



Virginia Tech University Conference on
NORMATIVE DIMENSION OF RESILIENCE

**Case Studies of Resilience-Based Recovery Local
Efforts in Tohoku: Possibilities and Challenges**

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Underlying Question

- ▶ **Many communities are naturally resilient, but the key question is how resilience can be strengthened or built in dynamic changing modern risk society?**
- ▶ **Resilience cannot be built only through a community alone in dynamic changing modern risk society. How? What is the structure of resilience, disaster management and public policy?**



FOCUS in this Presentation

- What is structural foundation for resilience, disaster management and public policy? How recovery efforts in Tohoku (after 2011 Tohoku Disaster) are related to this?
- What kinds of recovery local efforts provide inputs in building resilience? What are possibilities and challenges in building resilience?
- What are gaps in existing resilience frameworks?
How can those gaps be filled in ?



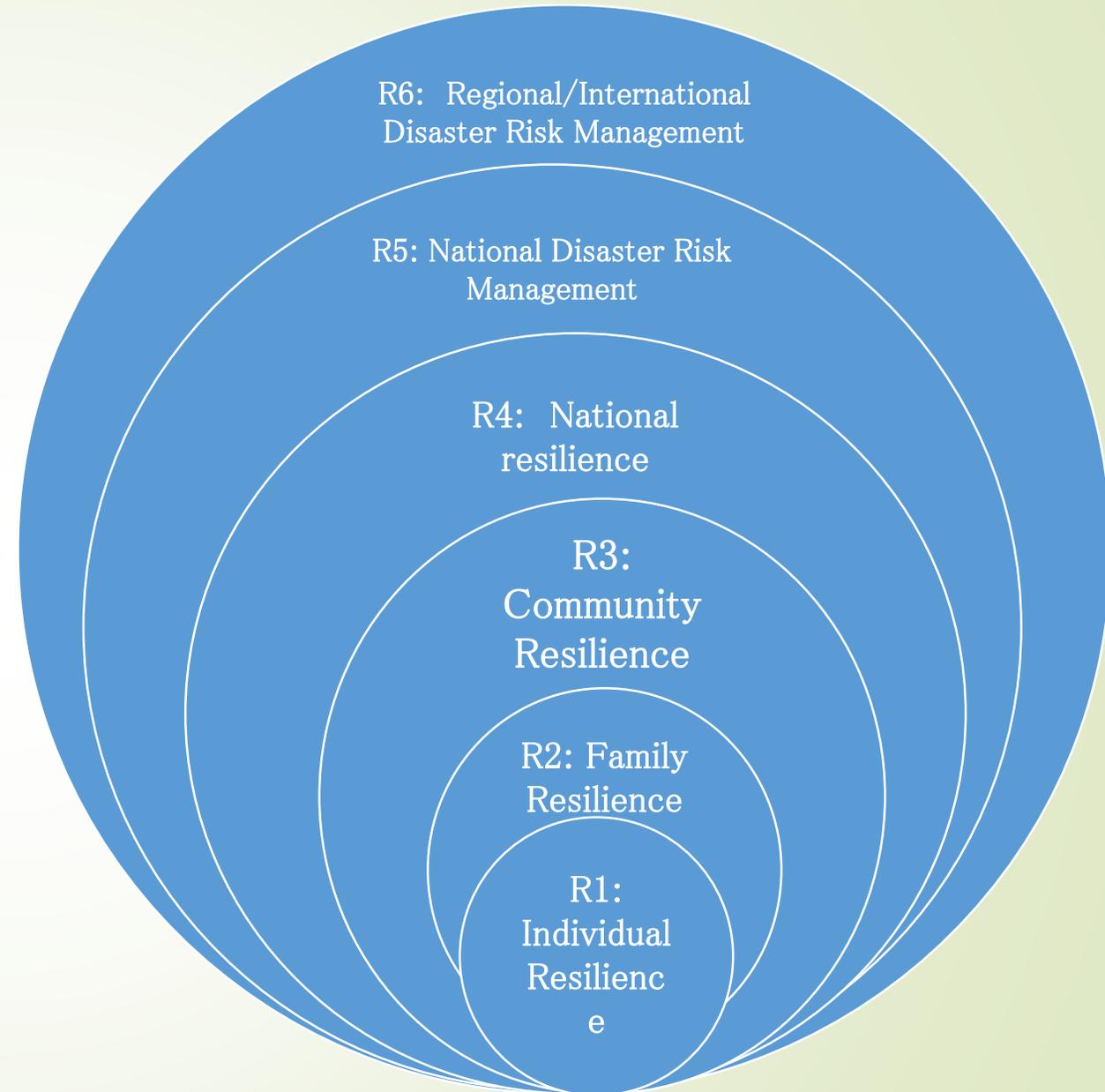
Structural Foundation for Resilience, Disaster Management, and Public Policy



Nature does not dictate that vulnerable groups, particularly the poor and women, should be the first to die from natural disasters. Cyclones do not hand-pick their victims....Underlying social conditions and structures, determined by national and sub-national policy and planning, determine who is most vulnerable and who will be the most resilient...disasters follow.****" (Oxfam, 2008)

Foundation 1

- ▶ The importance and efficacy of R1-R4 factors (linkages) during times of disasters are either strengthened or diminished based on the extent to which they function within the integrated structure of National (R5) and Regional/International Disaster (R6) Disaster Risk Management policies and procedures



(Clark, A.L. 2011, Shimizu, M. 2014)



F o u n d a t i o n 2

Application of “Systems-Theory ” to Disaster management and Public Policy (Jackson 2010, Shimizu, 2012)

- ▶ **Each disaster management subsystem, from the local to the national level, needs to function independently; however, it is essential that there is centralized coordination of the overall disaster management system**
- ▶ **Within the overall system the function, boundaries, and impacting externalities of functions need to be analyzed**
- ▶ **Within the overall system the individual subsystems must be integrated to ensure functionality**
- ▶ **The overall system and its component subsystems must be both continually assessed and modified to ensure functionality**



Case of Recovery Efforts in Tohoku

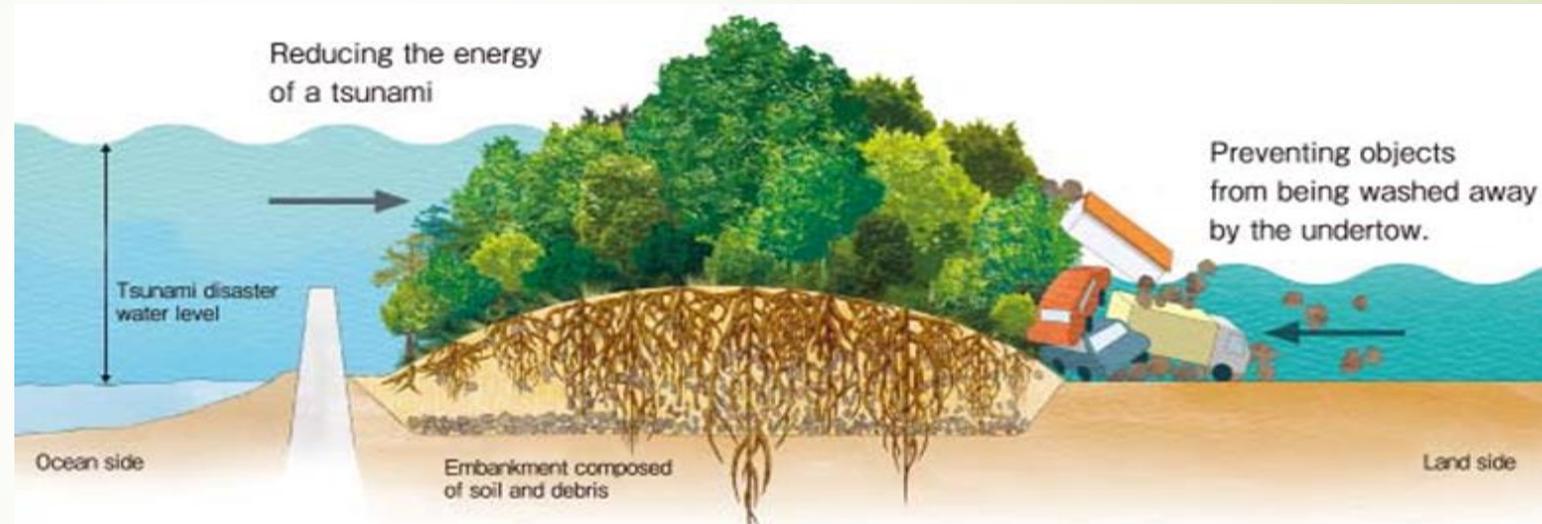
Background

Japan's Reconstruction Agency report(as of July 31): 35 percent of the 7.5 trillion yen (approximately \$72 billion USD) budgeted in fiscal year 2013 for rebuilding damaged areas in Tohoku has yet to be used (a similar percentage of the budget went unused in fiscal year 2012.)

- **As of June 2014, over 251,000 affected people continued to struggle with overlong stays in small, temporary housing; delayed residential planning and construction; and confusing financial issues, including double loans.**
- **As of March 2014, more than 3,000 deaths during recovery phase has been Reported (reported as Tohoku Disaster-related deaths), with deaths of people more than 65 years old accounting for about 90 percent of fatalities.**
- **The psychological burdens on the Tohoku population remain high and unrelenting.**
- **The decontamination process in Fukushima is not proceeding as quickly as it could, judging by the fact that 50 percent of the allocated budget remains (Japan's Reconstruction Agency report,as of July 31)**

Case 1. "Seawalls"

- ▶ The government plans to construct hundreds of "concrete seawalls" 16 to 50 feet high, at a cost of 820 billion yen (approximately \$8 billion USD), stretching 242 miles along the coast.
- ▶ Different local communities have expressed serious concerns.
- ▶ EX) People in Maehama District in Kesenuma City in Miyagi held a series of self-organized study workshops and decided to challenge the national concrete seawall plan
- ▶ An alternative plan for a "forest seawall" was proposed by Akira Miyawaki, Emeritus Professor at Yokohama National University.



"Forest Seawall"	Relevance to Resilience
<p>The forest seawall plan calls for building a forest seawall which can reduce:</p> <ul style="list-style-type: none"> -the speed, energy, and water level of a tsunami, giving people additional time to evacuate and -the likelihood that people and property will be washed away by the receding waters 	Alternative Methods
<p>Forest Seawall calls for planting <i>local vegetation</i>, such as Tabunoki, which proved tough enough to resist tsunami waters during the Tohoku disaster.</p>	New ideas Learning from Past, Not depending just on traditional routes
<p>The locally-developed plan reuses debris (with toxic components removed) and mixes it with the soil in a way that allows deeper root penetration.</p>	Recreating negative into positive ideas
<p>Environment-Friendly and Climate Change Effects</p>	Rescaling, Innovation
<p>Psychological and Social Effects through Planting Tree Experiences by People(From Children to Aging People)</p>	Rescaling, Civil Society Participation, Inclusion of Diversity, Intergenerational



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Possibility

- ▶ Can be models for resilience-building ideas

-Iwanuma City in Miyagi has initiated the A first serious Forest Seawall , project called “the hill of 1000 years hope : a ten-year plan of building several 10-meter high hills within a 10 km north-south area along the coast to create a green belt.

-In the “planting event” for the project, more than 4,500 people gathered to plant plants at the site. However,

Challenge

- ▶ Few **linkages** between community and governments (although there are public hearing meetings)
- ▶ Few **linkages** to governmental decision-making and policy formation process
- ▶ The Forest Seawall concept has not become a major policy orientation yet, partly because different relevant legal regulations and jurisdictions. Meanwhile the concrete seawall plan has been underway in Tohoku.



Case 2: Community in Ishinomaki: Ishinomaki 2.0 (Relevance to Resilience)

- ▶ **Long-Term Goal/ Innovation:** Its aim is - to renew Ishinomaki, one of the hardest hit city in the Great East Japan Earthquake, to become a new city, instead of rebuilding the city back to how it was before the quake.
- ▶ - To create a system where everyone becomes the hero of creating new Ishinomaki by involving talents from and outside of Ishiniomaki.
“We hope that Ishinomaki becomes the model of a “version up” city to create Japan in the next “version”,
- ▶ **Plays a Hub Function:** by connecting people with diverse backgrounds such as local shop owners, NPO workers, architects from Tokyo, city planning researchers, creative producers, web directors and university students.
- ▶ **Rescaling/ Recombination of Resources:** Recombining the great assets the city of Ishiomaki innately owns with the new talents connected by Ishiomaki through different projects 1) School 2) Radio 3) Realty 4) Accommodation 5) Restaurants “Stand up” Week 6) Bar etc..



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Possibility

Renewing Ishinomaki instead of rebuilding the city back to how it was by connecting people and resources inside and outside of communities.

Challenge

- Financial resources (mainly depending on volunteers) and Sustainabilities.

Case 3: Community in Fukushima (Iitate village) (Relevance to Resilience)

People in Iitate Village had to leave the village after the governmental decision in April 2011 because of radiation from the nuclear power plants. On the other hand, its village had committed to building resilient community before the Disaster through “Madei no Chikara”:

- **Face to face connections/ Intergenerational:** “Madei no Chikara” is a Tohoku dialect, literally means “powers of both hands.” This concept is a culturally and historically embedded concept which has been inherited for generations in the region. More specifically, it implies “take your time in making things with all of your efforts and full of your hearts by linking to families, people, communities, and societies.”
- **Long Term/ Not Depending on Traditional Routs/ Recombination of Resources:** The village leaders, when faced with the challenges of aging-related issues in terms of how to make the village sustainable on its own a few years ago, attempted to capture this idea in the village action plan focusing on converging different resources, including people, nature, and culture. They tried to make village sustainable for future generations. The village action plan focuses on bonds and networks of people and has led to different programs based on this idea of Madei no Chikara, including food and agricultural programs, medical and school programs, and international cultural exchange programs.
- **Self/ Civil Society Participation:** There are different schemes for village people to participate in making policies or implementing and **evaluating** those programs, through planning and review processes in the programs.
- The city mayor tried to use the above experiences for response and recovery phase through different-related projects such as “Madei decontamination process” and “Madei Security Plan.” On the other hand, they seriously face with existence of the village now.



Continued..

possibility

- ▶ The village community used to build resilient communities– can be greatly contribute to the village rebuilding.

challenge

- ▶ Not linked with national governments.
- ▶ The size of disaster is far beyond of community resilience. “Madei no chikara” cannot be sustained without coordinated efforts from outside the village.



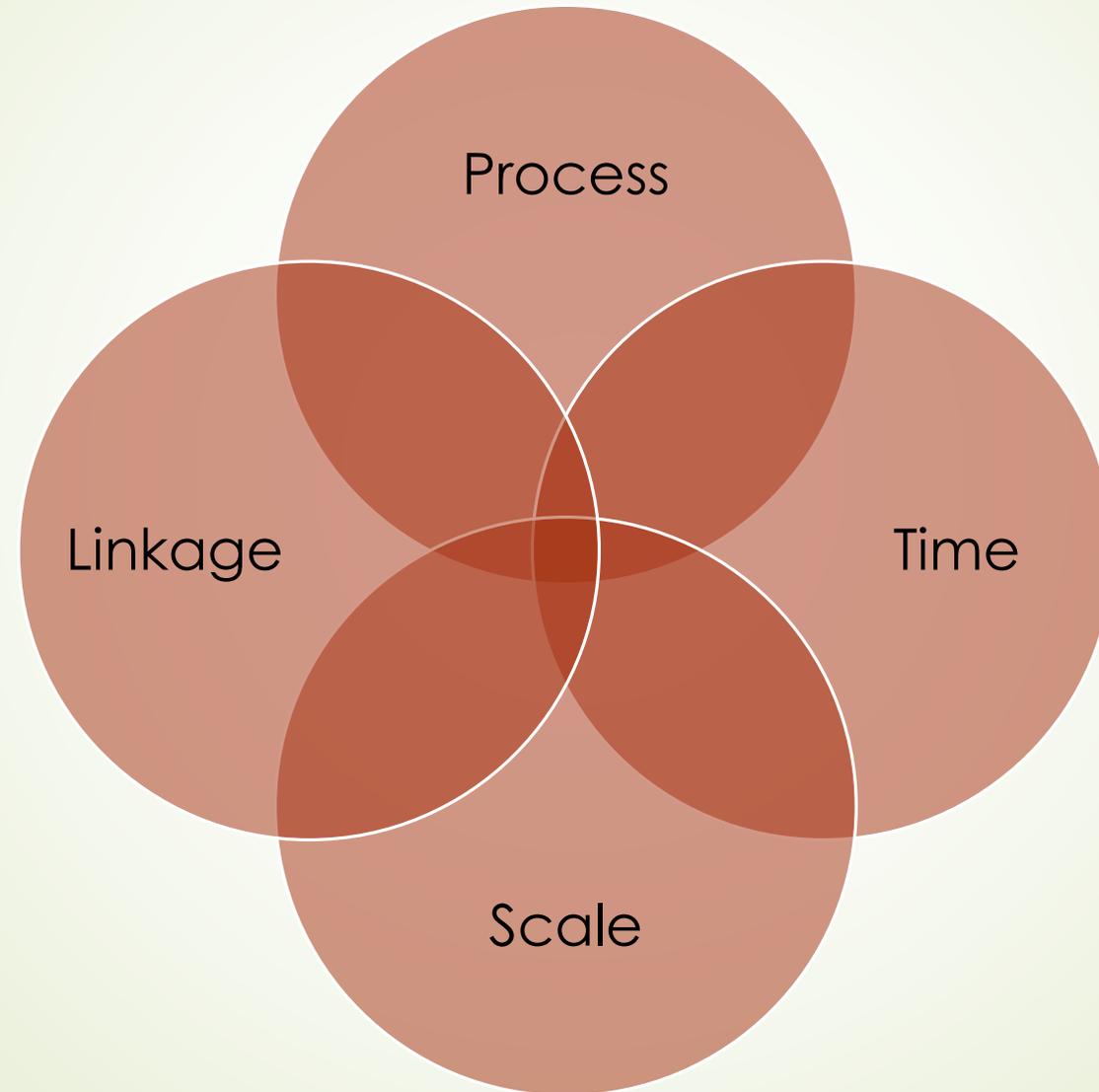
Gaps in Existing Resilience and Alternative Perspectives to Fill in Gaps



Gaps in Existing Resilience Frameworks

- ▶ While it is true individual disaster management elements such as early warning, risk assessment, education, research/knowledge and investment, significance of systematized linkages of elements and resources, linkages of systems and activities based on those elements and resources at national to local levels require critical attention.
 - ▶ Without a clear understanding of the inherent linkages throughout the system the valuable resources and efforts by governments and civil society will not be optimized.
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Dimension in Building Resilience



Key Components in Building Resilience

(Mika Shimizu)

Linkage	Time
<ul style="list-style-type: none">• Face to face connections• “Systems” approach• Interactions among sectors and institutions and hub incubator function• Linkage of financial, operational and decision-making• Analytic and integrative approach through multi-dimensions	<ul style="list-style-type: none">• Quick response based on daily actions• Multi-temporal (Short, Mid, Long-Term) monitoring-based approach• Intergenerational• Developing new ideas learning from the past• Not depending just on routine/traditional routes and knowing exceptions
Process	Scale
<ul style="list-style-type: none">• Evaluation-learning process• Self/Civil society participation• Involvement of multi-stake holders• Inclusion of diversity• Open information• Co-knowledge production system	<ul style="list-style-type: none">• Alternative methods• Rescaling• Recreating negative into positive ideas• Recombination of resources for better use (Innovation)

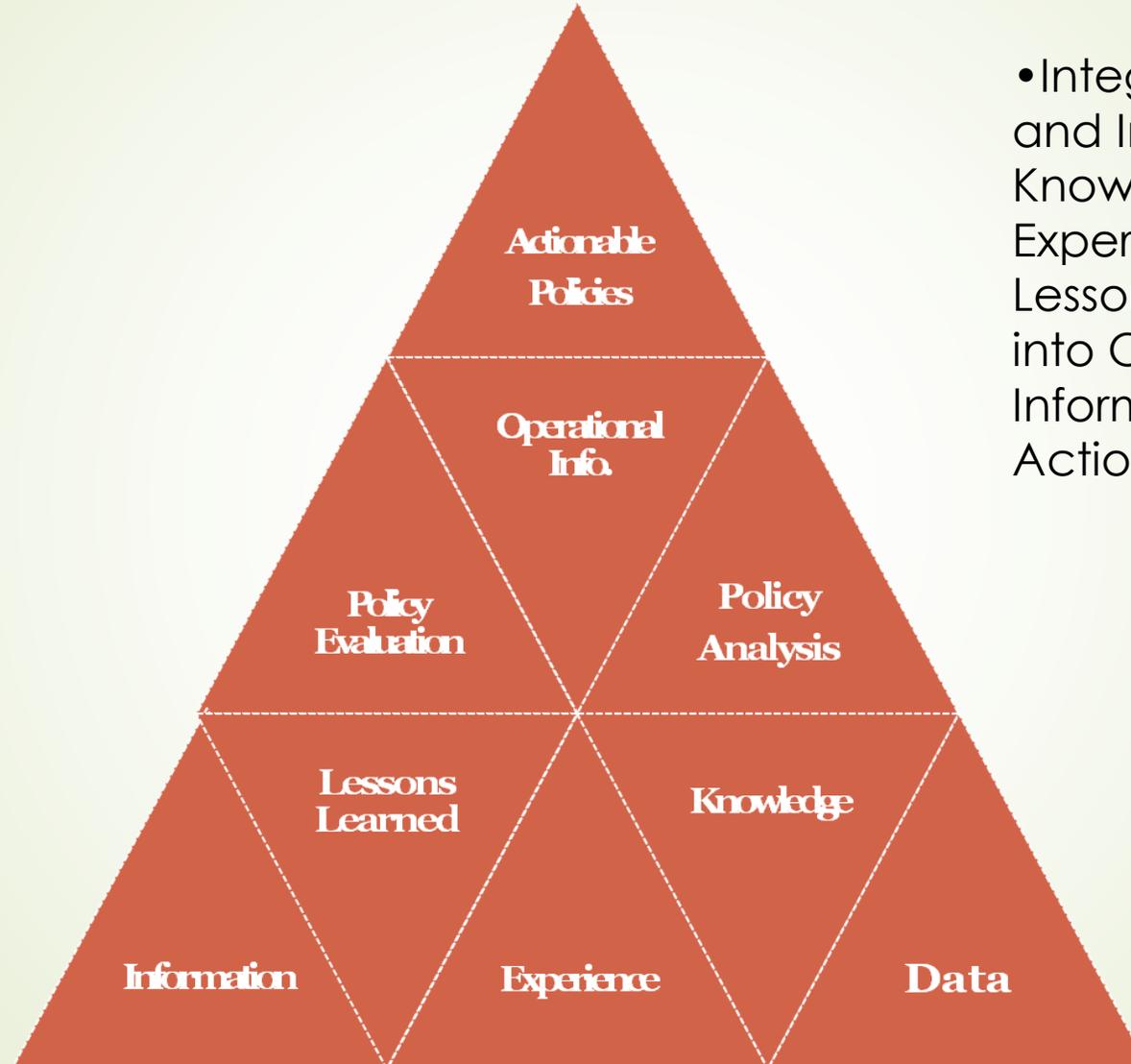
“Linkage” Focused Resilience Factors in Disaster Risk Management and Public Policy (Mika Shimizu, 2013)

Time Scale	<ul style="list-style-type: none">• Quick and timely response• Prioritize pre-disaster management and link it to post-disaster management• Link short-term, mid-term and long-term impacts and goals
Institutions	<ul style="list-style-type: none">• Link financial, operational and decision-making institutions:<ul style="list-style-type: none">(i) within central government(ii) between national and local governments(iii) among government, business, and civil society(iv) between national and international stakeholders
Expertise	<ul style="list-style-type: none">• Link multidisciplinary experts engaging in disaster management and public policy beyond disciplines
Disaster Risks	<ul style="list-style-type: none">• Comprehensive views for natural disaster risks• Comprehensive views for social, economic and technological disaster risks• Comprehensive views for impacts of disaster risks

“Process” Focused Resilience Factors in Disaster Risk Management and Public Policy (Mika Shimizu, 2013)

Major Factors	Metrics
Policy Formation Process	<ul style="list-style-type: none">• Consistent approach (from Analysis, Evaluation, Planning, Implementation through Renewal)• Sub-sector policy integration
Disaster Management Process	<ul style="list-style-type: none">• Comprehensive approach (from Mitigation, Planning/Preparedness, Response, Recovery, Adaptability through Sustainability)
Knowledge Production Process	<ul style="list-style-type: none">• Integrative approach (Integrate Data and Information, Knowledge, Experiences and Lessons Learned into Operational Information and Actionable Policies)

Knowledge Production Process For Actions



- Integrate Data and Information, Knowledge, Experiences and Lessons Learned into Operational Information and Actions)



Conclusion: Critical Lesson from Tohoku Disaster in Disaster Management, Public policy and Resilience

- ▶ Need for greater ***integration of the local needs and perspectives into disaster response/recovery systems and activities.***
- ▶ Some governmental systems and activities are insufficiently linked to local realities.
- ▶ **Resilience cannot be sustained only through communities alone. Need to “link” with other social systems and stakeholders.**