so that not only produce and profit are pursued but (also) about ownership of assets as well as other kind of benefits for women

The group farming collectives which Bina Agarwal[154] has recently written about in Kerala - exist in Tamil Nadu as well - give a very interesting model. The land that has been lying fallow in the rural areas - because people have migrated either to the Gulf areas or to other urban areas in their vicinity - and have been taken over by marginal women on small lease arrangements with the local owners. Through self-organising women have been able to pool their resources and labour, mobilize credit, as well as undertake group farming, and through these achievements

[152] Kudumbashree, a community organization of Neighbourhood Groups (NHGs) of women in Kerala, has been recognized as an effective strategy for the empowerment of women in rural as well as urban areas: bringing women together from all spheres of life to fight for their rights or for empowerment. https://www.kudumbashree.org/pages/7#:~:text=Kudumbashree%2C%20a%20community%20organization%20of,their%20rights%20or%20for%20empowerment.

[153] National Rural Livelihoods Mission (NRLM) was launched by the Ministry of Rural Development (MoRD), Government of India in June 2011. IT aims to alleviate rural poverty and create sustainable livelihood opportunities for the rural poor. Towards this objective, NRLM seeks to promote sustainable community-based institutions which will facilitate provision of financial services, economic services and other entitlements to the rural poor. https://aajeevika.gov.in/en/content/overview

[154] Bina Agarwal. 2019. "Does group farming empower rural women? Lessons from India's experiments". *Journal of Peasant Studies,* 47(9):1-32. https://www.researchgate.net/publication/334831357_Does_group_farming_empower_rural_women_Lessons_from_India's_experiments

have been able to access land even where they have none. Currently a thrust toward FPOs (Farmer Producer Organizations)[155] can be seen.

As far as MAKAAM is concerned, primary focus is on building democratic institutions with an intergenerational approach so that young leaders emerge to address the policy dialogues that MAKAAM wishes to engage in. The government is trying to promote Farmer Producer Companies, a hybrid between cooperative societies and private limited companies.[156] Yet all-women FPOs are only a fraction, about 4 percent of the FPOs functioning in the country. The Self Help Group (SHG) system[157] has generated a few all-women FPOs but with state support it is hoped to multiply these FPOs and look at how the institutional framework can be rendered more effective for them.

To summarise. Assets created in the names of women need to promote opportunities for collective solidarity and institutional autonomy so that women can truly take their decisions themselves. They can then undertake these activities in an equitable, ecologically embedded process, and a restorative process which allow them to move forward and build on the ecological, economic, and livelihood systems that they are so dependent on.

Very often when the governments talk of entrepreneurship it is about a venture which governments put together. For communities at the margins, normally asset constrained, every day is an entrepreneurship struggle. Survival itself is an entrepreneurship struggle. For them, it is about livelihoods, it is the ecosystem, and their own ability to produce a surplus. Income is not as important as what they can use from the land for their subsistence! It is important to keep that in balance when promoting entrepreneurship and bring these marginal communities, majority of them are women, into a cash economy. Supporting their autonomy and enabling them to gain access to productive resources, such as land and credits, through self-organisation are key to empower women for their equal rights, dignity and sustainability.

Concluding Remarks

From the presentations made, it is evident that the first step toward achieving women's

[155] Farmer Producer Organisations (FPOs) - The Government of India has approved and launched the Central Sector Scheme of "Formation and Promotion of 10,000 Farmer Producer Organisations (FPOs)" to form and promote 10,000 new FPOs till 2027-28 with a total budgetary outlay of Rs.6865 Cr. Under the scheme, the formation and promotion of FPO is based on Produce Cluster Area approach and specialized commodity-based approach. While adopting cluster-based approach, formation of FPOs will be focussed on "One District One Product" for development of product specialization. Initially one FPO is allocated per block. So far, a total of 4465 new FPOs produce clusters have been allocated to Implementing Agencies for formation of FPOs, of which a total of 632 no. of FPOs have been registered. https://pib.gov.in/PressReleasePage.aspx?PRID=1739593

[156] What are farmer producer companies? An FPC is a hybrid between cooperative societies and private limited companies. The Farmer Producer Companies, registered under the Indian Companies Act, 2013, have democratic governance, each producer or member has equal voting rights irrespective of the number of shares held. https://www.nafpo.in/about-us/what-is-a-farmer-producer-company/

[157] The Self Help Group (SHG) which can be traced to formation of Self-Employed Women's Association (SEWA) in 1970. The SHG Bank Linkage Project launched by NABARD in 1992 has blossomed into the world's largest microfinance project. https://www.drishtiias.com/to-the-points/Paper2/self-help-groups-shgs#:~:text=The%20Genesis%20of%20SHG%20in,from%20the%20year%20of%201993.

empowerment could be self-organisation for learning, for mobilisation and for gaining access to critical assets such as land use rights and to participation in gainful activities. For the rural women, recognition of their contributions in the families, in farming and in ecological system conservation are important. Creating a registration system and disaggregated data helps to formulate more appropriate policy responses, like in India, and support local government accountability as in Kyrgyzstan. Such collectives are also useful for innovation and supporting entrepreneurial start-ups as discussed in the case of Mondragon's Travel Academy model.

When asked "what are the most important lessons learnt when implementing SDG 5, particularly in regard to targets 5.a, 5b, and 5.c, the following responses were collected from the 30 respondents (see Table below). As SDG 5 is a transversal goal, the suggestion for a dedicated focal point for SDG 5, if not already existing, needs to be considered for policy coherence and for monitoring and reviewing holistic progress.

2. What are the most important lessons learned (success factors or critical blind spots) when implementing SDG 5, particularly in regard to the Targets mentioned above and how could your country's experience be beneficial for other countries to consider?

- Responses not so clear, mixed between suggestions and actual practice.
- In Indonesia, it is observed when democracy is maturing there is a trend toward empower women and girls through education and entrepreneurship programmes.
- Increase of women representation in top leadership level (Ministers, Permanent Secretaries, Managing Directors of Government Institutions e.t.c.) have been observed.
- Access to digital and ICT technologies gave women/girls voice and agency to act in Nigeria.
- Suggestion for a dedicated agency on SDG 5, updating policies & gender sensitive policies.

(Source: Pre-ETC Survey, 2022)

Day 3 (13th April 2022)

Theme: Life Below Water (SDG 4) – How the Oceans can help us fight against, and recover from COVID-19 and deliver the SDGs

Moderator's Introduction

Speaker: **Lichia Saner-Yiu**, UNOSD consultant

The 2030 Agenda is a global contract that represents the will of state and non-state actors and PEOPLE ("Voices" & "The world we want") and a commitment of "Leaving NO ONE BEHIND". It is also a strategy toward development from a whole eco- system orientation consisting of *people, planet, prosperity, peace and partnership,* also known as the "5Ps" of the 2030 Agenda and SDGs.

Implementation of the 2030 Agenda needs to adopt a continual learning, improvement and innovation approach at all aggregated levels down to individuals. It also invites different

stakeholders to collaborate and to learn together. The 2021-2022 ETC is a multistakeholder conversation to support effective policy making of the thematic topics that are due to take place during the 2022 High Level Political Forum.

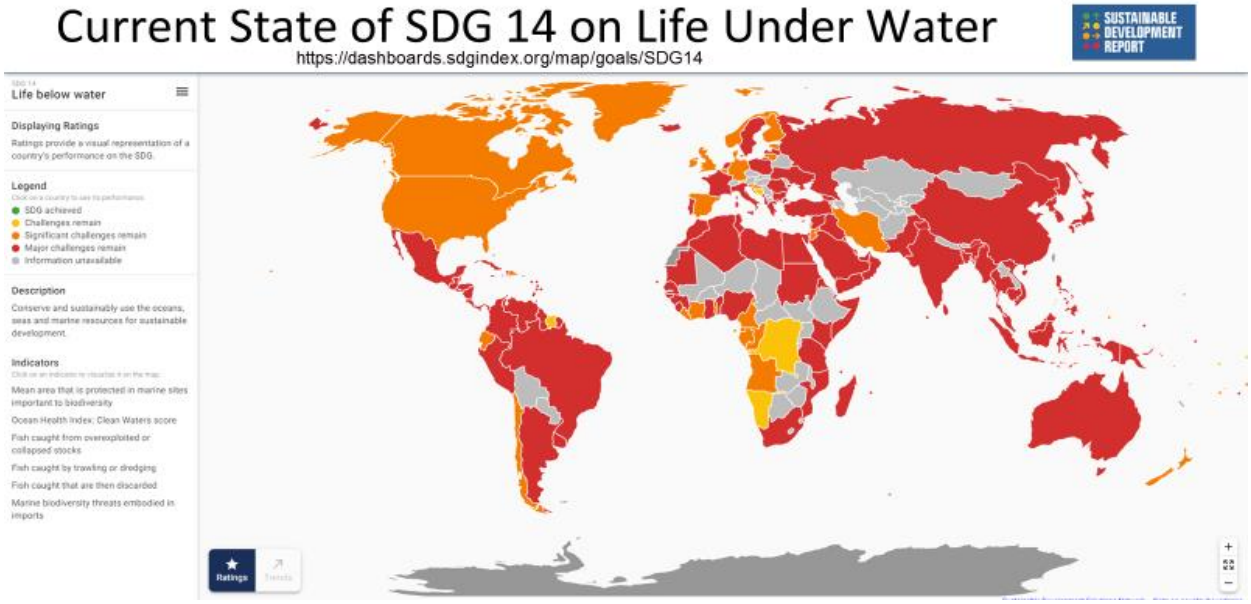
Today, the following sub-themes are covered:

1. Overview of the ocean economy: Sustainability and human security
2. Current state of SDG 14 implementation & challenge of policy coherence
3. Disaster and risk management of oceans and freshwater
4. Policy instruments for sustainable use of ocean resources (e.g. IUU)
5. Country experience (Myanmar) & private sector experience

The speakers are all leading thinkers-practioners in their respective area who share their insights & "Wicked" aspects of the problematics in terms of life under water and the relationship between humans and the ocean-based ecosystem.

A quick overview of the current state regarding the health of oceans is expressed through the lens of implementing SDG 14. None of the countries of the world so far fulfilled their SDG commitments Two countries in the African continent and one in Latin America have made some progress, the rest of the coastal countries are lagging significantly behind in their implementations (see the Figure below).

Indicators used to derive this assessment by SDSN (2021) include: "1) Mean area that is protected in marine sites important for biodiversity, 2) Ocean health index: clean waters score, 3) Fish caught from overexploited or collapsed stocks, 4) Fish caught by trawling or dredging, 5) fish caught that are then discarded, 6) Marine biodiversity threats embodied in imports". These six indicators measure the level of disregard of eco-vulnerability, bad fishing practices and waste of the fishery industry. And finally, consumers in importing countries by and large lack awareness concerning the unsustainable practices in sourcing countries and are not concerned about such practices and impact.



Presentation 1: Ocean economy: Sustainability and enabling policies for human security

Speaker: Mr. **Andrew Birchenough**, Technical Officer, Office for the London Convention/Protocol and Ocean Affairs, International Maritime Organisation (IMO)

Ocean Economy. Our planet is 70% covered by oceans. Oceans are vital for humanity and our economies, and vital for regulating the climate system and water cycles. The COP26 highlighted the importance of the oceans due to goods and services linked to them that are needed to sustain life on the planet.

Over 40% of the world's population live within 150 kilometres off the coast and hundreds of millions visit the coastal environments. The importance of preserving oceans just started to be recognised. It's estimated that oceans contribute around 1.5 trillion dollars a year to the world economy. By 2030 the ocean economy will be around 3 trillion dollars. Around 30 million people have been employed by ocean related activities. Ocean economic activities are expanding rapidly, and some of them are becoming emerging industries.

Technological developments enable rare minerals exploitation existing in the deepness of the ocean. Ocean mining also affects the health of marine environments. There are different activities taking place in the marine environment that have significant impact on the oceans' health. For instance, climate change and greenhouse gas emissions have a direct impact on the oceans. Oceans became warmer and more acidic, affecting marine species and other environmental issues such as sea rising. Rising sea levels have tremendous implications, especially to small island developing states.

Marine pollution including marine plastic litter and microplastics and other activities have led to habitat destruction and biodiversity loss. The global community should come together to address these issues.

There are environmental risks arising also from shipping such as: operational discharges, accidental or international pollution due to oil spilling and ocean (underwater) noise. The IMO has a regulatory framework for shipping activities, which interplays between the environment and the safety of shipping and houses different international treaties. It also has developed a guidance to recognise ocean noise as a pollutant.

IMO based in London and works on the implementation of treaties and protocols. It also covers topics dealing with international regulation of shipping. The IMO action plan addresses an array of issues going from decreasing marine plastic litter to dealing with protected areas. The London Convention and protocol regulate the dumping of waste into the ocean resulting in the banning of significant amounts of industrial and radioactive waste. IMO also regulates climate change mitigation practices such as carbon capture and storage, marine geo engineering, sea and land-based activities and all of those activities in an interplay between the global, regional and the national level.

The IMO also contributes to wider processes regarding ocean governance. Central to that is the contribution to the SDGs. Finally, for achieving a sustainable blue economy and ensuring the preservation of oceans, it's critical to better communicate the risks and to find smarter

approaches. COVID-19 presents an opportunity to do that due to disruption of routines and devastating economic impact of the pandemic

Presentation 2: State of the SDG 14: Interconnectedness and Policy Coherence

Speaker: Ms. **Fabienne McLellan**, Managing Director, OceanCare, Switzerland

The concept of the 'blue planet' is also about looking at ecosystem services that the oceans provide. In fact, the life support systems on this planet relies heavily on oceans.

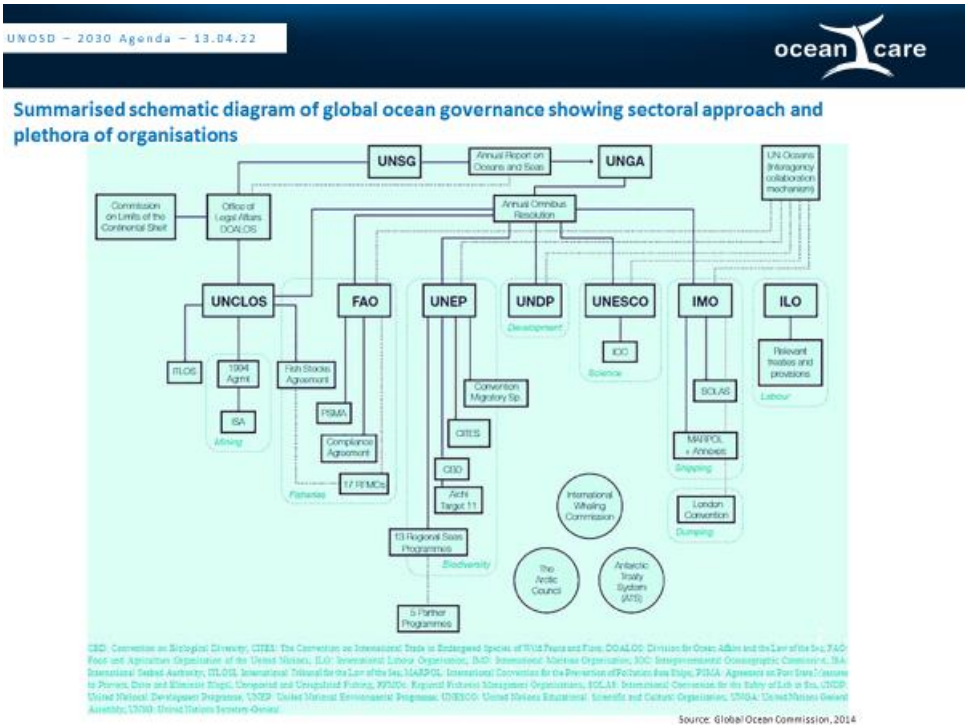
The 200 nautical mile limit of the maritime zone is the zone known as high seas or areas beyond national jurisdiction (ABNJ). ABNJ covers two thirds of the world's ocean. The high seas are areas where no country can claim sovereignty, hence different parties often illegally exploit such areas to the detriment of the whole nature and society.

The ocean as a *global common* "Mare Liberum", is a "common heritage of mankind" prone to overexploitation. Marine plastic pollution and the impact of the shipping industry threatens marine biodiversity including fish and other lives that perform vital functions to life on land.

SDGs. Negative impacts on the ocean due to manmade causes such as climate change have ramifications across all the SDGs. No country can solve this within its borders. SDG14 is truly universal with manifold interlinkages between other goals and targets. The pervasive cumulative threats of climate change, ocean acidification, overfishing and transboundary forms of pollution are affecting ocean ecosystems negatively. Such issues are cross-cutting therefore posing important challenges to the achievement of the 2030 development objectives. These negative impacts are not limited to the island states. Marine biodiversity is decreasing rapidly with ramification for the health of the ocean (SDG14), poverty eradication (SDG1), livelihoods and hunger (SDG2) and worsening the climate crisis (SDG13).

SDG 14 is to "Conserve and sustainably use the oceans, seas and marine resources for sustainable development" and contains ten targets and ten indicators. Degradation of the ocean environment hits developing countries the hardest. The ocean is essential for economic development, livelihoods and food security for more than 3 billion people worldwide. Stocks of natural capital provided by global commons lack proper valuation from markets and public policies. SDG14.7. provides a clear mandate for exercising the blue economy for small islands states and for the least developed countries.

A key challenge in implementing SDG 14 is the lack of coherent and integrated global governance infrastructure. The mapping below reveals the fragmentation and duplication at times of the global governance infrastructure.



A legally binding instrument that would close the gaps in terms of governance is under negotiation, aiming to be ready by August for consideration during the Ocean Conference in New York. The passing of a UN Environment Assembly resolution (decision) on 2nd March 2022 entitled 'End plastic pollution: Towards an international legally binding instrument'[158] is a major step forward[159]. It also means that such a treaty will be negotiated by the end of 2024[160].

What kind of blue economy can the planet carry? A defining question when attempting to "build back better" and greener within the context of inclusivity. A graph by the author Johan Rockström shows the interconnectedness of the SDGs, it also shows how our life support system and other SDGs rely on the biosphere (see Figure below, Source: Johan Rockström).

[158] https://sdg.iisd.org/news/unea-launches-negotiation-of-plastic-pollution-treaty-science-body-on-chemicals/
[159] Momentum Towards a Global Plastics Treaty: Update After UNEA 5.2. https://www.ciel.org/momentum-towards-a-global-plastics-treaty-update-after-unea-5-2/#:~:text=One%20hundred%20seventy%2Dfive%20countries,production%20to%20end%20of%20life.
[160] UNEA Launches Negotiation of Plastic Pollution Treaty, Science Body on Chemicals. https://reports.eia-international.org/a-new-global-treaty/#:~:text=The%20passing%20of%20a%20UN,by%20the%20end%20of%202024.

The 2030 Agenda helps to look at those issues in a more interconnected and universal way. Figure below shows this interaction effect between SDG 14 with the other 16 SDGs. The size of the circle indicates the strength of the influence between SDG 14 and specific SDGs. The colour represents either trade-off to address (Orange colour) or co-benefits to harness (Blue colour). The last column summarises the total influence exerted by SDG 14 where co-benefits to be explored outweigh the "either/or" choices.

(Source: Global Sustainable Development Report, 2019[161])

Ocean Noise is a less known aspect of ocean pollution. The United Nations Convention on the Law of the Sea (UNCLOS) defines pollution of the marine environment as follows[162]:

> "…the introduction by man, directly or indirectly, of substances or energy into the marine environment including estuaries, which results, or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities including fishing and other

[161] https://www.un.org/development/desa/publications/global-sustainable-development-report-2019.html
[162] https://www.iucn.org/theme/marine-and-polar/our-work/international-ocean-governance/unclos

> legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities" (article 1 (4))[163].

SDG14.4 stipulates to restore fish stocks in the shortest time feasible. Efforts to protect and restore fish stocks risks being undermined by ocean noise-generating activities. There is a serious need to consider ocean noise when developing plans for Marine Protected Areas or no-fishing zones. The reasons are:

- Millions of people around the world dependent on fisheries for food and livelihood;
- Commercial fish catch rates have been shown to drop after ocean noise events;
- Increased by-catch rates and decreased fish abundance have been observed in the presence of anthropogenic noise.

Ocean noise pollution due to its invisibility gets less attention compared to the other types of pollution. Growing scientific evidence shows that ocean noise has implications on fish stocks and fish catch rates, affecting goals such as zero hunger, poverty eradication and so on.

Progress to Date. The current state of play at the global level for some selected indicators for which adequate data are currently available. Regarding SDG 14, assessment shows that for at least 2 targets there is an on-going negative long-term trend, which means the target is unlikely to achieve by 2030. Especially long-term negative effects dealing with marine pollution (14.1), overfishing and IUU fishing (14.4).

According to the FAO's State of Fisheries & Aquaculture, 2020[164],

> "In order to measure the progress towards SDG 14, a key indicator is the proportion of fish stocks that are within biologically sustainable levels. [...] Unfortunately, the percentage of fish stocks that are within biologically sustainable levels have decreased from 90 percent in 1974 to 65.8 percent in 2017"

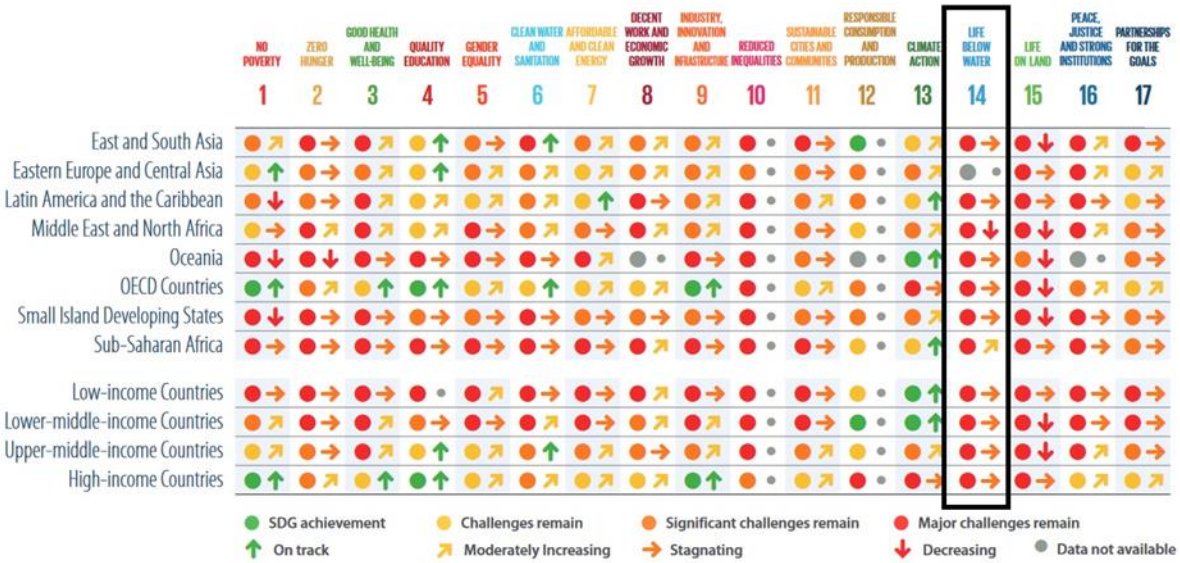
There are several targets that already matured in 2020. Regarding SDG 14, a few targets have an earlier maturity date. Target 14.1 – on marine pollution[165] will be maturing by 2025, while Targets 14.2,[166] 14.4[167], 14.5,[168] and 14.6[169] have all matured by 2020. Yet, little progress has

[163] https://www.un.org/depts/los/convention_agreements/texts/unclos/part1.htm
[164] http://www.fao.org/state-of-fisheries-aquaculture/en/
[165] Target 14.1, by 2025 prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution
[166] Target 14.2: By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans
[167] Target14.4: By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics
[168] Target 14.5: By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information
[169] Target 14.6: By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation

been made. Significant challenges remain with regards to the overall achievement of the SDG 14 (see Figure below) presented at the 2021 Sustainable Development Goals Dashboards. Sub-Saharan Africa has made some progress while the conditions in the Middle East and North Africa deteriorated against the SDG 14 measures. When looking at the current situation through the income lens, it is noteworthy that stagnation exists for all income group countries!

Figure 2.19

2021 SDG dashboards (levels and trends) by region and income group



Policy Coherence as a precondition. Sustainability brings development beyond economic growth to include social, environmental, and economic dimensions of development. Sustainable Development Goals are a network of targets which are with different strength dependent on other targets for the attainment. It is no longer feasible to only emphasis the prosperity of a country without paying attention to social cohesion, income equity, and environmental conditions. Policy coherence for sustainable development (PCSD) is an approach to integrate the economic, social, environmental, and governance dimensions at all stages of domestic and international policy making. Coherence needs to be pursued not only across sectors (horizontal) but also across levels of governance (vertical) domestically and internationally. There is the need to accelerate ocean conservation, since marine conservation and sustainable development are intrinsically linked.

Partnerships. Partnerships are considered as means of implementation for the 2030 Agenda. NGOs and civil society can assist governments and support global governance systems to achieve the SDGs. NGOs can mobilise, redirect and unlock existing additional resources. They can be financial, technological and capacity building. The High-level UN Ocean conference is happening soon, offering an opportunity for the civil society to provide inputs for the creation of a crucial document.

Comment by Moderator- Lichia Saner-Yiu: It is relevant to highlight the importance of participation of civil society in global consultation processes, and that civil society's voice counts.

From a substantive side, there is the need to find a way to reach a balance between the three pillars of the SDGs, i.e., economy, society and environment before the right policy design can be found. In this case, to advance both the human security (both economic and social) interest and that of ecosystem security (environmental, biodiversity of the ocean, waste and pollution) require a sustainability mindset to promote complex policy solutions for the need to develop.

Presentation 3: Disaster risk reduction and prevention of ocean related sustainability challenges and related policy considerations

Speaker: Mr. **David C. Smith**, Professor, Director, Centre for Environmental Management, Coordinator, Institute for Sustainable Development, The University of the West Indies, Jamaica

The Future is Now. The Global Sustainable Development Report 2019 points out that the following aspects affect progress in achieving the SDGs.

- Waste that ends up in oceans and consumed by fishes - there's scientific evidence showing that it also ends up in our bodies.
- Inequality increases after many repeated adverse events – with expectation of increasing nature and manmade catastrophes in this current unsustainable world, vulnerable groups will be confronted with more barriers to access opportunities and resources, resulting in increased poverty among the disadvantaged groups.
- Climate change and biodiversity loss are interconnected that threaten the sustainability of the eco-system.
- More adverse events induce greater inequality and
- Increased inequality triggers vulnerability and decrease human capital and social capital.

(Notes: a downward spiral that causes poverty trap resulting in entrenched intergenerational poverty which is harder to eradicate. Upstream solutions to deal with the waste and pollution issues which stress prevention, rather than solution could be the new mindset.)

The fact that oceans are connected to land and coastal development, it raises some red flags in terms of the blue economy and related development strategy. This is of particular relevance to the Small Island Developing States (SIDS[170]) and their survival. Coastal zone infrastructure that's vital for the economy is exposed to hazards and other phenomenAnswer: For example, the JFK airport of the New York city is under direct threat when the temperature rise leading to sea level rise. Similarly, Small Island Developing States and countries surrounded by the ocean are affected by sea level rise in a life-threatening manner. The climate effect on livelihoods is often neglected-

Islands and coasts of tropical states are often highly tourism-dependent. A great deal of economic activity faces vulnerability if the climate change is not properly mitigated and ocean pollution left unattended. Their economic vulnerability stems from a narrow pool of suppliers and employers with homogeneous products and services. Destruction of ocean ecosystem and fisheries could lead to high economy damage. This coupled with narrow economic base can lead

[170] https://www.un.org/ohrlls/content/list-sids

to slow recovery when infrastructure is damaged. (e.g. Hurricane Ivan on Cayman Islands[171]). The vulnerable assets consist of on-beach hotels, coastal roads, low elevation airports with runways beside the sea or on flood plains. Despite most of the SIDS economy is high dependent on its coastal resources and the ocean and sunshine, there is little spending on conserving or managing the coastal ecosystems which are confronted with increasing higher economic cost of environmental damage and higher level of land erosion. Table below outlines the estimated costs of damage when no actions were taken.

(Source: Coastal Capital: Jamaica's Coral Reefs, Beach Erosion and Impacts to Tourism in Jamaica, 2011, Kushner, Edwards, Burke and Cooper.)[172], [173], [174]

To expand the blue economy, measures and policies are needed to protect the natural assets, e.g., the beaches. A multidisciplinary approach and multinational cooperation are key to address ocean issues globally. Such cooperation or partnership needs to be on a level that is unprecedented. Managing national tax systems will enforce cooperation. These will imply charging sufficient rent to businesses/users who make profit from the beaches.

These could be: 1) increase beach rental to fund mitigation; 2) tax businesses that use the beach; 3) Use these taxes to protect the beach; and 4) increase enjoyment of beach users by diverse programming (Alexandrakis et al 2015)[175]. This type of economies needs also to be resilient to

[171] https://www.alamy.com/hurricane-damage-from-2004-hurricane-ivan-on-grand-cayman-island-image2983729.html

[172] Summary report. 2011. http://pdf.wri.org/working_papers/coastal_capital_jamaica_summary.pdf

[173] Full paper, http://pdf.wri.org/working_papers/coastal_capital_jamaica_tourism.pdf

[174] COASTAL CAPITAL Ecosystem Valuation for Decision Making in the Caribbean, 2014. https://www.cbd.int/doc/case-studies/inc/cs-inc-coastalcapitalguide.pdf

[175] Valuating the effects of beach erosion to tourism revenue. A management perspective. 2015. *Ocean & Coastal Management*. 111:1-11. https://d1wqtxts1xzle7.cloudfront.net/37273774/2015_Alexandrakis_et_al_OCM-with-cover-page-v2.pdf?Expires=1655417448&Signature=IRY7UgUM6wpNvQzDbK2bN5Cgh1C1RduPZwlsnWsAkFBxy0NKwzSHlHH0L59C~6PzeiV3MH7-q62qiC-q~N9YD8eNsPBN2-WoVENgbdQgqAcjxGyZRUaFv7C1lDMHbgTHDS~Mn8qjVLKuNbSZfFqiewuyGJ3cf-

external shocks; they can be meteorological, geological, anthropogenic, biological, economic[176] and war.

Significant funding is required to achieve systemic resilience. Financing resilience especially in developing countries should take the following factors into concern:

- Existing indebtedness level of the SIDS that already suffer from high indebetedness.
- Absorption capacity to economic and financial setbacks from shocks SIDS have no control over.
- Post disaster funds and catastrophic mitigation instruments, tailored to specific needs of different countries in different development situations.

A few policy advices on how to build resilience in countries that are constantly exposed:

1. Protecting small businesses from risk posed by offering insurance on their livelihoods.
2. Building human capital and diversifying local economy which may reduce community vulnerability to particular catastrophic events.
3. Providing education programme on resilience to prepare people against disasters.
4. Conserving natural capital, managing the ecosystem and using natural means (nature based solutions) to build resilience, and complement such practices with engineered solutions.
5. Supporting small businesses to access capital and means to reduce risk and to ensure their business support infrastructure.

Comment - Lichia Saner-Yiu: This presentation highlighted the link between the state of the ocean and also the overall situation of global warming and climate change on local sustainability of coastal territories and especially the SIDS. The speaker also addressed the ripple effects on countries dependent on oceans for their economies and livelihoods and offered valuable policy advice to build up resilience and to mitigate foreseeable climate change intensified risks and calamities.

Presentation 4: Global Analysis of Riverine Fisheries and Ecosystems: Challenges and Policy Recommendations

Introduction Remarks by Moderator

Ocean is part of the planetary ecosystem with inputs coming from different sources and inland tributaries. The current issues of the health of oceans is partially impacted by various activities on land. To understand better how to protect and conserve the ocean and its biodiversity, it is necessary to understand the current state of fish farming on the fresh water system and the downstream impact on the viability of the ocean life.

Target 15.1 addresses the issue related to the inland freshwater ecosystems. It reads, "By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater

9qM0nobOiZvmadD7aVIF8uZZUqtpUCao-OdZ~T80wavQmvf8uATO~WdWC02GbxWz7~BpXZe1d~tEwQIQv5kOEI~SL4uQxlQvq8l1AVvP8sEfcFKWoHXfThTDqYBDlPTcjMwXnCff6k6Y0hzfYETbvGt2kCSaLdVyyBG1q~ZNdSV~zjDA88YKXvTA__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA

[176] Economic Shocks: Definition and Examples. https://smartasset.com/financial-advisor/economic-shock#:~:text=An%20external%20shock%20is%20an,come%20from%20within%20an%20economy.

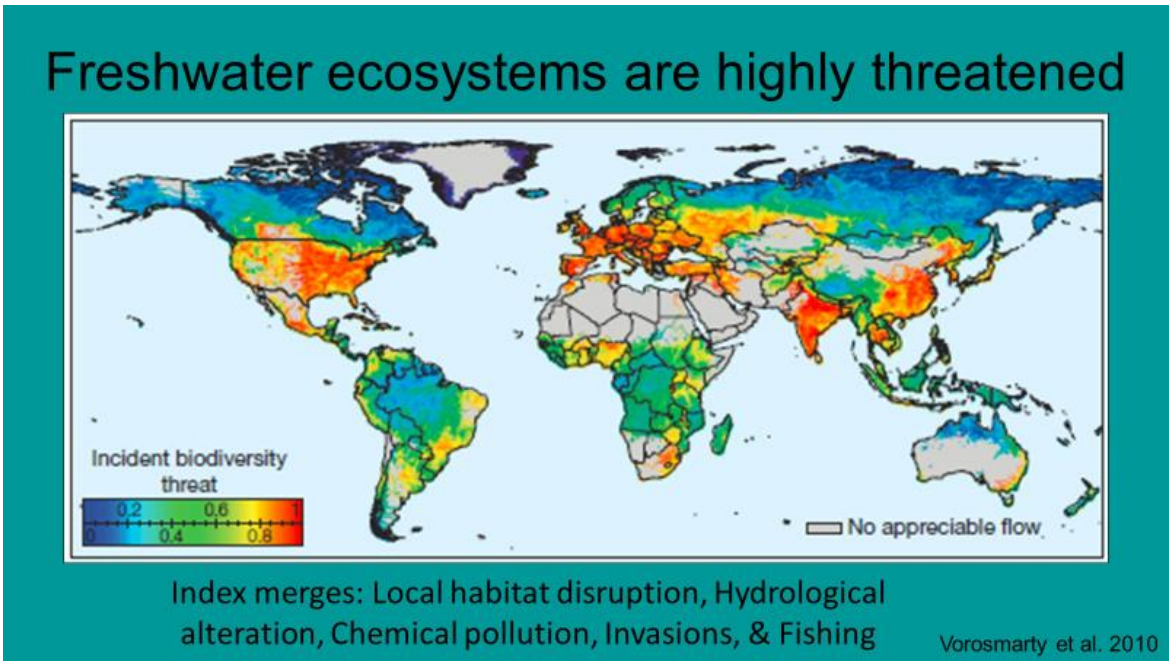
ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements". This presentation looks at the interface and interactional effect of the ocean, inland water and related human activities on pollution, reduction of biodiversity, and depletion of fish stock.

Global Analysis of Riverine Fisheries and Ecosystems: Challenges and Policy Recommendations

Speaker: Mr. **Peter McIntyre**, Associate Professor of Natural Resources & the Environment, Dwight Webster Sesquicentennial Faculty Fellow Co-Director of the Adirondack Fishery Research Program, Cornell University

There are many hundreds of millions of people on all continents that rely not only on ocean fisheries but also on inland fisheries. There deterioration of freshwater system also affects the life of many. Different perspectives could be applied to inland waters, largely overlooked, from an ecosystem standpoint, from a biodiversity standpoint, from a natural capital standpoint and a fishery or use perspective. SDG 14 as said did not address this part of the water system that affects not only life on land, but also life under water.

Today, freshwater ecosystems are highly threatened. Figure below shows the extent of biodiversity threats caused by local habitat disruption or alteration, chemical pollution, alien species Invasions and fishing industry. Integrating many different sorts of stressors into a holistic index, high threat levels are in red and low threat levels are in blue. This is a relative map, not representing the absolute intensity. The threat level expressed is relative to all other parts of the world. The red areas which prominently include North America, primarily the United States, Western European countries, South Asia (India) and East Asia (China) where such disruption has really profoundly altered the local river ecosystems and posted very high threat to any organisms living in those systems. The main culprits are dam or other manmade structures, chemical pollutants and alien species.



(Source: Vörösmarty, C., McIntyre, P., Gessner, M. et al. Global threats to human water security and river biodiversity. *Nature*. Vol. 467, 555–561 (2010). https://doi.org/10.1038/nature09440)

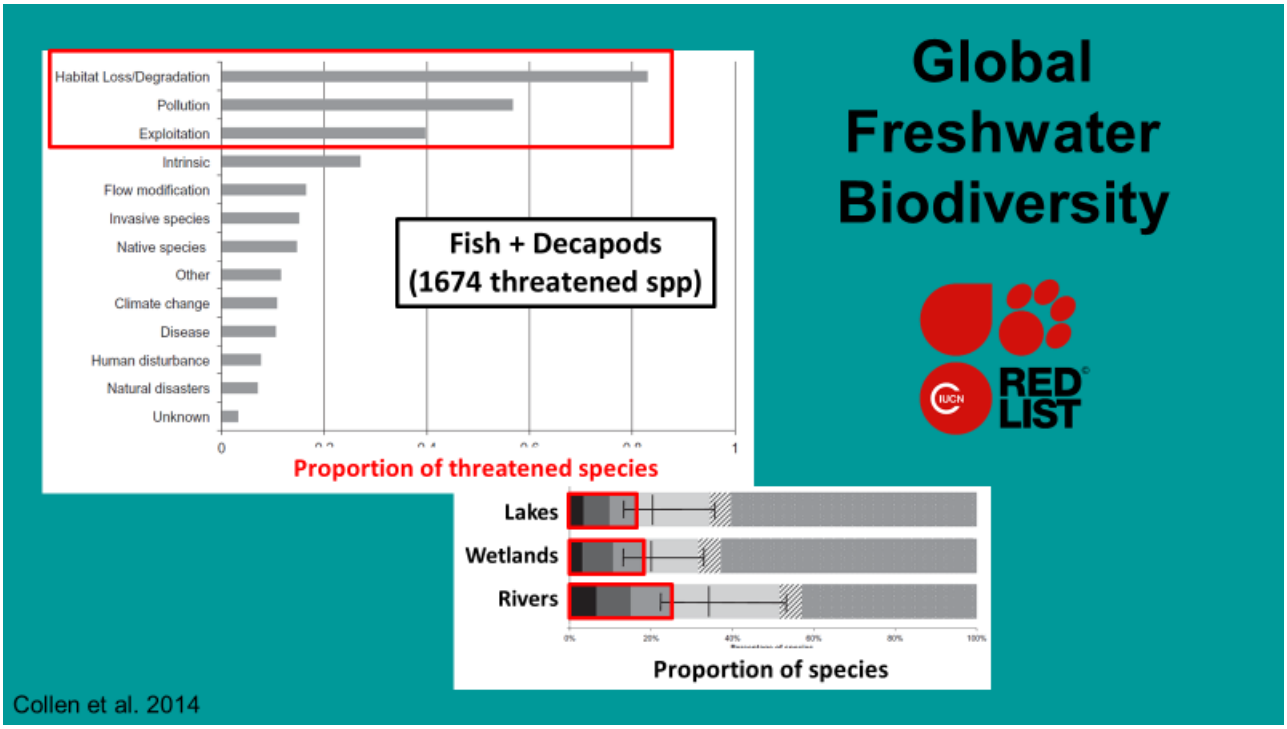
Three major challenges facing fresh water: The crisis in biodiversity conservation, wild fisheries and aquaculture.

World's water sources are 97% of salt water and only 3% is fresh water. 55% of the fish are marine captures while the other 9% from inland capture, the rest come from either marine aquaculture (5%) or inland aquaculture (32%). Aquaculture segment is growing fast and becoming economically important.

Data shows that a crisis exists in global freshwater biodiversity[177]. Habitat loss or degradation, pollution and overexploitation are the top factors that are affecting freshwater biodiversity globally (see Figure below). These factors combined others are species diversity in danger. Lakes, wetlands and rivers, major categories of inland waters, are all facing very high threat levels. At least 20% of the species in each of these habitat classes are considered threatened[178]. To date, there are in total about 1,674 threatened species on the IUCN Red List[179] that include amphibians, crabs, fish, crayfish, mammals and reptiles.

Climate change will cause species extinctions. It is projected that if water temperature keeps rising, around 11,500 fish species or fishes will be endangered[180]. Climate change substantially restricts the geographic distribution of fishes[181]. In addition, figures show that fishes are no longer moving freely also due to construction of dams and other structures that blocking the movement of fish within river corridors. At temperature rising to 2 degrees projected, 20% of the world's fish will be threatened. This will cause irreparable damage to not only the riverine ecosystem but also to humans who rely on the water ecosystem for drinking, nutrition and livelihoods.

[177] Biodiversity and water: two of a kind. 2013. https://www.iucn.org/fr/node/14267
[178] Global Freshwater Fish Assessment, 2014. https://www.iucn.org/theme/species/our-work/freshwater-biodiversity/our-projects/global-freshwater-fish-assessment
[179] The IUCN Red List of Threatened Species. https://www.iucnredlist.org/
[180] The Red List Index (RLI) shows trends in overall extinction risk for species, and is used by governments to track their progress towards targets for reducing biodiversity loss. https://www.iucnredlist.org/assessment/red-list-index
[181] Global Freshwater Biodiversity Atlas. https://www.igb-berlin.de/en/global-freshwater-biodiversity-atlas

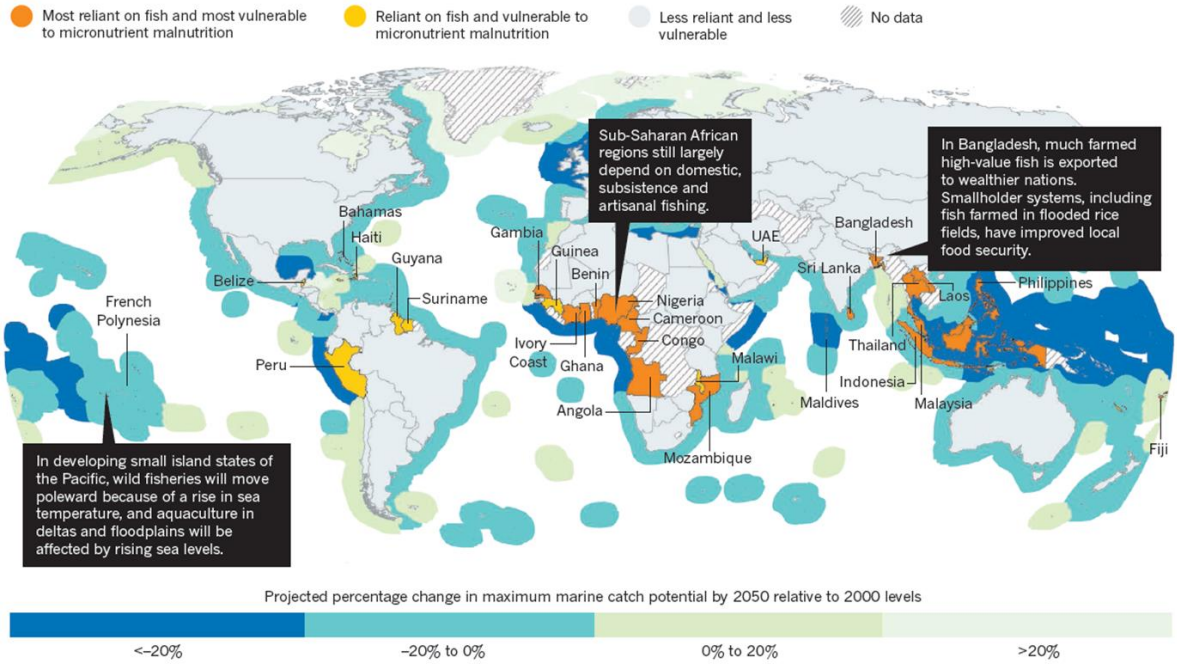


(Source: Collen et al. 2014)

Why fish and its diversity important?

1) Nutrition value. Freshwater fisheries are smaller but very substantial. Low income countries that have high per capita catches depend a lot on inland fish for protein; yet they face profound challenges with food security and high proportions of children underweight if these natural habitats continue to be lost or degraded. The diversity of inland fisheries provides different properties for human subsistence, for instance, nutrition value of fish such as zinc, iron, vitamins, and omega-3. 1.39 Billion people at risk of vitamin deficiency consisting of Zn, Fe, vit. A, vit. B12, fatty acids (EPA & DHA) (Golden et al. 2016 Nature).
2) Employment value. It plays a critical role for livelihoods. Worldwide there are 58.3 million workers directly employed in capture fisheries and aquaculture in 2012. Statistics demonstrate that for every person that's directly involved in fisheries there are another three people who are indirectly involved either in sale, distribution accounted for 233 million workers. They collective support 923 million of family members based on average each family having three dependents. Adding all together, the fishery and aquaculture supports 13% of the world's population. Loss of fishery the impact on livelihood will be enormous, touching about one of eight of the world population.

The map below showed that 1) countries most reliant on fish and micronutrient malnutrition, and 2) the projected change in maximum marine catch potential by 2050 relative to 2000 level. These projected changes vary between loss of the catch up to 20% or increase of the catch up to 20%. Islands like French Polynesia and most of the coastal areas will face a significant reduction of the marine catch. Only a handful countries will enjoy a "boom" of increase of projected fish catch more than 20% (in light green), such as the Fiji and others in the Pacific or Maldives and a few other spots in the Atlantic Ocean (see Map below).



(Source: Golden et al. Nutrition: Fall in fish catch threatens human health. 2016. *Nature)*

Incomplete reporting and datAnswer: Although the world's poor rely far more on inland fisheries than on aquaculture or on marine fisheries. There are tens of millions of people whose nutrition depends on fish but many of the catch were not recorded in the statistics of FAO.

Using surveys of household consumption of freshwater fish, data from 548,000 households across 42 countries reveal that freshwater catches are likely to be under reported. The reported catch was around 5.60 Million Tonnes from the rivers and lakes, while the household survey showed a catch of 9.26 Million Tonnes representing ~65% higher than officially reported (Fluetchouina et al. 2018)[182]

These *hidden harvests* are concentrated in low-income countries where they represent the equivalent of the total annual animal protein consumption of 36.9 million people (Fluetchouina et al. 2018). Long-term underreporting of inland fisheries masks their critical role in feeding the world's poor and complicates the use of catch statistics to evaluate the impact of overharvest and ecosystem degradation. A large proportion of the world's inland fish catch comes from areas where the rivers are already highly threatened. This will hasten the depletion of fishes in these waters and negatively impact people's livelihoods and nutritional intakes. This is the tension between nature (fishery) and human subsistence. Such interdependence needs to be resolved in order to achieve sustainability.

Mercury. Mercury pollution is another source of fish depletion which is widespread within inland fisheries. The Minamata Convention on Mercury, [183],[184] provides a mechanism for addressing and helping nations to remediate against mercury pollution but there's no clarity in terms of what is the scope of that challenge but is known to be acute. It affects the reproductive capacity of

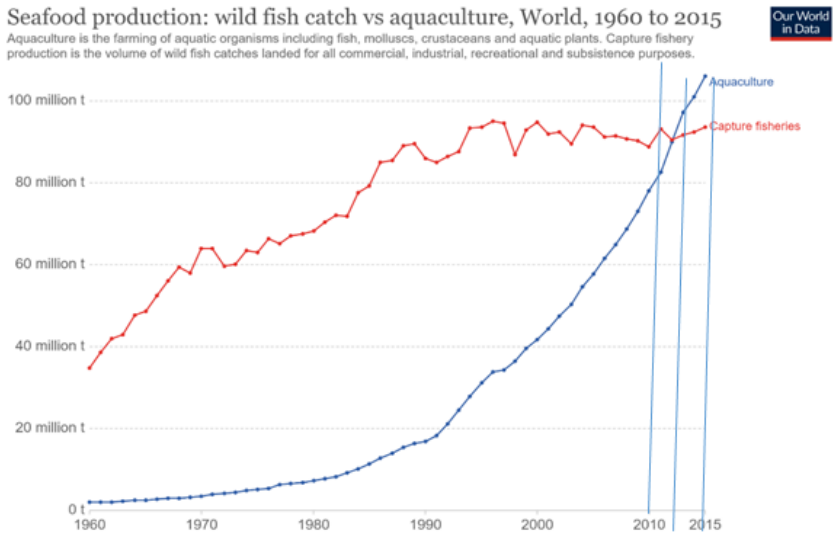
[182] Etienne Fluetchouina, Simon Funge-Smith, and Peter B. McIntyre (authors) Edited by Bonnie J. McCay, 2018, *PNAS,* 115 (29) 7623-7628. https://doi.org/10.1073/pnas.1721097115

[183] https://www.mercuryconvention.org/en

[184] Minamata Convention Ratification Map 2021. https://www.mercuryconvention.org/en/parties/overview

women. In an ongoing survey in the Americas, Africa and Asia, almost everyone has an average fish mercury concentration that exceeds the safe consumption level on a daily basis for a child or a reproductive age woman.

Aquaculture. Seafood production have two sources: wild fish catches from commercial, industrial, recreational and subsistence purposes; and aquaculture that is farming of aquatic organisms including fish, molluscs, crustaceans and aquatic plants. In 1960 aquaculture first started with little economic outputs, but by 2012 the production volume reached above 90 million dollars surpassing that of the capture fisheries ever since (see chart below).



Aquaculture (Source: https://ourworldindata.org/rise-of-aquaculture) rong coupling between the ocean and the fresh waters because wild fishery of low economic value, such as small sardines and anchovies, were made into aquaculture feeds to be used for aquaculture. Over the last four decades the total amount of those fish used to feed high value species in aquaculture grow enormously. Aquaculture feed usually contains fish meal and fish oil of marine origin. Aquaculture uses around 60% of current fish meal production and about 80% of fish oil production. It uses 2/3 of marine forage fish catch and depletes the forage base for marine predators and to sustain marine ecosystems.

The first big decline over the last three decades in the total marine harvest of these forage fish due to depletion. These forage fish are the food base for all the marine predatory fish so a huge quantity of these taking out of the ocean food chains.

About a third of the total marine harvest is these forage fish and two-thirds of that is being fed to other fish mostly inland so the risk of depleting the forage base of marine predators and of reducing the sustainability of marine ecosystems is very high. The presence of marine fish species in a single feed pellet can be high, at times up to 300 fish varieties. This food supply chain from marine forage fishes to aquaculture fishes are not sustainable yet the global rise of aquaculture is fuelled by these marine fish and finally there's a link to greenhouse gases that is basically unknown. It is known that the aquaculture facilities do generate substantial amounts of greenhouse gases but the quantities are yet to be measured.

To conclude, sustainability in these water-based ecosystems requires addressing those aforementioned challenges. Here are some recommendations:

1) Protecting rivers, lakes and wetlands; this policy will also contribute to the protection and conservation of ocean in general and coastal areas in specific. Inland countries have also a role to play.
2) Valuing inland fisheries appropriately. Going beyond economic values of inland fisheries. So far it has been massively undervalued in the aspect of feeding hundreds of millions of people worldwide (SDG 2) and in the employment it provided worldwide along the fishery value chains.
3) Being cautious in accelerate the development of aquaculture and before converting all the world's lakes and rivers into aquaculture facilities with its known consequences and impacts along the global supply chains.

Q&A and Discussion

To: Andy Birchenough

Question: What happens if dumping of polluted materials comes from a ship? Sanctions? Court process? Criminal charges- if so- at what court? (Raymond Saner)

A: Under the London Protocol, contracting parties are required to take appropriate measures in accordance with international law to prevent and if necessary, punish acts contrary to the provisions of the Protocol. By 'punish' this means impose a penalty or sanction upon a person or persons for an offence. Usually a national legal provision would form the basis of a penalty or sanction.

To: the panel

Question: In terms of this movement to achieve the SDGs, how or at what point the business sectors, aside from the government, are involved in protecting the world water resource/ocean. Both business from the developed countries, and of course especially the developing countries, and governments can start cooperating, sharing and making data available. (Evelyn Fantilanan)

Answer - David C. Smith: We need to have global cooperation for managing marine systems.

Answer - Andy Birchenough: We need to minimise the impact on oceans through scientific knowledge, capacity building and also enabling treaties. We also need mobilisation. That increases the focus and interest of civil society to get involved who can put pressure on the government. In terms of financing, we need international institutions' support. Currently the World Bank is financing initiatives which aim to protect oceans. The momentum is there, we just need to capitalise upon it.

Question – What can civil society/organisation do regarding fishing companies? (Lichia Saner-Yiu)

Answer -Fabienne McLellan: Overall, the treaty I previously mentioned will cover capacity building, technology transfer. From a CSO perspective it's about the contributions that we are able to make by sharing findings and information. Facilitating the visibility of the needs of every stakeholder, sharing perspectives. Highlighting indigenous knowledge. Also, setting up regulatory measures and enabling mechanism when it comes to the private sector

Question – What can accelerate the change of behaviour (amongst stakeholders) to slow down the threatening oceans? (Lichia Saner-Yiu)

Answer – Andy Birchenough: It's a difficult question especially when it comes to the high seas. But technology development is helpful; satellite positioning for more control. By doing so we want to hold companies responsible that engage in such overfishing activities.

Answer – Peter McIntyre: Technology development like satellite imaging and genetics can definitely facilitate the job. These tools are developed in the last decade which have been absolutely revolutionary in what we can see from the sky and what we can discern from genes so anything that becomes traded you can you can do genetic analysis and watch from the sky with low-priced satellites today.

Remarks by the moderator: There is a strong link between science, technology and sustainable consumption and production. In this context, we also have to re-exam the current schooling and the school curriculum for the young people and for adults. It is important to know what is actually happening in our day-to-day life so that these events will start to become relevant and meaningful, and send messages for action. Only through understanding and scientific inquiry for data that people could do something (about our future).

Presentations (Part 2): Country experiences

Presentation 5: Illegal, Unreported and Unregulated (IUU) Fishing

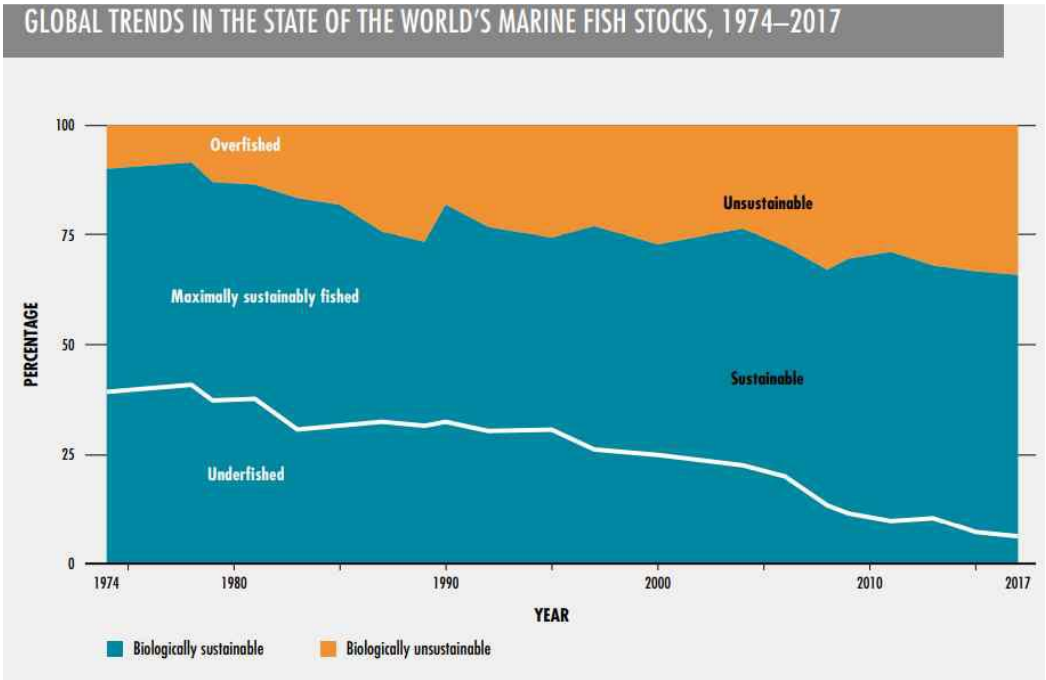
Speaker: **Deukhoon (Peter) Han**, EsQuestion: Director General; Associate Research Fellow; Juris Doctor (International Public and Private Law), LLM, LLB; Attorney at Law (New York); Center for International Development Cooperation, Korea Maritime Institute (KMI)

The presentation focused on Korea's recent efforts on combating IUU fishing[185] activities. A word to introduce the Korea Maritime Institute (KMI)[186]. KMI is a government-funded research institute, established under the auspices of the Prime Minister's office as a policy think-tank. Its main work is to conduct research and studies on Ocean policies. The Centre for International Development Cooperation (CID)[187] has been designated as a specialised agency by the MOF in 2020. Its main work is to conduct R&D, evaluation, networking, and information sharing on Oceans and Fisheries related Overseas Development Assistance (ODA). It currently carries out different projects related to Seafarer Training and Capacity Building in Vietnam and IUU Fishing Management Training Program in Kenya.

The Context. Global total capture fishery production in 2018 was about 93 million ton. In 2017, stocks fished at biologically unsustainable levels have increased from 10 percent in 1974 to 34.2

[185] What is IUU fishing, https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_2288
[186] Korean Maritime Institute (KMI). https://www.kmi.re.kr/eng/main/main.do?rbsIdx=1
[187] Centre for International Cooperation (CID) https://www.kdi.re.kr/kdi_eng/kdicenter/cid_main.jsp#:~:text=The%20Center%20for%20International%20Development,Knowledge%20Sharing%20Program%20(KSP).&text=CID%20leads%20Korea's%20drive%20to%20promote%20international%20development%20cooperation.

percent in 2017 (see Figure below) and is steadily increasing. This trend is mounting and has become a major crisis for sustainable fisheries.



Overfishing has become also another major concern while under caught fishes are diminishing.

Wild fisheries, aquaculture and seafood are all extremely important sources of food, health and employment for millions of people around the world. To recap the importance of global fisheries: fish account for 20 percent of global annual or more protein consumption. More than 10% of the world's population depends on fish for livelihoods. Fish Biodiversity affects the capacity of living systems to respond to crisis and future risks due to environmental changes.

Fish exports represent a major export item worth 88 billion USDs for the developing countries in 2018. FAO and other international organizations repeatedly report that IUU fishing is a huge problem for global fisheries resources and a threat to the marine ecosystem. It is reported that approximately 20 to 33 percent of fisheries production worldwide is from IUU fishing. In 2017 fish stocks within biological sustainable levels decreased from 90% in 1974 to 65.8% in 2017. With this rate of depletion, it can be envisioned that by 2030 almost 100% of the fish stocks will be outside of biological sustainable levels.

IUU Fishing. In terms of SDG 14 which deals with life below water, Target 14.4 and Target 14.7 deal with IUU fishing while Target 14.6 deals with fishery subsidies that encourage IUU and over exploitation of the fishery stocks. Significantly, both Target 14.4 and 14.6 have matured in 2020.

- Target 14.4: **By 2020**, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics;
- Target 14.6: **By 2020**, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that

appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation[188];

- Target 14.7: **By 2030**, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.

FAO realised early on the importance of eradicating IUU fishing and established an International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU)[189]. It also developed Agreement on Port State Measures (PSMA)[190] to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing through the adoption and implementation of effective port State measures as a means of ensuring the long-term conservation and sustainable use of living marine resources. In addition, FAO has also developed a number of relevant instruments such as Voluntary Catch Document Schemes[191].

Other measures of combating IUU include Global Reporting and Voluntary Guideline on the Marking of Fishing Gear by the FAO and the EU Regulation to Prevent, Deter and Eliminate IUU Fishing (see Figure below)

(Note, successful campaigns worldwide also raised consumer awareness and pressure on governments to do more in eliminating IUU.[192], [193])

[188] WTO Members Clinch a Deal on Fisheries Subsidies, 17 June 2022. https://sdg.iisd.org/news/wto-members-clinch-a-deal-on-fisheries-subsidies/

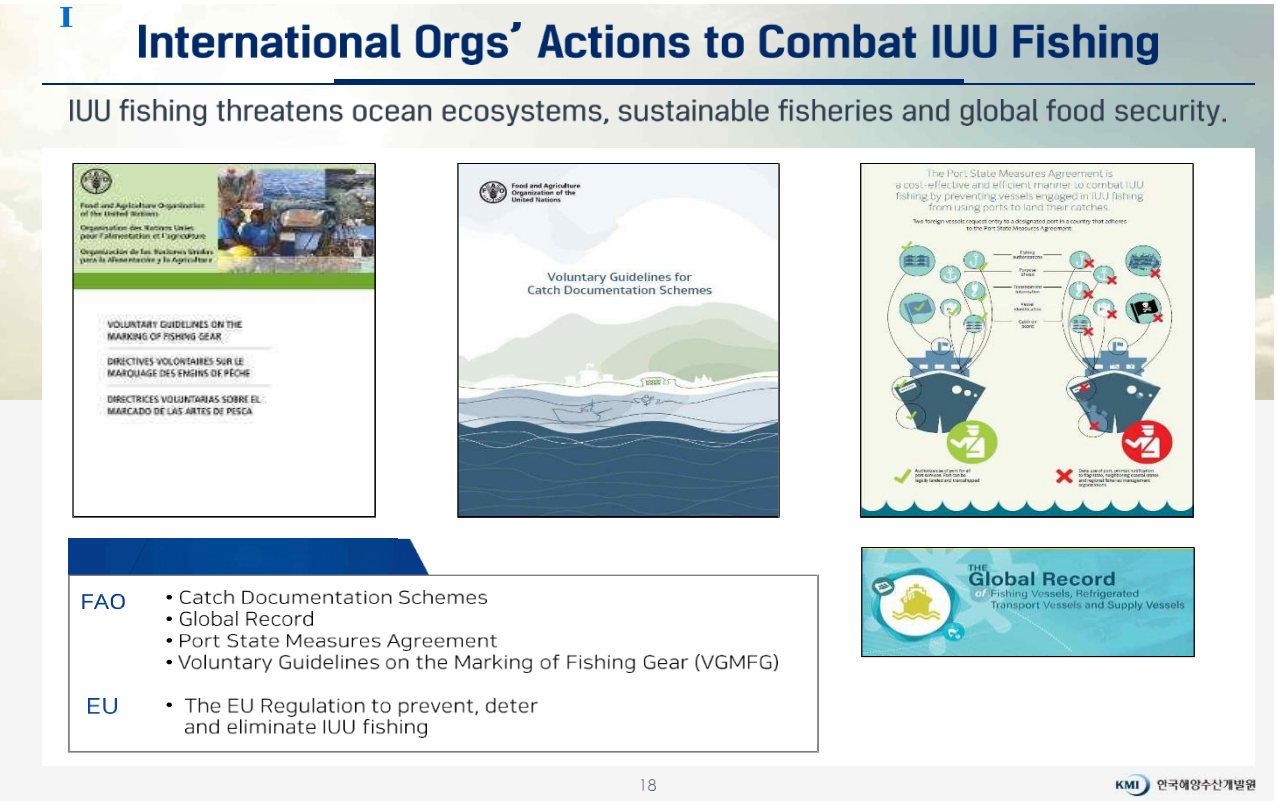
[189] https://www.fao.org/documents/card/en/c/71be21c9-8406-5f66-ac68-1e74604464e7/

[190] https://www.fao.org/port-state-measures/resources/detail/en/c/1111616/

[191] Voluntary Guidelines for Catch Documentation Schemes. https://www.fao.org/documents/card/en/c/a6abc11e-414a-491b-888a-7819dabdac1d/

[192] Campaign for the Universality and Effectiveness of the System of the Rome Statute of the International Criminal Court (ICC). https://www.pgaction.org/ilhr/rome-statute/

[193] Campaign for the Protection for the Oceans and Implementation of SDG 14. https://www.pgaction.org/pdf/campaigns/oceans/factsheet-three-treaties_en.pdf



Korea's action against IUU fishing. As a major fishing nation, the Republic of Korea complied with the international standards to an extent but was not completely IUU free. Since the USA and the EU are Korea's major export destinations' there were three major cases that arose with these countries. However, Korea has taken these cases very seriously as an opportunity to dramatically reinforce institutions and implementation power to combat IUU fishing. Korea had major negotiations with the EU[194], [195], [196] and USA in 2013[197] and again with the USA in 2019[198].

The EU Commission informed Korea that it was put on a preliminary list of IUU fishing countries due to 1) illegal fishing activities done in West African waters as well the lack of systems for compliance and penalty and 2) Failure to install the Vessel monitoring system (VSM). The U.S. followed suit and temporarily placed Korea on the list of IUU fishing countries in Sept 2019.

Institutional Efforts Made by Korea to combat IUU included 1) Observance of the FAO Agreement on Port State Measures (PSMA); 2) Korean authorities adopted installation of the Vessel Monitoring System[199] (VMS) a Government's obligation. VMS may be used to monitor vessels in

[194] https://ec.europa.eu/commission/presscorner/detail/en/IP_18_6142

[195] EU Regulation to combat illegal fishing: Third country carding process. Success for South Korea and the Philippines. http://www.iuuwatch.eu/wp-content/uploads/2015/06/Case-Study2.FINAL_.EN_.pdf

[196] Confronting Illegal, Unreported and Unregulated (IUU) Fishing with Proper Port and Flagged States Policies: The Case of South Korea and European Union. https://www.itmedicalteam.pl/articles/confronting-illegal-unreported-and-unregulated-iuu-fishing-with-proper-port-and-flagged-states-policies-the-case-of-sout-105233.html

[197] South Korean Tuna Company Charged with Defrauding US Government. https://thefishsite.com/articles/south-korean-tuna-company-charged-with-defrauding-us-government

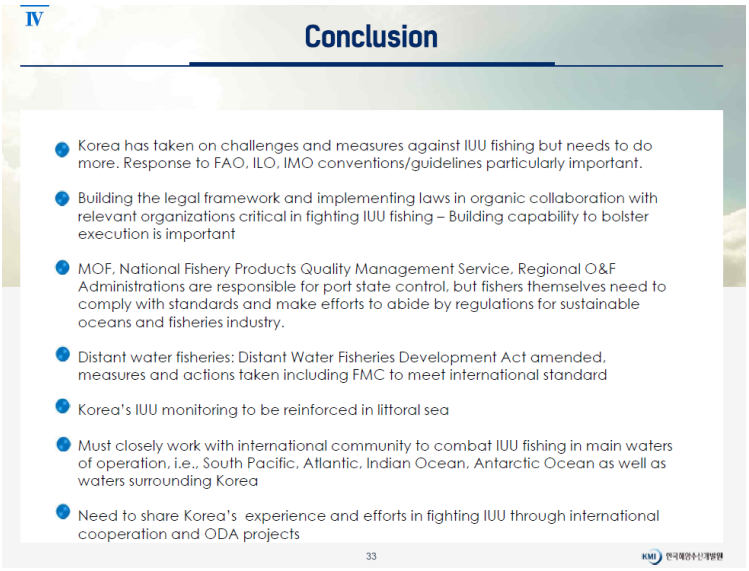
[198] The Intersection Between Illegal Fishing, Crimes at Sea, and Social Well-Being. https://www.frontiersin.org/articles/10.3389/fmars.2020.589000/full

[199] Vessel Monitoring System. https://en.wikipedia.org/wiki/Vessel_monitoring_system

the territorial waters of a country or a subdivision of a country, or in the Exclusive Economic Zones (EEZ) that extend 200 nautical miles (370.4 km) from the coasts of many countries. VMS systems are used to improve the management and sustainability of the marine environment, through ensuring proper fishing practices and the prevention of illegal fishing, and thus protect and enhance the livelihoods of fishermen.[200] 3) Submission of the Catch Documentation Scheme (CDS) in compliance with the FAO Voluntary Guidelines for CDS and International Plan of Action to Prevent, Deter and Eliminate IUU. 4) Corresponding changes of Korean domestic regulations in accordance to the evolving of the international regulations which strictly prohibit possession, distribution, processing, storage and sale of IUU fishes. Other measures are also put in place to fight against criminal activities in dealing with the importing of IUU fishes of the market state. Tighter control of distribution will be the next step.

The Korean government also requested operators and fishing companies to have safety managers to check the compliance of labour safety and protection of the fishing crew.

In conclusion, Korea has confronted various kinds of challenges and measures to combat against IUU fishing, but this is not enough. More work is needed in the future on both domestic and international levels. Strengthening capabilities of cooperation among national organisations is important. Engaging in international collaboration and ODA projects to tackle IUU worldwide is critical by sharing Korea's experiences and efforts (Details below).



QUESTION: Lichia Saner-Yiu: How does Korea find the resources to not only go in the national waters but also to look at how its fishing fleet catches fishes in other countries' water and falls into the IUU designation? You also mentioned satellite technology.

[200] NOAA's National Marine Fisheries Service (NOAA Fisheries) Office of Law Enforcement in the U.S. was delegated the responsibility to manage and administer the VMS Program and is responsible for the regulatory, monitoring, and other operational functions of the VMS Program's components unrelated to Fisheries' information technology resources, including the records management processes and schedules. More information at https://media.fisheries.noaa.gov/dam-migration/06-101.pdf

ANSWER: In terms of the deep-sea fishing, Korea has around 200 fishing vessels operating mainly in the Southern Pacific (about 70%) and the Peru area and Camera Convention areas. Korean fishing vessels used to operate in the West Africa water, but very few today.

Korea Introduced some strong revision and amendment of the regulation concerning Korean distant water fisheries development and their reinforcements are important. Heightened level of penalty, such as criminal penalty or administrative penalty, is of course important in terms of deterrence effect. Equally important is the cooperation of the recipient of the law. Local fishers and fishing companies need to agree with these changes. If they do not agree or have the common understanding of the importance of abiding by the IUU regulation, such law cannot be effectively enforced.

QUESTION: In what ways can developing countries, especially small island developing states, combat and address IUU fishing? (Rocelle Angel Vallente)

ANSWER: Capacity building and support programmes and monitoring are important measures to help SIDS countries in dealing this IUU fishing in their territorial waters.

An example from the work of KMI from some years ago. It organised a seminar in cooperation with Fiji and Kiribati. Conclusion of the seminar was to build an observer programme to monitor the fishing companies concerning the catch limit. These are legal catches. Due to the wide space of ocean of the SIDS countries, compatibility of the observer programmes in the South Pacific Islands or Pacific islands is very important. The capacity building and support for these observer programme need to ensure such compatibility.

Presentation 6: Plastic pollution and recycling: Example from the Philippines

Speaker: Ms. **Erica Reyes**, Chief Operations Officer, The Plastic Flamingo, Muntinlupa City, The Philippines

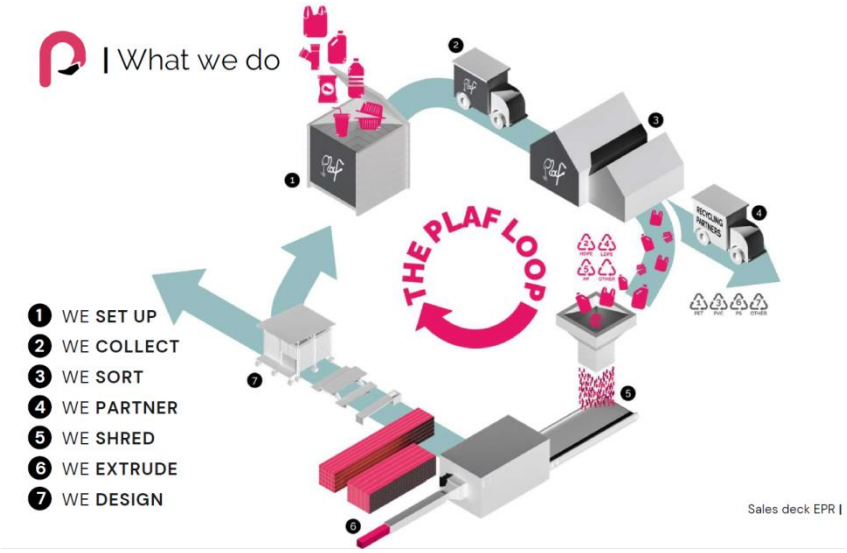
The Philippines has more than one thousand rivers and accounts for 80 percent of the global river in plastic emissions into the ocean. 80 percent of total globally mismanaged marine plastic waste is in South East Asia. Out of which 33 percent are in the Philippines. Globally more than 1000 rivers account for 80% of global riverine plastic emissions into the ocean.

The Plastic Flamingo[201] (The PLAF) is a company devoted to plastic recycling. Its mission is to reduce plastic pollution of oceans, waterways and also on land through maximum social impact. It is not an NGO, but a social enterprise. It has a circular business model and transforms plastic waste into economically valuable material. It first started as a collection point partner by collecting plastic waste in Manila but produces new products made out of 100 recycled waste plastics.

Partnerships and The PLAF Cycle. The Plaf creates a circular Loop by partnering with organizations such as schools, villages, condominiums, malls and other organizations like business offices to collect all plastic waste and deliver it into The PLAF facility. Then a series actions take place to sort, sent to other partners for conversion, shred, extrude and design new

[201] https://www.theplaf.com/ourstory

products and recycling lines (see illustration below). The "eco-lumbers"[202] was launched in 2022. It is an alternative to plywood made out of post consumption plastic packaging. Other products such as ecoboards, made out of soft plastic such as sachets, pouches and other films like plastic material was also launched in March.



The PLAF also produces secondary material for other processors to reduce the usage of virgin plastics so that a circular economy can be created. Eco-lumbers and eco-shelter are new products using recycled plastic material. It is a transitional shelter made out of four tons of plastic waste. Outdoor furniture like benches, pontoons and others, are also part of the process. When customers no longer want the products, they can send it back for recycling. The current recycling capacity per year is targeted at 2 000 tons capacity growing to 10 000 tons capacity next year-

Presently The PLAF is partnering with waste pickers and junkshops and collecting all types of plastic waste. Prevent plastic wastes from entering the waterways, rivers and oceans is a key to reduce river and ocean pollution.

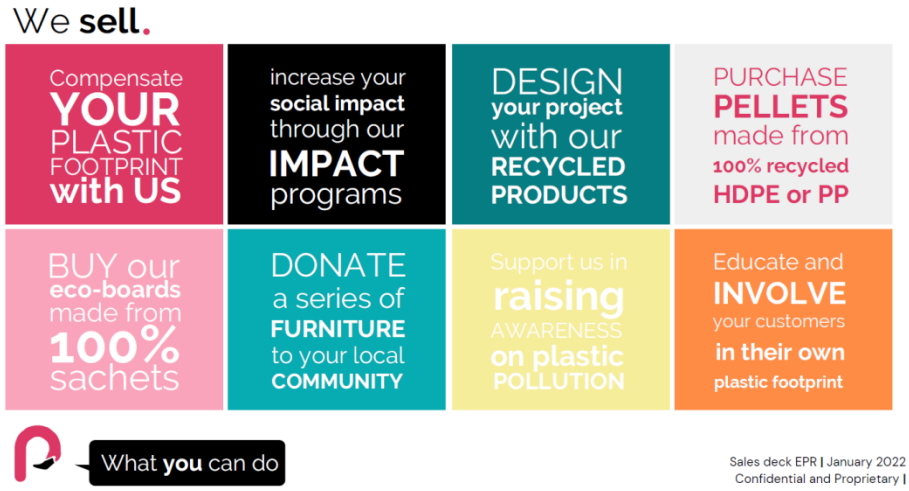
In-house Capacities.

1) R&D: In-house R&D team partners with the University of the Philippines Diliman. The PLAF has been successful in including sachets in the mix. Of the 164 million of sachets used per day 53% are going into the rivers so it is significant to recycle these sachets. Ecoboards are 100 percent recycled plastic products. These products are tested and compliant with international standards.
2) Architect and carpentry. The PLAF produce durable construction material. Eco-boards made out of recycled soft plastics offer an alternative to plywood. The prototype shelter for post-humanitarian crisis is made of 4 tons of plastic waste equivalent to 400 lumbers. The carpentry team is responsible for furniture design.
3) Outreach. Educating the public on plastic recycling including webinars, seminars and educational programmes. Also providing jobs for low-income families. Most of the

[202] https://www.greenqueen.com.hk/mondelez-philippines-snack-giant-partners-with-the-plastic-flamingo-recycle-waste-into-eco-bricks/

workers are coming from low-income families. Some of them are high school graduates being trained in this sector.

These are the ways the PLAF creates social impact and values.



QUESTION: Lichia Saner-Yiu: In the context of sustainable development, what's your impact or plastic footprint?

ANSWER: What is counted in our plastic footprint is what is collected and recycled. 200 tons of plastic waste collected per year. Target for this year is 2,000 tons.

Presentation 7: Addressing Marine Plastic Pollution in the Context of Myanmar

Speaker: **Thaw Thaw Han**, Deputy Director, Environmental Conservation Department, Ministry of Natural Resources and Environmental Conservation, Myanmar

The presenter gave a brief summary of the coastal regions of Myanmar which consists of 2832km and has the largest marine periphery. Continental shelf area claims approximately 230,000 km; Exclusive Economic Zone (EEZ), i.e., 200 nm from the coast, another ca. 486,000 km; and Territorial Waters about 12 nm from baseline.

Myanmar is one of the top 20 countries, ranked 17, in terms of mismanaged plastic with the quantity of marine plastic debris up to 0.07 - 0.18 million metric tons per year in 2010 (Jambeck et al, 20 15). Many plastics are not recycled and instead disposed in open dumps or landfills ending up in rivers that are later transported to the oceans. 119 tons of plastic waste enter the Ayeyarwady River every day. The upper and lower Irrawaddy regions contribute 90 tons of plastic pollution per day and Yangon, Myanmar's capital, add 29 tons a day (Lebreton, et al, 2017).

Marine Debris in Myanmar. Myanmar Ocean Project survey finds 95 percent of inspected marine ecosystems are contaminated with abandoned, lost, or discarded fishing gear (ALDFG)[203]. Its

[203] http://www.myanmarocean.org/

first survey and clean-up expedition removed 1,821 of abandoned and lost derelict fishing gear (ALDFG) also ghost gear. A study conducted by the Fridtjof Nansen research vessel recently found that plastic fragments are most abundant from Rakhine and Delta area, while fibers are most abundant from Tanintharyi coast.

Impacts of Marine Plastic Pollution. Primarily are about beach litter along the coastline and abandoned and lost derelict fishing gear (ALDFG). The latter tends to capture, entangle, and kill targeted and bycatch species; damage habitats; and are economically detrimental to fishery and tourism industries. Finally, these debris also cause obstruction for ship sailing. Impacts on the residential environment along the coast are also evident.

Policy Support and Planning to combat Marine Debris in Myanmar. A series of plans and corresponding policies have been put in place since 2018. They are:

- Myanmar Sustainable Development Plan (2018-2030)
- National Environmental Policy
- National Climate Change Policy
- Myanmar Climate Change Strategy and Master Plan(2018-2030)
- National Waste Management Strategy and Master Plan (2018-2030)
- Myanmar National Hazardous Waste Management Master Plan (2020-2030) – Final Draft
- Procedure on Transboundary Movement of Hazardous Wastes and Other Wastes (Final Draft)
- Green Economy Policy Framework (Draft)
- Tourism Master Plan
- National Contingency Plan for Marine Pollution (Draft)
- Plastic Policy Options and Roadmap (draft)
- National Plastic Action Plan - based on the Roadmap with the technical assistance of the Kapan-ASEA Integration Fund and collaboration of the stakeholders

National Waste Management Strategy and Master Plan (2018-2030. Its aim is to develop and implement the holistic/integrated waste management strategy based on principles of inclusiveness, zero waste and circular economy to achieve a greener, cleaner and healthier environment. It contains six operational goals: Goal A) Extending sound waste collection service to all citizens and eliminating uncontrolled disposal and open burning as a first step towards environmentally sound waste management; Goal B) Extending sustainable and environmentally sound management of industrial and other hazardous wastes; Goal C) Substantively prevent waste through 3Rs (Reduce, Reuse, Recycle)[204] and thereby establish a resource circular society; Goal D) Ensure sustainable financing mechanisms; Goal E) Awareness Raising, Advocacy and Capacity Building; Goal F) Compliance, Monitoring, Enforcement and Recognition.

Myanmar does not allow importing plastic wastes but allows the import of plastic scrap only under these criteria: 1) Plastic scrap to be imported must be clean, homogenous and ready to be used as raw materials; 2) Recycling factories must have an Approval Letter or Environmental Compliance Certificate of an Environmental Management Plan, Initial Environmental

[204] The 'Reduce, Reuse, Recycle' Waste Hierarchy. https://www.conserve-energy-future.com/reduce-reuse-recycle.php

Examination or Environmental Impact Assessment, which is approved by the Ministry of Natural Resources and Environmental Conservation.

International Cooperation. Besides domestic mobilisation and campaigning, there are a number of capacity building projects on environmentally sound management of plastic and its wastes, marine debris and other related initiatives within ASEAN context and beyond.

Challenges: Some major barriers exist in cleaning up the coastal area and marine debris.

- Absence of evidence-based data on plastic lifecycles and value-chains.
- Unclear or overlapping mandates, roles, and responsibilities at different levels of agencies of government.
- Lack of integrated regulations on marine plastic debris, such as Identification of the source of marine debris; wastes from ships, fishing, community, tourism and infrastructure of SWM (sanitary landfills, incinerator).
- Less experience in engagement with diverse stakeholders for policy making and implementation.
- Limited technology and capacity on combating marine debris
- Less experience in engagement with diverse stakeholders for policy making and implementation
- Limited capacity for R&D and innovation.
- Lack of financial mechanism, for combating marine debris

Way Forward: The following needs must be addressed in order to meet the SDG Goal and Targets.

1) Developing holistic policies and strategies at a national level;
2) Strengthening technical skills and increasing financial resources for local governments;
3) Increasing private investment for MSWM and technology development;
4) Developing capacity for implementing monitoring of marine debris and preliminary research on marine plastic debris
5) Promoting awareness, research, and education;
6) Adopting the 3R approach and developing an ocean resource based circular economy;
7) Strengthening regional and international cooperation;
8) Agreeing on legally binding regulations to end plastic pollution at both national and international levels.

References:

- ✓ Jambeck, J. R. et al. Plastic waste inputs from land into the ocean(2015).
- ✓ Jeske, F. (2019). Survey on Plastic Waste in the Ayeyarwady, 2018-2019: Rapid River sampling for first quantitative assessment of floating plastics in Myanmar's great river. Working Paper No.09 of FFI Myanmar, with Thant Myanmar. FFI, Yangon
- ✓ Lebreton et al. River plastic emissions to the world's oceans(2017).
- ✓ Microplastics recordings from surface water in Myanmar based on the survey with the RV Dr Fridtjof Nansen in 2018
- ✓ http://www.myanmarocean.org/

QUESTION: From your vantage point as a government official which is the entry point that is critically important to restore the coastal environment? What would you pick from your list of reflections and recommended actions (Lichia Saner-Yiu)

ANSWER: Technical Working Group for the national development of a plastic action plan that could be the entry point. We need to take into account the economic and development level of a country when considering upstream measures. Upstream measures are more difficult for developing countries. Downstreaming measures are more fitting for our context.

QUESTION: It is very interesting to look at upstream and downstream policy making. Downstream policies could also apply to the municipality and the sub-national level. Do they also have to take into account national policies. Any thoughts about such an approach? (Lichia Saner-Yiu)

ANSWER: Quick answer, the solutions are awareness raising for citizens, education programmes and clean-up activities.

Concluding Remarks

Moderator's summary: Lichia Saner-Yiu

The session was the beginning of important conversations and actions. General comments mentioned the lack of capacity to actually move into a more circular economic model. Without such a move to a circular economy, the resource demand for achieving prosperity for all can be very big if the old business model continues to prevail. Engaging the business sector to help move the SDG 14 agenda forward, as exemplified by the example from The PLAF in the Philippines is needed. Yet such partnership is not always easy to foster[205].

Day 4 (14th April 2022)

Theme: Life on Land – How COVID-19 recovery and 2030 Agenda can only be fully achieved through addressing SDG 15 (14 April 2022)

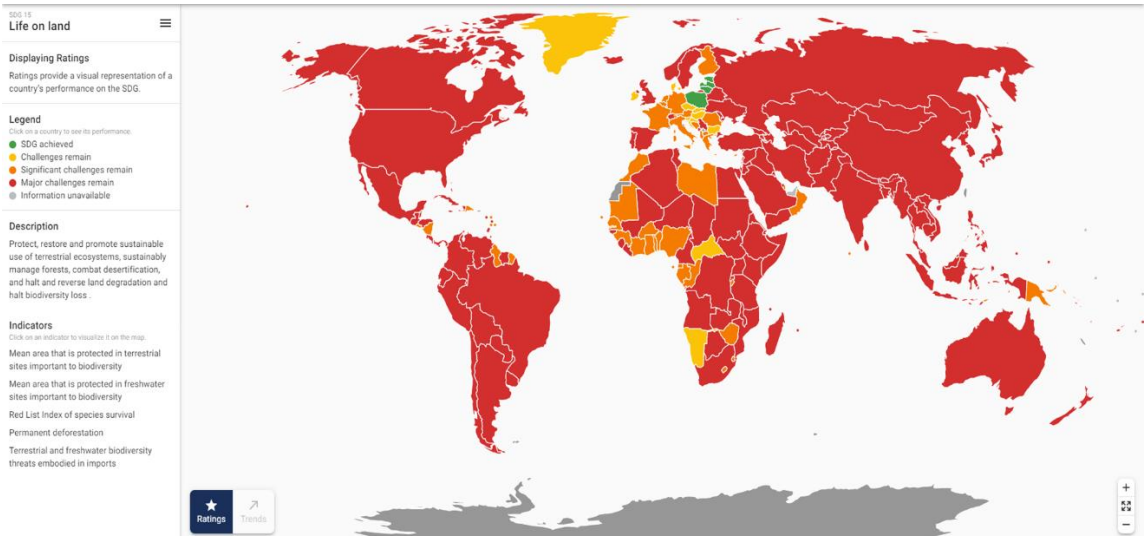
Moderator's Introduction

Speaker: Mr. Raymond Saner, CSEND

The current state of the land is extremely worrisome taking into consideration the following factors: 1) areas that are not sufficiently protected in territorial and freshwater sites important for biodiversity, 2) IUCN's Red List Index of species under threat of survival, 3) threat of permanent deforestation and 4) biodiversity threats resulting from imports of goods and services. The following rating emerges: only a negligible number of countries achieved SDG 15 while the majority of the world's countries are facing major challenges in sustaining life on land for instance, in regard to territorial and freshwater sites that are important for biodiversity and are facing grave degradation.

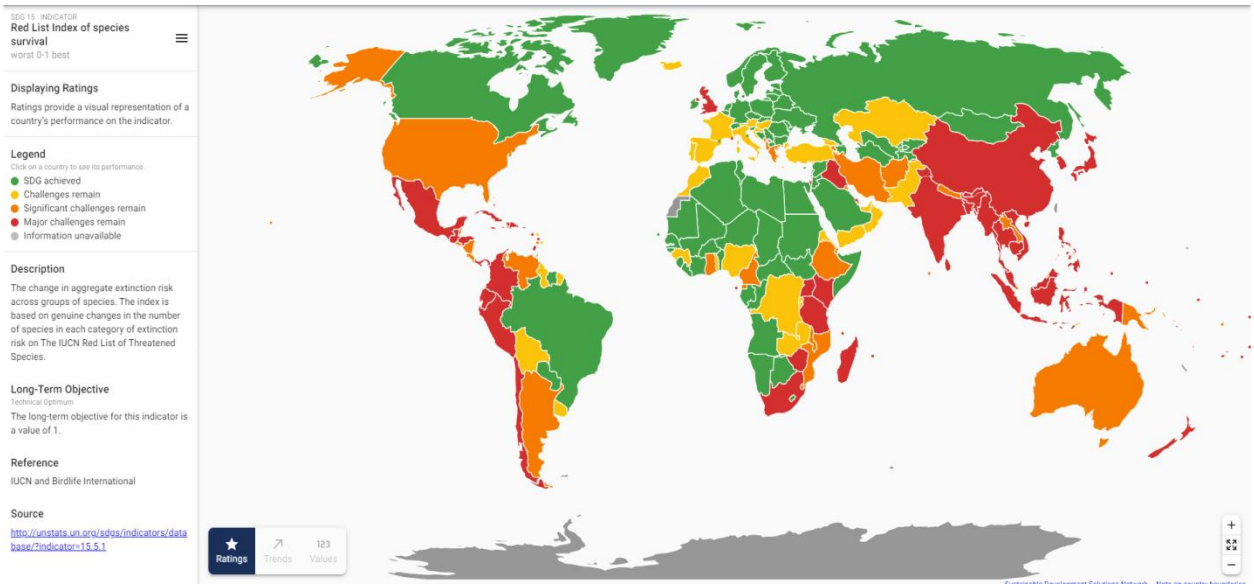
[205] The Partnering Toolbook. https://thepartneringinitiative.org/the-partnering-toolbook/

Overall State of the Life on Land



(Source: SDSN Sustainability Development Report, Dashboard, https://dashboards.sdgindex.org/map/goals/SDG15)

The following map captures the general picture of the endangered species registered in the Red List Index and the species at risk of survival and threats to natural diversities. It is worth to note that East, Southeast and South Asia are facing major challenges in sustaining biodiversity along with Mexico, parts of Latin America and East Africa.



The participants of this session were asked “When implementing the SDG 15, which ministry is responsible for achieving it ?”. The majority answered, the Ministry of Environment (15 out or 24 respondents).

When asked about which of the SDG 15 Targets are more difficult to achieve, Target 15.1 was on top the list followed by Targets 15.9 and 15.3. Both 15.1 and 15.9 matured by 2020. A detailed report of these survey results with 53 responses are presented in the Figure below.

The key barriers experienced in implementing SDG 15 reported were (from most difficult to less difficult):

1. Lack of scientific data and technical information to respond effectively
2. Lack of resources to act and implement
3. Lack of coordinated policy and coherence to achieve sustainable changes
4. Insufficient knowledge and capacity to intervene

After these few introductory comments, a panel of experts and representatives will report on their research, analyses and perspectives concerning the implementation of SDG 15, "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss".

Presentation 1: The State of the World's Land and Water Resources for Food and Agriculture (SOLAW): Systems at breaking point

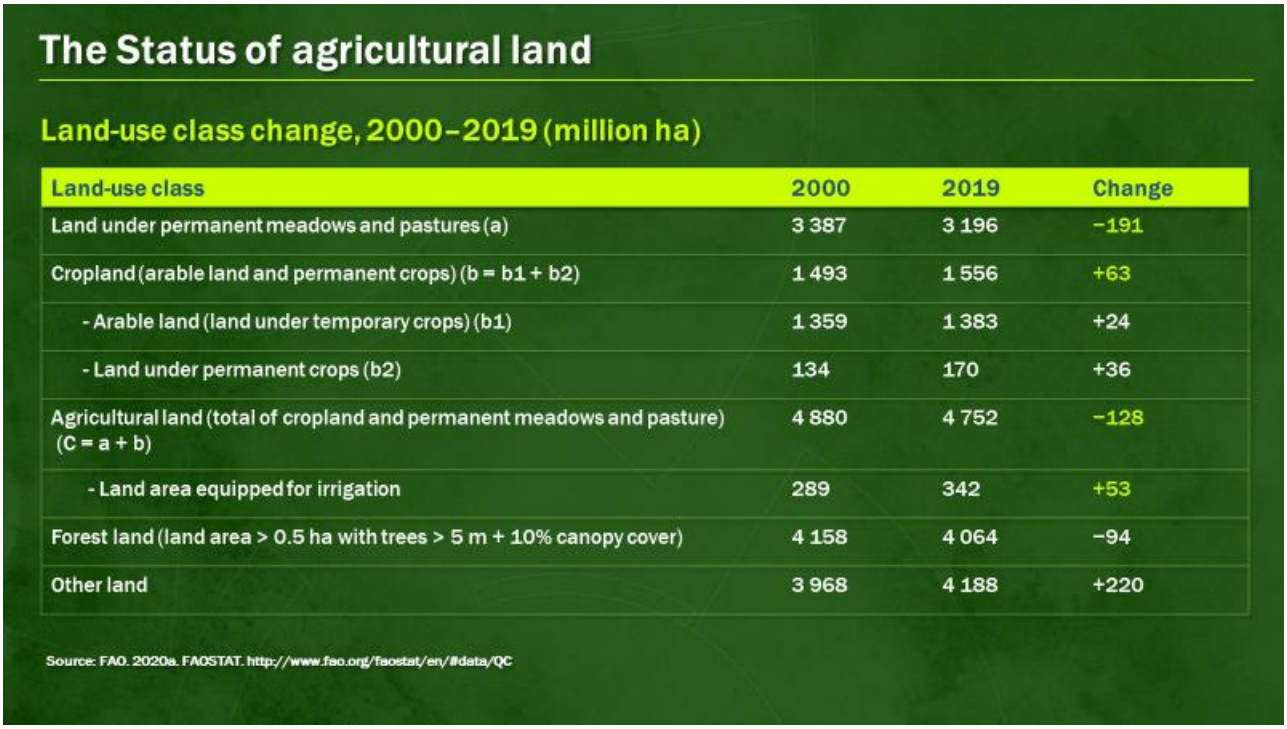
Speaker: Mr. **Feras Ziadat,** Land and Water Officer, Food and Agriculture Organization (FAO); Chair of the UN Coalition on Combating Sand and Dust Storms

In 2011, The FAO published the first report on the state of the world's land and water resources for food and agriculture, known as SOLAW. It is a flagship report of the FAO's Land and Water Division. It touches upon the main SDGs such as SDG 2, SDG 6, SDG 15, as well as several others. SOLAW is a collaborative work with a lot of partners who are working on land and water resources and food security and the related SDGs.

Recent assessments, projections, and scenarios point to accelerating trends of depletion of land and water resources and associated loss of biodiversity and of key ecosystem functions. The objective of the SOLAW 2021 Report is therefore to build awareness of the status of land and water resources, highlighting the risks and informing on related opportunities and challenges. SOLAW 2021 Report provides new information and evidence of the changing and alarming trends in the use of resources.

Land. The growing demand for food is placing pressure on land, soil, and water resources. FAO estimates agriculture in 2050 will need to produce almost 50 percent more food, feed, and biofuel than it did in 2012. In 2020, however, between 720 and 811 million people faced hunger. Recognition and urgent actions are needed to redirect the focus onto the lands which produce over 95 percent of the world's food.

The agricultural land area has declined by 128 million hectares since 2000. Land under irrigation has increased by 53 million hectares. Land under permanent meadows and pastures declined (by) 191 million hectares. Rapid growth in urban areas has displaced all types of agricultural land use (see Figure below).



The Status of agricultural land

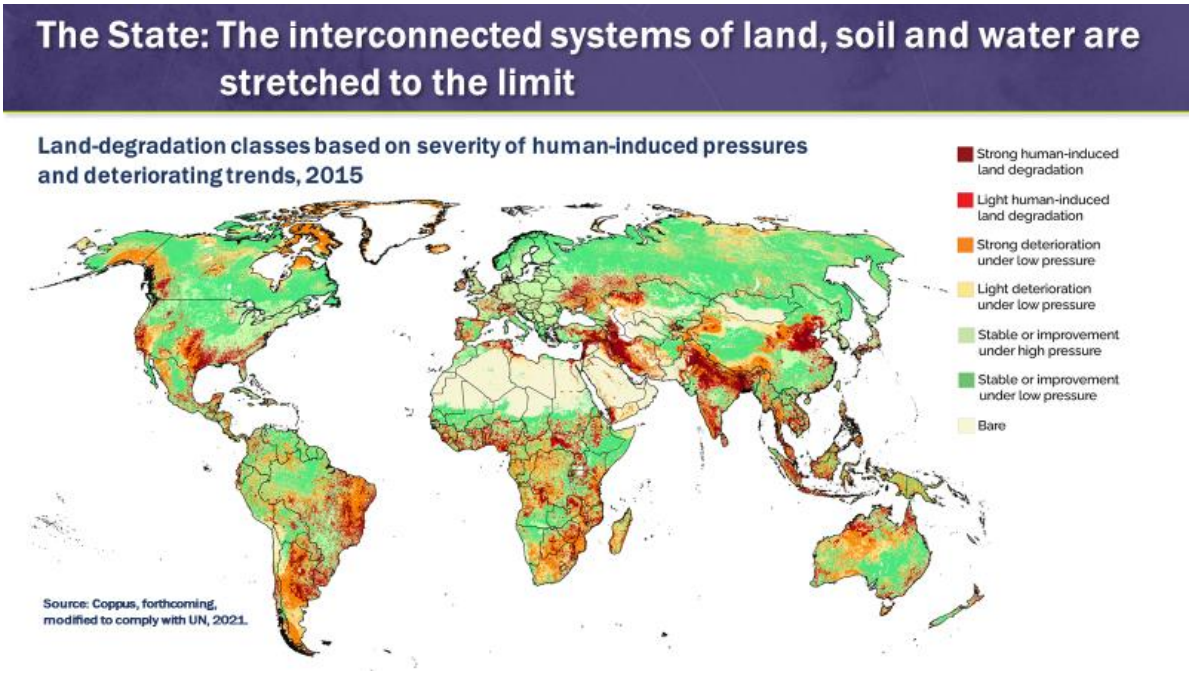
Land-use class change, 2000–2019 (million ha)

Land-use class	2000	2019	Change
Land under permanent meadows and pastures (a)	3 387	3 196	−191
Cropland (arable land and permanent crops) (b = b1 + b2)	1 493	1 556	+63
- Arable land (land under temporary crops) (b1)	1 359	1 383	+24
- Land under permanent crops (b2)	134	170	+36
Agricultural land (total of cropland and permanent meadows and pasture) (C = a + b)	4 880	4 752	−128
- Land area equipped for irrigation	289	342	+53
Forest land (land area > 0.5 ha with trees > 5 m + 10% canopy cover)	4 158	4 064	−94
Other land	3 968	4 188	+220

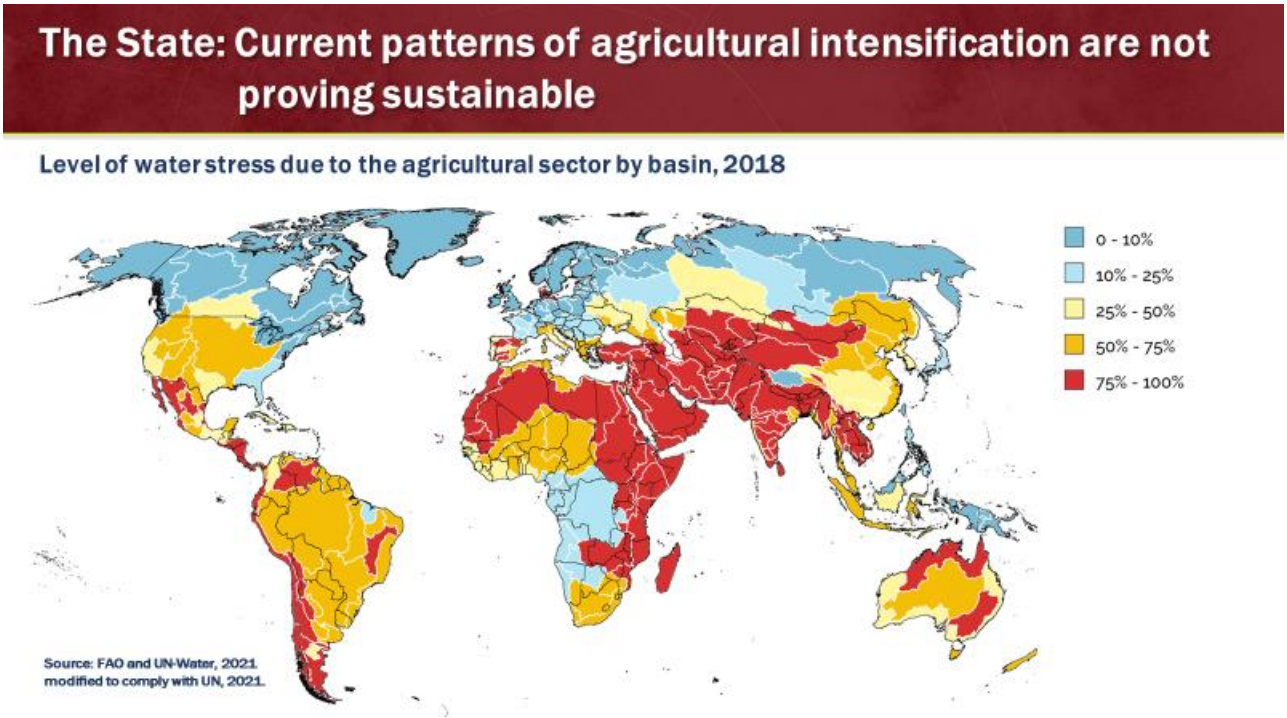
Source: FAO. 2020a. FAOSTAT. http://www.fao.org/faostat/en/#data/QC

(Source: SOLAW, 2021)

As agricultural production intensifies, converging evidence indicates the extent and severity of land degradation where soil is eroded, nutrients are depleted, and salinity increases. As a whole, human-induced degradation affects 34 percent of the agricultural land. Extending cultivation into areas of marginal land quality and increasing intensification of existing cropland are constrained by soil erosion and depletion of carbon, nutrients, and soil biodiversity. Between 2000 and 2018, the decline in global agricultural land per capita was about 20 percent. The mapping below reveals the varied severity of land degradation in different countries.

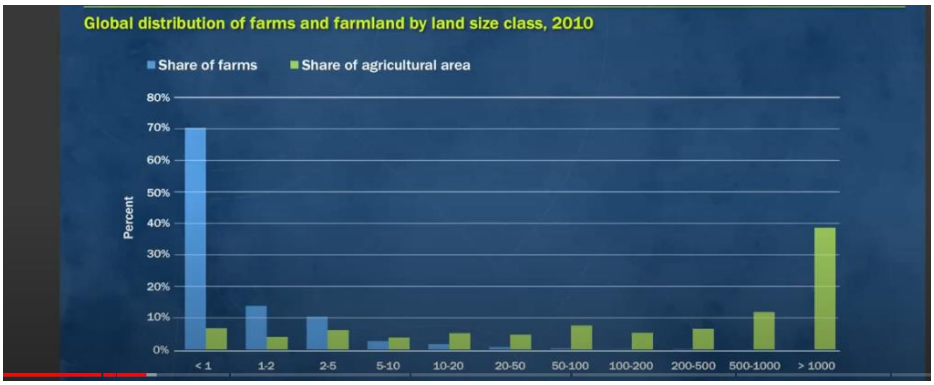


Water. Water stress is high in all basins with intense irrigated agriculture and densely populated cities, particularly where available freshwater resources are sparse due to climatic conditions (see map below). 3.2 billion people are impacted by the water scarcity. About 1.2 billion people live in areas where severe water shortages and scarcity challenge agriculture and where there is a high drought frequency in rainfed cropland and pastureland areas or high-water stress in irrigated areas.



Farming systems are polarizing. Large-scale commercial holdings dominate agricultural land use and driving many millions of small holders to land susceptible to degradation and water scarcity[206].

(Note: Such commercial farming includes transnational land acquisition[207] also known as land grabbing[208], [209])



The number of farms is highly skewed toward small holdings, with 84 percent of farms being below 2 hectares which occupy only 12 percent of the world's farmland. Thus, policy interventions of land management need to address this disparity. The continued viability of small holders is critical for local food security in many low-income countries. Land, soil, and water management need to find better synergies to keep systems in play.

Human-induced land degradation and water scarcity raise risk levels for agricultural production and ecosystem services. Climate change adds uncertainty to the eco-climatic risks facing producers. Land and water resources will need safeguarding. There is now only a narrow margin for reversing trends in resource deterioration and depletion.

Safeguarding land and water resources is essential for maintaining the required rates of agricultural growth without further compromising the generation of environmental services. Land and water governance have to be inclusive and adaptive. Inclusive governance is essential for allocating and managing natural resources. Technical solutions to mitigate land degradation and water scarcity are unlikely to succeed without it.[210]

Integrated solutions need to be planned and implemented at all levels. Planning and managing land, soil, and water resources through effective land and water governance are needed. Planning can define critical thresholds in natural resource systems, leading to reversal of land degradation. Planning needs to be wrapped up as packages of technical, institutional, governance, and financial support (see model below).

[206] Social-economic Demand for Land and Water. https://www.fao.org/3/cb7654en/online/src/html/chapter-2.html
[207] https://www.brookings.edu/articles/african-land-grabbing-whose-interests-are-served/
[208] https://assets.publishing.service.gov.uk/media/57a08abfed915d3cfd0008fa/FAC_Policy_Brief_No41.pdf
[209] How land grabbing effect food production in Africa. https://www.youtube.com/watch?v=QdcpkpcsIIY
[210] Key messages of SOLAW 2021. https://www.fao.org/3/cb7654en/online/src/html/key.html

(Source: SOLAW, 2021)

Monitoring the effects of climate change in relation to agroecological suitability will prove essential for planning resources used along the entire food value and supply chain. Both land suitability and crop suitability are expected to change as a result of climate change and this needs to be considered in the planning. Implementing integrated solutions at scale include planning land and water resources as a crucial first step, packaging workable solutions, avoiding and reversing land degradation.

Technical and managerial innovation can be targeted towards other priorities to accelerate transformation. Caring for neglected soils, addressing drought, and coping with water scarcity can be addressed through the adoption of new technologies and management approaches.

Management options are available to increase productivity and production levels. If innovation in management and technology can be taken to scale, agricultural support and investment can be redirected toward social and environmental gains derived from better land and water management. There is now scope for progressive multi-phased financing of agricultural projects that can be linked with redirected subsidies to keep land and water systems in place.

Investments in integrated interventions at scale show great promise and can be supported through innovative financing and incentive mechanisms. There is no one-size-fits-all solution and this is one of the main findings of SOLAW.

A full package of workable solutions is now available to enhance food production and tackle the main threats from land degradation that is increasing water scarcity, and declining water quality. But these will succeed only when there is a conducive enabling environment, strong political will, sound policies and inclusive governance, and full participatory learning processes across all sectors and landscapes.

Over 95 percent of food is produced on land and begins with soil and water, and this is very much related to the SDGs. Joint effort is needed to work as a team and to produce more with less. Most importantly is to safeguard these resources for the future.

Question - How do we improve planning? You probably agree it requires inter-ministerial policy coordination, how do we get ministries to work together in a meaningful manner to improve food security? (Raymond Saner)

Answer - Feras Ziadat: The main message here is to work in an integrated and multisectoral approach, looking at the landscape. The landscape includes elements of production, the environment, and sustainability, as well as the people who are affected by and affecting the system.

Our main idea, which is nothing new, is how to implement this across sectors and ministries who are involved in the process of sustainability of land and water resources, and how to bring all the sectors to realize this.

One of the things that is very important is to introduce a participatory negotiation process across the sectors. So, they come for a planning that will satisfy the demands and needs of the different sectors and stakeholders, and on the other hand be sustainable and provide a good compromise between different sectors and needs. Also looking at the land, soil, and water resources, it requires continuity with the environment and the other sectors that are involved in any planning process.

It's not direct, it's not straightforward, but it is necessary to bring the sectors at different levels - national, subnational, and local levels together. We started some of this work in different countries to bring various sectors to negotiate and reach a pact or agreement in a transparent and integrated manner based on the information available of those resources, and to use the resources in a sustainable manner,

Question - There is inevitably going to be a policy trade-off. We cannot do everything at the same time. What would you suggest (is) in that sense a priority? What needs to be done right now, first of all? (Raymond Saner)

Answer - Feras Ziadat: Priorities are different in different countries, at national level. What are the priorities? Of course, food production and security is the main priority, (then) the environment and energy. These are the sort of priorities that need to be identified at national level. The second step will be building a compromise between the different elements of these priorities through the planning process and also the implementation and monitoring of the planning process. SOLAW provides the database and information that are necessary, but the process needs to be activated by the national institutions in order to bring these priorities and the compromise and trade-offs between different sectors into the implementation plan, and then conduct continuous monitoring to see how this should be adjusted to respond to the emerging and future changes and emergencies and situations.

Question –What techniques can be taken to address water scarcity? Are there cases of success around the world? (Laila Villanueva)

Answer – Feras Ziadat: Yes, there are several techniques and approaches based on the scale and local/national conditions. Some of these are highlighted in SOLAW21 synthesis report: https://www.fao.org/land-water/solaw2021/en/

Presentation 2: Small land holdings and their contributions to SDG14: Enabling Policies

Speaker: Ms. **Neelkamal Darbari**, Indian Administrative Service (IAS) Officer/Managing Director, Small Farmers' Agri-business Consortium (SFAC), Department of Agriculture, Cooperation & Farmers Welfare, Government of India

Small Farmers' Agri-business Consortium (SFAC)[211] is an implementing agency for all kinds of objectives that can be defined as challenges in the field of agriculture, particularly agribusiness. The Ministry of Cooperation has been separated from the Ministry of Agriculture & Farmers' Welfare and is a full-fledged ministry of cooperatives, but I remain in the Ministry of Agriculture.

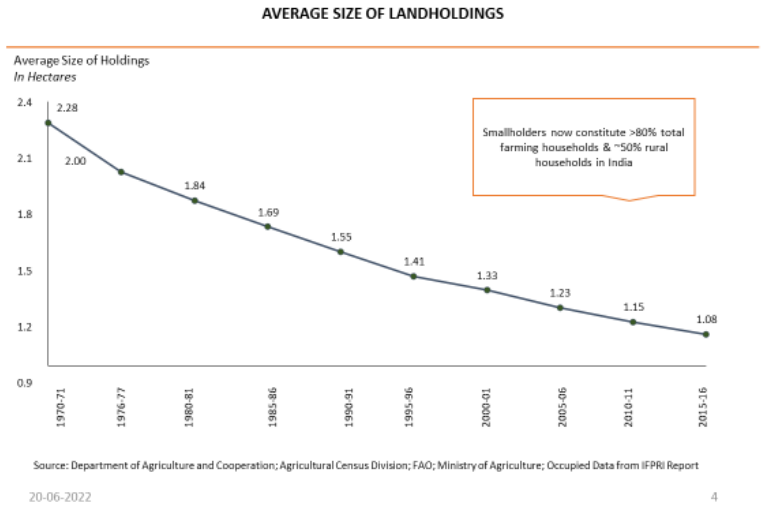
SFAC is an agency promoted by the agriculture ministry, perhaps a most unique organization in Asia if not the world, which is committed to issues that arise for small and marginal farmers, and to ways to integrate them up the value chain and make agriculture more remunerative for them.

Small holder farms. The history of agriculture in India is such that there were initially very large land holdings, but because the population has grown and the laws of inheritance are such that, by and large, the size of land holdings has come down. The government, as part of independence struggle, was also committed to give land to the landless and take away large chunks of land from the big landowners, and distributed equitably to people who didn't have land and who were just tilling land on behalf of somebody.

With that kind of policy initiative and commitments to nation building, there has been a little bit of fragmentation of land because of inheritance laws, so much so that the size of landholdings in India is on average 85 percent small and marginal farmers. That is a big challenge because with large farms it is very simple to bring in a lot of technological innovations and measures which would be adopted by the people, by farming communities. But where small sized landholdings are concerned, which are about 1.5 hectares or 2 hectares on average, , adopting technological innovations and measure are very, very difficult. It has also been seen in India that the size of landholdings continues to diminish (See Figure below).

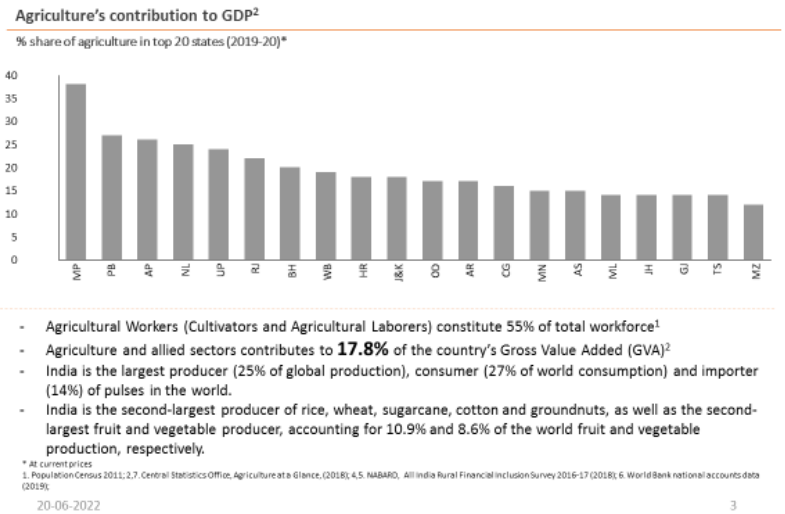
[211] http://sfacindia.com/Aboutus.aspx

Future of sustainable agriculture growth depends on performance of small and marginal farmers



Farming is becoming increasingly non remunerative and impossible to come up with technological solutions to make farming more remunerative. Bear in mind that 60 percent of India's population is still dependent on agriculture and 85 percent of them are small and marginal farmers. They contribute less than 15 percent of India's GDP. In some states that are federating the Indian Union, there may be a little higher percentage of contribution to the state GDP. But on average to the contribution to the national GDP by the farming sector is around 15 percent (see Figure below).

Agriculture is the primary source of livelihood in India



This is a huge anomaly. With 60 percent of the population dependent on agriculture and their contribution to GDP being less than 15 percent; there certainly is something that needs to be corrected. It is amazing how, with the world's second largest population and that kind of agricultural and structural anomalies, India still has food security. India has been a food sufficient nation for the last several years.

Technological Embedding. The world has integrated agriculture with technological measures and been able to improve productivity and production. Overall the world has also been able to reduce its dependence on natural resources and reduce its carbon footprints.

India is also heading in the same direction; there is much greater dependence on, or rather it is tilting toward water use efficiency and adopting precision irrigation rather than going for flood irrigation, choosing crops that are less water consuming than those that are guzzlers of water.

Water is a scarce resource and (especially so) for a population of 1.3 billion. Yet agriculture consumes about 80 percent of all the water that is available. Consequently, there is a huge scope for change to reduce the way water is utilized in the agricultural sector.

The country as a whole and the different ministries that manage the entire value chain of agriculture - whether it is the department of water resources in the country or in the state governments, or the ministry of agriculture, or the ministry of environment, or the implementing agencies like SFAC – there is a common objective to reduce the usage of water per hectare and per unit of food produced in the country.

Yet, technology has made very little inroads into the way agriculture is done. There is a case to be made in aggregating the farmers considering that the size of land holdings is small (and) there are many, many more small farmers than large farmers. How to bring value in the operations of the small farmers remains a fundamental question. Therefore, this concept of *farmer producer companies* has emerged in the last 7 or 8 years.

There has been a great emphasis on aggregating small farmers and creating synergies between them and for them so that they are better able to utilize resources - natural resources and other resources - and reduce their cost of production. Thereby also reducing the carbon footprint that they leave behind and greater profitability to improve their life. It is expected that there is a lesser burden on the population for agricultural production and (an improved) manufacturing environment in the country.

There is a slew of measures that have been taken to introduce agriculture diversification[212], [213] in India[214],[215] from the traditional crops to floriculture to horticulture to high value crops. How

[212] Agriculture Diversification: Meaning, Types, Benefits. https://www.vedantu.com/commerce/agricultural-diversification

[213] Center for Diversified Farming Systems: Examples of Diversified Farming Systems. https://food.berkeley.edu/about-us/centers/dfs/examples-of-diversified-farming-systems/#:~:text=These%20practices%20include%20planting%20many,the%20landscapes%20around%20the%20farm.

[214] Diversification of Indian Agriculture: Composition, Determinants and Trade Implications. 2006. https://core.ac.uk/download/pdf/6689676.pdf

[215] Diversification in Indian agriculture towards high value crops: Multilevel determinants and policy implications. 2020. https://www.sciencedirect.com/science/article/abs/pii/S0264837719312578

to integrate diversified farming systems[216] in India[217], [218], [219] for the betterment of farmers? Hence, the concept of the Farmer Producer Company [220] emerged.

[Note: According to National Association for Famer Producer (NAFPO)[221], a Farmer Producer Organisation can be formed by any 10 or more primary producers or by two or more producer institutions, or by a contribution of both. An FPC is a hybrid between cooperative societies and private limited companies. The Farmer Producer Companies, registered under the Indian Companies Act, 2013, have democratic governance, each producer or member has equal voting rights irrespective of the number of shares held.

The main aim of FPC is to ensure better income for the producers through an organization of their own. Small producers do not have the volume individually (both inputs and produce) to get the benefit of economies of scale. Besides, in agricultural marketing, there is a long chain of intermediaries who very often work non-transparently leading to the situation where the producer receives only a small part of the value that the ultimate consumer pays. Through aggregation, the primary producers can avail the benefit of economies of scale. They will also have better bargaining power vis-à-vis the bulk buyers of produce and bulk suppliers of inputs.] [222]

Indian Government is focusing on sustainable smallholder models: 1) Co-operatives receiving support and/or 2) Government actively promoting Farmer Producer Companies (FPCs). More specifically, the former has been in practice since early days of the country, the latter represent a more market oriented new thinking and approach, going beyond livelihood considerations and including economic impact.

1) Co-operatives Model for receiving support.

Historically, there had been aggregation of farmers through the cooperatives route- a cooperative system[223],[224], [225], where farmers get together and they elect their representatives and they run their business. But there were some problems that were envisaged over the years with that model of development which was more democratic and more political than a business organization. Despite cooperatives rapid growth and progress, irregularities in the model led to

[216] Integrated Farming System: A Roadmap for India. https://agriallis.com/wp-content/uploads/2020/03/INTEGRATED-FARMING-SYSTEM-A-ROADMAP-FOR-INDIA.pdf
[217] Indian Council of Agricultural Research (Ministry of Agriculture and Farmers Welfare), Integrated Farming Systems for Agricultural Diversification, Enhanced Income and Employment. https://icar.org.in/content/integrated-farming-systems-agricultural-diversification-enhanced-income-and-employment
[218] Integrated farming system in India: Current status, scope and future prospects in changing agricultural scenario. 2018. https://www.researchgate.net/publication/329285372_Integrated_farming_system_in_India_Current_status_scope_and_future_prospects_in_changing_agricultural_scenario
[219] Potential integrated farming system modules for diverse ecosystems of India. 2021. https://www.researchgate.net/publication/356355264_Potential_integrated_farming_system_modules_for_diverse_ecosystems_of_India
[220] http://sfacindia.com/FPOS.aspx
[221] NAFPO, https://www.nafpo.in/about-us/
[222] What is a Farmer Producer Company? https://www.nafpo.in/about-us/what-is-a-farmer-producer-company/
[223] Cooperative movement in India, https://en.wikipedia.org/wiki/Cooperative_movement_in_India
[224] Number of cooperatives in India: 854.355 with 290.060.000 members. https://coops4dev.coop/en/4devasia/india
[225] Role of Cooperatives in Improving Livelihood of Farmers on Sustainable Basis. 2015. https://www.rfilc.org/wp-content/uploads/2020/08/Cooperatives.pdf

their slow progress and poor performance over the years[226]. In 2013, government decided that aggregation was important but not necessarily through the cooperative model.

2) Farmer Producer Organisation Model.

It was postulated that through the Farmer Producer Organisation model greater business interventions could be provided. In 2002 amendment to Companies Act was introduced to enabled incorporation of cooperatives as companies and created a new legal form, Farmer Producer Organisation (FPC). FPCs were originally developed to establish a formal channel for agricultural extension and increasing farmer livelihoods so the farming communities would be able to address the issues that confront them, the community, the society, and the country, and the planet. Therefore, the concept of Farmer Producer Companies emerged to address the following challenges faced by Smallholder Farmers.

a) Lack of access or low access to credit. Farmers do get some access through the banking system, but a large part of their activities or their business cycle is conducted without institutional credit being available to them. Only 14 percent of the marginal farmers[227] and 27 percent of small holdings are able to get credit via institutional sources, and of course that number is much higher for the larger farmers, but by and large the farming communities don't have access to institutional finance and they are forced to depend on non-institutional sources of financing. Therefore, there is also a higher level of indebtedness amongst the small farming community. So, this is problem number one.

b) Access to markets and information. There is a huge information asymmetry which plagues the farming communities. The smaller the farm, the more likely this farm is situated in an area which is remote and therefore the farmer's access to information may also be remote. Of course, with the proliferation of mobile telephony and smart telephones having covered about a billion of India's population, the difficulty of accessing information has been reduced to a great extent.

c) Farmers tend to have very low levels of formal education and skill development which hamper their learning capability and ability to utilise these modern tools.[228], [229], [230]. There has to be greater emphasis on direct education as well as skilling and capacity building of

[226] FARMING COOPERATIVES IN INDIA: PROBLEMS AND PROSPECTS, 2021. https://www.researchgate.net/publication/352366471_FARMING_COOPERATIVES_IN_INDIA_PROBLEMS_AND_PROSPECTS

[227] Marginal farmer is a farmer with a bare subsistence level of income from their own land, sometimes working as an agricultural laborer. In India, the percentage of marginal farmers among all farmers is nearly 70%. https://en.wiktionary.org/wiki/marginal_farmer#:~:text=marginal%20farmer%20(plural%20marginal%20farmers,all%20farmers%20is%20nearly%2070%25.

[228] Determinants of Small-Scale Farmers' Intention to Use Smartphones for Generating Agricultural Knowledge in Developing Countries: Evidence from Rural India. 2021. https://link.springer.com/article/10.1057/s41287-020-00284-x

[229] Use of Mobile Phone by the farmers for Agriculture and Allied Activities. 2019. https://www.researchgate.net/publication/339586019_Use_of_Mobile_Phone_by_the_farmers_for_Agriculture_and_Allied_Activities

[230] How Mobile Phones Contribute to Growth of Small Farmers. 2012. https://ageconsearch.umn.edu

farming communities[231], [232]. Hence, the information asymmetry between the small farmers versus large farmers is huge.

d) Greater vulnerability to risks faced by farmers in general, but small and marginal farmers in particular. What is it that the government can do or what is it that society can do to mitigate the risk factors that are faced by the farmers?

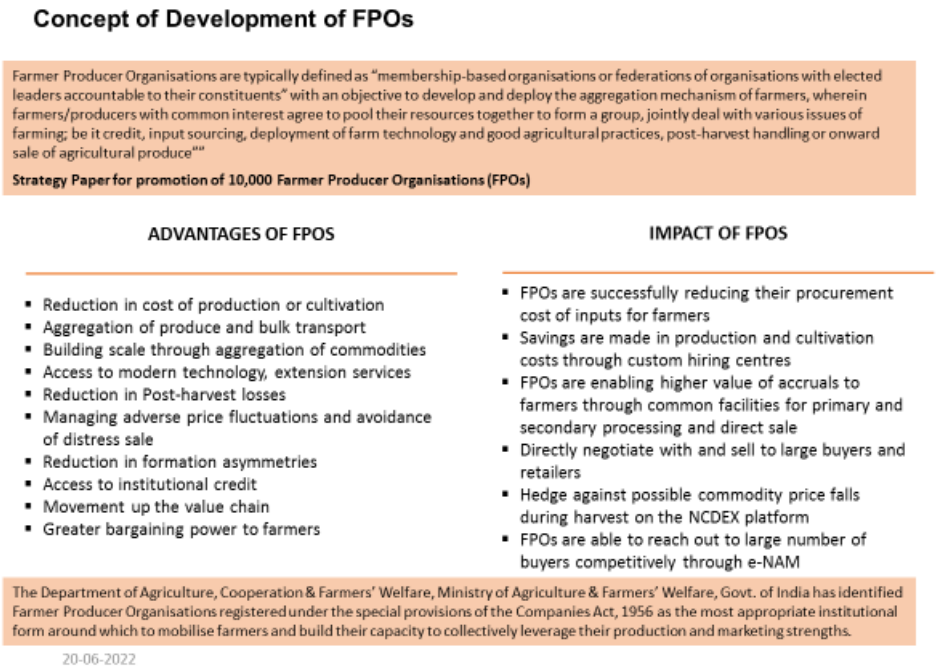
e) Diversification challenge - what can be done to diversify in terms of livestock or poultry or meats and vegetables and fruits? The concept of protected cultivation, a process of growing crops in a controlled environment where the temperature, humidity, light and such other factors can be regulated as per requirement of the crop.[233] Such new methods of cultivation meets the needs to maximize or optimize outputs from the land; which in turn making not only the farming communities stronger and more in a position to bargain but also able to contribute optimally to society and the country's food security while being able to manage the environmental balance or ecological balance and the SDGs.

The Farmer Producer Organisations (FPOs). What is it that they do now?

There was an amendment to the Indian Companies Act in 2013, which allowed for Farmer Producer Companies to be registered as a Section 9 company[234], [235]. What is it that a company can do which a farmer cannot[236], [237]? For example, bargaining power of a group of farmers vis-a-vis that of an individual farmer - there is strength in unity. A strong body of members of a co-op or a company have numbers and volume to bargain for seeds, credits, transportation, marketing and all kinds of inputs in terms of fertilizers or pesticides or even soil-related issues like carbonization, etc. Above all, access to institutional credits and modern systems of marketing are part of the vital opportunities that members of FPCs and FPOs can enjoy[238]. This is what SFAC is attempting to do by promoting 10,000 FPCs.[239]

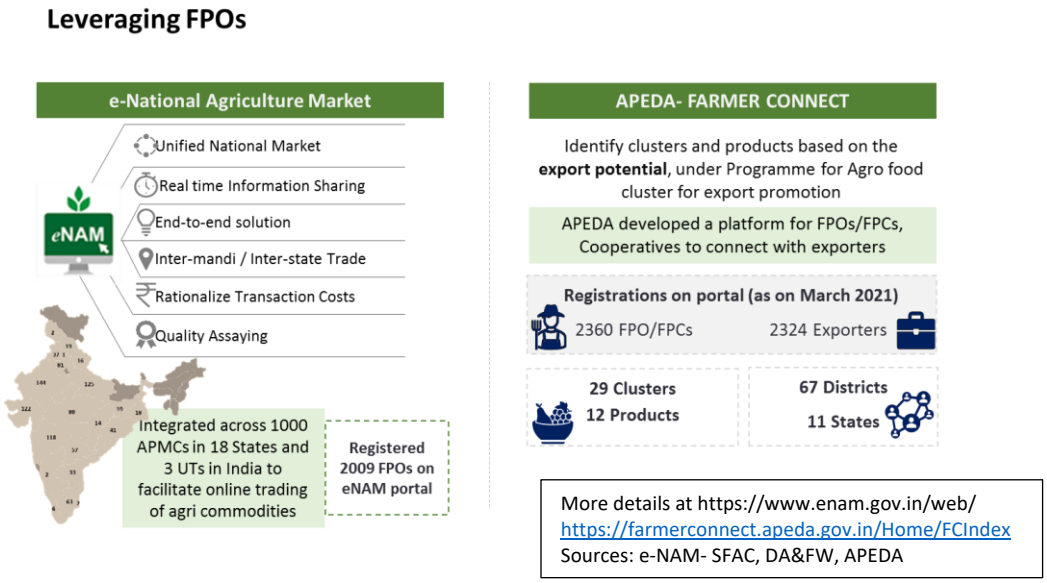
[231] Using Mobile Technology to Help Farmers in India Boost Their Productivity. *Penn Today.* https://penntoday.upenn.edu/spotlights/using-mobile-technology-help-farmers-india-boost-their-productivity
[232] How Smartphones Can Bring About a Developmental Breakthrough in Agriculture. 2022. https://academiccommons.columbia.edu
[233] Introduction to Protected Cultivation. https://ncert.nic.in/vocational/pdf/kepc101.pdf
[234] Section 9. Effect of registration. THE COMPANIES ACT, 2013. https://www.mca.gov.in/Ministry/pdf/CompaniesAct2013.pdf
[235] Farmer Producer Company: India's Magic Bullet to Realise Select SDGs? https://journals.sagepub.com/doi/abs/10.1177/0973005221991660?journalCode=irma
[236] NAFPO. What is a Farmer Producer Company? https://www.nafpo.in/about-us/what-is-a-farmer-producer-company/
[237] Farmers' Producer Companies in India: A New Concept for Collective Action? 2012. https://www.researchgate.net/publication/227472660_Farmers'_Producer_Companies_in_India_A_New_Concept_for_Collective_Action
[238] Policy & Process Guidelines for Farmer Producer Organisations, 2013, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India. https://www.mofpi.gov.in/sites/default/files/fpo_policy_process_guidelines_1_april_2013.pdf
[239] Strategy Paper for promotion of 10,000 Farmer Producer Organisations (FPOs). 2019. http://sfacindia.com/UploadFile/Statistics/Strategy-Paper-on-Promotion-of-10,000-FPOs.pdf

The following figure reflects the rationale of creating these FPOs and lists their advantages and potential impact[240].



What does eNAM do? It stands for Electronic National Agriculture Market[241] and is open to all farmers and FPOs. At the moment there are 1,000 marketing boards called the Agricultural Produce Marketing Committee (APMCs)[242], established by each Indian state to ensure the Minimum Support Price[243] (MSP) stability and prevent exploitation of farmers by large retailers. FPOs are integrated in the eNAM platform as well as other buyers and sellers. eNAM allows for competitive bidding so that the farmers are able to get fair remuneration for their prices, and the FPOs can sell their produce. Figure below illustrates how eNAM supports greater leveraging of the FPOs in real time.

[240] Assessment of Farmers Perception about Farmer Producer Companies in India. 2021. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3809516
[241] https://www.enam.gov.in/web/
[242] The Status of Indian Agriculture and Role of APMC System (Agricultural Produce Marketing Committee), https://jgu.s3.ap-south-1.amazonaws.com/jsia/InfoSphere+Vol+II+Issue+IV.pdf
[243] Minimum Support Price, https://farmer.gov.in/mspstatements.aspx



FPO is also the best vehicle to access mechanized means of farming and optimisation of capital goods investment. When a farmer starts earning a little more, the first thing he wants to do is buy a tractor and some equipment that goes with the tractor. If every hectare of land in India boasts a tractor owner, huge amount of capital is being blocked, because ultimately a tractor is only for a few days in a year. This situation is not sustainable. Whereas in a group of 300 farmers to share a couple of tractors and other implements (common resources) can ensure optimal use of such investment. Similarly, FPOs can better bargain with the seed producers and other suppliers. All kinds of leverages are available to an actual aggregation of farmers.

The government has realized the value of this sustainable agriculture development model and has taken active steps of creating 10,000 FPOs over 5 years (2020-2025) and putting together a budget of 6,600 crore rupees (approx. 863 million USD) to assist the farmers and FPOs in the promotion of aggregation and access to credit and markets and in building capacities. The government is also bringing in technology and innovative solutions to promote water use efficiency, protected cultivation, and reducing post-harvest wastage for all of which technology is required. Presently, post-harvest wastage remains severe at 30-35 percent. Post-harvest wastage is also to be controlled through the FPOs by putting greater emphasis on sorting, grading, polishing, packaging, and marketing. These actions will ensure that there is greater availability of food available and with a lesser load on the environment.

There are other accompanying instruments to amplify the impact of FPOs and FPCs. They are: Mega Food Parks[244] which would reduce the cost of services, cold chains, integrated culture and value addition infrastructure; Agriculture Infrastructure Fund, [245] One District One Product

[244] https://www.mofpi.gov.in/Schemes/mega-food-parks
[245] https://www.india.gov.in/agriculture-infrastructure-fund

(ODOP)[246] Scheme, Production Linked Incentive Scheme for Food Processing Industry (PLISFPI)[247] and Pradhan Mantri Kisan SAMPADA Yojana, a comprehensive package of schemes to support for Creation/expansion of modern agri infrastructure.[248] A recent initiative is to create a set of intermediary actors through clustering. Cluster Based Business Organizations (CBBOs) connect Government and FPOs. They play a crucial role in on-ground implementation of the FPO and FPC model.[249], [250]

To conclude, SFAC is playing a pivotal role in the promotion of FPOs. There is a program for promoting 10,000 FPOs with a committed 5-year budget. Various knowledge partners have been engaged to assist in this project. It covers the entire range of activities from inputs to marketing, whether it is in terms of production, harvesting, processing, quality testing, storage, transportation, warehousing, or whatever else.

There is a hope that with the emphasis the government has placed on the formation and promotion of FPOs as a vehicle to achieve sustainable agricultural development - a policy is well in place that it is supported by convergence of different ministries - it will be possible to make changes for a minimum of 300,000 farmers (300 is the size of 1 aggregate) going up to 1 million as the number of FPOs increases.

[**Note**: Farmer Producer Organizations (FPOs) and Farmer Producer Companies (FPC) are considered as an optimal institutional form of aggregating small & marginal farmers where farmers can leverage their collective strength and bargaining power to achieve economies of scale, avail institutional credit as well as have better price realization through collective marketing of their produce. Also, having a common capital pool will further help establish processing infrastructure and avail technologies to upgrade their farming practices by accessing quality inputs and increasing crop productivity and income. There are around 6,000 FPOs in India, out of which around 3000 are registered by Department of Agriculture and Cooperation, Ministry of Agriculture, Govt. as FPC under Company Act. Also, more than 1000 FPOs have registered in the eNAM platform to sell their produce through e-trading and the benefits of direct marketing & transparent price discovery.

There is a significant effort taken by the Indian government to achieve doubling of farmer's income goal by promoting FPOs through attractive schemes. In the Union Budget 2019-20, the government announced the formation of 10,000 new FPOs in the next five years Other initiatives like the Equity grant scheme & Credit Guarantee Fund Scheme for FPCs would further facilitate ease of availing credits. State governments are also contributing towards FPOs' promotion under Rastriya Krishi Vikas Yojana (RKVY). Government organizations like the SFAC (Small Farmers Agribusiness Consortium), NABKISAN, NAFPO (National Association for Farmer Producer Organisations), NAFED (National Agricultural Cooperative Marketing Federation of India Ltd), FIFA (Farmer Producer Organisations of Federation of Indian FPOs and Aggregators), and NABARD (National Bank for Agriculture and Rural Development) are playing an active role in developing FPOs by providing required skill development training, institutional credit

[246] https://www.ibef.org/blogs/india-s-one-district-one-product-programme#:~:text=The%20'One%20District%2C%20One%20Product,%2C%20especially%2C%20in%20rural%20areas.

[247] Production Linked Incentive Scheme for Food Processing Industry (PLISFPI). MINISTRY OF FOOD PROCESSING INDUSTRIES. https://www.mofpi.gov.in/PLISFPI/central-sector-scheme-production-linked-incentive-scheme-food-processing-industry-plisfpi

[248] https://en.wikipedia.org/wiki/Pradhan_Mantri_Matsya_Sampada_Yojana

[249] https://www.nabard.org/auth/writereaddata/tender/1911201919Website%20Advertisement%20for%20CBBO%20empanelment.pdf

[250] National conference of cluster based business organisations (CBBOs) under central sector scheme of formation and promotion of 10,000 FPOs held, 2022. https://agritimes.co.in/company-news/national-conference-of-cluster-based-business-organisations-cbbos-under-central-sector-scheme-of-formation-and-promotion-of-10-000-fpos-held/

access, incubation programs for handholding of FPOs and FPCs, etc. In India, FPCs and FPOs are at a nascent stage and therefore require a strategic handholding plan throughout their development process. At this point of time, there is a need for interventions by strong private and public Agribusiness players' to assist FPOs, right from farm gate to processing and marketing their produce.[251]]

Question - What is the social policy strategy of the Indian government, once you have successful Farmer Producer Companies? If it gets to the aggregation, then some of the farmers either give up their land or they become part of the company or they move to another place? When I was in Delhi, there was talk of moving millions of farmers to the city. I don't know if that's still a policy that is being discussed, but do the solutions you shared with us also lead to rethinking where the farmers should be or could be or where they can survive? And in case some of them have to move on to maybe new cities, how does the Indian government think about consultation with civil society, with the farmers, on how to come up with a solution that will be sustainable and acceptable to the farmers who at the moment are just trying to survive? And a related question to that is, you said that the cooperative solution didn't work; I'm curious to know why it didn't. (Raymond Saner)

Answer - Neelkamal Darbari: I think every society has an aspiration for a better life and a large number of Indians live in rural India. And rural India is very different from what others might understand "rural" to be, it is still underdeveloped. There is a lot of infrastructure development that has taken place but there's a lot of gaps concerning social infrastructure which is still coming up, and industries are coming up in the city or suburban areas. So, there is going to be a very, very aspirational chunk of society which would want to live better lives, and "better lives" is (associated) with urban (areas) in India.

However, so far as government policy is concerned, I would say while the government stands committed to improving the urban infrastructure to accommodate the natural growth in the urban population, there are conscious policy initiatives on how to improve the life of the rural population, whether it is in terms of creating a guaranteed employment generation scheme which caters to the rural population, or in terms of improving the social infrastructure in the villages or in terms of modernizing agriculture and animal husbandry. There are conscious policies with budgetary supports that are available to keep the people in the rural areas that want to live there. At the same time children who have acquired education, higher education, and want a "better" or different life from what their forefathers have lived in the rural areas - the country is geared toward improving the urban infrastructure as well and therefore there's a lot of work which is going on in terms of creating urban infrastructure, whether it is highways, connectivity, bridges, roads, or others.

But equal emphasis is on rural development and urban infrastructure development, and nobody has to give up their land. FPOs do not require farmers to give up their lands. Farmers retain land ownership and the right to cultivate and join forces to reduce the cost of the seeds and other inputs and other necessities such as warehousing, marketing.

Cooperatives worked well in certain pockets of the country, in certain segments of the economy. For example, cooperatives worked very well in the in Anand with the largest milk union

[251] https://blog.sathguru.com/agribusiness/key-enablers-driving-growth-of-fpos-and-fpcs/

cooperative like AMUL (Anand Milk Union Limited)[252] which makes the country's delectable butter and other milk products in Gujarat. It has worked very well in the sugarcane sector in Maharashtra and so on. But when it comes to agribusiness, or creation of business opportunities for agriculture, cooperatives wasn't working. The reason is somewhat politicisation in the cooperative sector, because it is an elected body and not professionally managed as opposed to how a company can be managed. I think that's where the answer would lie. To improve the performance of FPOs needs sound business practices rather than political ambition or political direction. Of course, with the registration of aggregates under the Companies Act all problems will not go away. A new set of problems will be thrown up. But as the situation lies before us today, FPOs has gotten the interest of the public. I go into remote areas of the country and I see people beyond the 10,000 targets of the government, they are setting up FPCs[253] on their own and they are beginning to do better marketing than they were able to do individually.

Presentation 3: A Focus on Partnerships for environmental protection and life on land

Speaker: Mr. **Jan-Gustav Strandenaes**, Senior Adviser, Stakeholder Forum, London UK, and PURE Consulting, Oslo, Norway

In 2019, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)[254] report on biodiversity and ecosystem services[255] declared dramatically that if humans and societies don't change ways, the world may face the extinction of 1 million species or more. Climate change, unsustainable consumption and pollutions (see Figure below). Climate change issues are in the daily news. Global warming is still happening. UNEP[256] today speaks of 3 integrated planetary crises[257] i.e., climate change, pollution and the loss of biodiversity. These planetary crises require a different type of relationships between people and the earth.[258]

[252] https://www.anandonline.in/city-guide/amul-dairy-cooperative-in-anand

[253] A Farmer Producer Company (FPC) can be formed by any 10 or more primary producers or by two or more producer institutions, or by a contribution of both. An FPC is a hybrid between cooperative societies and private limited companies. The Farmer Producer Companies, registered under the Indian Companies Act, 2013, have democratic governance, each producer or member has equal voting rights irrespective of the number of shares held. https://www.nafpo.in/about-us/what-is-a-farmer-producer-company/

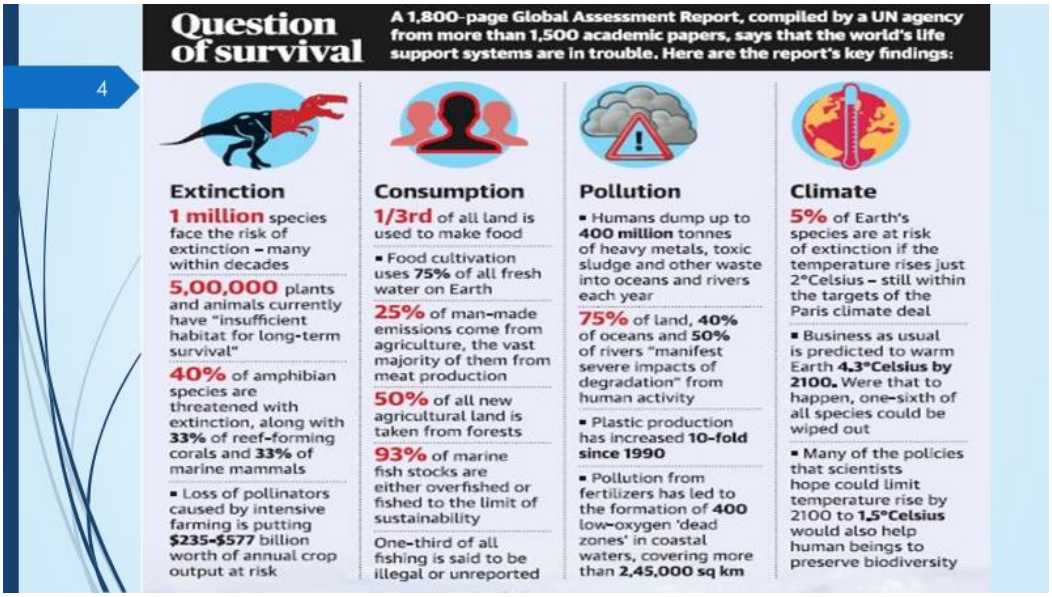
[254] What is IPBES? https://ipbes.net/about

[255] IPBES (2019): Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. https://ipbes.net/global-assessment

[256] https://www.unep.org/

[257] https://unfccc.int/blog/what-is-the-triple-planetary-crisis

[258] https://www.unep.org/news-and-stories/speech/triple-planetary-crisis-forging-new-relationship-between-people-and-earth



(Source: IPBES Global Assessment Report on Biodiversity and Ecosystem Services, 2019)

Nature-based solutions in tackling the rapid loss of biodiversity, [259] falling broadly into four categories: forestry practices, wetland-related practices, restorative agriculture, and ocean-based practices; switching to non-fossil fuel energy and economy; and reduction of the use of chemicals and other types of dangerous pollutants are considered viable solutions to remedy the ongoing deterioration of the planetary sustainability.

International instruments such as the Paris Agreement (2015) and the Glasgow Climate Pact (2021), or known as Glasgow Agreement are both in place for collective actions.

Paris Agreement is a legally *binding* international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016. [260] Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.

Glasgow Climate Pact[261] aims to turn the 2020s into a decade of climate action and support. The package of decisions consists of a range of agreed items, including strengthened efforts to build resilience to climate change, to curb greenhouse gas emissions and to provide the necessary finance for both. Nations reaffirmed their duty to fulfil the pledge of providing 100 billion dollars annually from developed to developing countries. And they collectively agreed to work to reduce the gap between existing emission reduction plans and what is required to reduce emissions, so that the rise in the global average temperature can be limited to 1.5 degrees. For the first time,

[259] Nature-based solutions. https://www.american.edu/sis/centers/carbon-removal/fact-sheet-nature-based-solutions-to-climate-change.cfm#:~:text=Some%20nature%2Dbased%20solutions%2C%20such,a%20form%20of%20carbon%20removal.
[260] What is the Paris Agreement? https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement
[261] The Glasgow Climate Pact. https://unfccc.int/sites/default/files/resource/cma2021_10_add1_adv.pdf

nations are called upon to phase down unabated coal power and inefficient subsidies for fossil fuels.[262]

The 2030 Agenda and the 17 SDGs, captured in "Transforming our world: the 2030 Agenda for Sustainable Development" (A/Res/70.1)[263] with its 169 targets and 232 indicators are clear roadmap to arrest and restore the environmental catastrophe. After 50 years of work in protecting the planet, knowledge, tools to implement solutions and finance are there to do the right thing. The question is, are we the people willing to do what we need to do?

Within this core document, "Transforming our world: the 2030 Agenda for Sustainable Development", there are 4 chapters or 4 divisions to this phenomenal document: a preamble and a declaration, which we need to try and fulfil; then the 17 SDGs themselves; followed by a chapter on means of implementation and global partnership; and then finally, follow-up and review. This chapter on Means of Implementation and global partnerships (SDG 17) is the focus of this talk.

In addition, a collection of other key international instruments and other international processes needs to be taken into consideration when tackling the implementation and partnerships question. They are: The General Assembly Resolution which established HLPF (2013)[264]; the Addis Ababa Action Agenda on Financing for Development (AAAA, 2015)[265], the Paris Climate Agreement, and now the Glasgow Agreement on climate, the Sendai Outcome document on disaster reduction (A/RES/69/283. 2015)[266] which will be discussed in Bali in June this year[267]; the SAMOA Pathway [268]and the SIDS agreement[269], [270], and continual upgrades by respective UN entities.

To overcome data gaps in the next few years, the World Data Forum[271], which will be discussing the need to upgrade data. The annual HLPF conducts the Reviews at the national, regional and global levels. In 2023 and 2027 there will be the SDG High Level meetings to take stock of the

[262] The Glasgow Climate Pact – Key Outcomes from COP26. https://unfccc.int/process-and-meetings/the-paris-agreement/the-glasgow-climate-pact-key-outcomes-from-cop26

[263] Transforming our world: the 2030 Agenda for Sustainable Development (2015). https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf

[264] Established in July 2013 by UN General Assembly (UNGA) resolution 67/290, the HLPF is one of the main outcomes of the 2012 UN Conference on Sustainable Development (Rio+20), replacing the Commission on Sustainable Development (CSD). https://enb.iisd.org/negotiations/high-level-political-forum-sustainable-development-hlpf#:~:text=Established%20in%20July%202013%20by,on%20Sustainable%20Development%20(CSD).

[265] Addis Ababa Action Agenda on Financing for Development (2015), https://www.un.org/esa/ffd/ffd3/wp-content/uploads/sites/2/2015/07/DESA-Briefing-Note-Addis-Action-Agenda.pdf

[266] Sendai Framework on disaster reduction, https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030; https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_69_283.pdf

[267] 7th Session of the Global Platform for Disaster Risk Reduction (GP2022). https://www.undrr.org/event/seventh-session-global-platform-disaster-risk-reduction-gp2022

[268] SAMOA Pathway, https://sustainabledevelopment.un.org/sids/samoareview

[269] SIDS Agreement. https://www.un.org/esa/sustdev/sids/sidsspec.htm

[270] Small island developing states (SIDS) and the post-2015 development finance agenda, OECD, 2015. https://www.oecd.org/dac/financing-sustainable-development/Addis%20Flyer%20SIDS%20FINAL.pdf

[271] UN World Data Forum, 2021. https://sdg.iisd.org/events/third-un-world-data-forum-2021/

progress made by the world as a whole. Will there be a kick-off process in 2027 to replace the SDGs?

Other Forums to take place and stock taking assessment reporting include: a) the annual Financing for Development forums, b) the UNEP annual reports on the state of the environment, c) the UN Environment Assemblies, d) the Global Sustainable Development Report (GSDR), and e) continued ECOSOC deliberations on the SDGs. These events continually expand the collective knowledge and understanding of sustainable development. However, the take up of the cumulative knowledge in various studies is often, worrisomely, limited.

Insights from The Global Sustainable Development Report 2019 [272](GSDR) is very informative. This document shouldn't be forgotten. It points to the interconnections; it points to actions in one country that might leave negative footprints across the world. These transboundary issues[273],[274], which were first developed and discussed in 1972 in UNEP's founding conference.

[Note: "It is generally realized that the protection, management and development of … shared ecosystems … require a regional approach…" -UNEP and GEF 2008]

Therefore, talks about maximizing immediate returns or looking at the long-term consequences, the society as a whole must be aware of what policies followed and actions taken. Even small changes can lead to major events with unforeseeable consequences, either positive or negative (GSDR Report 2019). Key insights could be summarised as follows:

- "These inter-relationships imply positive synergies but also complex trade-offs and tough political choices. When decision-makers operate in thematic silos, they often end up maximizing immediate returns within those silos, while ignoring longer term consequences, or impacts outside of their silos."
- "Therefore, transformations toward sustainable development will be successful only if they holistically integrate all SDGs, and if they are backed by an appropriate understanding of the complex causal chains which affect socioeconomic and environmental systems and of the interlinkages across goals and targets. Indeed, these transformations are the best possible way forward to manage our complex socio-economic and environmental systems as a whole."

When formulating a national strategy, it is necessary to keep the institutional arrangements for implementing SDGs and complex trade-offs required between the goals and targets in mind. Different players or actors represent different interests at different levels - local, national, or regional. Governments of different levels have greater influence of the process and also the business, but not so for civil society and NGOs. An analytic matrix combining different actors at different levels and their respective power to influence, interest, capabilities to implement and preparedness is presented below.

Why is this lessening of influence by the NGOs and civil society in the regional and global arenas? It is simply because they are not allowed to be part of that process. Civil society push for their

[272] Global Sustainable Development Report 2019. The Future is Now: Science for Achieving Sustainable Development 2019. https://sustainabledevelopment.un.org/gsdr

[273] Transboundary Issues, https://na.unep.net/atlas/datlas/sites/default/files/unepsiouxfalls/atlasbook_1135/Kenya_Screen_Chapter3.pdf

[274] TRANSBOUNDARY ISSUES AND SHARED SPACES: AN EDUCATION RESOURCE. https://www.sciencediplomacy.org/transboundary-issues-and-shared-spaces-education-resource

rights to participate[275], [276] and want to be part of the international processes[277] in development decision-making. But they are often squeezed out and the window of opportunity for civil society to be engaged in the SDG process is actually closing.[278]

Stakeholder positions to the 2030 Agenda (source JG Strandenaes)

INFLUENCE	LOCAL	NATIONAL	REGIONAL	GLOBAL
GOVERNMENT	High	High	High	High
BUSINESS	High	High	High	High
Civil Society and NGOs	High	High/ Lessening	Less	Little (?) (context dependent)
INTERESTS				
GOVERNMENT	High to inconsistent	High to inconsistent	Inconsistent to High	Varies to High
BUSINESS	Less	High	Growing	Growing
Civil society and NGOs	Varies to High	Varies to High	Less (Context dependent)	Even less (Context dependent)
ABILITY to implement	LOCAL	NATIONAL	REGIONAL	GLOBAL
GOVERNMENT	High	High	High	High
BUSINESS	High	High	High	High
Civil Society and NGOs	High /Varies	High /Varies	Less	Even less
PREPAREDNESS				
GOVERNMENT	Few	Varies to High	More	Varies
BUSINESS	Few	Growing	Growing	A few
Civil Society and NGOs	Growing	Growing	Few	Not really

[275] OHCHR AND EQUAL PARTICIPATION IN POLITICAL AND PUBLIC AFFAIRS. https://www.ohchr.org/en/equal-participation#:~:text=Participation%20rights%20are%20inseparably%20linked,political%20and%20public%20participation%20exist.

[276] International standards: Article 25 of the International Covenant on Civil and Political Rights, defines the obligations of States parties in connection with the right to take part in the conduct of public affairs, vote and be elected at genuine periodic elections, and have equal access to public service positions. Article 25 is complemented by the interpretive General Comment and jurisprudence adopted by the Human Rights Committee. Other international human rights instruments contain similar provisions. https://www.ohchr.org/en/equal-participation/international-standards

[277] Non-Governmental Organizations (NGO) Major Group Official Position Paper for the 2017 High-Level Political Forum. https://sustainabledevelopment.un.org/content/documents/15002NGO.pdf

[278] How do NGOs mobilize around the SDGs and what are the ways forward? A French German Comparison. https://www.iddri.org/sites/default/files/import/publications/working-paper-sdgs-and-ngos_eh-dd.pdf

When looking at interest, what's happening from 2015 up until today is a different picture. Governments' interest is not constant and it varies from some with a high motivation to others not so interested. Business, on the other hand, is growing in interest in implementing the 2030 Agenda while Civil society also (paints) an uneven picture. The less civil society is involved, the less they have been allowed to do so, which is unfortunate.

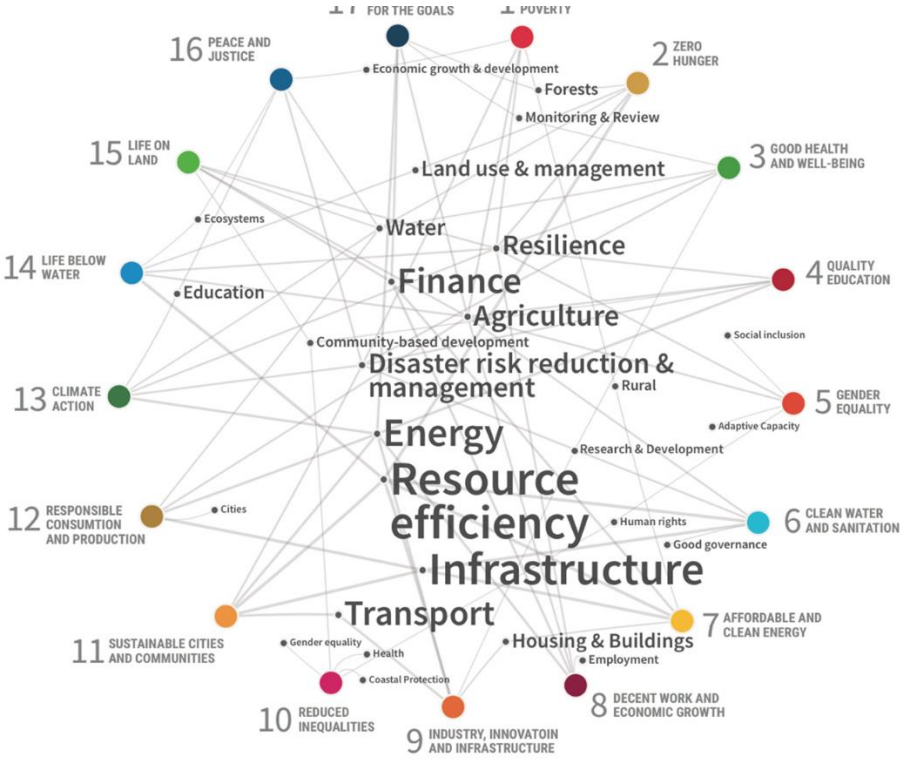
Other elements in the matrix are self-explanatory concerning ability to implement and preparedness. The latter can be assessed by the VNRs reporting. Approaches vary. It seems that governments engagement also varies, ranging from a few on a local level to very few on the global level. Business - uneven when it comes to being prepared to deal with SDGs and 2030 Agenda, but business community is growing in positiveness [279]. Civil society, NGOs and partnerships want to be engaged on the local and national level; but when it comes to the regional and the global level, civil society and NGOs are not there yet.

VNR, Preparedness, Partnerships and Substance**.** VNRs[280], [281] reflect involvement of a lot of players (or stakeholders). By the summer of 2022, between 250 and 300 VNRs will have been delivered[282], so people and governments take it seriously. Yet when reviewing the preparedness of governments in preparing for the VNRs, there are 3 distinct, different levels: 1) Ad hoc - A body (taskforce) within the government to prepare the report with a limited time horizon; 2) Erratic– a more holistic national strategy with a continuation in its time horizon yet with an erratic engagement with civil society; 3) Institutional – a holistic national strategy with a formalised multistakeholder consultation process.

From substance point of view of the VNRs, it can be said Type 1, least prepared with limited substance and opportunistic addressing problems of here and now; Type 2, better substance with longer time planning yet limited in perspectives to achieve sustainability; Type 3, more holistic and geared toward sustainable development. The quality of the VNR is the highest with Type 3 orientation.

This observation can be supported by the annual UN World Public Sector Reports. The 2021 edition presented a five-year stocktaking of national institutional arrangement for implementing SDGs.[283]. Yet, it remains visible for a tendency to develop SDG implementation strategies along traditional development thinking, which leads to one of two things. One, efforts are made to adapt development thinking to sustainable development mindset resulting in the automatic ticking of boxes. The other, adding a new element of SDG implementation to traditional development processes resulting in creating parallel processes. In both cases, sustainable development is given lower priority. The interlinkages of the 17 SDG goals are the central challenge of the 2030 Agenda (see Figure below).

[279] WBCSD, Vision 2050: Time to Transform. 2021. https://timetotransform.biz/wp-content/uploads/2021/03/WBCSD_Vision_2050_Time-To-Transform.pdf
[280] Voluntary National Reviews Database, https://hlpf.un.org/vnrs
[281] HLPF on Sustainable Development, the Handbook for the Preparation of VNR, 2022 edition. https://hlpf.un.org/sites/default/files/vnrs/hand-book/VNR%20Handbook%202022%20English.pdf
[282] https://sustainabledevelopment.un.org/vnrs/
[283] UN World Public Services Reports 2021- National institutional arrangements for implementation of the Sustainable Development Goals: A five-year stocktaking. https://publicadministration.un.org/en/Research/World-Public-Sector-Reports



(Source: Adapted from the Stockholm University, Centre for Resilience)

Good Practice. Has any country adopted the 2030 Agenda wholeheartedly?

Germany has integrated the entire spectrum of the SDGs and the 2030 Agenda into its national plans, and it has done so by integrating quite successfully the implementation plan into every ministry. So far, some of the results are: Germany is reversing the trend on biodiversity loss (SDG 15), phasing out fossil fuel and nuclear energy (SDG 7), going into more circular consumption and production patterns (SDG 12), and leading an informed debate on all these dimensions of sustainable development.

[Note 1: Germany presented twice its VNRs in 2016 and 2021. These reports are available at https://hlpf.un.org/countries/germany].

[Note 2: In the New version of the Sustainable Development Strategy[284]: A Compass for the Future, it is posited that, "A future in which the natural environment and the climate are protected – in which fewer people are in need and in which society pulls together – Germany's Sustainable Development Strategy pursues these and other goals. Its focus goes beyond the national borders, and speed is called for because the international community has set itself a deadline."]

Norway and the case of Asker[285], a municipality borders Oslo. Asker is a new municipality in 2020, following a merger between Hurum, Røyken and Asker municipalities. It uses the UN Sustainable Development Goals (SDGs) as an overall and integral framework for this new large municipality

[284] New version of the Sustainable Development Strategy: A Compass for the future. The Federal Government. https://www.bundesregierung.de/breg-en/news/sustainable-development-strategy-2021-1875228

[285] From global goals to local action. How we implement the UN Sustainable Development Goals (SDGs) in Asker municipality. https://www.asker.kommune.no/asker-mot-2030/fns-barekraftsmal/askers-work-on-the-sdgs/from-global-goals-to-local-action/

to expand perspective from attuning to global responsibility to achieve sustainable local communities. The first critical steps are to develop a methodological tool and then choose targets with maximum impact on local wellbeing. The latter allows the municipality to prioritise the policy objectives within a thorough approach to all 17 SDGs. A materiality assessment[286], [287], [288], [289]based on the SDGs showed where the greatest opportunities to influence directly and the areas for which the municipality has, or should take, direct responsibility in the work to develop a healthy local community and offer adequate services to its residents.

Asker used the 2030 agenda with the SDGs, targets and indicators as a planning tool and explicitly anchored them at the highest political level in the administration. The Mayor is an active spokesperson for this endeavour. There is broad and strong support from all the political parties and all elected officials and the entire administration have learned and studied the SDGs. More so, an outreach strategy was developed to inform all constituency and collaborated with the youth groups in this task. These actions point to a good start.

Governance and partnerships are playing an important role in gaining sustainable progress. "Current governance models and arrangements, whether global, regional, national or institutional, are ill-suited to develop, oversee or implement truly integrated, multi-dimensional sustainable development agendas such as proposed by the SDGs. The transformation to sustainable development will require profound normative, societal, political and institutional changes. Such deep structural change is fundamental to achieving all the SDGs" (International Institute for Applied Systems Analysis, 2018, Page 6).[290]

Unless governments own the intergovernmental processes like the SDGs, related policies will never be taken seriously. On the other hand, unless people feel ownership with development, little - if anything - will be implemented.

Implementation is based on partnership between governments, the private sector, and the people. Are the interests of stakeholders and the challenges of governance compatible and are they conducive to implementing the 2030 Agenda? Whose interests do these social, economic and environmental issues reflect? Who developed the indicators? Are the values of the indicators based on what people perceived as important, for example collective goods, social contract of a society, etc.? These questions need to be reflected by governments, local and national authorities, every time when putting together a strategy on the SDGs.

SDG 15 - Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt

[286] The Essentials of Materiality Assessment, KPMG International, 2014. https://assets.kpmg/content/dam/kpmg/pdf/2014/10/materiality-assessment.pdf

[287] Materiality analysis in sustainability and integrated reports, 2019. https://www.researchgate.net/publication/336794430_Materiality_analysis_in_sustainability_and_integrated_reports

[288] The double-materiality concept Application and issues. Global Reporting Initiative (GRI) 2021. https://www.globalreporting.org/media/jrbntbyv/griwhitepaper-publications.pdf

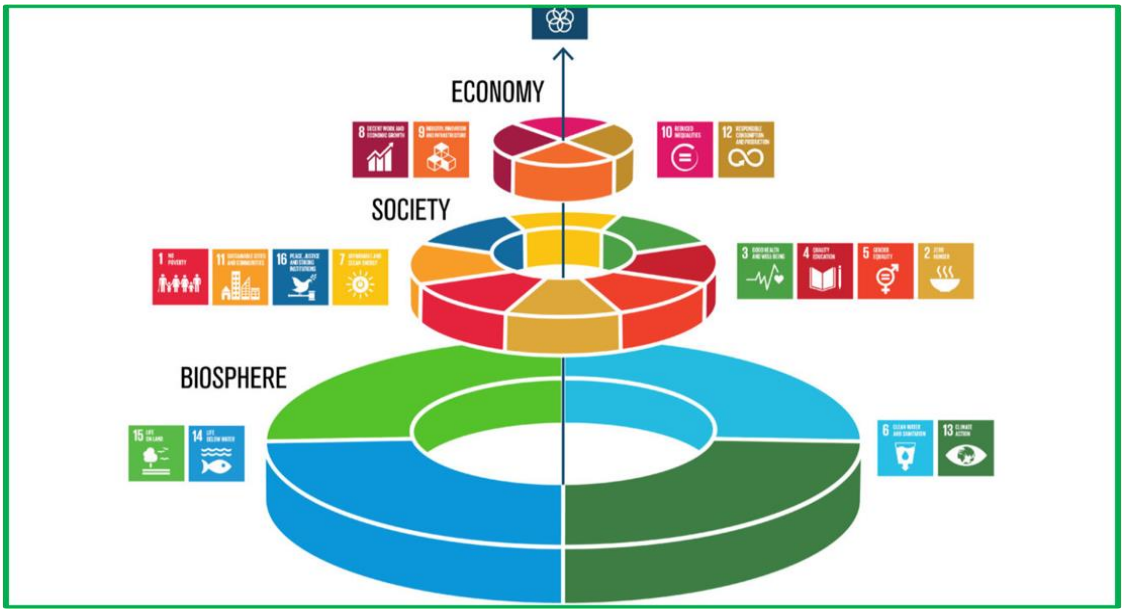
[289] Sustainability Materiality Matrices Explained. NYU/Stern Business School/Centre for Sustainable Business. 2019. https://www.stern.nyu.edu/sites/default/files/assets/documents/NYUSternCSBSustainabilityMateriality_2019_0.pdf

[290] https://previous.iiasa.ac.at/web/home/research/twi/TWI2050_Report_web-small-071018.pdf

biodiversity loss – represent a huge and tall order but absolutely important to fulfil. Generally speaking, SDG 15 is about strengthening all environmental issues from conservation to restoration through nature-based solutions. It has 12 targets and 26 indicators to deal with[291].

SDG 17 - Partnerships, technology, trade, capacity building, and systemic issues - has 19 targets and 44 indicators.[292]

Professor Jöhan Rockström, director of the Potsdam Institute,[293] and a member of the SDG Academy[294], the flagship education platform of the Sustainable Development Solutions Network (SDSN), a global initiative for the United Nations. When speaking at the Stockholm EAT Food Forum in 2016, centre director Johan Rockström and board member Pavav Sukhdev pushed for a new way of viewing the economic, social and ecological aspects of the Sustainable Development Goals (SDGs). The illustration below implies that economies and societies are seen as *embedded parts of the biosphere*.

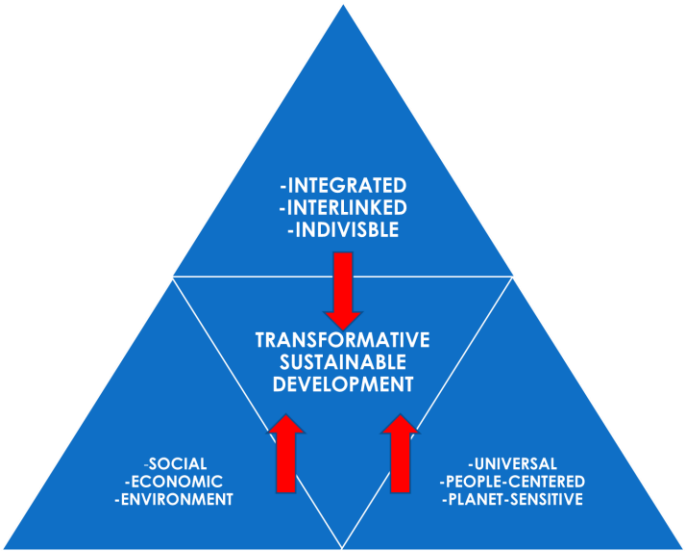


(Source: Johan Rockström and Pavav Sukhdev, 2016, EAT Food Forum.
credit: Azote Images for Stockholm Resilience Centre)[295]

Key transformational elements identified by the International Institute for Applied Systems Analysis in Vienna in its report, The World in 2050, [296] included investments in capable public institutions, active civil societies, sustainability oriented alliances, science, engineering, the private sector and governments, and the formulation of plans and roadmaps to achieve the SDGs and long-term sustainability goals (Page 6). These elements coincide with many of the Means of Implementation contained in the SDG 17 which "Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development" was highlighted as the thematic

[291] SDG 15, Targets and Indicators, https://sdgs.un.org/goals/goal15
[292] SDG 17, Targets and Indicators, https://sdgs.un.org/goals/goal17
[293] Prof Jöhan Rockström, https://www.pik-potsdam.de/en/people/directors/johan-rockstroem-director
[294] SDG Academy, https://sdgacademy.org/about-us/
[295] https://www.stockholmresilience.org/research/research-news/2017-02-28-contributions-to-agenda-2030.html
[296] Transformations to Achieve the Sustainable Development Goals, Report prepared by The World in 2050 initiative. 2018. International Institute for Applied Systems Analysis.
https://previous.iiasa.ac.at/web/home/research/twi/TWI2050_Report_web-small-071018.pdf

focus. SDG 17 is about – shared vision, systemic thinking and mindset shift. Effective and relevant governance therefore, must reflect the following 9-dimensional thinking and these 9 elements are all taken from the 2030 Agenda (see Figure below).



(Source: J.G. Strandenaes, 2022)

This sustainable development mindset is being applied by the EU; such as its "whole-of-government approach to implementing the SDGs[297]. EU's comprehensive approach is captured in the following Figure:

(Source: EUROPEAN COMMISSION, 2020, page 5)[298]

[297] The Commission's holistic approach for sustainability and the SDGs. https://ec.europa.eu/info/strategy/international-strategies/sustainable-development-goals/eu-holistic-approach-sustainable-development_en

[298] EUROPEAN COMMISSION, 2020. Delivering on the UN's Sustainable Development Goals – A comprehensive approach. COMMISSION STAFF WORKING DOCUMENT. https://ec.europa.eu/info/sites/default/files/delivering_on_uns_sustainable_development_goals_staff_working_document_en.pdf

In conclusion. "Doing more with less," which is often said, or "business as usual" cannot be truisms when comes to implementing SDGs. They represent the wrong attitudes and approaches. When faced with the biggest challenge in humanity's existence - saving the planet – adequate resources must be made available!

It will never be possible to calculate the cost of not doing enough, that cost will be astronomical or incalculable in terms of human lives and material good. Time to take the responsibility for mitigating such a disaster! No action or little patch work here and there would mean leaving the problems for the next generation, the youth of today, and leave everybody behind!

Question: Is there perhaps a stepping stone for reducing Anthropocene impact on the planet, particularly regarding SDG 15 or the combination of SDGs 15 and 17? How do we begin seeing the whole thing - how everything is interconnected - and looking at ways to move forward? (Raymond Saner)

Answer - Jan-Gustav Strandenaes: One thing I have seen of late - because I am working with Stockholm+50[299], which in June will hopefully be a manifestation of the UNEP's work on the environment. Is that we, the community, are trying to say that sustainable development, environmental issues, biodiversity, and climate are synonymous? If so, I think that's one of the biggest mistakes to make. While promoting thinking-out-of-the-silos, we need to keep subject expertise on hand. We need to understand the differences between these concepts, as well as to see the interlinkages. Therefore, while stretching across the disciplinary boundaries, adhering to the expertise of the environmental issues, or agricultural issues as well as social issues is extremely important.

For instance, UNEP wanted to have nature-based solutions as the overarching title of the last UN Environment Assembly in March this year[300]. Governments opposed that and said it's too difficult. I don't think it is too difficult to take nature-based solutions into what we are talking about. Farmers do live close to nature and they understand the implications of this. Taking environmental issues as one of the pillars with sustainable development as a focus which consists of other elements such as biodiversity, deforestation, land degradation etc., nature-based solutions[301], defined as actions to protect, sustainably manage, and restore natural and modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits, I think, is a very important step.

Civil society needs to be involved in all of these activities. Presently, civil society organisations are actually being prevented from participating in so many countries. It is a difficult process, but if we don't do it, nothing will happen.

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[299] Stockholm+50, Explore Agenda for Action, Renewal and Trust - Outputs and outcomes, 2022. https://www.stockholm50.global/

[300] Fifth Session of the UN Environment Assembly, 28 Feb to 2 Mar. 2022. https://www.unep.org/environmentassembly/unea5

[301] Nature-based Solutions for people and planet, IUCN, https://www.iucn.org/theme/nature-based-solutions#:~:text=Nature%2Dbased%20Solutions%20are%20actions,well%2Dbeing%20and%20biodiversity%20benefits.

I lectured students and they asked me today, "Can you give us an example of things ever been improving?" And I said, in 1962 Rachel Carson produced a book, Silent Spring[302] that is said to have started the environmental movement. She was alone in advocating protection of nature. Today, there are millions wanting what she wanted to achieve in 1962. And so just by sheer magnitude people everywhere are engaged and that's positive.

Question: I (recall) an issue I had doing academic work (regarding) how to work in an interdisciplinary manner. You're right to emphasize that we should not only look at the interconnectedness - the horizontal perspective - but also stay in tune with the vertical specificities of the different goals or sectors. But that's quite a formidable task, to be vertically competent and understand SDG 15 or SDG 14 without being superficial and still seeing the connectedness. Mentally speaking, it's an issue. But also just from an academic perspective, you have to know the field of these other specialists who deal with land or ocean, and they have their own reference systems and their own worlds, so to speak. How to be both vertically and horizontally competent or competent enough and open-minded enough, to include the other fields? What's your suggestion to students? (Raymond Saner)

Answer - Jan-Gustav Strandenaes: If you are enthusiastic - and this has been proven - you're more credible. Enthusiasm comes with hope and optimism, so that's an attitudinal process. I think the flexibility of the human mind is incredible. Back in 1987, when the Brundtland Commission[303] produced the so-called sustainable dimensions of the 3 issues, we suddenly had 3 things in our heads to think about in addition to being experts in different fields. Now the SDGs, the 2030 Agenda, has produced 9 such issues - 6 more - and I think we can keep that in mind when we think and plan.

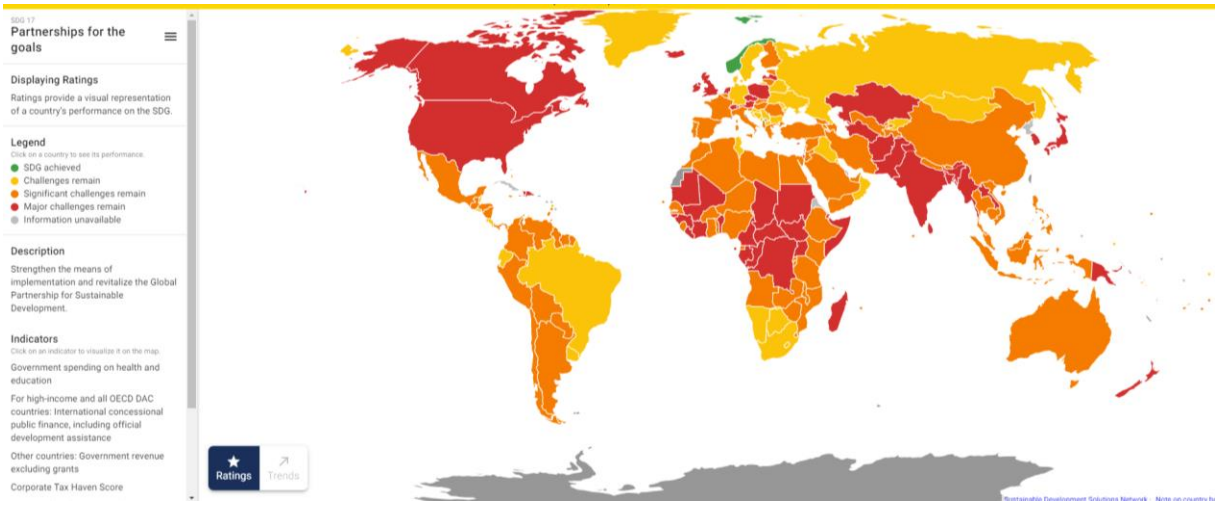
I think the governments at different levels are actually in a fantastic position to do so. They can call in the ministries from all sectors and sit together. Angela Merkel, the former German Chancellor, said that every 2 months she had all the ministries dealing with the SDGs be involved in a one-day conference and exchanged ideas and experiences. So, by putting together the experts from different line ministries, you can actually put these dimensions together. And I think that type of policy coordination and planning is extremely important. You see it within the UN system when they do this in the UN Environment Management Group (EMG)[304], the body that tries to connect the different environmental elements of the UN under the auspices of UNEP. So there are institutional ways to do this, (along with having) resilient minds at the same time.

Final Remarks by Moderator

Out of the 193 member countries of the United Nations, only one country, Norway, has met this Goal 17 on Partnerships for the Goals (see the SDR report interactive map below) based on the following criteria: 1) Government spending on health and education; 2) For high-income and all OECD DAC countries: International concessional public financing, including official

[302] Silent Spring, Rachel Carson, 1962. http://www.rachelcarson.org/SilentSpring.aspx
[303] Brundtland Commission Report, 1987.
https://www.are.admin.ch/are/en/home/media/publications/sustainable-development/brundtland-report.html
[304] UN Environment Management Group, https://unemg.org/

development assistance; 3) Other countries: Government revenue excluding grants; Corporate Tax Haven Score[305]. Statistical Performance Index[306].



(Source: The SD Report, https://2021.dashboards.sdgindex.org/map/goals/SDG17)

It is alarming to see most countries need to do much more to overcome the deficiencies in progress made to strengthen the international financial system domestically and internationally; and live up to the Addis Ababa Agenda for Action concerning financing for development.

At the end of the day, financial resources in monetary terms or in kind, are critical in carry out the needful actions in delivering SDGs. COVID -19 has made the situation of domestic and international financing even worse. Major resources from the developed countries have been diverted to mitigate the national economic, social and political crises. Developing countries need to face the additional disruptions of global supply chains and international trade. With a weak tax basis and additional financial requirements for vaccines and other public health measures, consequences of COVID 19 pandemic have cascaded across all the SDGs.

The death toll of the past 30 surpassed 6.32 million as of 20th June 2022 around the world (from Our World in Data) [307] with the US leading the pack by having more than 1 million deaths among

[305] Corporate Tax Haven Score - 2021 Results. A jurisdiction's Haven Score is a measure of how much scope for corporate tax abuse the jurisdiction's tax and financial systems allow and is assessed against 20 indicators. A jurisdiction's Global Scale Weight is a measure of how much financial activity from multinational corporations the jurisdiction hosts.
https://cthi.taxjustice.net/en/#:~:text=A%20jurisdiction's%20Haven%20Score%20is,multinational%20corporations%20the%20jurisdiction%20hosts.
[306] Statistical Performance Index. https://www.worldbank.org/en/programs/statistical-performance-indicators
[307] Coronavirus diseases. Deaths.
https://www.google.com/search?q=covid+19+death+worldwide+total&source=hp&ei=9S2zYviAAqqG9u8PiqeuoAI&iflsig=AJiK0e8AAAAAYrM8Bd2rnS4hplTNpoleEcupNW18_C1I&oq=covid+19+death+world&gs_lcp=Cgdnd3Mtd2l6EAEYATIFCAAQgAQyBQgAEIAEMggIABCABBDJAzIGCAAQHhAWMgYIABAeEBYyBggAEB4QFjIGCAAQHhAWMgYIABAeEBYyBggAEB4QFjIGCAAQHhAWOgUIABCRAjoRCC4QgAQQsQMQgwEQxwEQ0QM6BQguEIAEOgsIABCABBCxAxCDAToOCC4QgAQQxwEQowIQ1AI6DggueEI8BEOoCEIwDEOUCOg4IABCPARDqAhCMAxDlAjoECAAQQzoKCAAQsQMQgwE

its population. According to Focus 2030,[308] "The global economic downturn has resulted in the loss of 255 million jobs, and has severely affected the 1.6 billion people working in the informal economy (SDG 8), without social security (SDG 1) or health coverage (SDG 3). The resulting increase in global poverty (SDG 1) is unprecedented. It has caused an increase in hunger (SDG 2), child labour (SDG 16), and gender inequality (SDG 5). And while the decrease in human activity has been a moment of respite for threatened plant and animal species (SDGs 14 and 15) and for climate change (SDG 13), it has been too short-lived to have a positive impact on ecosystems. [309]

A few words on data. According to the World Bank, *reliable, usable, high-quality statistics* are vital for global prosperity and progress. The Statistical Performance Indicators (SPI) provide an open-source framework for assessing the performance of statistical systems in 174 countries. It goes without saying, lack of data affects quality of policy taking and decision making. SDG 17 contains two targets in support the countries to strengthening their institutional capacity in generating, analysing and retrieving quality data. They are:

> Target 17.18. By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts.
>
> Target 17.19. By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries.

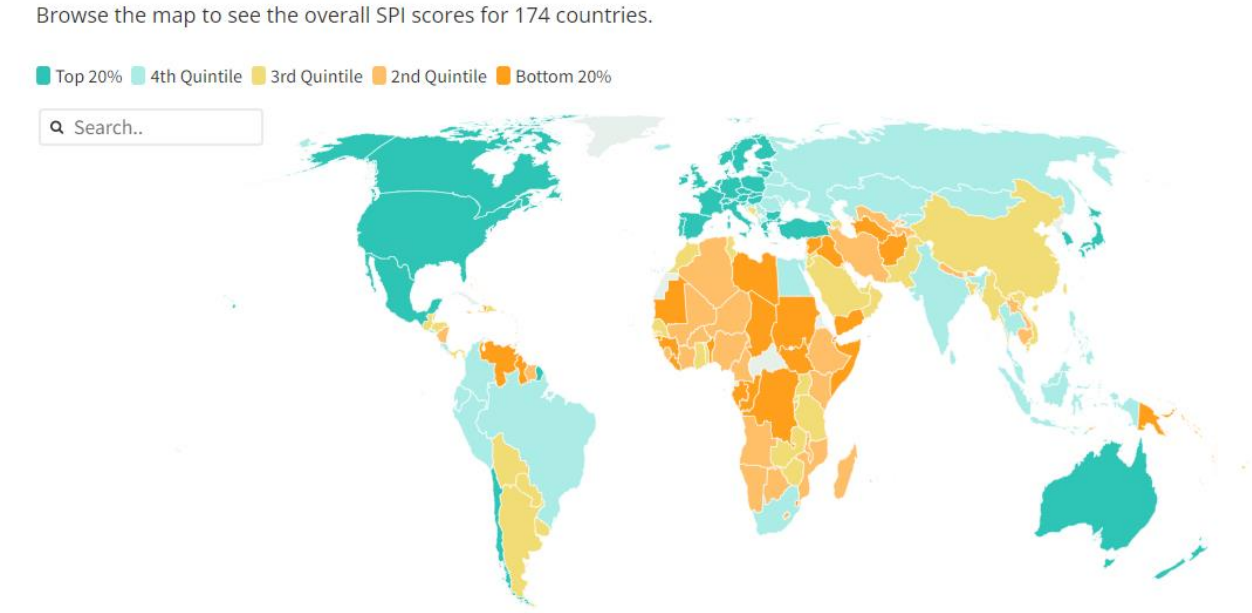
Needless to say, maturity of Target 17.18 has been passed. The statistical performance in most of the Africa and Middle East fell into either the bottom 20% or the 2nd Quintile. Statistical capacities, data infrastructure could be some of the urgent areas for improvement (See Map below). The SPI framework assesses the maturity and performance of national statistical systems in five key areas, called pillars, i.e., data use, data services, products, sources and data infrastructure.[310]

QQzoICAAQyQMQkQI6BQgAEJIDOgcIABDJAxBDUABYvj5gsU9oAXAAeACAAaIBiAGcDJIBBDE5LjKYAQCgAQGwAQI&sclient=gws-wiz#colocmid=/m/02j71&coasync=0

[308] Focus 2030, supports international development actors working to promote effective and transparent public policies to achieve equality, poverty reduction and the UN Sustainable Development Goals by 2030. https://focus2030.org/Discover-Focus-2030

[309] The Consequences of the COVID-19 Pandemic on the 17 SDGs by Focus 2030. https://focus2030.org/The-consequences-of-the-Covid-19-pandemic-on-the-17-Sustainable-Development#:~:text=But%20in%202020%2C%20the%20Covid,million%20people%20by%20September%202021.

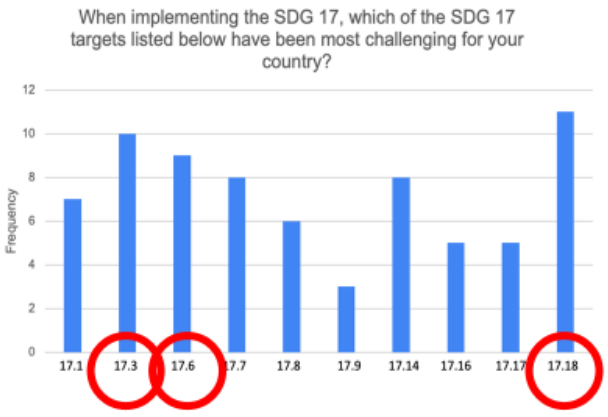
[310] Statistic Performance Indicators (SPIs), The World Bank. https://www.worldbank.org/en/programs/statistical-performance-indicators



(Source: World Bank, Statistical Performance Indicators (SPI), 2022)

As a matter of fact, the course survey also showed that Target 17.18, together with Targets 17.3 and 17.6, as the most challenging to implement (See chart below).

When implementing the SDG 17, which of the SDG 17 targets listed below have been most challenging for your country?



17.18 Increase significantly the availability of **high-quality, timely and reliable data** disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts

17.3 Mobilize **additional financial resources** for developing countries from multiple sources

17.6 Enhance North-South, South-South and triangular regional and international **cooperation on and access to science, technology and innovation** and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism

Presentation 4: Ecosystem security and sustainable food production: Experience from China

Speaker: Mr. **Claude Heimo,** Senior Adviser, Centre for Socio-Economic Development (CSEND)

This presentation is based on research conducted in China and a recently published book titled, "Research on Ecological Security of China's Main Grain Production Areas"[311]. This publication is relevant not just for those working with the policy issue of food security in China but also for other experts in other developed and developing countries.

General food security situation in China: Past and Current Policies. China has to feed 1.4 billion people roughly 20% of the world's population on 7% of the world's arable land and a quarter of the world per capita water endowment. Historically, China experienced numerous food shortages and famines, which were remedied by implementing different policies e.g., quota system[312], [313] (1958), land contract (1981), Household Responsible System[314] (1982), creation of 13 Core Grain Growing (CGG)[315] areas (2008) and an Eco-Civilisation Strategy (2014)[316]. The latest policy on eco-civilisation emphasises green development in line with Agenda 2030 objectives.

Today, these 13 CGGs provide the bulk of China's grain production (wheat, corn, rice, potato, etc.), which are at the core of China's food security. China has achieved food self-sufficiency of about 95% yet remains the world's largest importer of soybeans and meat, dairy, wine and other food products and beverages. GDP growth has exacerbated China's natural resources depletion and caused environmental damages. This has resulted in a series of critical ecological and environmental problems, such as soil and water pollution, water scarcity, soil erosion, forest ecosystem degradation and loss of biodiversity. These problems will eventually affect its food security.

[311] Research on Ecological Security of China's Main Grain Production Areas, 2022, by Prof. Li Zhou (CAAS) with contributions from Mr. Claude René Heimo (CSEND – Geneva).

[312] YE, J. 2015. Land Transfer and the Pursuit of Agricultural Modernization in China. f Journal of Agrarian Change. https://www.iss.nl/sites/corporate/files/CMCP_64-Ye.pdf

[313] Yang, W. 2006. Reforms, Structural Adjustments, and Rural Income in China. *China Perspective.* *https://doi.org/10.4000/chinaperspectives.575*

[314] Household or contract responsibility system was a practice in China, first adopted in agriculture in 1979 and officially established in 1982, by which households are held responsible for the profits and losses of an enterprise. In agricultural production, farmers as a relatively independent economic entity contract the collective land and other large-scale means of production and carry out production and management independently according to the contract. Except for a small part of its operating income, which is paid to the collective and state taxes following the contract, all income is attributed to farmers. https://en.wikipedia.org/wiki/Household_responsibility_system

[315] Ge, D. et al. 2017. Analysis Framework of China's Grain Production System: A Spatial Resilience Perspective. Sustainability 9(12). https://www.mdpi.com/2071-1050/9/12/2340 or https://www.researchgate.net/publication/321758817_Analysis_Framework_of_China's_Grain_Production_System_A_Spatial_Resilience_Perspective/stats#fullTextFileContent

[316] Hanson, A. 2019. Ecological Civilization in the People's Republic of China: Values, Action, and Future Needs. *ADB East Asia Working Paper Series.* https://www.adb.org/sites/default/files/publication/545291/eawp-021-ecological-civilization-prc.pdf

Hence the policy challenge is how to ensure food security without falling into the trap of using methods that are harmful for the environment.[317],[318], [319], [320]

Issues affecting food security in the CGG areas:

1. Non-point source (NPS) Pollution[321]. For a period of 40 years the fertilizer application rate increased by 3.7 folds. Giving an average application of 427 kilo per hectare with efficiencies averaging 55 % compared to 70-80 % in developing countries. In 2017, 318.000 tons of pesticides were used with an application rate of 11.6 kilo per hectare, which corresponds to 50% higher rate than in developed countries. Both excessive use of chemical fertilizer and pesticides are the main source of difficulties - The NSP of agricultural soil and water is currently affecting about 16% of China arable land.

2. Overconsumption of pesticides. China consumes 1,806 million Kgs of pesticides per year, five times higher than the U.S. (386 Kgs). This situation is due to the fact that Chinese farmers generally overestimate the losses caused by pests, which inevitably results in excessive frequency and application of chemical pesticides. They also tend to use pesticides with higher toxicity rates, thus leading to obvious negative effects on food safety in absence of adequate supervision, application of standards, publicity and training in the safe use of pesticides. Furthermore, for pest control, farmers generally use manual spreading techniques with sprayer pump with high utilization rate of pesticides. As for now, the rate of application of bio-pesticides remains low at about 7.8 %.

3. Declining availability of water for irrigation. While irrigation areas are increasing, indiscriminate use of groundwater has caused the decline of groundwater level. This has become one of the most pressing issues in terms of food security in CGG areas. China's per capita water resources endowment is far below the world average, and any per capita increase in water resource endowment can only come from groundwater extraction. As for agricultural production in 8 among the 13 major grain-producing provinces (Anhui, Henan, Shandong, Hebei, Inner Mongolia, Liaoning, Jilin and Heilongjiang) the dependence on groundwater is steadily increasing, notably since the dissolution of the People's Commune system.

4. Loss of agriculture land. Chinese government estimates that 120 million hectares of agricultural land must be maintained to be self-sufficient in grain production thus ensuring

[317] The State Council Information Office of the People's Republic of China. 2019. Food Security in China. http://www.scio.gov.cn/zfbps/ndhf/39911/Document/1666230/1666230.htm

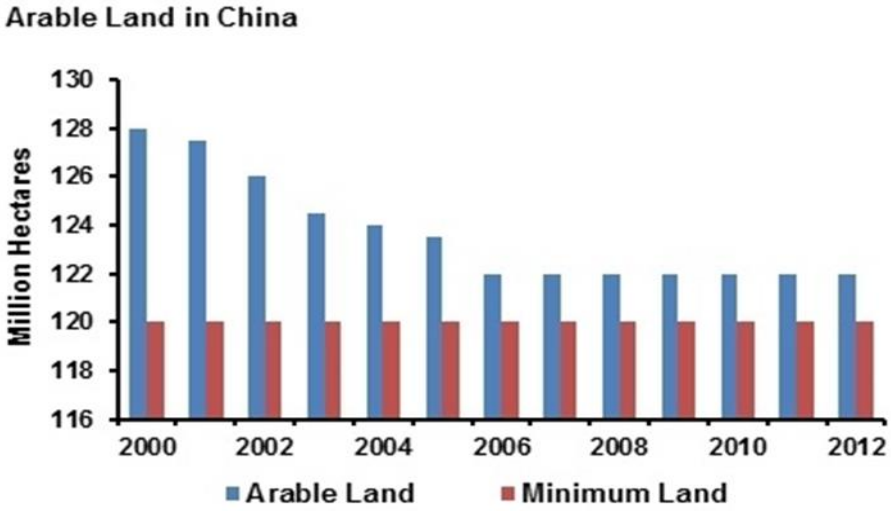
[318]Liang, X., Jin, X., Han, B. et al. China's food security situation and key questions in the new era: A perspective of farmland protection. J. Geography Science. 32, 1001–1019 (2022). https://doi.org/10.1007/s11442-022-1982-9

[319] Shi, P., Feng, Z., Gao, H. et al. Has "Grain for Green" threaten food security on the Loess Plateau of China? (2020) Ecosystem Health and Sustainability, 6:1, https://doi.org/10.1080/20964129.2019.1709560

[320] Environmental costs of China's food security, May 2015, *Agriculture Ecosystems & Environment*, 209. https://www.researchgate.net/publication/277972744_Environmental_costs_of_China's_food_security

[321] "Basic Information about Nonpoint Source (NPS) Pollution", United States Environmental Protection Agency. https://www.epa.gov/nps/basic-information-about-nonpoint-source-nps-pollution#:~:text=Nonpoint%20source%20pollution%20can%20include,forest%20lands%2C%20and%20eroding%20streambanks

food security. Due to urban extension and industrial development in addition to soil erosion and desertification, natural disasters and reforestation, the total arable land declined between 2013-2017. Furthermore, as many as 10 million hectares are contaminated by heavy metals (mainly cadmium, nickel and mercury). The Figure below shows this trend.



(Source: Research on Ecological Security of China's Main Grain Production Areas, 2022)

5. Heavy metal pollution of agriculture land. While China has not published data on heavy metal pollution in cultivated land, the few existing research show that, except for Inner Mongolia, the other 12 major grain-producing provinces have serious heavy metal soil pollution problems. Rapid industrial development and NPS pollution have left large amounts of groundwater unfit for human use and polluted for growing crops. Over 95% of China's rivers and about 90% of groundwater is polluted. [322], [323]

6. Climate change. China's monsoon climate has always made the country sensitive to climate variations. Climate change has led to serious consequences for agricultural production and natural ecosystems. According to 2014 IPCC AR5 Synthesis Report on climate change, [324] there are positive and negative effects on crop production. Negative effects involve increasing temperatures and evapotranspiration causing harvest losses due to runoffs, erosion, salinization, increased risks of traditional and new pests. Extreme weather can also damage the harvests as already experienced in all 13 CGGs. The positive impact of climate change can be seen from the increased rainfall associated with higher temperature which may extend the growing season and opportunities for rainfed crops.

In conclusion, the six stressors aforementioned will not only have a large negative impact on future crop production but also on the resistance of farmland putting an increased stress on food security. These issues however are not confined to China only, but the world. FAO (2014)

[322] Ma, T., Sun, S., Fu, G. et al. Pollution exacerbates China's water scarcity and its regional inequality. Nature Communication, 11, 650 (2020). https://doi.org/10.1038/s41467-020-14532-5

[323] Dr. Matthew Currell China's 'war on water pollution' must tackle causes of deep groundwater pollution, Global Water Forum, 2017. https://globalwaterforum.org/2017/04/03/chinas-war-on-water-pollution-must-tackle-causes-of-deep-groundwater-pollution/

[324] IPCC AR5 Synthesis Report: Climate Change 2014

reported a quarter of the world's arable land already degraded and further compounded by biodiversity loss. Adapting agriculture in this context will require the Government of China as well as other governments to adopt new food security strategies that would enhance the ecological security conditions of farms and agriculture landscapes toward resilience[325].

Six pillars of ecological security strategy are identified for restoring and maintaining eco resilience in the CGG areas. They are:

1) **Adoption of NPS pollution control system**;

NPS pollution control system can be put in place through issuance of quotas for synthetic fertilisers and pesticide and through promotion of organic fertilisation by establishment of industrial eco-park to produce easy to use organic fertilisers. Such a control system can also slow down and control the release of fertilisers and pesticides through the use of mechanized pesticides spreading technologies.

Enhancing both the use of eco-friendly pesticides and application techniques. Improving the use of eco-friendly pesticides would require intensifying the development of pilot R&D projects for the development of low-toxicity bio-pesticides, as well as training and subsidizing farmers for accelerating their uses and their safe application.

Other measures could include improving mulch film[326] (see the picture below) standards[327] and improved recovery technologies. The former involves the use of biodegradable materials to decrease white pollution. Plastic mulch films are widely used in agriculture in China to enhance crop production by suppressing weeds, conserving soil water and increasing soil temperature. The majority of plastic mulch films are however not biodegradable and are typically removed after each growing season.[328] Plastic film mulching has played an important role in Chinese agriculture. It has increased grain and cash crop yields by 20%–35% and 20%–60%, respectively. In 2014 plastic film covered 18.14 Mha and the amount of plastic film used reached 1.41 Mt. [329]

"Despite the benefits of plastic film mulch technology, widespread use has generated large amounts of mulching plastic waste. This has adversely affected land use by reducing infiltration of water and nutrient movement. In some areas this has slowed crop emergence and irrigation water efficiency by increasing the salt content of the topsoil."[330]

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[325] An ecological security discourse is one that orients towards the resilience of ecosystems themselves, with this in turn enabling the protection of the most vulnerable across time, space and species. Resilience is defined in terms of the capacity of ecosystems to sustain life and retain their organizational structure and function in the face of perturbation and change (see Barnett 2001; Adger et al 2011) in McDonald, M., Ecological Security. 2015. *E-International Relations.* https://www.e-ir.info/2015/11/28/ecological-security/

[326] What is Mulch Film and use. https://agriculture.basf.com/global/en/business-areas/crop-protection-and-seeds/use-areas/agricultural-films/mulch-films.html#:~:text=Mulch%20films%20are%20used%20to,yield%20as%20well%20as%20precocity.

[327] New EU standard for biodegradable mulch films in agriculture published (European standard EN 17033). https://www.european-bioplastics.org/new-eu-standard-for-biodegradable-mulch-films-in-agriculture-published/

[328] Adhikari, R., Bristow, K.L. et al. 2016. Preformed and sprayable polymeric mulch film to improve agricultural water use efficiency. *Agricultural Water Management,* 169 (1-13). https://www.sciencedirect.com/science/article/abs/pii/S0378377416300439

[329] He, W., LI. Z. et al. 2018. The benefits and challenge of plastic film mulching in China. *World Agriculture.* http://www.world-agriculture.net/article/the-benefits-and-challenge-of-plastic-film-mulching-in-china

[330] ditto

Standards for plastic film use have been improved and appropriate techniques developed for multipurpose plastic film, mechanization of residue recycling technology and replacement polythene with biodegradable plastic film. Recovery of these plastics from the soil is difficult and can affect successive crop yields while causing substantive cost to the environment and farmers.

(Source: Compostable Mulch Film from MP-Bio, https://www.mp-bio.ch/our-products/params/category/178263/item/1024177/)

There is also the need to establish biological control systems of diseases and pest. Biological control is "the use of living organisms to suppress pest populations, making them less damaging than they would otherwise be. Natural enemies of insects play an important role in limiting the densities of potential pests. These natural enemies include predators, parasitosis, and pathogens. Biological control of potential pest insects can be increased by: a) conservation of existing natural enemies, b) introducing new natural enemies and establishing a permanent population, and c) mass rearing and periodic release of natural enemies, either on a seasonal basis or inundatively" (Stoner, Connecticut State).[331]

2) **Development of a water resource conservation system** with the four-fold objective to promote water-saving technologies to increase the efficiency of irrigation infrastructure systems; the issuance of marketable water coupons to encourage farmers reducing own water consumption; the adjustment of planting patterns to soil moisture and surface water resources availability in different seasons; and the adoption of ecological farming practices techniques, including tree-crop intercropping systems to enhance a micro-climate favourable to crop productivity, and no-tillage farming and plastic film coverage technologies to reduce evaporation of soil moisture, top soil erosion and improve beneficial soil insects and microbes

Despite being the world's second-largest economy and being home to 21 percent of the global population, China has only 6 percent of the world's freshwater resources. In the past 50 years, China has made significant investments in water management and infrastructure, which has led to significant achievements in water supply, irrigation, flood control and hydropower generation. However, the country is still facing acute challenges with respect to both water quantity and

[331] Stoner, K. Connecticut State, The Agricultural Experiment Station, Approaches to the Biological Control of Insect Pests. https://portal.ct.gov/CAES/Fact-Sheets/Entomology/Approaches-to-the-Biological-Control-of-Insect-Pests

quality.[332] Despite significant investments in water management and infrastructure, more tangible innovative policies and incentives are required to strengthen and better integrate water management at both national and regional levels.

The Chart below shows the quantitative change of water consumption at the national level from 1997 to 2014. The overall consumption started to grow since 2003, while agricultural sector consumes more than 60% of the water resources.

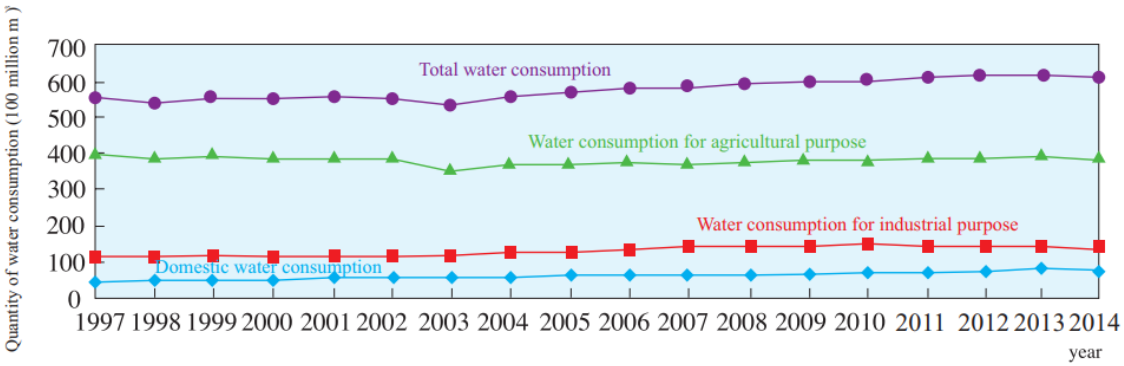


Fig.6 Quantitative change of national water consumption 1997~2014

(Source: Ministry of Water Resources, People's Republic of China, Water Resources Management and Protection In China, p.6)[333]

> "China has already put in place the legal framework for management of water resources with the Water Law of the People's Republic of China at its core, and practiced the water resources management system that combines basin-specific management and administrative region-based management. The "Three Red Lines" (red lines for water development and utilization control, water use efficiency control, and pollutant load control in water function zones) and Four Regulations (regulations of total water use quantity control, water use efficiency control, pollutant load control in water function zones, and accountability and performance assessment system for water resources management), plus water resources-based responsibility and performance evaluation mechanisms for administrative regions at all levels.
>
> Specifically, regulations and policies such as water extraction licenses, water resource-based verification of project feasibility, paid use of water resources, quota management of water consumption, management of water function zones, monitoring of pollutant discharges along rivers have been formulated to push forward the construction of a water-saving society and an eco-friendly civilization." (Ministry of Water Resources, People's Republic of China, P.4)

[332] The World Bank, 2018, China: A Watershed Moment for Water Governance. https://www.worldbank.org/en/news/press-release/2018/11/07/china-a-watershed-moment-for-water-governance#:~:text=In%20the%20past%2050%20years,both%20water%20quantity%20and%20quality.

[333] Water Resources Management and Protection In China. MINISTRY OF WATER RESOURCES, PEOPLE'S REPUBLIC OF CHINA. (n.a.). http://www.mwr.gov.cn/english/mainsubjects/201604/P020160406507020464665.pdf

Additional actions suggested:

- Adopting a "one season fallow[334] – one season rainfed" (Rotary tillage) planting mode as to reduce the "two harvests a year of wheat and corn to one harvest";
- Replacing high water consumption crop (for instance wheat) by another lower water consumption crop (for instance potato) to maintain the level of grain production.
- Adopting low-pressure pipelines, sprinklers and drip irrigation (instead of flooded irrigation), able to save up to 30-50 percent in water, aside of increasing the uniformity of irrigation and enabling deeper seepage on uneven farmland thereof reducing water leakages.
- Adopting farmland cover-crop technology, including plastic and straw mulching.
- Developing the conditions for the development of a water rights trading market through the adoption of a measurement model of "one well, one meter, one household, one card", through the installation of a smart water meter in each well by the government.

One particular feature of China's water management system deserves mentioning is the issuance of *water coupon* for the development of water right trading market.

3) Adoption of ecological farming system to improve farmland ecological security and productivity while adapting to climate change.

Ecological agriculture practices, such as using compost and animal manure instead of chemical fertilizer, cover crops, crop rotations and intercropping (growing different varieties of crops on one field) are contributing to healthier soils. The total area of certified organic agriculture cultivation increased more than five-fold between 2005 and 2018, to 3.1 million hectares, according to a 2019 government report. China ranked third in certified organic area in 2017, after Australia and Argentina. [335]

Transforming conventional high-input agriculture is going to be a tremendous challenge and work on various fronts as the transition process towards more sustainable agricultural systems respecting ecological security standards would be complex, requiring changes in field practices, day-to-day management operations at farm level, planning and marketing. Various levels of government in China now provide a wide range of supports to organic farms. These measures are unparalleled around the world. They range from covering the cost of organic certification, to finding land, funding on-farm infrastructure and organic fertilizers, to training and marketing assistance. Concurrent to the government intervention, bottom up effort by the "food activists" helped to generate demand for the organic foods. A dynamic market for organic foods has emerged (Scott & Si, 2020)

[334] Qin, W., Chi, B. et al. 2013. "Long-Term Monitoring of Rainfed Wheat Yield and Soil Water at the Loess Plateau Reveals Low Water Use Efficiency". *Plos One.* *https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0078828*

[335] Why China is emerging as a leader in sustainable and organic agriculture. 2020. Steffanie Scott & Zhenzhong Si. The Conversation. https://theconversation.com/why-china-is-emerging-as-a-leader-in-sustainable-and-organic-agriculture-132407#:~:text=Sustainable%20agriculture%20practices%20in%20China,are%20contributing%20to%20healthier%20soils.

Additional actions suggested:

- Restoring the fertility of polluted and already degraded farmlands, through physical, chemical, biological or agronomic remediation measures depending upon the level of gravity of farmland pollution or degradation.
- Moving from single crop system to ecological farming principles aimed at providing the most favourable soil and microclimate conditions, particularly by managing organic matter and enhancing soil biological activity through using large quantities of different types of organic materials on a regular basis,
- Routinely keeping soil covered with living or crop residues.
- Adopting reduced tillage or minimum tillage or no tillage.
- Encouraging crop rotation and fallow systems; and
- Uplifting holistic farmland management practices enhancing crop yield stability to adapt to the changing climate, such as tree-crop intercropping, windbreaks, shelterbelts, river buffers, insect strips, living fences, woodlots, etc.

4) Promotion of an ecological protection system at farm and agricultural landscapes levels aimed not only at controlling land degradation and erosion at landscape levels but also at providing crucial support to ecosystems' functions, agriculture production, the conservation and enhancement of the benefits of existing biodiversity, the improvement of farmers' livelihood conditions and the revival of agricultural landscapes and its touristic attractiveness.

One of the essential constituents of this sustainable land management system would be the role played by farmland protection forests, buffer strips, ecological corridors, and wetlands to protect natural habitats and biodiversity niches which provide nesting opportunities for pollinating insects. In China, integrating trees in agricultural landscapes was historically instrumental in providing an ecological security environment favourable to agricultural productivity. Notably in devising a micro-climate favourable to crop yields, it is to protect farmland against weather related anomalies and soil erosion, to enhance soil nutrient cycling, carbon sequestration, biological diversity. Additionally, it is to produce valuable products as timber, food, fodder, medicinal plants, essential oils and materials for local industries. Moreover, the integration of trees and the conservation of natural habitats into the agricultural landscapes should be considered the keystone in building climate change resilience across all scales, as well as enhancing carbon sequestration. A recent study by the World Bank even suggests that, among the range of ecological farming practices, "agroforestry by far has the highest carbon sequestration potentials"[336] (Zomer et al. 2022)[337].

Since most farmland protection forests systems are developed either at farm and/or at agricultural landscape level, inter-sector policy and institutional coordination remain an important matter for improvement.

[336] New study details carbon capture potential of agroforestry and trees on farms. 2022. Centre for International Forestry Research-World Agroforestry (CIFOR–ICRAF). https://www.cifor-icraf.org/news/corporate-news/new-study-details-carbon-capture-potential-of-agroforestry-and-trees-on-farms/

[337] Zomer, R., Bossio, D. et al. 2022. Global Carbon Sequestration Potential of Agroforestry and Increased Tree Cover on Agricultural Land. *Circular Agricultural Systems*, 2:3. doi: 10.48130/CAS-2022-0003. Or https://www.maxapress.com/article/doi/10.48130/CAS-2022-0003#aboutArticle
https://www.maxapress.com/article/doi/10.48130/CAS-2022-0003

Other actions suggested

- Clarifying tenure rights and management obligations for farmland protection forests established at landscape and farm levels.
- Revising farmland protection forests management and harvesting regulations currently acting as disincentives to farmers' participation in their maintenance and development.
- Adopting adequate financial compensation (eco-compensation policies in the China's basic and regular farmland context) to further enhance farmers' participation in the development and maintenance of farmland protection forests and on-farm tree planting.
- Adopting nature-based forest management system to improve the ecological and structural stability of existing forest established on mountains and surrounded agricultural landscapes under reforestation programs. Their flexibility and ability to address natural and anthropogenic disturbances, in particular those due to the effects of climate change, of these forests need to be given due consideration.

5) Building an enabling governance environment or system for ecological security.

To integrate ecological security into the general framework of sustainable food security in China (and elsewhere) will require, however, both reconsidering and fully re-evaluating the overall human welfare benefits that ecological security would be providing, and, accordingly, revise and restructure policy and institutional frameworks in which important decisions should be made. In this respect, improving the degree of "shared governance goals" across multiple institutional levels should be essential to provide improved quality of governance. Failure to fully recognize the cross-sector implications of ecological security would be fraught with potential complications that may have increasingly negative impacts on food security especially when taken into consideration of the Chinese context of population growth, rapid climate change, increased NPS pollution, decreasing groundwater availability and the ever-increasing demand of urban people for safe agricultural products and leisure.

From a general governance standpoint, successful measures to enhance ecological security basically consist of the following: a) formulating cross-sector laws and regulations that would be conducive to farmers' participation in the construction of an ecological security system, and b) reforming unfavourable sector regulations, legal restrictions and financial mechanisms that may hinder farmers' participation. In that sense, three groups of policies for ecological security should be considered: they include compulsory policies, coordination policies and incentive policies.

- Compulsory policies- reforming the current system of agriculture input subsidy policies and the enactment of new agricultural laws, regulations and standards by focusing on ecological security requirements by conserving soil fertility, controlling soil erosion, improving irrigation efficiency, strictly controlling the use of synthetic fertilizers and pesticides and eutrophication,[338] and promoting the protection of farmland through the use of farmland protection forests and, where required and financially attractive, on-farm tree-crop intercropping;

[338] Eutrophication is the process by which a body of water becomes enriched in dissolved nutrients (such as phosphates) that stimulate the growth of aquatic plant life usually resulting in the depletion of dissolved oxygen (Merriam-Webster Dictionary). https://www.merriam-webster.com/dictionary/eutrophication

- Coordination policies - aiming at improving the coordination of economic, technical and resource management policies by enhancing ecological security through the development of an integrated institutional platform for cross-agency policy and institutional cooperation. In this respect, institutions need to go beyond silos and commit to policy coordination among their departments (vertical coordination) and with other decentralized institutions as well as with other actors such as farmers' communities and NGOs (horizontal coordination). Furthermore, a third-party inter-sector and independent monitoring and evaluation system necessary to ensure transparency should be considered as an important inter-sector coordination tool. Its objective would be to assess and demonstrate the impacts of policy, institutional and technological measures promoted to improve ecological security in farms and agricultural landscapes; and

- Incentive policies - aiming to encourage farmers to protect their ecological environment, including a) bonus payment when using organic fertilizers or chemical fertilizers lesser than fixed quota; b) marketable water coupons to encourage farmers reducing their own water consumption; and c) transfer payments for environmental services or eco-compensation measures for the development of an ecological protection system, such as the maintenance and development of farmland protection forests.

6) Adopting complementary measures to advance the knowledge of ecological security requirements and promote the know-how to farmers and policy makers.

The objectives of Agenda 2030 also underline these key intervention areas to improve ecological security at farm and landscape levels. These measures need to be "farmer-centered" and "knowledge-based" so that the full potential of farmers, both men and women, including small-holders and agriculture commercial entities, can be harnessed in making food security and sustainable development a reality. Sustainable food security will not only depend on policies or institutional arrangements, but, primarily, on the actions and behaviours of land users such as farmers and other land managers.

In effect, it would be crucial to support farmers to adopt practices that enhance ecological security at farm and landscape levels to improve agricultural production and, consequently, food security. Implementing these practices generally require institutions and services to support farmers, in particular extension services. Barriers against adoption of ecosystem enhancing measures exist, such as up-front costs, delayed return on investments, income forgone or additional risks during the transition period. These costs must be covered.

Therefore, successful implementation of proposed measures to promote ecological security will also depend upon the following laws and actions:

- Clarifying land and tree tenure rights.
- Raising farmers' awareness regarding potential benefits derived from ecological security.
- Ensuring capacity of the extension services regarding ecological security-related information, knowledge and technology that farmers need to improve ecological security at their farm and at landscape levels and the quality of their agricultural production.
- Promoting multi-directional communication, particularly between farmers, researchers, extension agents and policy makers and adopting Information and Communication

Technologies (ICTs), notably mobile phone technology and internet, as part of the public communication strategy.

In conclusion. The research advocates for a farmers centered approach. It also advocates for an integrated ecological security strategy. Such a strategy should lead to the development of locally adapted climate resilient agriculture and environmentally sustainable practices. An integrated strategy also aims to successfully and efficiently support farmers including mainstreaming cross-sectoral policies, incentives and technical assistance.

Rebuilding economies after the COVID pandemic and the current war in Ukraine offers a unique opportunity to rethink current food systems and the way food is produced, distributed, and consumed; and ways to move towards more sustainable and healthier food production systems that could be more resilient to future shocks – which are likely to happen due to climate change alone. Transition to an ecologically secure agricultural system is necessary for human survival – even if the investment required would be highly significant.

Question: How to get the complex task of policy coordination, both vertical and horizontal accomplished in a sustainable manner? How to move beyond business as usual and adopt the ecological security approach? What is your experience like? (Raymond Saner)

Answer: Vertical and horizontal coordination are major challenges in general and for china. An Example is the work that we did in Hanan province on ecological security. This work was hosted by the Forestry Department. It took me nearly one year to get the Agriculture department involved in the discussion we had about ecological security. The challenge is that for the time being the provincial level institutions are working in silos. But the new approach that has been accepted by the Research Centre of the State Council is to implement the ecological security strategy to achieve the ecological civilization[339], [340], [341], [342], [343] status by China as proposed by the President.

Currently there are research and development going on in order to link the local institutions with the local people. Connected to this is the Rural Revitalization Strategy[344] proposed by china 2018 – 2022 has focused on this horizontal and vertical coordination.

Moderator Remark: Policy coordination and stakeholder participation are key to the SDG implementation. SDG 13 is to combat climate change through actions taken along the 5 targets listed. The needs for complex coordination and consultation are illustrated by the Figure below

[339] Kuhn, B. 2019. Ecological civilisation in China. Dialogue of Civilizations Research Institute. https://www.researchgate.net/publication/335661761_Ecological_civilisation_in_China

[340] Hanson, A. 2019. Ecological Civilisation in the People's Republic of China: Values, Action and Future Needs. ADB East Asia Working Paper Series. https://www.adb.org/sites/default/files/publication/545291/eawp-021-ecological-civilization-prc.pdf

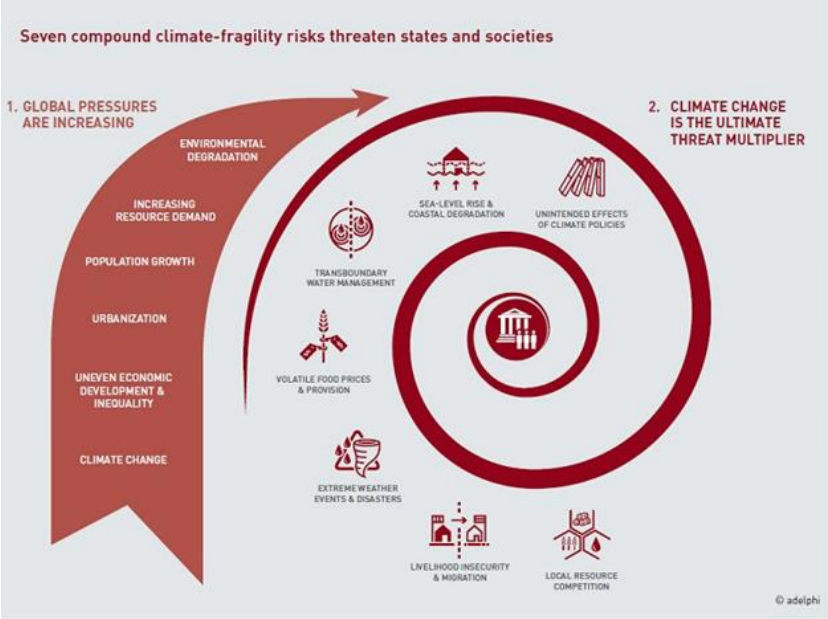
[341] Wei, F., Cui, S. et al. 2021. Ecological civilization: China's effort to build a shared future for all life on Earth. *National Science Review*, 8 (7). https://academic.oup.com/nsr/article/8/7/nwaa279/5989711

[342] International Institute of Environmental Development. 2021. Webinar: China, ecological civilisation, and green economy vision: 2021 and beyond. https://www.iied.org/china-ecological-civilisation-green-economy-vision-2021-beyond

[343] UN System of Environmental Economic Accounting (SEEA). Ecosystem Accounting and Ecological Civilization in China. https://seea.un.org/news/ecosystem-accounting-and-ecological-civilization-china

[344] Noor, M.A. 2021. China's rural revitalization strategy. *Beijing Review.* 02-04. Source: China Focus. https://www.bjreview.com/Opinion/Voice/202104/t20210402_800242503.html

where climate fragility risks are threatening the stability of the states and societies if not resolved (Climate Diplomacy, 2016)[345].



(Source: "Insurgency, Terrorism and Organised Crime in a Warming Climate", 2016, p.9)

Presentation 5: Life on Land: Recovery for biodiversity conservation from COVID-19 with youth engagement: A Youth's Perspective

Speaker: Mr. **Jin Tanaka**, Branch Manager, UNISC International, a youth-led nongovernmental organization with special consultative status to the United Nations Economic and Social Council (ECOSOC)

Biodiversity in Japan. Japan has a rich biodiversity, within a territory of about 38 million hectares. It is estimated that more than 90,000 species exist in Japan. In addition, 40% of terrestrial mammals, 60% of reptiles, and 80% of amphibians are endemic to the country, and it is the only developed country with wild monkeys and a natural environment that is home to numerous medium and large wildlife species, including bears and deer.

Forest cover 67% of the total land which is by far largest number among developed countries. There are four ocean currents and the influence of monsoons which have resulted in a rich marine environment. Japan has many national parks, but only about 10% of the country's land area is designated as national parks, falling short of the target of 30%.

Negative impact on biodiversity

- Destruction of biodiversity by invasive non-native species.

[345] Katharina NettLukas Rüttinger (adelphi), 2016. "Insurgency, Terrorism and Organised Crime in a Warming Climate" https://climate-diplomacy.org/sites/default/files/2020-10/CD%20Report_Insurgency_170724_web.pdf

Since 1990 the number of non-native species like raccoons, big mass fishes and lizards has increased leading to destruction of biodiversity. The genetic disturbance by non-native species has affected native species and their habitat.

- Decline due to COVID-019 of local industries related to biodiversity
  This decline has resulted in a prolonged state of decline especially in agriculture and forestry sectors. The population working in such industries has halved compared to 20 years ago. This decline is partially due to migration toward major cities, and also reflects the demographic trends of Japan. The increasing ageing population and low birth rate have led to a decline of labour participation in the agriculture, forestry and fishery sectors. The average age of the population is now over 60 years old.
- Land degradation due to development, and other human activities.
  Japan's timber supply has not been sustainable, supplying less than 20% of the market needs. Recently timber was imported from Russia.
- Frequent extreme weather events from global environmental changes.
  20-30% of plants and animals are at risk of extinction due to rising temperature and changes in vegetation. Disappearance of four seasons also led to wild fluctuations in temperatures.

  The extreme weather conditions have caused significant damage every year impacting biodiversity loss and causing landslides and flooding.

Youth engagement. The youth has adapted an active role in Japan by involving themselves in the conservation of biodiversity through different activities. The government of Japan has developed different policy regimes to encourage the young people working in the rural area.[346]

Youth in Japan have presented their opinion to the Ministry of the Environment, Economy, and Trade and Industry, on the implementation of the biodiversity conservation act. Youth groups have also been working with private companies on tree planting and with the government to ensure that trees planted receive the best care. Youth organizations and civil society groups are organizing international conferences for biodiversity conservation online.

Youth and citizen groups are building partnerships that utilize their respective positions to increase green jobs and secure career steps through forestry and agricultural experience.

Young students have been encouraged to pursue an active participation role in the rural economy and the government is putting more emphasis on the development of skills and capacities of youth.

In conclusion Japan has a wide variety of biodiversity, much of which is endemic to the country. However, there are 3,600 endangered species, for which further action is needed.

The ecosystem in Japan is out of balance due to a lack of care and due to a decrease in habitat areas caused by development and overexploitation. A declining and aging industrial population in agriculture and forestry led to insufficient biodiversity conservation.

[346] Jongin Kim & Jeongseop Kim, 2016. "Supporting Policy Scheme for the Youth's Entrance to Farming in Japanese Country Side". *Journal of Agricultural Extension & Community Development.* June 23(2):115-122. https://www.researchgate.net/publication/307525502_Supporting_Policy_Scheme_for_the_Youth's_Entrance_to_Farming_in_Japanese

Ecosystems are being disturbed by the introduction of non-native species. Destruction of genetic and species diversity is occurring frequently throughout Japan.

Species diversity is decreasing in Japan due to abnormal weather conditions caused by global environmental changes. Youth and citizen groups are presenting policy proposals and opinions to respective authorities, and collaborating with government agencies to present counterproposals based on scientific evidence and disseminate information at international conferences.

Question – The average age of people dedicated to agriculture is 60 years. What is the solution to turn Japan's agriculture to a more sustainable, positive agriculture of the future, when the farmers are aging? What is the youth going to do in the future? (Raymond Saner)

Answer: There are three ways to do so: new technologies, techniques, innovation in systems to support youth in their career path. We need to scale up people's skills so they can learn new technologies, such as introducing robots, and drones, systematizing agriculture.

Question – Your analysis showed the negative impact of the global trade of wild lives on the biodiversity of Japan. What actions that you have observed as effective to reverse the trend? (Lichia Saner-Yiu)

Answer: The Government has provided some incentives so people can go back to rural areas, such as providing houses, local government, and companies' livestock work can be an effective approach. The Government is also providing material and information for connecting local and rural areas to fix some of the Information gaps. Efforts are made to encourage youth to go back to rural urban areas.

Question: You mentioned that average age in agriculture sector is 60 years. Manual work involved in the agricultural sector can be quite difficult to stay active as a farmer. So what are the solutions about adopting more sustainable and more nature based agriculture by using less pesticide or fertilisers when most of the farmer workers are older persons? What are the younger people who plan to move into rural areas and take up their responsibility doing in this regard, for instance practicing sustainable agriculture and preserving biodiversitiy? (Raymond Saner)

Answer: Introducing new technologies, such as sensors, drones, robots etc., to reduce the physical burden of farming and animal husbandry and sustain the productivity of the sector. (See an illustration of drone technology at work). These technologies have also been applied into protection of forestry and other sectors.

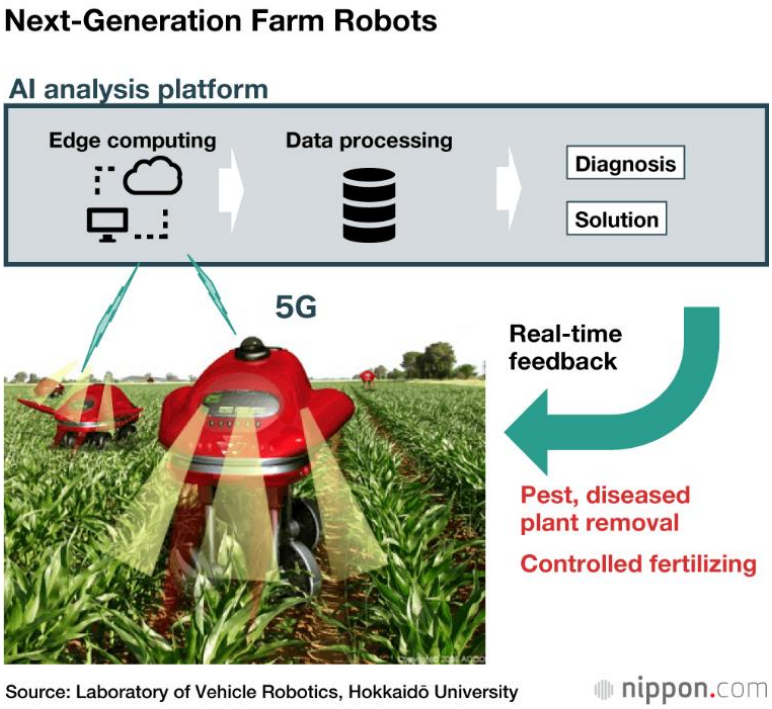
Different local areas have different tactics in dealing with this labour shortage challenge due to ageing population and youth migration. Responses therefore also need to be contextualised in order to preserve bio diversities in each locality.

[**Note 1 by Moderator**. Smart farming is a "combination of modern information and communication technologies (ICT) with traditional farming practices to enhance the quality and quantity of agricultural products". [347] A number of technologies are used to digitize the farming

[347] https://www.mirrorreview.com/wp-content/uploads/elementor/thumbs/How-Smart-Farming-Is-Renovating-Traditional-Farming-Methods-And-Tools-p8b5nsf9ixxesl25gjxluw0qdvcia2q12eex75pomg.jpg

processes including sensors and actuators[348], robotics, GPS, big data, drone, etc. By adopting smart farming, farmers can reduce the additional costs, increase crop yield, improve the production of crops, and lessen labour.[349]]

[**Note 2 by Moderator**. Noguchi Noboru, an agricultural science expert, describes how new innovations and the internet of things are changing agribusiness in Japan, and how these trends will transform the industry[350]. Big data can boost production, so as autonomous farming. As farms in Japan tend to be small, tailoring to specific needs when developing and adopting technologies are of critical importance if wanting to achieve greater coverage.]

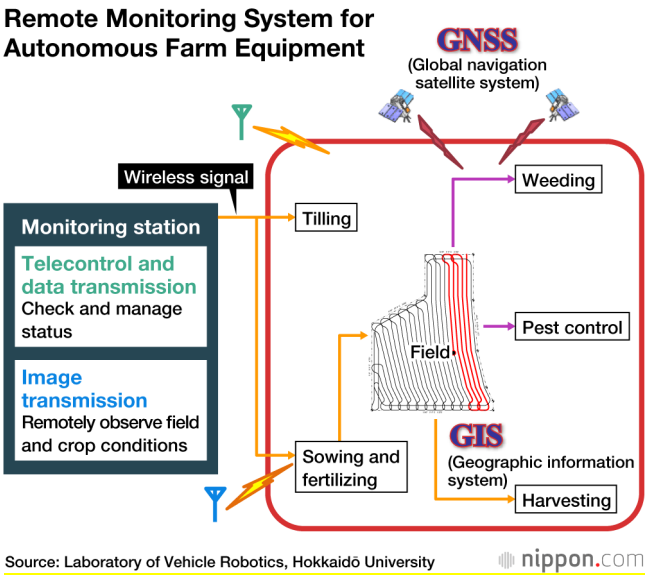


https://www.nippon.com/en/in-depth/d00753/

[348] An actuator is a part of a device or machine that helps it to achieve physical movements by converting energy, often electrical, air, or hydraulic, into mechanical force. Simply put, it is the component in any machine that enables movement. https://www.progressiveautomations.com/pages/actuators

[349] Noguchi Noboru, 2021. *Nippon.com.* Frontlines of Smart Farming: Technological Advances Changing the Face of Agriculture. 11 November. https://www.nippon.com/en/in-depth/d00753/

[350] Prime Minister's Office in Japan, 2021. Innovation Japan: Technologies Transform Japan's Agriculture https://www.youtube.com/watch?v=kZcHJetCqIQ



(Source: https://www.nippon.com/en/in-depth/d00753/)

Question: Both you and Mme Barbari, a previous speaker, mentioned youth migration away from the rural economy. What experiments or what are the initial steps that have been tried in in Japan? What have you observed as being attractive and actually promoted a migration back to the rural economy rather than the other way around? (Lichia Saner-Yiu)

Answer: As mentioned before different incentives exist[351] to encourage the "U-Turn", a Japanese term for the movement of people who were born in rural areas, who then relocated to a city for either school or work, and eventually returned to their home town.[352] Following the discussions within different platforms, including houses, land and community support. These measures provide stable income, information, stable links with agro-industrial (value chains) and easy living in the rural areas. Local governments also ensure the availability of public services and other amenities. Remote working in the rural area is also an option, especially in the agri-business sector.

Information or digital divides have also been fixed so that online market places are established in Japan for farmers to buy and sell. Other information on infrastructure is also available. Partnerships between focal government and UNISC to provide materials and technologies. UNISC also facilitates visits by some leaders to the rural areas that are most challenged by the ageing demography in addition to support the return of youth from the rural areas back to their native areas. So far, UNISC has supported half million persons going back to their native areas in the country side.

[351] "Programs aim to keep youth in rural areas", 2019. *The Japan Times*, https://www.japantimes.co.jp/satoyama-consortium/2019/01/27/satoyama-consortium/programs-aim-keep-youth-rural-areas/ .
[352] YAMAGUCHI Ryutaro, 2022. "Two Young Persons Living with Rural Migration: Through Interviews in Toyama-go district of Iida City, Nagano Prefecture". *Discussion Japan, The Japan Foreign Policy Forum.* 26 May. https://www.japanpolicyforum.jp/society/pt20220526090050120 72.html

For instance, my home county also got the increased number of youth returnees every year average about three thousand "U-Turn" and "I-Turn" [353] persons. Maybe this is going to be a great case to study. UNISC will try to expand these case studies to all the countries.

[**Note from the Moderator: "**Rural Labor Squad" is urban trainees dispatched to the countryside under a pilot program to put Japan's underemployed youth to work tilling its farms.[354]

"I-turn" is also a Japanese term for the movement of people who were born and raised in a city and who later relocated to rural areas.]

Conclusion of the Executive Training Course 2021/22

Lichia Saner-Yiu

A few key Take-Aways from this year's ETC:

- The indivisibility of the 2030 Agenda and its SDGs
  The 17 SDGs intersects with each other and support or inhibit the attainment of other specific outcome goals. For example, the surprising connection between depletion of the fish stock in the ocean is not only due to overfishing in the oceans but also due to the growing aquafishery industry on land whose fish are being fed by many pelagic ocean fish as feeders thereby contributing to overfishing in the Oceans. Dietary changes of affluent consumers have driven up the price of fish causing malnutrition and hunger amongst the world poor who depend on fish catch for their protein consumption. We need deeper analysis of the causal links/chains and underlying dynamics affecting this ecosystem and how this affects the achievement of the SDGs. We need to develop a mindset based on system thinking since these interconnections are not just a linear but also a circular process.

- The necessity of the principle "leave no one behind" (LNOB)
  When talking about the small land holder farmers in the rural area or women, the necessity of LNOB becomes more pronounced and relevant than ever before. This principle should be a key decision-making criterion to check whether our policy options and planning tools are fit for purpose! Better aggregated data are essential to ensure that the needs/rights of invisible groups are addressed. "Blind spots" and "group think" are common in policy making processes. These blind spots in the policy making process exemplify the importance of this very principle. Therefore location, age, gender, income, specific disaggregated data are essential to verify that 1) accessibility is ensured, no matter where the persons are; and 2) inclusivity is ensured, no matter who the persons are.

  SDG Target 17.18 states that by *2020*, capacity-building should be enhanced that supports developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts. Partnerships for the capacity

[353] (source: ditto)
[354] Tabuchi, H., 2009. "For Young Japanese, It's Back to the Farm". *The New York Times.* https://www.nytimes.com/2009/04/16/business/global/16farmer.html

building for data collection, storage, retrieval and analysis of data should be considered as foundational for helping the developing countries achieve the LNOB principle and vision.

- Economic empowerment and participation
  Economic empowerment and participation are as important as human rights and gender equality. Without both economic empowerment and participation, there won't be mobility and dignity for anyone, especially the vulnerable groups such as women, youth, older adults and disabled persons.

- Such empowerment can be achieved through quality education (minimum literacy including learning capacities), skill development (that reflects job market demands today whether rural or urban areas and the future). Access to finance and compatible value or credits propositions by all will allow the women, the poor and the youth a starting point to participate in the economy. Gender roles and norms defined by each society, often invisible, are prohibiting the women's participation in the labour market and offer no financial or educational access for entrepreneurial development. In this context, gender budgeting is an important tool to hold governments accountable.

- Solidarity and self-organization
  Solidarity and self-organization as organising principles called Solidarity and Social Economy (SSE) is an alternate or complementary development paradigm[355], [356] and a viable solution to rebalance social, economic and environmental objectives. Such an alternate approach means that there are more opportunities for dialogue, co-creation and self-reliance in collective bargaining processes. All types of events produce "trickle-up" or bottom up effects. Examples were given during the last four days such as through women's group for political participation (Kyrgyzstan), protection of nature resources (forestry in India), global engagement for climate, ocean and land degradation (Stockholm+50, UN Ocean Conference 2022) and cooperatives to achieve sustainable livelihoods (India).

- Interdependency of the river system on land and the ocean ecosystem
  Better insight concerning the interdependency of the river system on land and the ocean ecosystem are urgently needed. This is the least understood aspect, for non-subject matter specialists, of how critical factors of our life are affecting each other. We should carefully check and document how plastics and other waste emitting into the ocean stifle the vitality and health of our oceans. At the same time, we should check how Aquafisheries are driving up the demand for ocean-based feeder fish and threatening extinction of these small feeder fish. At the same time diminishing quantity of these fishes are putting at risk the survival of predatory fishes in the ocean.

- Women's Rights
  The survey responses of participants of this session clearly indicated a need to address policy and action gaps as typified by the case of women's rights in Comoros where a disconnect exists between policy versus actual implementation or practices at multiple levels: municipality, national, international. When drafting new laws, writing new regulations or agreeing on international treaties, a mapping exercise should be conducted first to avoid

[355] Social and Solidarity Economy. https://www.ilo.org/global/topics/cooperatives/sse/lang--en/index.htm
[356] Social economy in the EU. https://ec.europa.eu/growth/sectors/proximity-and-social-economy/social-economy-eu_en

duplication, wrongly designed policies or simply pro forma regulations that are simply a form of window dressing without intention to actually implement them.

- A human development approach in harmony with nature needs to be reinforced throughout the policy processes. Participation of citizens and beneficiaries of the policies need to be part of the safeguard measures. If businesses and our lifestyle are in harmony with nature and are coherent, sustainable development becomes reality.

A Concluding Thought

Many of the vulnerable and marginalised groups, including small farmers, subsistent fishers, indigenous groups, informal workers (many these groups are mostly women and children), often rely for their survival on degraded land, fragile ecosystems and natural environments. On the other hand, without them serving as the guardians and stewards, these global commons will not survive.

Therefore, their ecosystem services should be encouraged, recognized, enabled and compensated, especially because these services constitute part of the networks in safeguarding the ecological security which is essential the maintaining of food production and natural sustainability.

Could this idea of "ecosystem compensation" be an additional measure to reach the "bottom of the pyramid"? For these "invisible communities" who are "hidden" away in remote and rural areas, their role in caring for the environment and eco-diversities are often overlooked or taken for granted. Such compensation scheme will provide the landless and marginal people with needed life support and the likelihood of "a life with dignity" as promised by the 2030 Agenda Declaration!

Knowledge management, recording, presentations of the sessions will be available at https://unosd.un.org/events/2021-22_ETC

What are the key takeaways for you?

Closing of the Executive Training Course

Dr. **Jean D'Aragon**, Senior Sustainable Development Expert, UNOSD

Dr D'Aragon thanked the speakers and presenters who shared their experience, knowledge and wisdom during the Executive Training Course (ETC) for Policymakers on the 2030 Agenda for Sustainable Development over the last four days.

ETC can be seen as an accelerator. Through representation in discussions during this training course, it was hoped that this edition of ETC will help participants better understand the issues around the HLPF and particularly the five SDGs that will be the focus of attention at the HLPF next July. It is also hoped that through this year's ETC, participants are better prepared to engage more actively in accelerating the implementation of the SDGs review and report on the progress made in their respective countries.

2022 is the midpoint of a timeline that was established in 2015 with the adoption of the 2030 Agenda for Sustainable Development and the Paris Agreement on Climate Change. 2022 also

marks the 50th anniversary of the 1972 U.N. Conference on Environment, the first ever U.N. conference on sustainable development**,** in Stockholm.

There are also other U.N. conferences on nature coming soon**,** like the UN Ocean Conference[357] in June/July; the UN Climate Change Conference, COP 27**[358]** in November 2022; and the U.N. Water Conference in march 2023[359]. These major U.N. conferences will need inputs from all U.N. member states in order to find solutions. They will empower stakeholders to find solutions to many challenges.

There are so many challenges countries are facing and it is undeniable that participants will have an important role to play in these discussions and preparations leading to these conferences. But also, not to forget, participants have important roles to play in implementing the solutions that will be put forward. We hope this ETC for policymakers has contributed to knowledge and capacity building that can help you push the 2030 agenda.

Please make use of the lessons learned over the last four days and share them with your colleagues and partners and translate these lessons and new knowledge gain into sustainable solutions that make sense in your national context to achieve sustainable development within the remaining eight years of the Decade of Actions for the SDGs[360].

In closing, Dr D'Aragon thanked all the speakers for their generosity in sharing their experience knowledge and wisdom during the ETC training course. He also thanked Professor Raymond Saner for his contribution as a speaker earlier this week and also as our facilitator- moderator today. He also thanked Professor Lichia Saner-Yiu, our consultant, for her excellent work in organizing the executive training course and facilitating and moderating the sessions for the first three days.

Dr D'Aragon thanked the colleagues from UNDESA in New York, particularly Mr Alexander Trepolkov, Officer in Charge of the Division for Sustainable Development Goals, UNDESA, for his contribution on the first day of the training. He also addressed special thanks to Mr Chongyu Park Head of UNOSD for his contribution and for his support and thanked once more the UNOSD staff and the interns who worked very hard in the shadow making this session and all the sessions this week very successful. Finally, Dr D'Aragoon thanked all the participants who joined the training course during this week and expressed hopes that he would be happy to see all in person during the next edition of the Executive Training Course for Policy Makers on the 2030 Agenda for Sustainable Development in the few months from now.

Goodbye!

[357] 5 things you should know about the UN Ocean Conference, a chance to save the planet's largest ecosystem, *Un News.* 27 May 2022. https://news.un.org/en/story/2022/05/1119192?gclid=EAIaIQobChMI2prPxqDJ-AIVB57VCh3iHAh6EAAYASAAEgIvUvD_BwE

[358] UN Climate Change Conference, Sharm el-Sheikh Climate Change Conference - November 2022, https://unfccc.int/cop27

[359] UN 2023 Water Conference, https://sdgs.un.org/conferences/water2023

[360] Decade of Action to deliver the Global Goals. https://www.un.org/sustainabledevelopment/decade-of-action/