Building a circular society through comprehensive approaches

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Abstract

Achieving the Sustainable Development Goals (SDGs) by 2030 amidst global crises requires countries to address challenges through integrated, localized responses while fostering international collaboration for a sustainable future. Emphasizing economic growth, particularly in developing countries, this approach advocates for a holistic review of SDGs to avoid siloed efforts. The concept of a circular economy is central, promoting resource efficiency and reducing environmental impacts through comprehensive life-cycle assessments, like Japan’s IDEA database. Additionally, enhancing the social acceptability of circular technologies and incentivizing through legal means and branding are pivotal. The transformation towards sustainable models also involves rethinking business practices, like emissions trading and ESG investments, to align with environmental goals and societal well-being.

While the international community is facing multiple crises, the task of achieving the SDGs by 2030 is getting more difficult. Each country is under pressure to respond to different challenges based on its own circumstances, with different policy priorities. In particular, it is necessary to recognize that economic growth remains a paramount goal for many developing countries.

Given these circumstances, in order to achieve a sustainable world for the international community, it is essential for each country, regardless of its development status, to solve its own problems in an integrated manner, and for the international community as a whole to promote change to achieve the SDGs in a comprehensive manner.

Some of the 17 goals of the SDGs have trade-offs with each other, and it is not good enough to work on each goal separately, but it is necessary to address them comprehensively. Also, it is important to consider what kind of socio-economic models are possible for such efforts, utilizing scientific knowledge. We believe that one of the keys is a circular economy and a circular society.

A big challenge with the SDGs is the lack of mechanisms to coordinate their efforts globally, given the individual circumstances and different stages of development of countries. In this regard, we may be able to overcome the aforementioned challenge by comprehensively examining the nature of circular societies and economies in all countries, including both advanced and developing nations, and then integrating them into a unified concept at the international level. Establishing a working group to delve deeper into these points may also be beneficial.

From this perspective, we believe that we can provide intellectual input on the transformation toward achieving the SDGs by 2030, while turning the trade-offs among the 17 goals into synergies in the process of transitioning to a circular society.

In terms of climate change measures, under the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol, a country’s overall greenhouse gas emissions must be reported by preparing its own greenhouse gas inventory in accordance with the IPCC inventory guidelines. Those inventory data are for assessing each country’s achievement of the 2030 targets under the Paris Agreement.

On the other hand, while efforts to reduce greenhouse gas emissions in each country can be promoted through the introduction of regulations and subsidies by laws and ordinances, it is ultimately desirable that emission reduction efforts and international coordination themselves lead directly to businesses and investments, and that people become naturally involved in pursuing their own interests.

As part of our efforts to achieve this goal, emissions trading, ESG investment, and the visualization of greenhouse gas emissions in supply chains and products (e.g., carbon footprints) are being introduced. In order to promote such investments and transactions, it is very important to visualize the environmental impacts of industrial activities, such as greenhouse gas emissions, throughout the entire life cycle of products, from current material procurement to product production, transportation, sales, use, and disposal and recycling.

Visualization of environmental impacts requires an inventory database, a structured dataset on the extent to which environmentally hazardous substances, such as carbon dioxide and various chemical substances, are emitted by the product throughout its life cycle. It is
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Desirable that the evidence and calculation methods of the data be disclosed to ensure transparency and fairness.

The Global LCA Data Access Network (GLAD) was established by the UN Environment Programme (UNEP) and 14 other countries around the world for the purpose of international networking and mutual use of life cycle inventory databases.

The inventory database, “IDEA,” from Japan’s AIST maintains a high level of transparency by disclosing data and calculation methods based on evidence. IDEA also provides a database that can be used to visualize the impact of the inventory according to the actual situation in each country and region, and is being used widely, especially in Asia. It can be an important tool for capturing the current state of the Global South and realizing its values.

In addition to the above, it is also essential to enhance the social acceptability of circular technologies and the products produced by them, in order to realize a circular society. While it is necessary for each country to provide incentives through legal regulations and subsidies, which are highly effective, branding is also important to further increase social acceptance, so that people will perceive the value of using products based on circular technology as different from others. For example, clearly displaying the amount of CO₂ emissions reductions on products will help consumers conceptualize the value of using said products.

However, if we are serious about promoting circular economy, we should pursue not only brand awareness as described above, but also upgraded recycling to improve the quality of the product itself. It is indispensable to formulate a social vision, industrial vision, and technology development vision for a circular society, and is promoting institution building and standardization activities. As an example of a good initiative, we introduce “Hitachi-AIST Circular Economy Collaborative Research Laboratory,” which is promoting research on the ideal social vision, necessary rules, and solutions for a circular economy and society, in which resources are used efficiently throughout the value chain that crosses industry sectors.

While the birthrate is declining and the population is aging rapidly not only in developed countries but also in emerging countries, Japan is ahead of the rest of the world in dealing with the aging society, and we believe this will be a good reference for other countries. Well-being refers to the state of being fulfilled with health, happiness, care, and welfare, and is not only important for solving social issues associated with the declining birthrate and aging society but is also important in terms of strengthening industrial competitiveness. Here, we introduce the concept of “healthy management.” Healthy management refers to a company's efforts to improve labor productivity from a managerial perspective, considering that efforts to maintain and promote the health of its employees are an investment that will increase the company's profitability in the future. It is also expected to lead to increased employee vitality and productivity, thereby increasing the value of the company.

While well-being is interpreted differently in different countries and by different individuals, the standardization of healthy management focuses on improving health (of employees) and labor productivity and strives to promote a shared image of well-being.

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