

Tsunami Warning Operation

Some responses to the questions

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Q2. Are instrument-determined local tsunami warnings possible and practical?

Q3. What level of accuracy is necessary, and how quickly should a forecast be made, to be useful to the different stakeholders



No perfect early warning system

- people (warning providers or receivers) make mistakes
- we never fully understand mother nature (we have limited knowledge)



Should react to warning but
not to be too dependent on it

Evacuation drills are
important, but at the same
time, think and act by yourself
adapting to changing
situations



What if people could not receive accurate warning or react to it when supposed to make decision for evacuation?

Note that there are always some people who are not able to receive warning or react to warning



What are such cases?

- Warning issued at late night/early morning hours
- Technical failures on the chains of EWS
- Electricity problem due to a huge earthquake
- People injured by the earthquake
- Infants and small children
- The elderly and handicapped
- People with illness
- Some location: No lead time as tsunami may reach within a minute or so after the occurrence of an earthquake)
- People at a workplace: permission from office
- People whose job is to assist evacuating people (police, firefighters, leaders in communities, local governments' officers, etc.)



No evacuation where possible

By smart landuse planning

By structural measures (expensive but without sea walls in urban coastal areas would need to frequently pay for the losses in Japan)



What are these numbers?

1896	55,000	22,000	40%
2011	500,000	20,000	4%

Early Warning System and Preparedness for Tsunami
is very effective

20,000 deaths --- still a lot to do structural and
non-structural measures

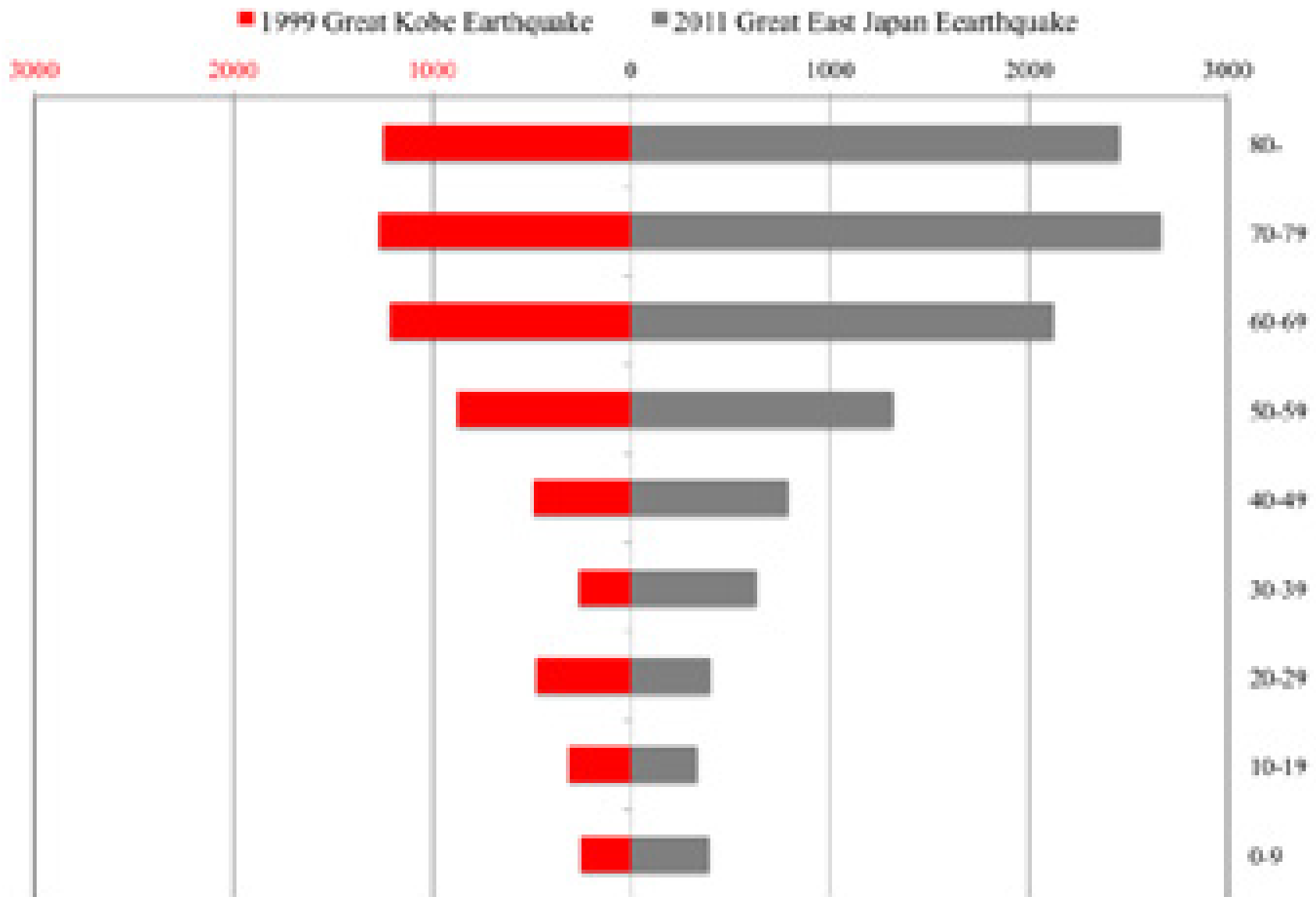


What are these numbers?

Based on population data in Minami-sanriku,
Miyagi Pref. as of February 2011

17,666	940	5.3%
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789	112	14.0%
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Casualties, by Age, due to the 2011 Great East Japan Earthquake and Tsunami and the 1995 Great Kobe Earthquake



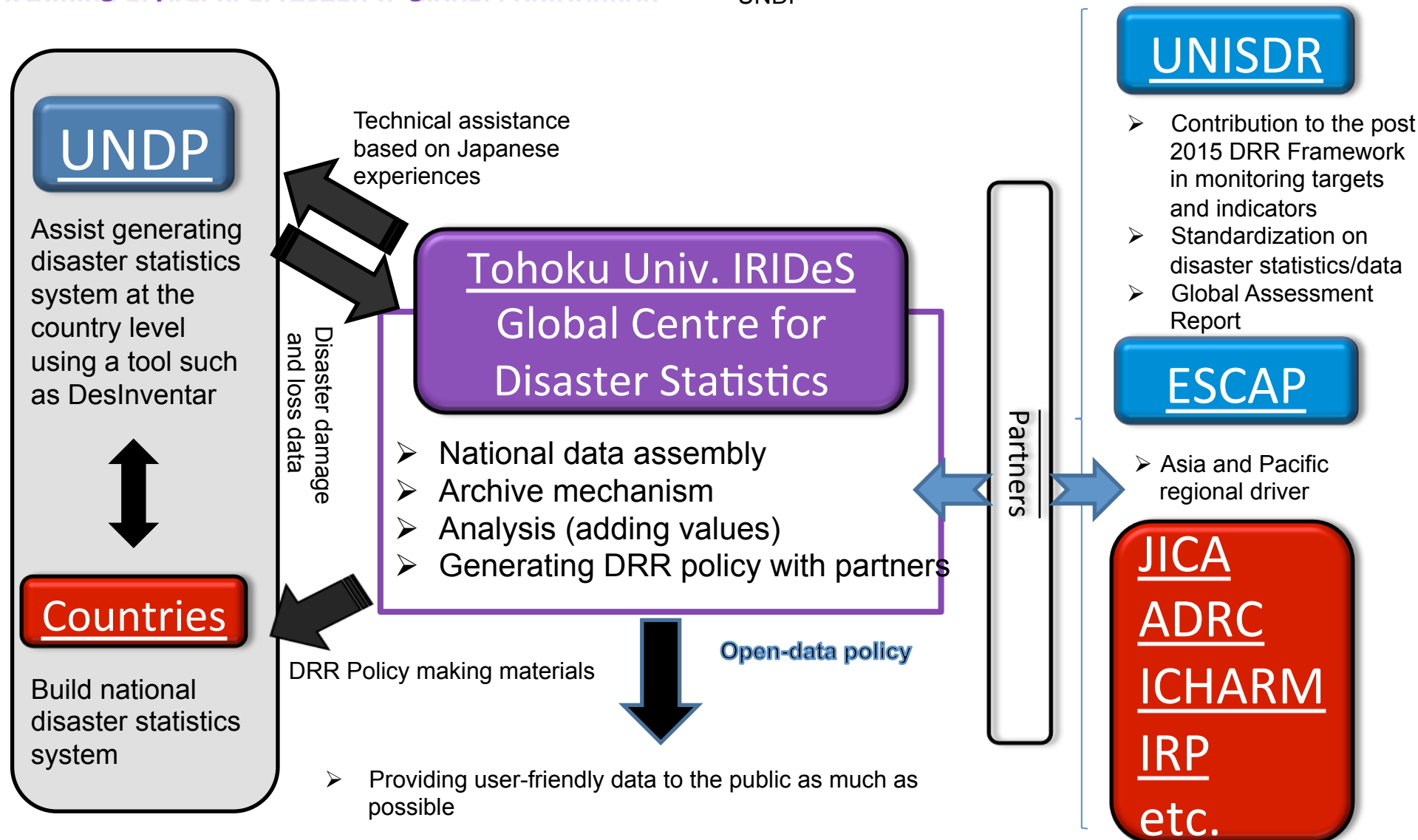
Data/Statistics could change policy

No proof No improvement

Global Centre for Disaster Statistics (tent. scope)

☆ Aiming at practical research, global contribution

To be operational from April 2015 in partnership with
UNDP





Take advantage of the opportunities of major intergovernmental disaster-related policy making processes

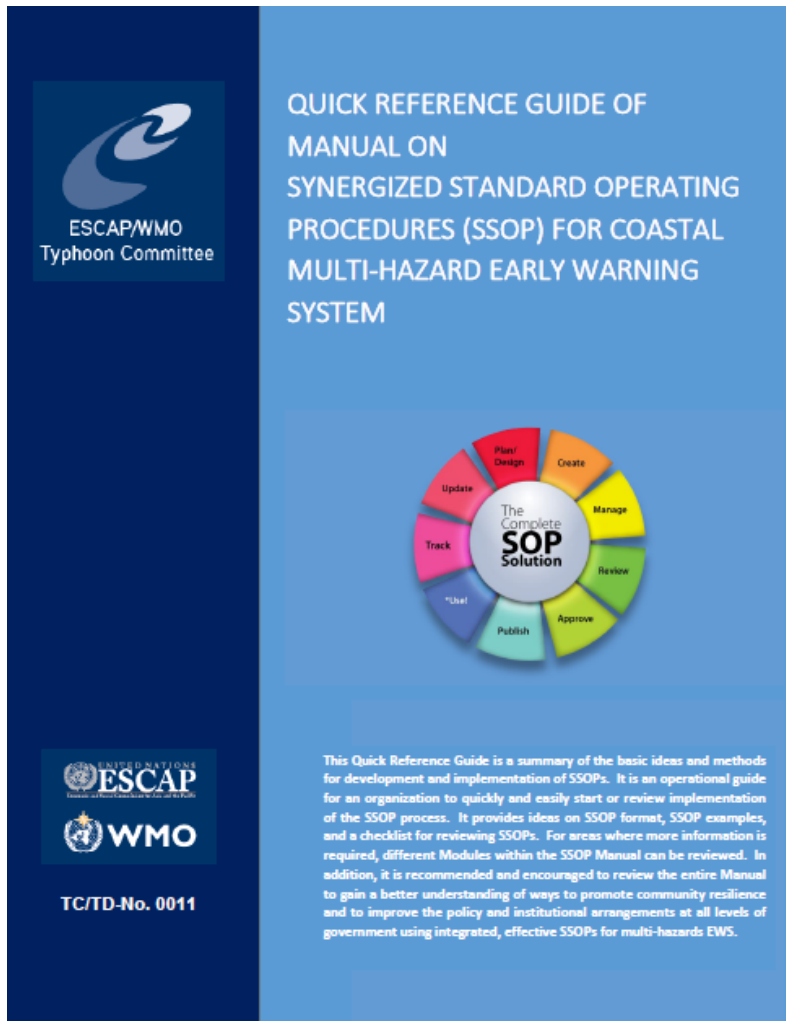
- Sendai Framework for Disaster Risk Reduction 2015-2030
- SDGs negotiation (2015-2030)



Warning providers would be different hazard by hazard

But local disaster managers,
media, disaster-responding people
as well as ordinal citizens are the
same people

--- Importance of people-centered
multi-hazard warning system



SSOP project
by Typhoon Committee
and Panel on Tropical
Cyclones (ESCAP/
WMO)

is multi-hazard oriented

A guideline should be
ready soon



Investment in science and technology



International Research Institute of Disaster Science (IRIDeS)

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