

Co-management of Revitalization after Tsunami Disaster: A Case of Local Tourism in Ishinomaki City, Japan

Kannapa Pongponrat

Abstract—As the massive devastating Tsunami attacked the Tohoku region of Japan on March 11, 2011, this led to a catastrophic destruction in coastal areas of Iwate, Miyagi and Fukushima prefectures. Beside evidences of massive physical destruction, socio-economic impacts on people within effected communities were obviously occurred leading to a vulnerable community conditions. This paper provides qualitative date from field research in Ishinomaki city, Miyagi, one of the most vulnerable areas effected by tsunami disaster. It aims to address how local community revitalize its socio-economic functions by applying co-management concept into local tourism development.

Index Terms—Co-management, disaster, local tourism, Japan, revitalization.

I. INTRODUCTION

The Great East-Japan Earthquake and Tsunami on March 11, 2011 was a massive destruction that destroyed Tohoku region generating the great lost for the country. This explained by the incident of the 9.0 Magnitude of earthquake, following by the tsunami with the highest height of 20 meters that devastated large areas of main coastal areas of Tohoku region intensively in Iwate, Miyagi, and Fukushima prefectures with an approximately 18,500 victims . Effect of earthquake and tsunami was triggered by the continuing crisis of nuclear power plant broke down at Fukushima Dai-Ichi Nuclear Power Plants leading to radioactive releases which became a triple disasters of Tohoku. There was a record of lost documented by National Police Agency in year 2013 addressed that the numbers of dead and missing people were 15,882 and 2,668, respectively. Japanese government tried to response on this great natural disaster by set up Reconstruction Agency to pursue Basic Policy on Reconstruction for Disaster Recovery and Management. This national agency, as a core body, worked with various domestic and international relief organizations and non-profit organizations (NPO) to response on emergency relief right away after the wave attacking. Plans and implementations on recovery and rehabilitation programs were also launched. Volunteer centers were set up in different effected areas to provide volunteer supporting programs which became a main mechanism body to implement Tsunami recovery and rehabilitation programs outreach. This was supported by local community including local people, local interesting groups, and local business through co-management concept, trying to revitalize their community after experienced the great disaster. Although, it has been pass for period of times, but tsunami

victims are still being in vulnerable situation with sadness from losing their families, friends, jobs, houses, and their hometown. They are facing psychological stress without certain future prospects. This situation is even more pressured by a difficulty of reboots local business after disaster which majority relying on fishery and seafood processing in household-based and manufacturing.

This paper is a part of qualitative research project implemented in Ishinomaki city, Miyagi prefecture. It was designed to explore and explain on how local community tried to revitalize its socio-economic fuctions after experienced tsunami disaster, using local through tourism development, applying concept of co-management among different community members.

II. CO-MANAGEMENT AS A MAJOR CONCEPT FOR REVITALIZATION

Co-management has gained prominence due to the sustained interest in participatory forms of natural resource management. Empowerment is an aim of co-management as it involves bringing previously excluded, disenfranchised and sometimes alienated user groups and stakeholders into the management decision-making process, by reshuffling power and responsibility among those who form the management chain [1]. Co-management is a “social action process that promotes participation of people, organizations, and communities towards the goals of increased individual and community control to improve quality of community life. Co-management process establishes horizontal and vertical networks of social partners (or stakeholders) who agree to share access to and management of resources through a process of negotiation and learning, and to revise their practices in a further process of continuing adaptive management [2] and [3].

Plummer [4] investigated the co-management process by drawing upon the tradition of decentralized planning. In probing this juncture, he recognizes that collaboration is central to co-management, but not synonymous, because the later inherently involves obstacles associated with the former such as multiple cultures, relational factors, power differentials, and so on. It is essential that all involved in co-management process would be cognizant of the end and truly believe that the realization of the end would have some benefit to them personally or to their organization. It remains to be seen what the benefits are, to whom, and at what cost, as essential issues emerging from this discussion, especially among bodies that may have vastly different core values. Plummer and FitzGibbon [5] utilized the construct of social capital to capture some of the nuances associated with social relationships in the co-management process. Their work

Manuscript received March 8, 2017; revised May 13, 2017.

Kannapa Pongponrat is with College of Innovation, Thammasat University, Thailand (e-mail: kannapap@hotmail.com)

provides empirical evidence that social capital has an important role in the development of co-management through trust and reciprocity in the specific context of co-management. Moreover, co-management can be looked upon as a continuum from the simple exchange of information to formal partnership [6]. The mainstream image of co-management defined as the sharing of power and responsibility between the government and local resource users. Exchange of information, allocation of resources, as well as a number of other couplings, including more formal agreements, make up particular webs of relations among different actors. These webs have different qualities that can be described in different ways. However, they should be understood as governance systems. Co-management, by contrast, is a process by which representatives from different levels of organizations and types of organizations coordinate their activities in relation to a specific area or resource system. The establishment of co-management systems may function as a means of conflict resolution between communities of local resource users and the State [7]. The processes of negotiation, bargaining and setting up co-management agreements that codify the rights and responsibilities of involved parties (local groups, the State, commercial actors, etc) reduce conflicts and might even function as a more long-term problem solving mechanism. Co-management is an evolving process that responds to feedback from socio-ecological systems. It occurs when responsibilities for a resource are shared by actors who participate in a process which is flexible, dynamic, and oriented towards social learning. Co-management process can be characterized as many studies [5], [6], [8]-[10] investigated provided as follow.

- 1) *Pluralism and linkages:* Multiple types of actors such as government, resource users, or industry represent diverse interests and perspectives on the issue or task across various scales;
- 2) *Communication and negotiation:* Shared understand and/or agreement develops via information sharing in which perspectives are exchanged and modified;
- 3) *Transactive decision-making:* Decisions are reached through dialogue among diverse inputs and/or claims to multiple knowledge systems; and
- 4) *Social learning:* Actors undertake actions together and share the consequences of those actions. Modifications are made as part of an ongoing and active process of reflection and reflexivity. Learning consequently may correct errors in routines, prompt examination of values and policies responsible for those routines, and bring about critical questioning of governing norms and protocols. Knowledge accumulates and becomes engrained as part of social memory.

Plummer and FitzGibbon [5] considered co-management outcomes should include: enhanced decision-making which encourages efficiency and promotes equity, especially through the integration of multiple knowledge systems; greater legitimization and credibility of objectives; and, enhanced capacity and empowerment at the local level. Co-management is useful for allocating tasks, exchanging resources, linking different types and levels of organization, reducing transaction costs, sharing risks, and resolving conflict and sharing power. Co-management should be

understood as a continuous problem-solving process and this approach has the effect of highlighting that power-sharing through decision-making, implementation, and monitoring and evaluation as core idea. Reciprocal altruism provides a way to achieve this better understanding among different stakeholders in society. However, the principal stakeholders involved must also have a degree of power in order to define a situation as a co-management arrangement. Power sharing and partnership are essential components of the definition of co-management. Co-management, however, often refers to a system where the State and local actors are successfully integrated. Since co-management also stresses the need for decentralized governance, the definition has a resemblance to the concept of governance, which takes into consideration the process of interaction between different societal and political actors, and the growing interdependence between them.

Schumann [11] addressed that effective co-management requires good linkages between participating stakeholders. The networks of stakeholders must be understood and encouraged to share information. It must also be recognized that in a co-management system success criteria may differ between stakeholders and that there may be differing priorities and emphasis on management objectives. It must be recognized that effective co-management requires the existence of a resource that is considered worth managing since it requires the input of resources (time, effort, finance) by those involved. The transaction costs for participation in meetings monitoring, enforcement and management can be considerable and are often underestimated at the commencement of a co-management initiative. Governments and communities must recognize and commit to providing these resources otherwise these initiatives cannot be sustained. Co-management includes a presence of a real or imagined crisis, a willingness of local people to contribute, formalized common agreements, an opportunity for negotiation for co-management to perform a specific task, and availability of external support and the relationship between people. If revitalization community is essential to empowerment, it is also essential to co-management.

III. RESEARCH DESIGN

This research employed a qualitative approach focusing on primary data collection in Ishinomaki city, Miyagi prefecture. It was conducted a fieldwork with related organizations those dealing with disaster recovery and management such as volunteer centers, educational institutions, government agencies, private sectors, and NPOs. Several meetings were set up with different stakeholders to receive information on how Ishinomaki city, as main target study area, was recovered, rebuild, and rehabilitated after effected by tsunami disaster. This was included Miyagi Internaitonal Association (MIA), Ishinomaki Mangattan Museum, Ishinomaki Disaster Recovery Assistance Council Inc. (IDRAC), Ishinomaki Future Support Association (IFSA), Tohoku University, Kokusai Shien Chikyu-mura (NPO), and local representatives. Field observation around target study area was launched and in-depth interviews with key informants were conducted to gain understanding on living conditions of community during

pre- and post tsunami as well as to obtain information on plans and activities for disaster management. Content analysis was employed to analyze qualitative collected data to analyze community conditions after the great disaster with an emphasizing co-management concept applying for local tourism development to serve community revitalization.

IV. FINDINGS AND DISCUSSION

Based on fieldwork in Ishinomaki during research implementation, there were crucial information obtained from both primary and secondary sources. This section provides findings from data collection and analysis.

A. *Ishinomaki City and Consequences from Disaster*

Although Japan has a long history of disaster experienced with a comprehensive disaster preparedness plans, the Great East-Japan Earthquake with the 9.0 Magnitude generated massive devastating Tsunami attacked the Tohoku region on March 11, 2011. This led to a catastrophic destruction in coastal areas of Iwate, Miyagi and Fukushima prefectures. Miyagi prefecture was the most disaster effected area with numbers of dead people were 9,571 and missing people were 1,302 [12]. The height of tsunami more than 15.5 meters in Ishinomaki, leading to numbers of dead and missing people were 3259 and 448, respectively. In Kesennuma, it was 12 meters of the height of tsunami with numbers of dead and missing people were 1,104 and 233, respectively. In Onagawa, the height of tsunami was 14.8 meters with numbers of dead and missing people were 580 and 268, respectively. In Minami-Sanriku, the height of tsunami was 15.9 meters with numbers of dead and missing people were 594 and 223, respectively [12]. Other areas of Miyagi prefecture also effected by tsunami including Higashi-Matsushima, Tagojo, Sendai, Natori, Iwanuma. Even through, people who live in Tohoku region are aware and well-trained for tsunami-evacuation procedures with the mindset of 'Tsunami, ten-den-ko', an individual evacuation readiness, the massive scale of Japanese tsunami in 2011 was more than people ever expected to experience. The effect of earthquake and tsunami was triggered by the continuing crisis at Fukushima. Fukushima Dai-Ishi Nuclear Power Plant was attacked by the triple disasters included earthquake, tsunami, and radioactive releases. There is a serious concern on health risk condition of people in the area and environmental contamination with radioactive worldwide.

Based on the field survey around Miyagi where was massive destruction caused by Tsunami disaster, the effected areas were quite empty with some ruined buildings remains. However, there were construction starts to rebuild town, road, houses, and manufacturing resulted from the reconstruction plan which was developed by government agencies. Many of Tsunami victims are staying in 'kasetsu', a temporary housing, waiting of the list for public housing which is under construction. Mostly, they are elderly people live in 'kasetsu', facing difficulty to deal with their living condition in a small space of 'kasetsu' with lower condition of living than before Tsunami. Mental problem became a serious issue for them which required volunteer programs to support in long term.

Considering Ishinomaki city, it has an estimated population

of 145, 805 which mostly engaging in fishery, seafood manufacturing, and trading as main economic generating for community. Ishinomaki city, traditionally, has been a center for commercial fishing especially for oysters cultivating practice. Local tourism was a small economic generating for the community resulting few tourist attractions were developed. However, there is a significant tourist attraction located in the city known as the 'Ishinomori Manga Museum' or also known as 'Ishinomaki Mangattan Museum' which opened in 2001, a ten-year before tsunami disaster. It is accounted as a main tourist attraction of Ishinomaki city that is dedicated to the famous manga artist and author Shotaro Ishinomori, who was born in Ishinomaki city. He was an artist of all times favorite 'KamanRadar', a Japanese most famous manga from previous decades and also was the one who created several dozen influential manga series including Cyborg 009. His work essentially pioneered the super powered and transforming ranger manga genres, and new adaptations of his series are still produced for TV and turned into movies today. This museum locates on 'Manga Island' where people need to cross Kitakami river from city mainland, providing beautiful walking route for visitors and tourists. The museum displays a collection of comics, statues and artworks from his numerous manga series. Some of his creations are also displayed in the streets of Ishinomaki City, including several statues depicting characters from his manga series. Much of the museum's collection was destroyed in the disaster, but the sturdy building itself survived more or less intact. After time consuming restoration works, the museum was fully reopened on March 2013, two years after tsunami disaster.

This museum really played a vital role to support community during disaster recovery period, acting as evacuate shelter for tsunami victims, later become a center for community revitalization as it had ability to manage [3]. After the great disaster, many seafood manufactures were closed down due to destruction and taking time for rebuilding. This leads to declining of local economic generating and labor force conditions, resulting in jobless situation for local people. They were facing difficulty for living without job and income if compare with pre-tsunami. Unfortunately, Ishinomaki becomes a quiet town after disaster but strangely full of 'Izakaya' and 'Philippines Pub' to serve for a small group of labor from remaining seafood manufacturing. Moreover, there is an issue of limitation of land to construct public housing since large area of the city was declared as risk area with a prohibiting for reconstruction which require co-management from different sectors to exchange information, knowledge and experiences, and resources to revitalize community[7] and [11]. However, revitalization for community experienced disaster can be conducted in many directions which may create conflict and misunderstanding among community members, therefore, require transactive activities in real practice [9] with social capital as mechanism to involve community members in co-management.

B. *Co-management of Local Tourism Development*

To revitalize Ishinomaki city after tsunami disaster, there were different sectors involved in implementation both to recover the city from tsunami disaster, to rebuild the city for

better living conditions, and also to develop local tourism as one of the mechanism to re-generate local economy. Early volunteer supporting programs for recovery included medical team, relaxation and entertainment, mental healthcare, child care, community support, transfer transportation, shelter's sanitary reform, livelihood support, support to fishery, mud clearance, hot meal supply, material distribution, and community revitalization. Ishinomaki Disaster Recovery Assistance Council Inc. (IDRAC) and Ishinomaki Future Support Association (IFSA) were main volunteer coordinating bodies to work with different volunteer programs and placement from both individual volunteer and groups of volunteer. This function will coordinate among volunteers, local authorities, and NPOs. It is also known as 'Disaster Volunteer Center' (DVC) which mostly received volunteers from university volunteer programs, sending students to work for disaster recovery. These practices were supported by concept of networking both in term horizontal and vertical aspect [6]. Later, such programs were developed as volunteer tourism which generate income generating for local community as well as create awareness and social learning, as addressed in previous studies [5] and [6] in co-management practice among local community, related local organizations, and universities.

There was a five-year town and city planning which includes zoning, construction and local tourism development plan. This city planning was developed by brainstorming, meetings, and group discussion among different sectors of community including government, private, NPO, and local people which was supported by a series of co-management applications [2],[5] and [8]. Main body of coordinating and taking action on this city planning is Ishinomaki City Council and a private sector called 'Man-Bow.com'. This private sector is also the one that manage the Ishinomaki Mangatten Museum. This supported by an idea of there must be some stakeholder in-charge as main power to arrange a co-management [5] for effectively implementing a concept. From developed plan, Ishinomaki city was re-created as a manga city which everywhere decorated with manga statues and manga paintings which painted by local people and student volunteers on walls of restaurants, shops, houses, office buildings, and even train stations. This is to create environment of being 'manga city'. Streets within the city was developed as manga route where tourists and visitors and walk about the manga tourist maps, searching for manga statues and paintings. This becomes attractive for family one-day trip, to bring children to Ishinomaki Mangatten Museum along with a walking on manga city route. Beside involving in brainstorming, focus group discussion, and community meeting as mentioned earlier, local people who lives or runs business in the city also involved in this project by decorating manga styles in front of their house or building, selling manga souvenirs, selling manga books, selling food with manga decoration, or even being a local guide for a walk tour within the city. These practices were support by concept of co-management which focusing on an effective of networking among communities with a clear direction [11] to implement in consensus. Clearly that community members from different sectors were applied from co-management concept that put into practices for local tourism development

in disaster effected areas like Ishinomaki City, which can be accounted as a showing case.

V. CONCLUSION

Co-management concept can be applied among community members consisting of local people, related organizations and government authorities in expecting to revitalize Ishinomaki city after facing difficulty of living from tsunami disaster. This appears especially in local tourism development where stakeholders in given place can involve in many ways as occurred in Ishinomaki City. Although it is still limited to domestic visitors and tourists from other prefectures of the country to visit Ishinomaki city, at least, it is help to rehabilitate community lives both in term of local economy generating after big lost from tsunamis disaster as well as resolve a social condition such as mental problem. This supports local people by providing them 'something to do' instead of being jobless with a struggling with 'feeling of lost'. Local tourism development is also help to support cultural awareness on manga which is one of the Japanese culture. Co-management, as a concept, once it is applied into real practice, then, can help to rehabilitate community and people who experienced disaster with its core idea of social action for development. With unique resources of local community to develop and promote local tourism, co-management concept can help to identify such local resources that belong to different community members, then create a pool resources for development for a whole community which clear identifications of roles and responsibilities. Trust, linkages, communication, and social learning among community members, therefore, become a key to mobilize social action for community revitalization, which of cause, focusing on socio-economic functions that community members, themselves, are main beneficiaries for such development.

ACKNOWLEDGMENT

This paper is outcome of International Collaborative project supported by Center for Southeast Asian Studies (CSEAS), Kyoto University. Author is grateful to kind cooperation and advices provided by Prof. Yukio Ikemoto and Prof. Shinjiro Omori. She extends her deep gratitude to Prof. Yoko Hayami from CSEAS and Assoc. Prof. Kayoko Ishii from Toyo Eiwa University, who enabled this research project with great patience, great supports and precise advices. Author also offers her sincere thanks to all key informants in Ishinomaki city for their kind cooperation.

REFERENCES

- [1] S. Jentoft, "Fisheries co-management as empowerment," *Marine Policy*, vol. 29, pp.1-7.2005.
- [2] G. Borrini-Feyerabend, M. T. Farvar, J. C. Nguenirui, and V. Ndangang, *Co-Management of Natural Resources: Organizing Negotiation and Learning by Doing*, Heidelberg, Germany: Kasparek, 2000
- [3] CGIAR-Consultative Group on International Agriculture Research, *Adaptive Collaborative Management (ACM) in Tropical Forests*, accessed via website of Center for International Forestry Research, 2005
- [4] R. Plummer, "Sharing the management of a river corridor: A case study of the co-management process," *Society and Natural Resources*, vol.19, pp. 709–721, 2006.

- [5] R. Plummer and J. FitzGibbon, "People matter: The importance of social capital in the co-management of natural resources," *Natural Resources Forum*, vol. 30, pp. 51–62, 2006.
- [6] R. S. Pomeroy and F. Berkes, "Two to tango: The role of government in fisheries co-management," *Marine Policy*, vol. 21, pp. 465–480, 1997.
- [7] S. Singleton, *Constructing Cooperation: the Evolution of Institutions of Co-Management*, Ann Arbor: University of Michigan Press, 1998.
- [8] J. Ruitenbeek and C. Catier, "The invisible wand: Adaptive co-management as an emergent strategy in complex bio-economic systems," *Center for International Forestry Research Occasional*.
- [9] F. Berkes, "Rethinking community-based conservation," *Conservation Biology*, vol. 18, no. 3, pp. 621–630, 2004.
- [10] P. Olsson, C. Folke, and F. Berkes, "Adaptive co-management for building resilience in social-ecological systems," *Environmental Management*, vol. 34, no. 1, pp. 75–90, 2004.
- [11] S. Schumann, "Co-management and “consciousness”: Fishers' assimilation of management principle in chile," *Marine Policy*, vol. 31, pp. 101-111, 2007.
- [12] National Police Agency, *Countermeasures for the Great East Japan Earthquake (NPA)*, 2013



Kannapa Pongponrat received her B.A. in international affairs from Thammasat University and her M.A. in development administrative from Western Michigan University. She received Ph.D. in regional and rural development planning from Asian Institute of Technology. She has worked on various issues related to community participatory planning and development for sustainability, sustainable tourism, wastewater management in tourist destination, and resilience for community development. She started her career as researcher with Stockholm Environment Institute-Asia, working on tourism vulnerability analysis for Tsunami affected areas in Thailand and Sri Lanka. Subsequently, she served as social experts for projects of EU, CIDA-AIT development projects in Southeast Asia, British Council, Thai government agencies and the private sectors for business and sustainability. Besides working on research, consultancy and regularly teaching, Dr. Kannapa also give special talks to publics for issues dealing with sustainable tourism planning and participatory approach for sustainable development. She worked as full-time lecturer and served as Program Director for Master of Management in Tourism and Hospitality Program, International College, Mahidol University. She is a visiting research scholar at Center of Southeast Asian Studies, Kyoto University, conducting research on marginalized population in disaster and volunteer supporting programs. Currently, Dr. Kannapa is a full-time lecturer in Service Innovation Program while also serving as associate dean of Academic Affairs at College of Innovation, Thammasat University.