
Globalization and Sustainability Debate: Key Reflections

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ABSTRACT: The debate on globalization and sustainability has gained momentum in the last few years, thus shedding light on the interrelatedness of these two concepts as well as on their cross-cultural aspects. The 2030 United Nations Agenda adopted in 2015 is a shared blueprint for partnerships for peace and prosperity for people and the planet. This strategic to-do list involves meeting Sustainable Development Goals and associated targets linked to sustainable growth, tourism and food systems, reduced energy and water costs, improved health, and increased productivity. This debate is centered upon these fields of knowledge and discusses recent advances, new perspectives, and emerging issues. Its ultimate objective is to provide a comprehensive overview of related multi-faceted dimensions while bridging the gap between theory and practice. Discussion cover a wide array of areas of research pertaining to the never-ending and unlimited expanding of both international economies and operations, embedding excellence and sustainability into business strategic objectives, and rethinking an approach to sustainable globalization. Special attention is paid to financial implications, due to the key role that finance plays to complement the real sphere of the economy and that has increasingly attracted the attention of both academics and practitioners.

KEYWORDS: globalization, sustainability, debate, United Nations, academics, economies, productivity

I. INTRODUCTION

Sustainability is a social goal about the ability of people to co-exist on Earth over a long time. Specific definitions of this term are difficult to agree on. They have varied with literature, context, and time.^{[2][1]} Experts often describe sustainability as having three dimensions (or pillars). These are environmental, economic, and social.^[1] Many publications state that the environmental dimension is the most important.^{[3][4]} So in everyday use, sustainability often focuses on countering major environmental problems. These include climate change and loss of biodiversity. They also include loss of ecosystem services, land degradation, and air and water pollution. The idea of sustainability can guide decisions at the global, national, and individual levels (e.g. sustainable living).^[5] A related concept is sustainable development, and the terms are often used to mean the same thing.^[6] UNESCO distinguishes the two like this: "Sustainability is often thought of as a long-term goal (i.e. a more sustainable world), while sustainable development refers to the many processes and pathways to achieve it."^[7]

The economic dimension of sustainability is controversial.^[1] Scholars have discussed this aspect under the concept of "weak and strong sustainability". For example, there will always be tension between the ideas of "welfare and prosperity for all" and environmental conservation.^{[8][1]} So trade-offs are necessary. Approaches that decouple economic growth from environmental deterioration would be desirable. But they are difficult to carry out.^{[9][10]} Measuring sustainability is difficult.^[11] Indicators consider environmental, social and economic domains. The metrics are evolving. They include certification systems, types of corporate accounting, and types of index. It is necessary to address many barriers to sustainability to make a sustainability transition possible.^{[5]:34[12]} Some barriers arise from nature and its complexity. Other barriers are extrinsic to the concept of sustainability. For example they can result from the dominant institutional frameworks in countries.

There are many approaches people can take to transition to environmental sustainability. These include maintaining ecosystem services, reducing food waste, and promoting dietary shifts towards plant-based foods. Another is reducing population growth by cutting fertility rates. Others are promoting new green technologies, and adopting renewable energy sources while phasing out subsidies to fossil fuels.^[13] The United Nations agreed

the Sustainable Development Goals (SDGs) in 2015.^[14] These set a global agenda for sustainable development, with a deadline of 2030.

One option to overcome barriers to sustainable development is to decouple economic growth from environmental conservation.^[9] This means using fewer resources per unit of output even while growing the economy.^[15] This reduces the environmental impact of economic growth such as pollution. Doing this is difficult. Some experts say there is no evidence that it is happening at the required scale. Global issues are difficult to tackle as they need global solutions. Existing global organizations such as the UN and WTO are inefficient in enforcing current global regulations. One reason for this is the lack of suitable sanctioning mechanisms.^{[5]:135-145} Governments are not the only sources of action for sustainability. Business groups have tried to integrate ecological concerns with economic activity.^{[16][17]} Religious leaders have stressed the need for caring for nature and environmental stability. Individuals can also live in a more sustainable way.^[5]

The concept of sustainability has faced various criticisms. One is that the concept is vague and only a buzzword.^[1] Another is that sustainability might be an impossible goal.^[18] Some experts have pointed out that "no country is delivering what its citizens need without transgressing the biophysical planetary boundaries".^{[19]:11}

Sustainability is regarded as a "normative concept".^{[5][20][21][2]} This means it is based on what people value or find desirable: "The quest for sustainability involves connecting what is known through scientific study to applications in pursuit of what people want for the future."^[21]

The 1983 UN Commission on Environment and Development (Brundtland Commission) had a big influence on how we use the term sustainability today. The commission's 1987 Brundtland Report provided a definition of sustainable development. The report, *Our Common Future*, defines it as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs".^{[22][23]} The report helped bring sustainability into the mainstream of policy discussions. It also popularized the concept of sustainable development.^[1]

Some other key concepts to illustrate the meaning of sustainability include:^[21]

- It may be a fuzzy concept but in a positive sense: the goals are more important than the approaches or means applied;
- It connects with other essential concepts such as resilience, adaptive capacity, and vulnerability.
- Choices matter: "it is not possible to sustain everything, everywhere, forever";
- Scale matters in both space and time, and place matters;
- Limits exist (see planetary boundaries).

In everyday usage, sustainability often focuses on the environmental aspects.

II. DISCUSSION

Scholars say that a single specific definition of sustainability may never be possible. But the concept is still useful.^{[2][21]} There have been attempts to define it, for example:

- "Sustainability can be defined as the capacity to maintain or improve the state and availability of desirable materials or conditions over the long term."^[21]
- "Sustainability [is] the long-term viability of a community, set of social institutions, or societal practice. In general, sustainability is understood as a form of intergenerational ethics in which the environmental and economic actions taken by present persons do not diminish the opportunities of future persons to enjoy similar levels of wealth, utility, or welfare."^[6]
- "Sustainability means meeting our own needs without compromising the ability of future generations to meet their own needs. In addition to natural resources, we also need social and economic resources.

Sustainability is not just environmentalism. Embedded in most definitions of sustainability we also find concerns for social equity and economic development."^[24]

Some definitions focus on the environmental dimension. The Oxford Dictionary of English defines sustainability as: "the property of being environmentally sustainable; the degree to which a process or enterprise is able to be maintained or continued while avoiding the long-term depletion of natural resources".^[25]

The term sustainability is derived from the Latin word *sustinere*. "To sustain" can mean to maintain, support, uphold, or endure.^{[26][27]} So sustainability is the ability to continue over a long period of time.

In the past, sustainability referred to environmental sustainability. It meant using natural resources so that people in the future could continue to rely on them in the long term.^{[28][29]} The concept of sustainability, or *Nachhaltigkeit* in German, goes back to Hans Carl von Carlowitz (1645–1714), and applied to forestry. We would now call this sustainable forest management.^[30] He used this term to mean the long-term responsible use of a natural resource. In his 1713 work *Silvicultura oeconomica*,^[31] he wrote that "the highest art/science/industriousness [...] will consist in such a conservation and replanting of timber that there can be a continuous, ongoing and sustainable use".^[32] The shift in use of "sustainability" from preservation of forests (for future wood production) to broader preservation of environmental resources (to sustain the world for future generations) traces to a 1972 book by Ernst Basler, based on a series of lectures at M.I.T.^[33]

The idea itself goes back a very long time: Communities have always worried about the capacity of their environment to sustain them in the long term. Many ancient cultures, traditional societies, and indigenous peoples have restricted the use of natural resources.^[34] The terms sustainability and sustainable development are closely related. In fact, they are often used to mean the same thing.^[6] Both terms are linked with the "three dimensions of sustainability" concept.^[1] One distinction is that sustainability is a general concept, while sustainable development can be a policy or organizing principle. Scholars say sustainability is a broader concept because sustainable development focuses mainly on human well-being.^[21]

Sustainable development has two linked goals. It aims to meet human development goals. It also aims to enable natural systems to provide the natural resources and ecosystem services needed for economies and society. The concept of sustainable development has come to focus on economic development, social development and environmental protection for future generations.

Scholars usually distinguish three different areas of sustainability. These are the environmental, the social, and the economic. Several terms are in use for this concept. Authors may speak of three pillars, dimensions, components, aspects,^[35] perspectives, factors, or goals. All mean the same thing in this context.^[1] The three dimensions paradigm has few theoretical foundations. It emerged without a single point of origin.^{[1][36]} Scholars rarely question the distinction itself. The idea of sustainability with three dimensions is a dominant interpretation in the literature.^[1]

In the Brundtland Report the environment and development are inseparable go together in the search for sustainability. It described sustainable development as a global concept linking environmental and social issues. It added sustainable development is important for both developing countries and industrialized countries:

The 'environment' is where we all live; and 'development' is what we all do in attempting to improve our lot within that abode. The two are inseparable. [...] We came to see that a new development path was required, one that sustained human progress not just in a few pieces for a few years, but for the entire planet into the distant future. Thus 'sustainable development' becomes a goal not just for the 'developing' nations, but for industrial ones as well.

— Our Common Future (also known as the Brundtland Report), ^{[22]:Foreword and Section I.1.10}

The Rio Declaration from 1992 is seen as "the foundational instrument in the move towards sustainability".^{[37]:29} It includes specific references to ecosystem integrity.^{[37]:31} The plan associated with carrying out the Rio Declaration also discusses sustainability in this way. The plan, Agenda 21, talks about economic, social, and environmental dimensions:^{[38]:8.6}

Countries could develop systems for monitoring and evaluation of progress towards achieving sustainable development by adopting indicators that measure changes across economic, social and environmental dimensions.

— United Nations Conference on Environment & Development – Earth Summit (1992),^{[38]:8.6}

Agenda 2030 from 2015 also viewed sustainability in this way. It sees the 17 Sustainable Development Goals (SDGs) with their 169 targets as balancing "the three dimensions of sustainable development, the economic, social and environmental".^[14]

III. RESULTS

Scholars have discussed how to rank the three dimensions of sustainability. Many publications state that the environmental dimension is the most important.^{[3][4]} (Planetary integrity or ecological integrity are other terms for the environmental dimension.)

Protecting ecological integrity is the core of sustainability according to many experts.^[4] If this is the case then its environmental dimension sets limits to economic and social development.^[4]

The diagram with three nested ellipses is one way of showing the three dimensions of sustainability together with a hierarchy: It gives the environmental dimension a special status. In this diagram, the environment includes society, and society includes economic conditions. Thus it stresses a hierarchy.

Another model shows the three dimensions in a similar way: In this SDG wedding cake model, the economy is a smaller subset of the societal system. And the societal system in turn is a smaller subset of the biosphere system.^[40]

In 2016 an assessment examined the political impacts of the Sustainable Development Goals. The assessment found that the "integrity of the earth's life-support systems" was essential for sustainability.^{[3]:140} The authors said that "the SDGs fail to recognize that planetary, people and prosperity concerns are all part of one earth system, and that the protection of planetary integrity should not be a means to an end, but an end in itself".^{[3]:147} The aspect of environmental protection is not an explicit priority for the SDGs. This causes problems as it could encourage countries to give the environment less weight in their developmental plans.^{[3]:144} The authors state that "sustainability on a planetary scale is only achievable under an overarching Planetary Integrity Goal that recognizes the biophysical limits of the planet".^{[3]:161}

Other frameworks bypass the compartmentalization of sustainability into separate dimensions completely.^[11]

The environmental dimension is central to the overall concept of sustainability. People became more and more aware of environmental pollution in the 1960s and 1970s. This led to discussions of sustainability and sustainable development. This process began in the 1970s with concern for environmental issues. These included natural ecosystems or natural resources and human environment. It later extended to all systems that support life on Earth, including human society.^{[41]:31} Reducing these negative impacts on the environment would improve environmental sustainability.^{[41]:34}

Environmental pollution is not a new phenomenon. But it has been only a local or regional concern for most of human history. Awareness of global environmental issues increased in the 20th century.^{[41]:5[42]} The harmful effects and global spread of pesticides like DDT came under scrutiny in the 1960s.^[43] In the 1970s it emerged that chlorofluorocarbons (CFCs) were depleting the ozone layer. This led to the de facto ban of CFCs with the Montreal Protocol in 1987.^{[5]:146}

In the early 20th century Arrhenius discussed the effect of greenhouse gases on the climate. (See also history of climate change science).^[44] Climate change due to human activity became an academic and political topic several decades later. This led to the establishment of the IPCC in 1988 and the UNFCCC in 1992.

In 1972, the UN Conference on the Human Environment took place. It was the first UN conference on environmental issues. It stated it was important to protect and improve the human environment.^{[45]:3} It emphasized the need to protect wildlife and natural habitats:^{[45]:4}

The natural resources of the earth, including the air, water, land, flora and fauna and [...] natural ecosystems must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.

— UN Conference on the Human Environment, ^{[45]:p.4.,Principle 2}

In 2000, the UN launched eight Millennium Development Goals. The aim was for the global community to achieve them by 2015. Goal 7 was to "ensure environmental sustainability". But this goal did not mention the concepts of social or economic sustainability.^[1]

Specific problems often dominate public discussion of the environmental dimension of sustainability: In the 21st century these problems have included climate change, biodiversity and pollution. Other global problems are loss of ecosystem services, land degradation, environmental impacts of animal agriculture and air and water pollution, including marine plastic pollution and ocean acidification.^{[46][13]} Many people worry about human impacts on the environment. These include impacts on the atmosphere, land, and water resources.^{[41]:21}

Human activities now have an impact on Earth's geology and ecosystems. This led Paul Crutzen to call the current geological epoch the Anthropocene.^[47] For example, the impact of human activity on ecosystems can reach tipping points in the climate system.

The economic dimension of sustainability is controversial.^[1] This is because the term development within sustainable development can be interpreted in different ways. Some may take it to mean only economic development and growth. This can promote an economic system that is bad for the environment.^{[48][49][50]} Others focus more on the trade-offs between environmental conservation and achieving welfare goals for basic needs (food, water, health, and shelter).^[8]

Economic development can indeed reduce hunger or energy poverty. This is especially the case in the least developed countries. That is why Sustainable Development Goal 8 calls for economic growth to drive social progress and well-being. Its first target is for: "at least 7 per cent GDP growth per annum in the least developed countries".^[51] However, the challenge is to expand economic activities while reducing their environmental impact.^{[15]:8} In other words, humanity will have to find ways how societal progress (potentially by economic development) can be reached without excess strain on the environment.

The Brundtland report says poverty causes environmental problems. Poverty also results from them. So addressing environmental problems requires understanding the factors behind world poverty and inequality.^{[22]:Section 1.1.8} The report demands a new development path for sustained human progress. It highlights that this is a goal for both developing and industrialized nations.^{[22]:Section 1.1.10}

UNEP and UNDP launched the Poverty-Environment Initiative in 2005 which has three goals. These are reducing extreme poverty, greenhouse gas emissions, and net natural asset loss. This guide to structural reform will enable countries to achieve the SDGs.^{[52][53]:11} It should also show how to address the trade-offs between ecological footprint and economic development.^{[5]:82}

IV. CONCLUSIONS

People often debate the relationship between the environmental and economic dimensions of sustainability.^[67] In academia, this is discussed under the term weak and strong sustainability. In that model, the weak sustainability concept states that capital made by humans could replace most of the natural capital.^{[68][67]} Natural capital is a way of describing environmental resources. People may refer to it as nature. An example for this is the use of environmental technologies to reduce pollution.^[69]

The opposite concept in that model is strong sustainability. This assumes that nature provides functions that technology cannot replace.^[70] Thus, strong sustainability acknowledges the need to preserve ecological integrity.^{[5]:19} Once we lose those functions we cannot recover or repair many resources and ecosystem services. Biodiversity, along with pollination and fertile soils, are examples. Others are clean air, clean water, and regulation of climate systems.

Weak sustainability has come under criticism. It maybe be popular with governments and business but does not ensure the preservation of the earth's ecological integrity.^[71] This is why the environmental dimension is so important.^[4]

The World Economic Forum illustrated this in 2017. It found that \$44 trillion of economic value generation depends on nature. This value, more than half of the world's GDP, is thus vulnerable to nature loss.^{[72]:8} Three large economic sectors are highly dependent on nature: construction, agriculture, and food and beverages. Nature loss results from many factors. They include land use change, sea use change and climate change. Other examples are natural resource use, pollution, and invasive alien species.^{[72]:11} Sustainable business practices integrate ecological concerns with social and economic ones.^{[16][17]} One accounting framework for this approach uses the phrase "people, planet, and profit". The name of this approach is the triple bottom line. The circular economy is a related concept. Its goal is to decouple environmental pressure from economic growth.^{[99][100]}

Growing attention towards sustainability has led to the formation of many organizations. These include the Sustainability Consortium of the Society for Organizational Learning,^[101] the Sustainable Business Institute,^[102] and the World Business Council for Sustainable Development.^[103] Supply chain sustainability looks at the environmental and human impacts of products in the supply chain. It considers how they move from raw materials sourcing to production, storage, and delivery, and every transportation link on the way.^[104]

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