Summary of E-Discussion for HDR 2020:
Sustainable Human Development Pathways

11 March to 30 April 2020

Introduction:

The United Nations Office of South-South Cooperation (UNOSSC) and UNDP Human Development Report Office (HDRO) jointly launched as [e-discussion on Sustainable Development Pathways](#) to inform the upcoming Human Development Report 2020. The discussion was launched between 11 March 2020 to 30 April 2020 to seek inputs from think-tanks to stimulate discussion that can enrich the HDR 2020 and representing diverse views and expertise, especially from the South. UNOSSC and UNDP appreciate the valuable contributions and perspectives shared by the contributors to the e-Discussion. The contribution also provided material useful for background research around the global South.

About the e-discussion:

The e-discussion sought inputs based on a concept note to assess the pathways for sustainable human development, upgrading both its analytical framework and measurement tools, including the HDI for the 30th Anniversary, the 2020 Human Development Report. Given the importance of hearing from a diverse set of thinkers and change makers, UNOSSC & HDRO organized an e- consultation, hosted on the [South-South Global Thinkers Network.](#) The e-discussion welcomed responses to the following guiding questions:

1. How can the human development approach bring new light to the sustainability debate? Are dominant sustainability debates focusing narrowly only on income growth versus sustainability? In the paradigms of green growth, and de-growth, is there recognition of the need for people-centered policies?

2. In different regions of the developing South, what are the regional, sub-regional and country level environmental issues that impact human development?

3. What initiatives are being implemented to mitigate and adapt to these harms? How do these efforts tie in with the achievement of SDGs? What are the main tradeoffs and the main synergies with SDGs? What are the lessons learnt?

4. How are different countries leading on mitigation policies, norm setting and paradigm shifting? What are some national and regional perspectives being brought to global negotiations and processes on climate change and sustainability?

5. What methodologies can be used to facilitate the "Greening of the HDI"? What are the main indicators, and how will they be selected? What are the practical challenges in applying this methodology to the country level? What are some effective methods to advocate for data collection on these indicators, at the country level.

Key Messages:

1. **How can human development approach bring new light to the sustainability debate? Are dominant sustainability debates focusing narrowly only on income growth versus sustainability? In the paradigms of green growth, and de-growth, is there recognition of the need for people-centered policies?**

- **Mutual learning through sharing of experiences, knowledge**, challenges and opportunities from the South was highlighted. In doing so, building development pathway that are humane and more people's centered, with robust integrated policy with planned and directed structure looking into benefits to be generated. Examples were cited to demonstrate how project on combatting HIV/AIDS,

early marriages and solar energy in Eritrea impacted lives of communities, helped in advancing and raising standards of living. It emphasized coherent and collaborative approach by government, civil society and community and building on sector synergies.

- **Global Systemic Concerns** such as climate change, disaster risk reduction, migration, displacement effect of technologies, food security, arms proliferation etc. need to look into and how these could impact the status of SDGs implementation globally. These issues exist across borders and will require a global rather than just a national response and can result in enhancing the capacities of national and sub-national governments to deal with or mitigate the impacts of such challenges.

- **Bridging the digital divide** is key as ICT has become one of the main drivers of growth, both, economic and social, especially in tackling exclusion. Gaps in access to information and communication technology (ICT), for some regions than others, could result in inequalities. Example were cited from countries such as In Sri Lanka, India and Nigeria where Fourth Industrial Revolution (4IR) help influenced poverty and welfare via channels of employment and migration, notable climate change affect gender disparities and new technology stimulating education outcomes through e-learning tools respectively.

- **The role of Academia and Private Sector:** Academia and policy researchers must seek to embed debates dealing with global systemic concerns in national-level efforts to leave no one behind, south-south cooperation, financing of SDGs, data for development and delivery of SDGs at the grassroots level. Similarly, partnership between private sector, government and civil society organizations can lead to longer-lasting outcomes. There is need for large business enterprises across the globe to recognize their contribution beyond corporate social responsibility and be an active partner in addressing global systemic concerns.

- **Harvesting sector linkages and synergies** can enable pathways sustainable development. Integrating some of existing models with the Human Development Index (HDI) to provide a climate change adjusted HDI. Example were shared including Project Drawdown[1] recognizing educating women and girls and providing them with family planning tools is one of the effective ways for reducing carbon emissions. several climate models by Intergovernmental Panel on Climate Change (IPCC) can also guide the economic and environmental impact of climate change. The interactive discussion also highlighted work being done by Wittgenstein Centre for Demography and Global Human Capital on projections based on alternative assumptions about fertility, mortality, migration and educational transitions. These correspond to five shared socioeconomic pathways (SSP) and could potentially inform the HDI

- **The role of inclusive and multi-stakeholder processes** is key for sustainable development. It should take into account not only the economic growth, but also inequalities in general. Civil society has a major role to play in linking sustainability and human development, by representing the voice of people in projects run by the state, banks or the private sector. However, empowering the work of civil society in the Global South would require flexible and adaptable funding support. Examples from initiatives such as Civil-BRICS mechanism[2] and New development Bank (NDB)-CSO working group shows how civil society is actively engaging for environmental and social oversight, project design

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[1] https://drawdown.org/solutions/health-and-education
[2] https://www.youtube.com/watch?v=IuUht9zk8EU

and implementation. Inclusion of all sectors of society, particularly major groups i.e. women, children and youth, indigenous people etc. is the prerequisite.

- **The human development approach should be dynamic** given the instability of forecasts or the uncertainty or changing nature variables contributing to well-being. The approach should integrate the main development emergencies and essential variables improving the well-being that are of concern to the world community. The paradigms of green growth and degrowth implicitly take into account policies that integrate people. Technological progress, demographic growth, the prowess of research tends to distance human beings from nature. Environmental resources and services must be renewed at a faster growth rate than the rate of population growth. Technologies for exploiting environmental services would be accessible to the population of the south in line with their income.

- **Synchronize efforts to understand the economic development desires** of developing countries, which is pertinent to human development, and to the extent possible, employing sustainable development practices without risking or jeopardizing their economic growth. The sustainable human development approach should take into consideration the imperative to meet the basic needs and rights of poorest people while also reshaping production and consumption patterns in line with the planet's sustainable boundaries. This requires South-South as well as North-South cooperation.

- **There is inverse proportion between ecological footprint per person and region experiencing an economic or financial crisis**. also, countries with the highest HDI have greater ecological footprint. This is due to use of GDP per capita as an indicator. It is necessary to find new ways to measure the quality of life of the inhabitants. Although income is a good measure, not necessarily higher income implies that people are living better. Though, GDP per capita is a good indicator of countries with insufficient economic resources, it does not work as an indicator of good quality of life. Policies should focus on improving people's quality of life.

- **Social protection policies** play a key role in achieving sustainable development, promoting social justice, reducing poverty and vulnerability, creating job opportunities, and supporting inclusive and sustainable growth. Also, to combat Covid-19 it can help mitigate its negative effects on human safety and human development. Government are required to use the momentum generated by the current crisis to make rapid movement toward an effective and universal social protection system. It also needs scholars and different organizations to work collectively to focus on research and programs on poverty and vulnerable groups by spreading messages about the importance of social protection and enhancing the responsiveness of social protection systems on natural disasters, conflict or humanitarian emergencies.

    2. **In different regions of the developing South, what are the regional, sub-regional and country level environmental issues that impact human development?**

- **Environmental degradation, climate change, deforestation, ecological haphazard, eroding biodiversity**, land, and food security, etc. are some of the daunting issues the Global South faces and that directly and indirectly impact their already fragility human development efforts. Unfortunately, many countries in the South lack the sufficient capabilities to successfully deal with these issues. Daily survival is usually the driving objective, and this means the need to secure a prosperous, peaceful and livable planet through a harness sustainable economic growth and development to

social solidarity across and between generations are luxuries they are unable to afford. Southern countries are hit hardest, yet they are also the least equipped to cope with environmental and ecological 'revenge'.

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- **The Sahel Region of Africa is a palpable and depressing example.** The region is engulfed by surging violence, and there is little doubt that climate change, food insecurity, extremists, state fragility, etc. are largely to blame, as they make an explosive mix in the Sahel with devastatingly far-reaching consequences for the whole region and the wider continent due to spill-overs in violence, migration, crime, instability, and so on.

- **The exponential growth of the** population of the countries of the south and the productivism are factors of emission of the Greenhouse gases, responsible for the fragmentation, the destruction of the habitats and the exchanges. Climate change is one of the challenges of sustainable development.

- **The management and exploitation** of air and climate, international rivers and lakes, soil and desertification, biodiversity, international responsibility in environmental matters, waste, international trade, etc. are the problems of our regional environment with consequences for human development.

- **In Africa, the management and exploitation of** air and climate, international rivers and lakes, soil and desertification, biodiversity, international responsibility in environmental matters, waste, international trade, etc. are the regional environmental problems with consequences for human development. Communities are exposed to several risks. These are the risks of conflicts (inter-community, inter-family, land, etc.), insecurity (food, road, civil, etc.), expropriation, social exclusion, spoliation, land grabbing , unemployment, education, health and finally, the environmental issues i.e. natural disasters, destruction of biodiversity, drought, etc. It is necessary to determine the regulatory framework for risks with mapping of stakeholders, defining roles and responsibilities, offering collaboration opportunities and building capacities.

- **In Latin America, key environmental issues include** deforestation, plantation-style agribusiness and cattle ranching (including illegal); illegal mining; hydroelectric dams, air and water pollution, access to clean water and sanitation services. There exist tremendous rural-urban divides, as well as income-driven divides, with much wealth held by a small percent, and indigenous communities, in particular, at risk when confronted with these challenges. Confronting such challenges can also be deadly. Contribution detailed analysis of the environmental face by the region useful for background research.

- **Sustainable land management** is also a challenge. Due to the fragile economic profile of developing countries and inappropriate farming practices, the large area of land is degraded. The causes are anthropogenic, socio-economic (low level of intensification of farming systems, low household income and poverty), security, climatic (aggressiveness of rains, high temperatures), etc.

- **Unplanned urbanization** is another challenge as a result of number of social and economic processes that foster widespread, chaotic urban sprawl all across the Global South (e.g. migration form the countryside to cities, lack of urban planning and affordable housing markets). This urban expansion affects the rural areas and environmental resources around growing cities, including water sources, air quality, diseases, forests and biodiversity. On the other hand, bigger, inefficient cities require more resources, which exerts more and more pressure over natural resources elsewhere.

- **Improvement of human settlements** was also discussed highlighting link between Micro-living environment and macro-environmental problems. In the Global South, especially in South Asia, people often suffer from natural disasters such as floods, mudslides, and landslides, etc. Micro-living environment is facing problems such as difficulty in drinking water, lack of access to improved sanitation facilities, lack of access to clean energy, and lack of harmless disposal of household waste. Sub-Saharan Africa, on the other hand, often suffers from drought, which has led to widespread crop losses. These micro problems are closely related to macro-environmental issues. HDI can reflect the progress of human development by starting from the index of micro-habitat environment, and the solution of micro problems and macro problems should be combined.

- **In Chad, for example, the primary environmental issue** has been the drying up of the Lake Chad Basin. The Basin, which is relied on for livelihood by about 30 million people, has shrunk by 90% since 1960s. Climate change among other factors plays a significant role in this deterioration. The environmental disruption has affected economic development in communities around the basin, fueling a number of conflicts like the Boko Haram insurgency and farmers-herder crisis. The recent statistics show that more than 2.5 million people have been displaced and more 11 million people living around the Lake Chad Basin require humanitarian assistance.

- **The encroaching desert is another regional environmental challenge for West Africa**. The Sahara Desert has been advancing southward at a 0.6 kilometer per year, turn many arable lands into the desert and shortened raining season. Again, this development has implications for food security and human development especially for vulnerable groups like women and children that bear the major brunt of the changing climatic conditions. The resulting conflicts and food security have touched every dimension of human development including education (more children are out of school and dearth of quality teachers), health (psycho-social effect of conflict) and income (loss of livelihood).

- **A sustainable human development approach** is needed that takes into consideration the imperative to meet the basic needs and rights of poorest people of the world while also reshaping production and consumption patterns in the global South and North to be in line with the planet's sustainable boundaries. This will require South-South as well as North-South cooperation.

- **Link between culture, human development, and sustainable practices** is an element which plays a significant role in "greening" the human development index. Culture, amongst others, is an important factor that shapes the way in which individuals, societies and nations perceive their surroundings and reality, and their relationship with the environment. There is need for reassessment is the role of culture. Its measurement and inclusion are a challenging endeavor but worth looking into. The discussion also highlighted some follow up questions for further exploring

- **Countries in the Global South lack capacity, technological resources and knowledge** regarding sustainable development. Cooperation between the North and South, and between the countries in the South become vital here. South-South and North-South cooperation in terms of knowledge exchange, best practices and lesson learnt can be an effective way to get the ball rolling. In this respect, partnership targets that are measurable may be an important addition into sustainable human development.

- **In Africa (Uganda) the rising water levels (Lake Victoria) and locust infestation** affected areas will go beyond income as social networks and economic activities are affected which both have an impact

on human development. This has affected livelihoods, destroying businesses and habitats and increased incidences of health-related issues-malaria, cholera, diarrhea. Access to health facilities and schools is hampered to impassable roads that are submerged. Hunger and low agricultural related income in affected areas is likely to ensue. Combined with COVID-19 effects the situation is dire. Government through the Ministry of disaster preparedness released funds to fight the locus invention.

3. **What initiatives are being implemented to mitigate and adapt to these harms? How do these efforts tie in with the achievement of SDGs? What are the main tradeoffs and the main synergies with SDGs? What are the lessons learnt?**

- **Social and environmental risk management** approach is important for the SDGs insofar as it contributes to peace and social justice, conflict prevention, acceptance and ownership of projects and their sustainability. This risk management for communities helps preserve cohesion and social peace, inclusive and participatory development, taking into account their expectations and needs, taking advantage of programs and ensuring the sustainability of investments.

- **For the private sector,** risk management makes it possible to avoid blockages in carrying out activities, to secure investments, to preserve the business climate, to achieve objectives, to avoid losses and to reassure private investors. For local authorities, risk management contributes to preserving social cohesion, avoids the impoverishment of populations, maintaining the confidence of the electorate, mobilizing technical and financial partners. Food security and community capacity building initiatives are also common quest synergies for achieving the SDGs.

- **Effective role of local and national authorities:** Many of these problems, particularly such as urbanization, are the consequence of weak, underfinanced local governments which, in the end, are the ones responsible for implementing the policies that would create a sustainable environment. Local and national authorities have proven time and again their lack of capacity—or willingness—to adequately guide processes of urban expansion that have been going on for decades all over the developing world.

- **More South-South debate and academic exchange is needed** among national experts in order to standardize measurements and typologies of urban growth; compare circumstances, policies, and policy outcomes on the issue; identify lessons learned and best practices, and set a common agenda on urban expansion that would trigger a public debate with policy makers on this mostly overlooked but critical subject.

- **Digital technologies** such as Satellite remote sensing, artificial intelligence, data from data, GIS are flourishing in the Global South and are widely used in the environment, agriculture, disaster management and other aspects. New technology-driven and business model innovation provide unique opportunities to solve environmental problems. There is need to strengthen South-South and triangular cooperation in digital technology to offer new solutions to environmental and sustainable development issues. China and ASEAN countries have carried out good practices in disaster prevention and mitigation by using high-definition satellite remote sensing and GIS technology. China advocates and practices green development.

- **In Guatemala, the project "Productive Landscapes Resilient to Climate Change and Strengthened Socioeconomic Networks"** is currently being implemented, to teach communities near a basin a way to sustain themselves economically, taking advantage of the natural resources of a sustainable way. This program is focused on low-income populations and situations of poor quality of life, so these types of projects will have a positive environmental impact while seeking a better standard of living for human beings. Due to the multi-thematic approach of the SDGs, programs as are strongly related to them. For example, it helps to reduce hunger (SDG 2), poverty (SDG 1) and improves access to work (SDG 8), while promoting sustainable production (SDG 12) and the maintenance of ecosystems around of the basin (SDG 15). SDGs 5 and 10 can be addressed by including men and women, indigenous and non-indigenous in these workshops.

4. **How are different countries leading on mitigation policies, norm setting and paradigm shifting? What are some national and regional perspectives being brought to global negotiations and processes on climate change and sustainability?**

- **The African block of the Global South established the continental African Union's** Agenda 2063 of 'The Africa We Want', aligning itself with and adapting the SDGs to its contextual realities at the regional, national, and locality levels. The Agenda aims to address key systemic barriers to sustainable development, including inequalities and exclusions, unsustainable production and consumption patterns, weak institutional capacities, climate change, environmental degradation, etc.

- **The Chinese government has put forward a clear plan** for energy conservation and emission reduction, and has made prevention and mitigation of major risks, poverty alleviation, and pollution prevention and control the three major tasks to prevent air and water pollution and promote sustainable development. In the outline of the 13th five-year plan (2016-2020), China has made ecological protection and poverty alleviation an important poverty alleviation measure, developing afforestation cooperatives, ecological compensation, ecological public welfare jobs in rural areas, and developing green poverty alleviation industries.

- **A number of regional initiatives** have been proposed to tackle challenges, such as drying of Lake Chad, for which the ramifications cut across countries. The four countries surrounding Lake Chad have established the Lake Chad Basin Commission (LCBC) to coordinate activities and resources around the water. There is an ambitious plan to refill the lake through channeling water from bigger rivers in Africa, however, financial requirement and environmental issues it raises have been a major constraint.

- **A more deep and inclusive global cooperation,** either among Southern countries, or between the North and South is needed. Technically innovative solutions are great, but political commitment, ideological common ground is more important. The ranging Covid-19 pandemic presents a weakness of our global cooperation system and fragmented response by countries which neglects non-economic agendas, especially those related to basic human securities, like public health and climate change.

- **The current COVID-19 crisis will reshape the economic thinking** and the development agenda worldwide and the progress towards achieving the SDGs. Governments need to prioritize public expenditures and reform social policies to include all vulnerable groups, like women and informal

employees, who are the most affected. It also raises questions concerning the progress achieved in the health sector. The weakness of the health sector and the inability of some countries to face such health crisis shed the light on the importance of increasing investment in the health sector to achieve SDG3.

- **The gender gap is expected to widen** as women are among the most vulnerable groups. Restrictions in mobility increased the care work burden, and also became more vulnerable to domestic violence. Also, with a new work and education environment where access to technology is necessary condition, women, especially those living in remote areas, are not expected to be winners

5. **What methodologies can be used to facilitate the "Greening of the HDI"? What are the main indicators, and how will they be selected? What are the practical challenges in applying this methodology to the country level? What are some effective methods to advocate for data collection on these indicators, at the country level?**

- **Measuring HDI should take vulnerability into account.** The measurement of development should take into account the vulnerability of certain countries in the South such vulnerability to climate change, in relation to public health, which is also very relevant in the context of current COVID-19 pandemic. Measuring development should consider the robustness of health systems in Southern countries such as number of doctors per 100 people, resources allocated to the health system, etc. This will allow to direct economic/ fiscal policy priorities towards the sectors critical for sustainable development in the countries of the South. The discussion explored similar available indicators, such as Economic Vulnerability Index (EVI)[3] for measuring environmental and economic vulnerability.

- **A fuller picture of human development may require not only going beyond GDP** but also adjusting the current HDI and the family of human development indices. The family of indices produced by the HDRO provides information on three different but interrelated aspects of human development: the average condition of people; levels of inequality (including gender issues); and levels of absolute deprivation. However, they do not take into account issues of unsustainable production and consumption patterns, among other factors that are important for enhancing human development. The contribution provides insight on various existing methodologies including Dewan (2009) Sustainable Human Development (SHD), José P. (2012) also suggested a sustainability adjusted HDI (SHDI) and Desai (1995), developed an 'index of intensity of environmental exploitation'.

- **Greening the HDI requires an alternative holistic approach.** The integration of environmental resources and their degradation linked to human activity and climate change as well as resilience is options for greening the HDI. The main indicators would relate to longevity and health; education standard of living and indicator of availability of non-renewable natural assets. Statistical and methodological challenges will of course be present. The effective methods can vary and range from consultation and negotiation, participation and accountability, the use of autonomous technologies for the collection of quantitative data, analyzes comparative etc.

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[3] UN Committee on Development Policy in the evaluation of Least Developed Countries (LDCs): https://www.un.org/development/desa/dpad/least-developed-country-category/evi-indicators-ldc.html

- **Incorporation of environmental status of a region**, which influences the real state of human development of a citizen can contribute toward greening of HDI. Per Capita Green GDP may be used as a second-best solution in constructing the green HDI that will also tangentially cover the objectives of SDG 12.

- **The notion "Greening HDI" need to be accompanied by government capacity**. Economic growth still remains key factor of development for most developing countries, to reduce carbon emissions in many cases means losing jobs. Balancing jobs and environmental protection are always a dilemma faced by policymakers. Private sector has a role to play but more responsible investment from public sectors with stricter standards are definitely needed to achieve the goal. Going forward, the issue of job creations and compensation issues should be taken into consideration.

- Since collecting environmental data in developing countries is facing many challenges of missing data, the best way to solve **macro-environmental data problem,** from the perspective of feasibility, is to use satellite remote sensing technology. Microdata on the households and communities' level, on the other hand, selects feasible indicators from existing household survey data.

- **A more comprehensive global -regional -national understanding and efforts** are needed for greening of HDI that are mutually reinforcing are needed for greening of HDI. In the discourse on greening of HDI, issues that is short term in nature (enhancing income, reducing inequalities, expanding economic well-being and opportunities) and the issues that are medium to long term in nature (mitigating adverse climate change impacts, environment- friendly policies, sustainable development praxis) should be discussed as entwined and interdependent and should be explored how best to draw the synergies between the two sets of issues.

- **For inclusion of indicators on resilience and environmental conservation,** example were cited from Bhutan's Gross National Happiness index which include indicators on sustainable and equitable socio-economic development, environmental conservation, and ecological diversity and resilience among others and hence enable people-centered through peoples' ratings of their own life, e.g. through the use of data collected through the Gallup World Poll.

- **Qualitative aspect of education** can be incorporated with slight adjustment in the HDI. Instead of only focusing on expected years of schooling/mean years of schooling, a revised index could look at whether/to what extent education for sustainable development is part of the national curriculum. Many countries from the Global South have made efforts in this area and the ongoing work[4] can further inform this discussion.

- **Replace per capita with adjusted net national income per capita** can be one option for greening of the HDI. This new indicator can capture environmental degradation and other externalities from climate change. It may not be comprehensive enough, but it will be crucial to include economic damages (output and job losses) from climate change across countries and down to the local communities, as this will draw more attention to climate change issues. Tracking government commitment and responses to climate change will also provide a way to identify regional solutions and best practices to climate change.

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[4] United Nations Decade of Education for Sustainable Development (2005-2014) and the subsequent Global Action Programme on Education for Sustainable Development (2015-2019). Possible indicators on education for sustainable development, including on education for resilience and environmental conservation, could be drawn, led by UNESCO's.

- **Indicators addressing resilience on public health, ecological environment, and technology** innovation can be considered for revision of HDI. Especially in education and health care aspects, cloud teaching and online care are increasing, an indicator on access to online education, health or modern information technology would be useful in the future.

- **Incorporate certain elements multidimensional Index** to come up with a multidimensional HDI that has green elements was also suggested. For authenticity, clear indicators must be defined. These can be borrowed from the SDG targets on climate change and environment or natural resources. These will ensure that the measurement is in line with the 2030 agenda rather than having new indicators. Data remains the challenge but can be made available over time. If indicators are well established, national statistical offices can embed indicators in their national household surveys. This can also provide a direct link with the households that have other related HDI indicators on education, health, gender, inequality etc.

- An existing and quite adequate methodology proposed to modify the HDI is that of Jason Hickel[5], who makes two modifications 1) Add the ecological impact: To measure the environmental impact, the use of the ecological footprint per person is suggested (which focuses on two dimensions: available natural resources and current demand) and CO_2 emission per person; 2) Modify the "maximum" in GDP per capita from $ 75,000 to $ 20,000. It modifies the HDI very slightly, keeping two of the three components the same and adding an ecological focus. Another positive aspect is the indicators that are used, since they are measurements that are currently already calculated. Among the challenges, it should be noted that CO_2 and climate footprint measurements must be standardized and have a clear methodology, in addition, verification is required that the reported data corresponds to the real data since it may happen that data is underreported to improve the indices. but to avoid this, the annual measurement methodology can be implemented by an international organization to a random group of countries, as verification.

- Suggested inclusion of additional indicators for greening of HDI such as **Environmental Risk Assessment (ERA) with indicators** (1) Ill Health and Morbidity Outcomes Attributable to Environmental Risks; (2). Household Environmental Risks; and (3). Financial Losses Attributable to Environmental Risks.

- Other possible indicators included: access to clean drinking water, access to safe sanitation services; access to food; and access to clean air. Moreover, access to and type of shelter, access to adequate healthcare services; meaningful, just and sustainable employment (employment rate, type of employment; skilled or unskilled labor ratios, and percentage of labor force involved in informal and/or migratory labor); and access to political processes such as voting, freedom of movement and community participation are other variables that are measurable, that integrate social and environmental factors that impact human development; and which should be considered in a robust HDI index.

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[5] https://www.sciencedirect.com/science/article/pii/S0921800919303386?via%3Dihub

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