

Policies for Sustainable Well-Being in the Light of Increasing Natural Disasters around the World

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During the 20th century, the earth underwent the drastic environmental changes of global warming, deforestation and reduction in farmland, progressing desertification, coastal and river erosion and the heat island phenomenon in highly urbanized areas. These environmental changes are considered to be the major causes of large-scale storms, drought and abnormally high temperatures. The environmental changes and related disasters are anticipated to increase in scale and impact in the future.

On the other hand, changes in social structures such as an aging population, and the emergence of the nuclear family, as well as changes in land utilization such as high population concentration in urban areas and depopulation in rural areas, have contributed to the vulnerability of society to natural disasters.

Under these circumstances, it is necessary to make a paradigm shift in prioritizing the creation of a safe and secure society over a short-term perspective focusing on economic growth. Natural disaster mitigation is a common issue for the world, and Japan, with its extensive disaster-related experience and technology, is strongly requested to play a key role in the creation of a safe world.

Considering the fulfillment of this key role, the Science Council of Japan (SCJ) has organized the “Special Task Committee on Disaster Mitigation under Global Changes of Natural and Social Environments”, which consists of researchers in the fields of science, engineering, bioscience, social science and humanities. The committee recommended the basic policies and measures to the Japanese government for natural disaster mitigation in

the 21st century, focusing on (1) analyzing possible impacts of future natural disasters, (2) assessing the vulnerability of national land utilization plan and social systems, and (3) making recommendations for land utilization and social systems resilient to natural disasters. The present paper will introduce the outline of the proposed policies and measures, and describe the role of the scientists and engineers related with natural disaster mitigation.