

Building Back Better even Before Disaster -Evidence-based Scientific Challenges in Japan

Norio Okada

Senior Fellow, IASS, Potsdam, Germany, and Visiting Professor of CWMD, Kumamoto University

E-mail: kyotookanori@gmail.com

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Abstract

The Sendai Framework for Disaster Risk Reduction, a 15-year international agreement adopted in 2015, has four priorities. Priority 4 is enhancing disaster preparedness for effective response and to “build back better” in recovery, rehabilitation and reconstruction. However, how can scientists and engineers contribute to the systematic accumulation of this special knowledge of “build back better”? The purpose of this speech is to address this question, and to present a new conceptual research framework called “SMART community governance under Persistent Disruptive Risks.” which was proposed by Okada (2018). “S” represents small-sized and survivability-minded, “M” modest-scale and multiple-stakeholder involved, “A” anticipatory and adaptive, “R” risk-concerned and responsive, and “T” is transformative. At stake are innumerable small communities that will have to survive persistent disruptive risks (PDRs), including the external dynamics of demographic trends, mega disasters, and climate change.

Since three decades ago, the speaker has been continuously engaged in a mountainous community called Chizu Town, Tottori, Japan. This study demonstrates how the proposed conceptual research framework help scientists systematically observe, analyze and examine the long-enduring processes of “build back better” in the study areas. If we wish to perform more longer (multiple-decade-long) evidence-based field works, our research scope should be extended to examine even the pre-disaster period issues. This way, the process of “building back better” could be more effectively studied by addressing “build back better even before.”

Then, the speaker questions? Can we apply this approach to another region? For this purpose, a comparative analysis is performed by introducing another case study area, Iida City, Nagano Prefecture, Japan. This town is also a mountainous community suffering from similar persistent disruptive risks over the last five decades. Very famous self-motivated town vitalization challenges have been taken there. By applying the same approach to this city, it will be shown that this approach helps us examine communalities and differences in the processes of build back better or build back better even before.

Finally, as a strategic arrangement to conduct evidence-based field studies, and compare each other fields, Case Station-Field Campus (CASiFiCA) Frameworks are proposed and discussed.