

Portraits of Plausibility (Reflection on “Plausibility”)

“Plausibility” is an indispensable concept for my study field of sustainability science, as sustainability science aims to deal with future-oriented topics while taking into account various types of uncertainties associated with future. More specifically, “Plausibility” is often used or described in relation to future scenarios or future visions in sustainability science.

Envisioning plausible scenarios and visions of future societies, setting targets for essential technologies and institutional designs to achieve the visions, and sharing such information among stakeholders are considered an important foundation to build a sustainable society. In fact, the image of plausible scenarios plays a central role in this task because it tells us the possible consequences if we continue our current production and consumption patterns and can also provide alternative viable options to realize a sustainable society. Hence, systemic scenario studies emerged as one of the important study fields in sustainability science.

It is well known that scenario approach has been applied to such fields as the research on climate change. IPCC (Intergovernmental Panel on Climate Change), which applies the approach in its analysis, notes that scenario is a coherent and plausible description of a possible future state of the world and each scenario is one alternative image of how the future can unfold. In order to enhance the plausibility of scenarios, it is important to adopt appropriate framework and methodologies in developing the scenarios. Most of the ongoing global scenario studies towards sustainability follow a similar framework: analysis of the current state of the system based on past trends, identification of the driving forces (e.g. population growth, GDP growth) that can condition the future path of the system, and various assumptions with regard to the main sectors of the system under study. In order to develop plausible scenarios, it is fundamentally important to set up or defined the conditions as a first step. Such conditions include, but are not limited to: 1) Baseline year and target year (e.g. year 2030), 2) Target areas or physical boundary (e.g. Yangtze River delta regions in China), 3) Focused dimensions (e.g. urban sectors and industrial systems in the society of targeted area) and 4) Driving forces (e.g. GDP, population, urbanization ratio, technology diffusion levels, etc). With these conditions and relevant data in mind, we intend to enhance the plausibility of future scenarios and visions to be developed, otherwise there are two many options and ranges with regards to the future scenarios of societies in question.

Another important pillar in relation to developing such plausible scenarios is application of comprehensive indicator systems. Indicators provide important guidelines that assist in the development of strategies and actions as they are capable of indicating the state, progress or failures of measures undertaken for a specific system. Such indicator systems, including sustainability indicators, could effectively evaluate the developed scenarios and help us understand

the status of sustainability and plausibility associated with the developed scenarios.

It is crucial to expand our ability to envision “plausible” future scenarios and visions. In the field of sustainability science, scientific foundations to support such studies are fundamentally needed. Osaka University RISS, in close collaboration with various research institutes and universities both in Japan and abroad, is vigorously developing such scientific foundations which help enhance our capacity to deal with plausible future visions and scenarios in the context of building a sustainable society.

Keishiro Hara, Ph.D.

Associate Professor,
Research Institute for Sustainability Science (RISS), Osaka University