

## Investigation of Resilient Circles in Local Community and Industry: Waju-Traditional Culture in Japan and Modern Technology Application

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**Abstract :** Today global society is seeking resilient partnership in local organizations and individuals, which realizes multi-stakeholders relationship. Although it is proposed by modern global framework of sustainable development, it is conceivable that such affiliation can be found out in the traditional local community in Japan, and that traditional spirit is tacitly sustaining in modern context of disaster mitigation in society and economy. Then this research is aiming to clarify and analyze implication for the global world by actual case studies. Regional and urban resilience is the ability of multi-stakeholders to cooperate flexibly and to adapt in response to changes in the circumstances caused by disasters, but there are various conflicts affecting coordination of disaster relief measures. These conflicts arise not only from a lack of communication and an insufficient network, but also from the difficulty to jointly draw common context from fragmented information. This is because of the weakness of our modern engineering which focuses on maintenance and restoration of individual systems. Here local 'circles' holistically includes local community and interacts periodically. Focusing on examples of resilient organizations and wisdom created in communities, what can be seen throughout history is a virtuous cycle where the information and the knowledge are structured, the context to be adapted becomes clear, and an adaptation at a higher level is made possible, by which the collaboration between organizations is deepened and expanded. And the wisdom of a solid and autonomous disaster prevention formed by the historical community called 'Waju' - an area surrounded by circle embankment to protect the settlement from flood - lives on in government efforts of the coastal industrial island of today. Industrial company there collaborates to create a circle including common evacuation space, road access improvement and infrastructure recovery. These days, people here adopts new interface technology. Large-scale AR- Augmented Reality for more than hundred people is expressing detailed hazard by tsunami and liquefaction. Common experiences of the major disaster space and circle of mutual discussion are enforcing resilience. Collaboration spirit lies in the center of circle. A consistent key point is a virtuous cycle where the information and the knowledge are structured, the context to be adapted becomes clear, and an adaptation at a higher level is made possible, by which the collaboration between organizations is deepened and expanded. This writer believes that both self-governing human organizations and the societal implementation of technical systems are necessary. Infrastructure should be autonomously instituted by associations of companies and other entities in industrial areas for working closely with local governments. To develop advanced disaster prevention and multi-stakeholder collaboration, partnerships among industry, government, academia and citizens are important.

**Keywords :** industrial recovery, multi-sakeholders, traditional culture, user experience, Waju

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