How open scientific research data transform transdisciplinary research: a theoretical debate

*Yasuhisa Kondo[1]

1.Research Institute for Humanity and Nature

The mention of the open scientific research data (hereafter referred to as “OSRD”) in the 2013 G8 Science Ministers Statement promoted the acceptance of open science, that was defined as “efforts to make the output of publicly funded research more widely accessible in digital format to the scientific community, the business sector, or society more generally” in the OECD report issued in October 2015 [1]. This definition means that the concepts of OSRD is a keystone of open science and should be applied to all fields of sciences, including fieldwork-based sciences such as cultural anthropology and forest ecology, as well as laboratory- and observation-based “big data” sciences (e.g., genome science and astronomy). It is noteworthy that recent field science projects reflect the gradual transformation from individual discipline-oriented approaches to collaborative, integrative, multidisciplinary, and interdisciplinary ones. Moreover, “transdisciplinary” approaches, in which societal stakeholders such as governments, business industries, non-profit organizations, and local residents are involved in issue-driven research projects through a process of co-designing research agendas, co-producing knowledge, and co-disseminating perspectives, evidence, and knowledge [2], play an important role in implementing solutions to global-scale issues at a local community. It seems that the concepts of OSRD and transdisciplinary approaches are heading in the same direction toward sharing data sources and research outcomes with researchers and stakeholders for making better decisions to transform society. This paper discusses how OSRD will benefit transdisciplinary approaches through accelerating scientific and social innovations by involving non-conventional research agents such government staff, local residents, skilled volunteers (*pro bonos*), science communicators, and researchers based at different fields of research.

References

[1] OECD (2015), “Making Open Science a Reality”, OECD Science, Technology and Industry Policy Papers, No. 25, OECD Publishing, Paris. http://dx.doi.org/10.1787/5jrs2f963zs1-en

[2] Mauser, W., Klepper, G., Rice, M., Schmalzbauer, B.S., Hackmann, H., Leemans, R., Moore, H. (2013), "Transdisciplinary global change research: the co-creation of knowledge for sustainability", C*urrent Opinion in Environmental Sustainability*, Vol. 5, pp. 420-431. doi: 10.1016/j.cosust.2013.07.001

Keywords: Open scientific research data, Transdisciplinarity, Pro bonos

