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Development of the Blue Economy and the Formation of the Marine "Public Opinion"

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When people hear the term "Blue Economy," in general, they tend to understand it as referring to the use of resources related to water, such as the sea and rivers. However, the term is not necessarily clearly defined as associated with the economy related to the water and the sea. The International Conference on Sustainable Blue Economy/Side Event (Promoting the Blue Economy in Africa through the Development of Marine Products), held in 2018 by the independent administrative agency known as the Japan International Cooperation Agency (JICA), defined "Blue Economy" as follows: "(Efforts) aimed at sustainable development backed by job creation and industrial promotion through the effective use of marine and inland water (rivers, lakes) resources, environmental conservation, and the reinforcement of socioeconomic development related to these waters" (JICA, 2018). This is an easyto-understand image for those engaged in the marine products industry. However, initially, Blue Economy was advocated at the 2012 United Nations Conference on Sustainable Development (Rio+20). At the time, the term "Blue" was used to indicate a linked economy in which natural energy sources were efficiently utilized. This was opposed to the "Red" economy, in which resources are competitively utilized, and the "Green" economy-an assistance-based economy that includes elements such as environmental conservation. Thus, the term "Blue" does not necessarily serve as a symbol of the sea (Pauli, 2012). Nevertheless, as the types of natural energy being focused on at the time were those based on gravity or circular forces on a global scale (wind, tides, ocean currents, waves), people would assume that there was a strong link to the sea. Additionally, subsequent discussions of Blue Carbon served to spread the idea that "blue" = "the sea."

Currently, the development of the Blue Economy through the use of the sea—or, put in reverse, new uses of the sea through the development of the Blue Economy—is a major focus worldwide. In particular, discussions of and projects related to the development of tourism and renewable energy, energy-saving freight transport, and the offshore fishing industry have begun in numerous regions. Simultaneously, there is also concern that new uses of the sea may create new social problems, and there is an awareness of the need to create new rules and regulations that pertain to the new uses of the sea.

Bennett et al. (2020) of the University of British Columbia indicated ten risks related to the use of the sea: 1) Exclusive possession of sea regions; 2) Environmental pollution and illegal dumping of garbage; 3) Deterioration of ecosystem services; 4) Negative impact on the lives of small-scale fisherfolk; 5) Lower standards of living due to decreased access to sea regions; 6) Unequal distribution of economic benefits; 7) Social and cultural impact; 8) Impact on the social standing of women; 9) Impact on the rights of indigenous peoples; 10) Incomplete governing organizations (Bennett et al., 2020).

Exclusive possession of sea regions, impact on small-scale fisherfolk, deterioration of ecosystem services, and other risks are issues pointed out when discussing the construction of wind power generators in the sea (Twigg et al., 2020). In Japan, organizations such as the public interest incorporated foundation known as the Marine Ecology Research Institute and the general incorporated association known as the Promotion and Research Institute for Ocean Economics are conducting research into and monitoring various fishing activities in the fishing industry. Meanwhile, the law is not necessarily clear on issues such as the relationship between fishing rights and industrial uses of the sea. As such, there is a need for further discussion regarding the tenth risk that Bennett et al. pointed

out. Additionally, the appearance of new businesses as a result of changes made to the landscape and the use of new resources will lead to new people utilizing the sea. The effect these kinds of social changes have on the local community's social structures and traditional values will likely require monitoring in the future.

The Blue Economy Cooperative Center (CRC) in Australia has divisions devoted to monitoring the impact on the environment and ecosystems, the establishment of systems for the utilization of renewable energy technologies and marine uses, and divisions devoted to the engineering related to the use of the open ocean and marine product production (Blue Economy CRC, 2021). For countries with vast coastlines and Exclusive Economic Zones, the promotion of previously ignored uses of offshore sea regions is a major point of focus in the field of Blue Economy. In Japan as well, there is considerable potential for offshore wind power and offshore aquaculture. To advance these fields from the research stage to the social implementation stage, countries need to share their experience and cooperate in areas such as the development of equipment.

As there is a danger, however, of the impact of the expansion of human activities in offshore and open sea regions reaching a wide area, there is a need for international cooperation in monitoring the burden placed on the environment and regulations. Furthermore, the problem of marine garbage, which has already been pointed out, is likely to become increasingly serious. Although an increase in the numbers of people using the ocean will likely lead to more intense surveillance, if there are no systems to allow standardization and cooperation in monitoring and surveillance, the reliability of the data thus acquired and its uses cannot be guaranteed.

If the food and energy produced in offshore regions are used—as has been the case until now—only for life on land, then it can be anticipated that there will be major economic obstacles such as transportation costs and losses. Therefore, the development of the field of Blue Economy needs to focus on the sea and resources that have previously remained unused. Further, there needs to be a

system by which technologies for the effective use of these resources as well as experience can be shared. Additionally, the effect of new human activities on the environment has to be monitored, and methods of assessment and data sharing need to be established. As we respond to environmental problems on a global scale, aiming for new sustainable development is an objective shared by almost everyone worldwide. The development of the Blue Economy is expected to serve as an opportunity to form an international public opinion on the use of the sea through international cooperation and collaboration created for that purpose. Japan, with its vast marine area, needs to prepare itself to play an important role in that process.

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