

Community engagement in preparing for natural water disasters of different time and magnitude scales: a comparative study between Japan and England

Hideyuki Shiroshita, Kansai University

Ravindra Jayaratne, University of East London

Kaori Kitagawa, UCL Institute of Education



関西大学
KANSAI UNIVERSITY



**University of
East London**



Rationale

Two challenges recognised in the DRR community in recent years

Necessity of 'all of society engagement' (Sendai Framework for DRR 2015-2030), which has led to the reinforcement of community-based DRR

Experts 'persist' in prioritising low-frequency/high-impact hazards (IFRC's World Disasters Report 2014).
Inquiries into communities' DRR against hazards of different return periods and magnitudes have been scarce.

Research questions

To what extent the perceptions between DRR experts and community members differ in relation to disasters with different return periods and magnitudes

What are the implications of the perception gap on the actualisation of 'community-based' and 'participatory' DRR

Methodology

Focusing on natural
water disasters
(hydrometeorological
and tsunami)

Comparative case study
approach

Four cases of under-
researched water
disaster-prone
communities Japan and
England

Data collection methods

Observation of the damaged infrastructure and major structural mitigation solutions against water disasters of different scales

Non-structural measures through stakeholder interviews – policy-makers, academics, activists, community members

Fieldwork in Japan

	Hita City, Oita Prefecture	Inami Town, Wakayama Prefecture
Population	63,200	7,671
Recent / expected disasters	Torrential rain in 2017 (7 people died in the city)	Typhoon 21 in 2018, Nankai trough earthquake and tsunami (Expected)
Duration of the fieldwork	30 th – 31 st October 2018	1 st – 2 nd November 2018
Type of interviewees	1 activist (Local NGO), 2 community members, 2 public officers (City government)	2 community members, 1 public officer (Town government)

Fieldwork in England

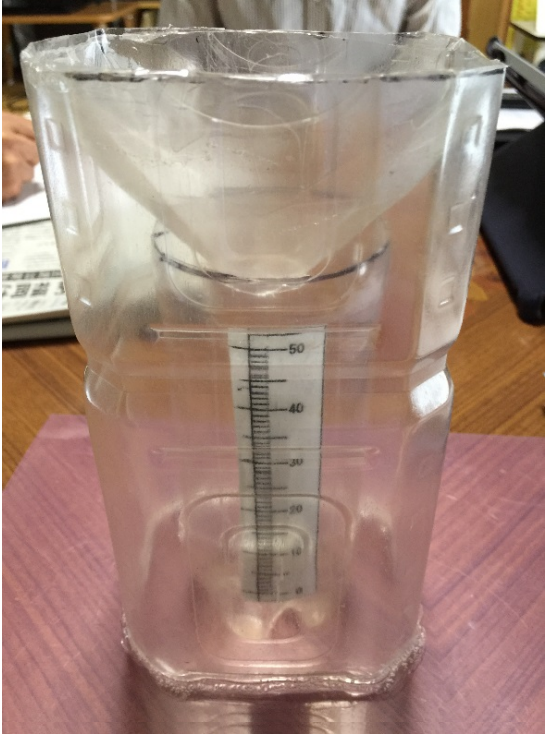
	Sturmer, Essex County	Slapton, Devon County
Population	492	434
Recent / expected disasters	Torrential rain (every year)	Storm surge / extreme waves (since 2000/01)
Duration of the fieldwork	8 th – 9 th April 2019	10 th – 11 th April 2019
Type of interviewees	3 activists / community members	1 activist, 1 local council member and 1 academic



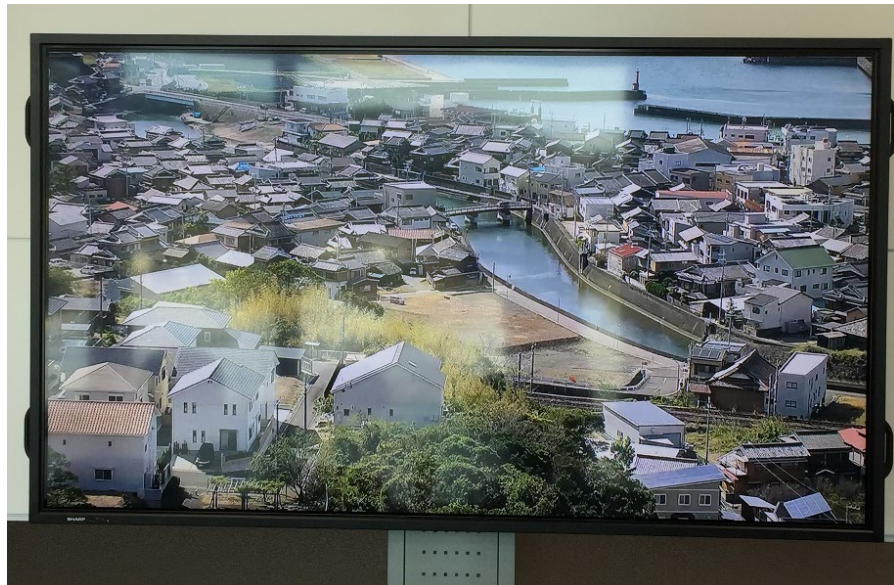
Field investigation – Damaged to infrastructure & Hard / Soft measures

- Hita: Prevention of landslides by installing PVC pipes, sediment/debris-controlled reinforced concrete dam, deepening channels, rainfall monitoring gauges
- Inami: Water gates, high volume portable water pump, concrete seawall fronted by artificial armour units (tetrapods), well-equipped early warning camera system with drones
- Sturmer: Open channels with overhead bridges, portable flood gates
- Slapton: Concrete seawall fronted by rubble, removal of shingle from A road (Kingsbridge to Dartmouth)

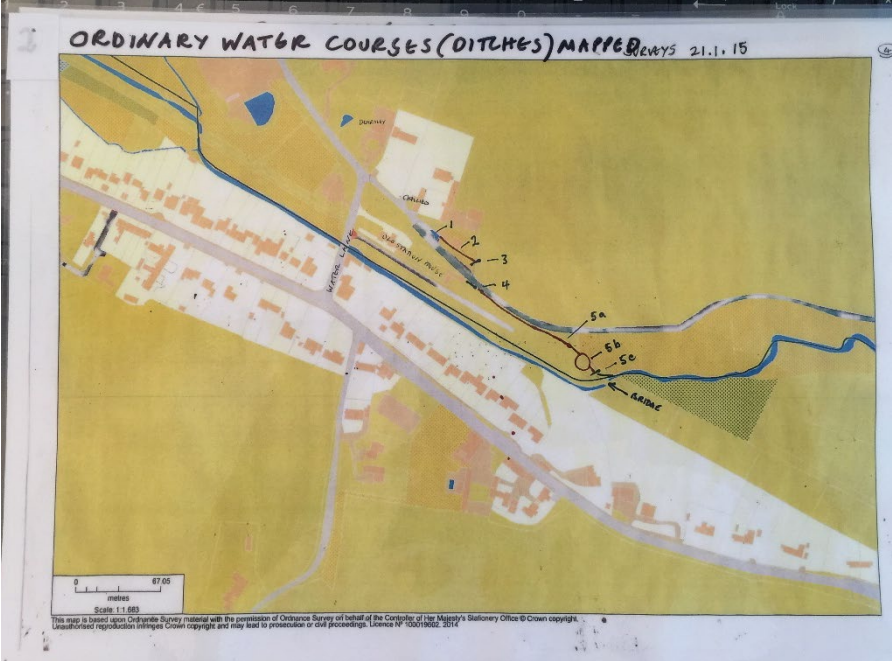
Hita (Japan)



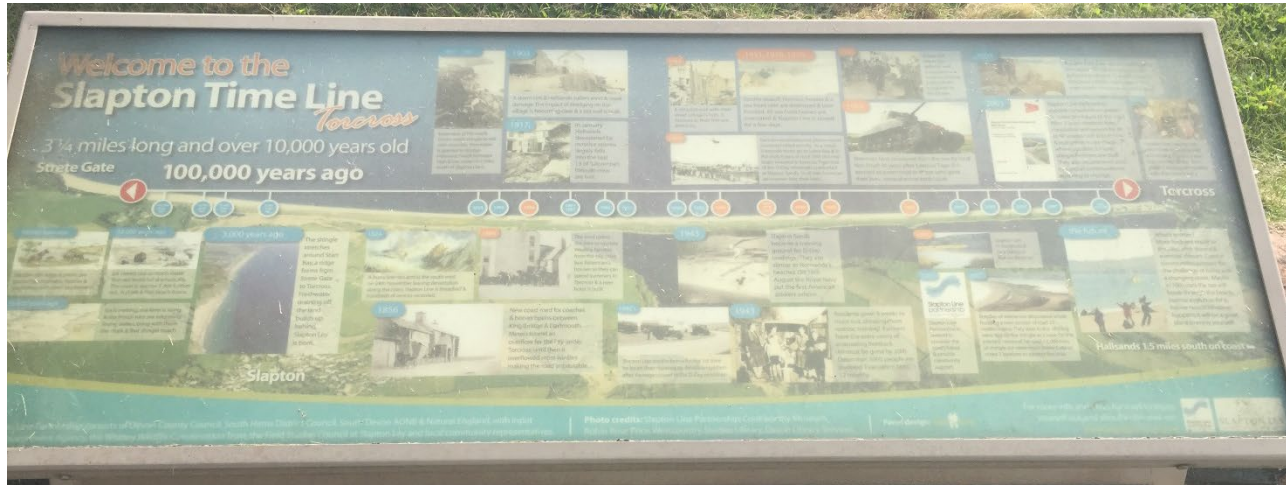
Inami (Japan)



Sturmer (England)



Slapton (England)



Hita (Policy makers)

- There are 258 “Jishubo” (Community group for DRR) in the city. The rate of organization is 100%.
- It was an achievement that people could evacuate under the leadership of “Bosaishi” (Qualified leader of DRR)
- Volunteer fire brigade also did well during 2017 disaster

→ They mentioned mainly about the established system for DRR in Japan.

Interview in Hita city (Mr X)

- “Jishubo” (Community group for DRR) is a pie in the sky.
- Every year, we make a list of the members of “Jishubo”, and making the name list is the only activity of “Jishubo”
- “Jishu-bosai” (Self-DRR activities) should be “self”. If it is top-down, is it really “self”? It should be bottom-up.
- We don’t think we need disaster drills as we have a confidence to be able to do it. Because we organise annual events (festival) by ourselves

Interview in Hita (Mr Y)

- We have a strong tie as we have several annual events. 4 festivals, 3 events in a shrine and a sports festival etc.
- We have “Jishubo” (community group for DRR) but it does not work. We just make a name list based on the request from local government.
- We don’t have any disaster drills. Do we really need drills such as go to evacuation place with go-bag on Sunday?
- Instead, we have the real disaster days a few times every year

Interview in Inami (Resident)

- As for my area, people are changing, thus the tie of the community gradually become weak
- Autumn festival is the day of most people join
- However, numbers of participants to other events are decreasing, I guess
- People's sense of values become diverse
- People who run their own business including the famers and fishermen are decreasing

Interview in Inami (Policy maker)

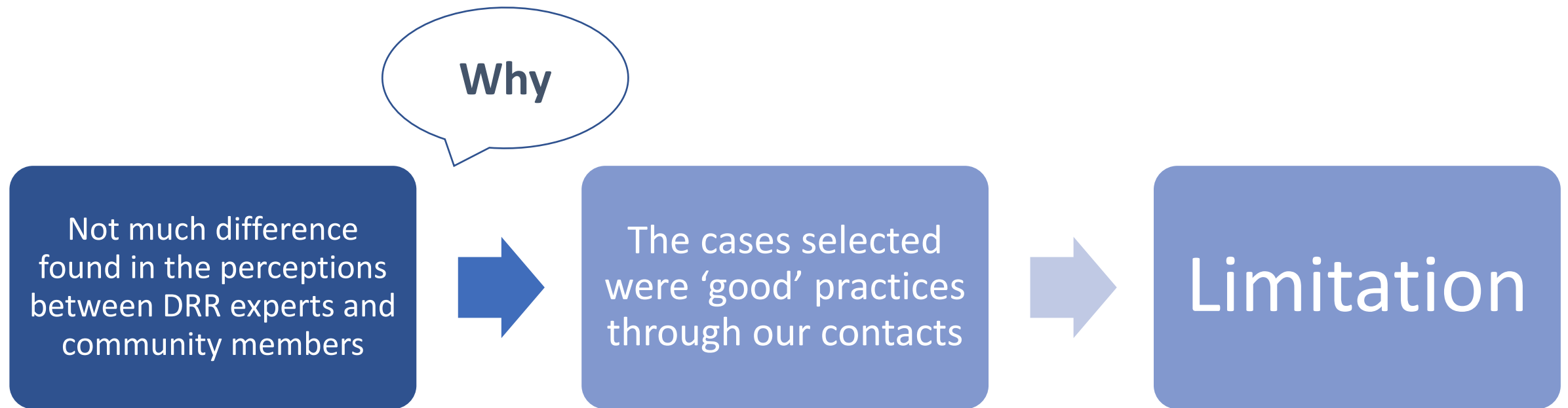
- I feel tie of our community became weak
- Partially because many people became employees
 - Before, most people were farmers and fishermen
- Sense of community is also weak. Only the annual festival is the mean for keeping the tie of the community

Comparative finding

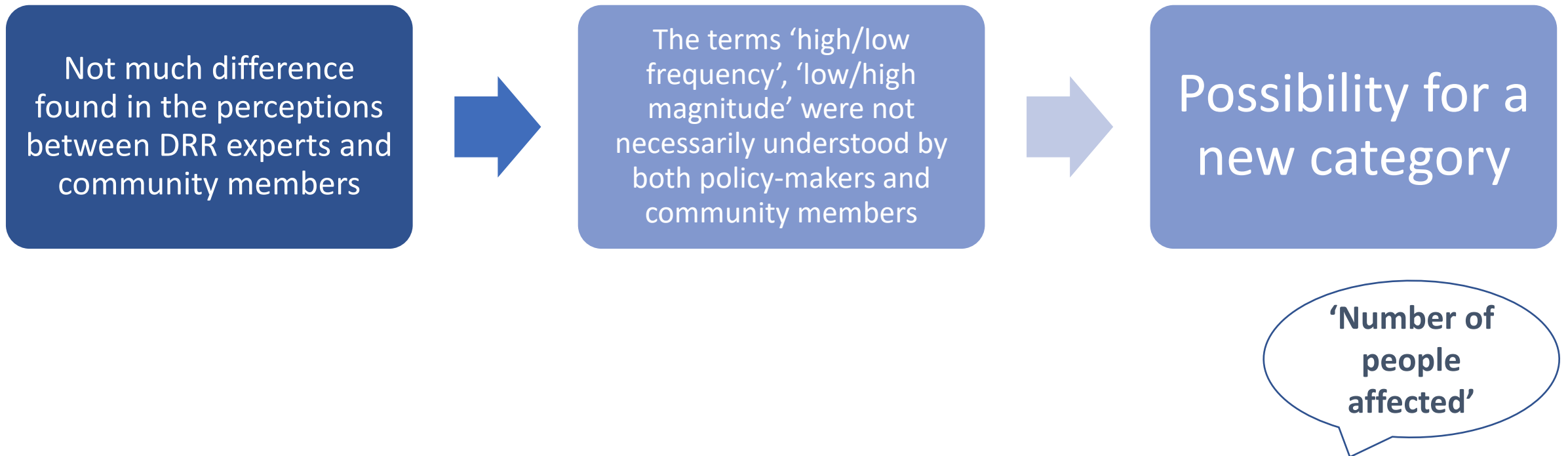
Both DRR experts and community members approach high-impact/low-frequency hazards with 'prevention/reduction' measures, while for low-impact/high-frequency hazards, the countermeasures become 'adaptation

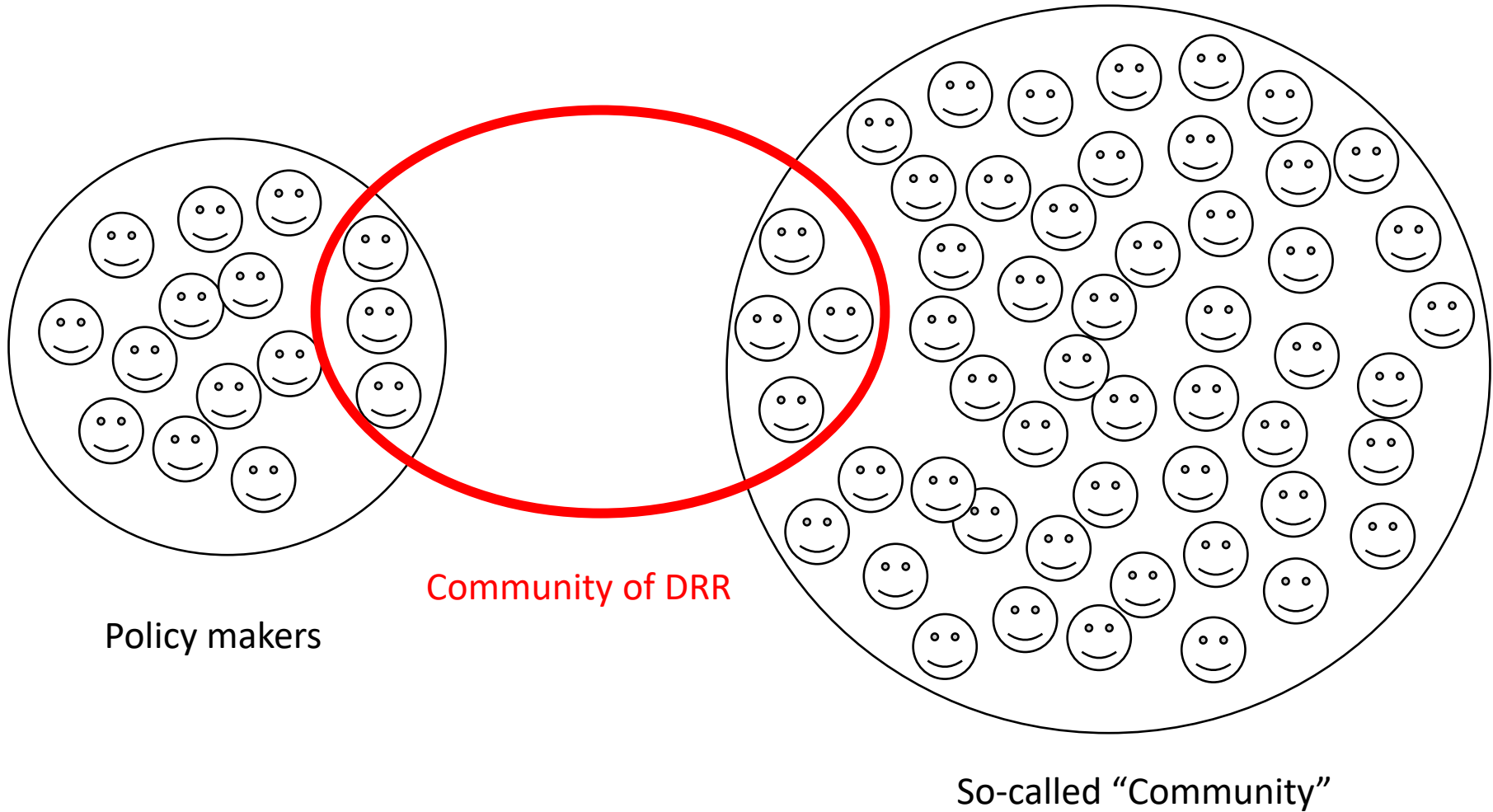
Reflection and conclusion

Research question 1: To what extent the perceptions between DRR experts and community members differ in relation to disasters with different return periods and magnitudes



Research question 2: what are the implications of the perception gap on the actualisation of 'community-based' and 'participatory' DRR





Thank you for your attention!