



Tsunamis 2004 and 2011: Comparative Analysis of Restoration Programmes

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The Bay of Bengal Programme inter-Governmental Organisation



The Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO) on small-scale fisheries has been carved out of a 23-year-old FAO/ UN regional programme, the Bay of Bengal Programme (better known as BOBP).

The Bay of Bengal, is bounded by eight countries – the Maldives, Sri Lanka, India, Bangladesh, Myanmar, Thailand, Malaysia and Indonesia. They also form the members/ participants of the BOBP-IGO.



In 2004 and in 2011 two unprecedented events occurred respectively in South and South east Asia and Japan.

The humanity went numb by the scale of magnitude of nature's fury.

Will we fare better if the nature tests us again AND what if the nature has bigger surprises at store!





Japan's Prime Minister Naoto Kan reacts after he feels the earthquake during a committee meeting in parliament in Tokyo.

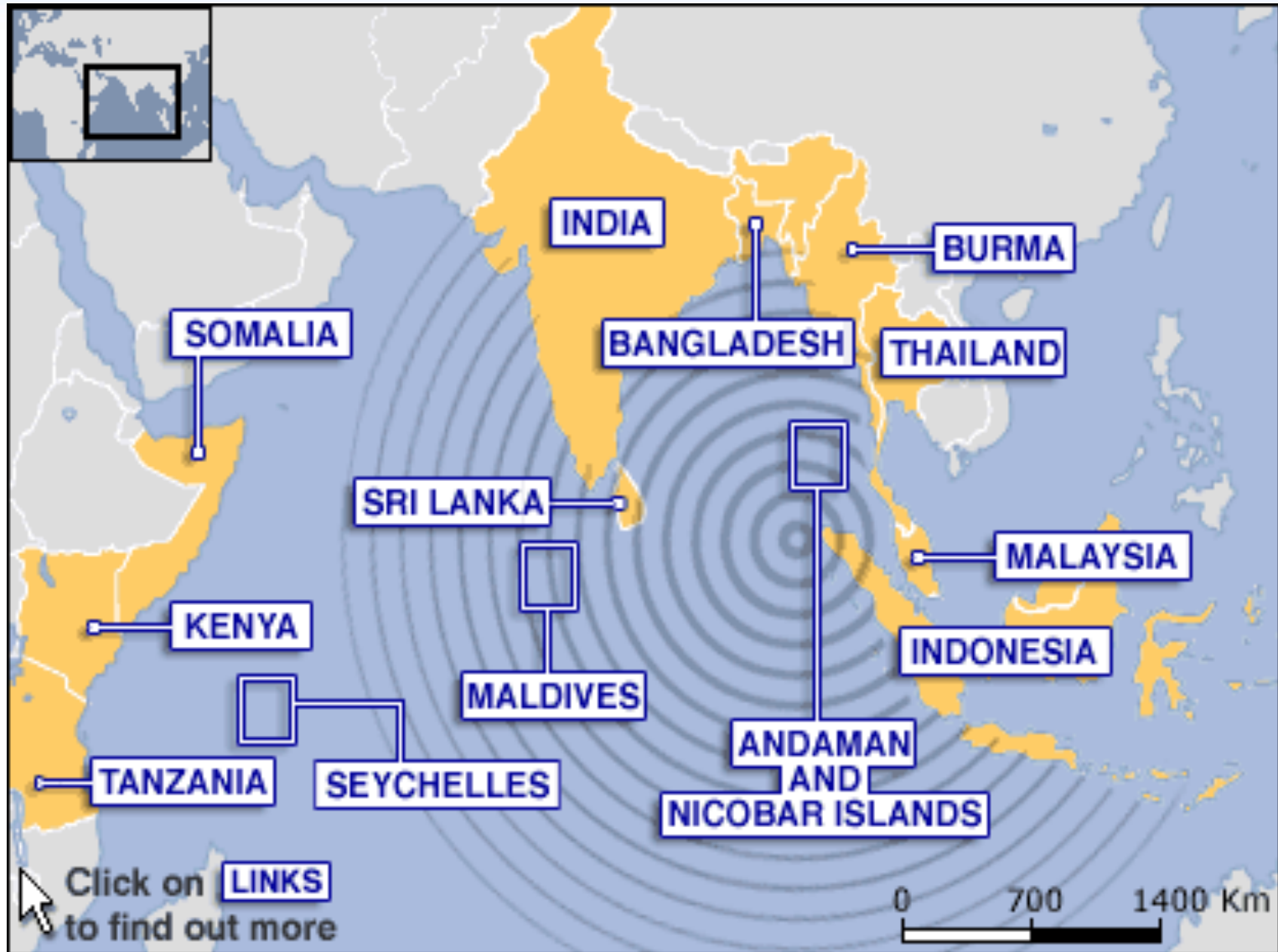


Then & NOW

Event	The 2004 Indian Ocean Tsunami	The 2011 earthquake off the Pacific coast of Tohoku and Tsunami
The DATES	Sunday, 26 December 2004: 00:58:53 UTC	Friday, 11 March 2011 05:46 UTC
Epicentre	West coast of Sumatra, Indonesia	About 70 kilometres east of Tohoku
Magnitude	M_w 9.1–9.3 (3 rd largest earthquake)	M_w 9.1–9.3 (5 th largest earthquake)
Max tsunami wave height recorded	30 meters (almost equal to a 10 storied building)	40.5 meters (almost equal to a 13 storied building)
Spread	Indonesia (Aceh), Sri Lanka, India (Tamil Nadu), Thailand, Maldives, Eastern coast of Africa	Japan (Pacific Rim – mainly the north-east coast)

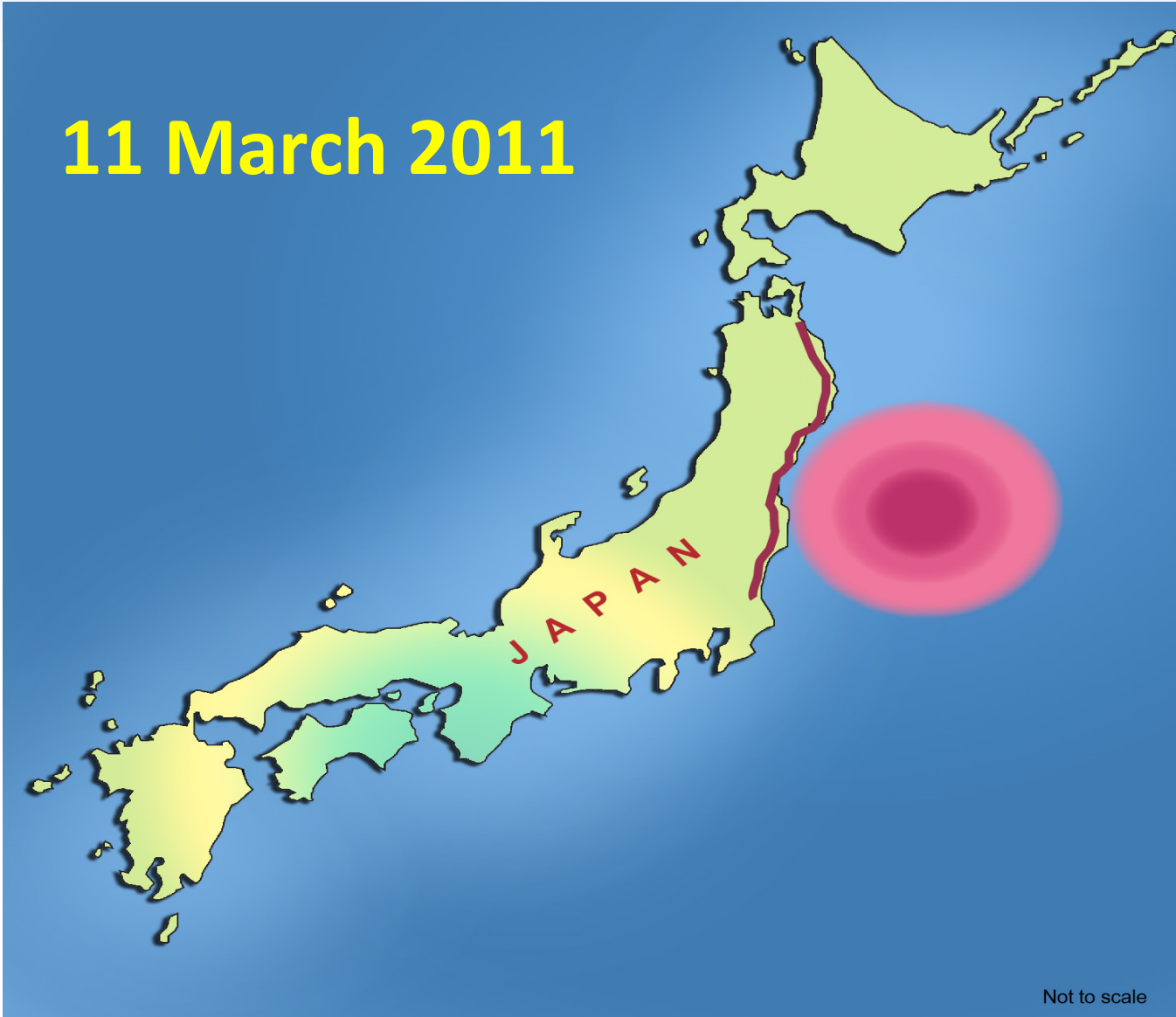


26 December 2004





11 March 2011



Not to scale

 **North of Sendai**

Before



After



North of Sendai

Before



After





Before



After



 **Sendai**

Before



After



 **Sendai**

Before



After



 **Sendai**

Before



After



Fukushima Daiichi Nuclear Plant

Before

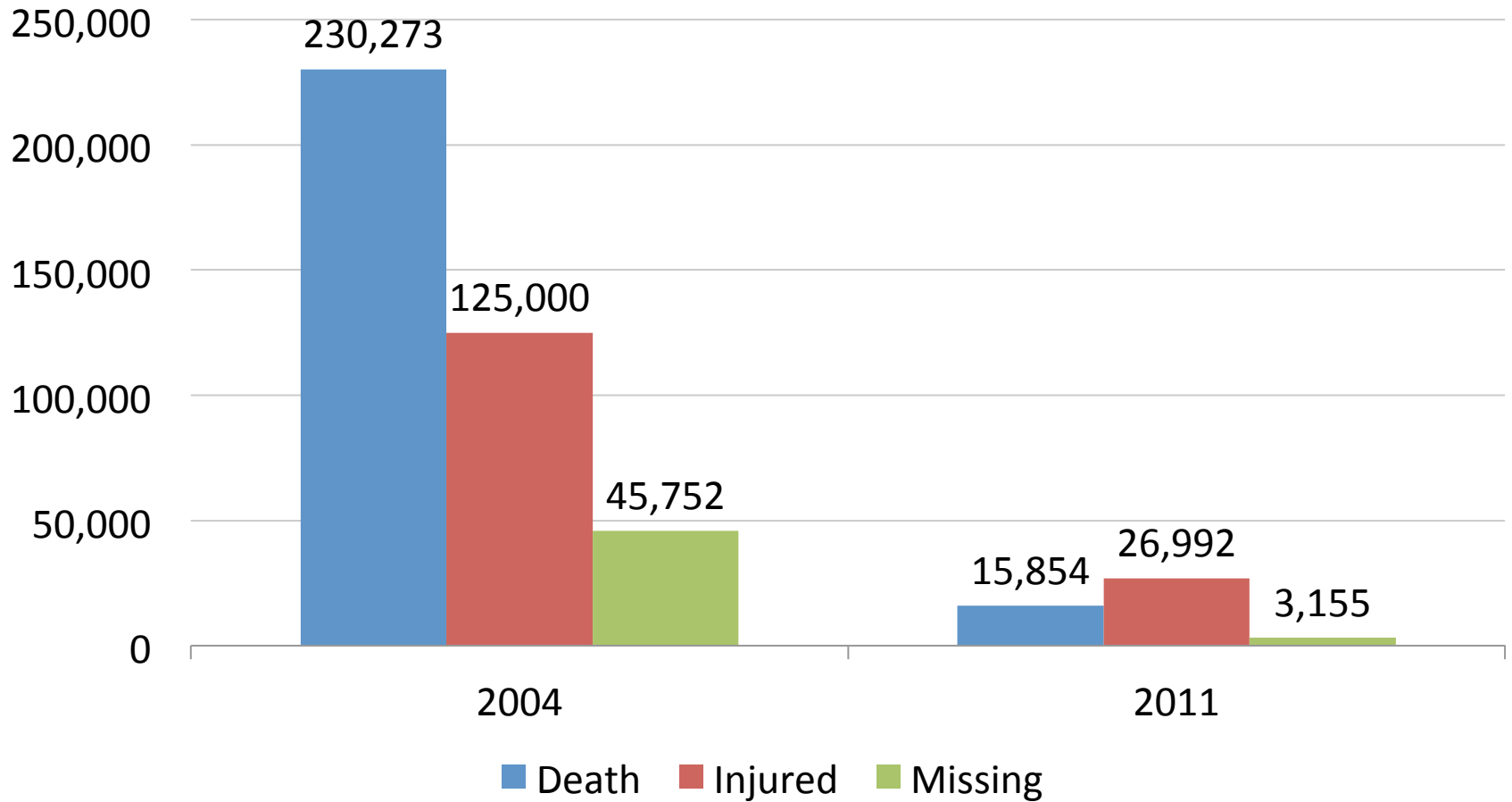


After





Casualties: Then & Now





Background of 2004 Devastation

- The Pacific Tsunami Warning Center (PTWC) picked up the December 26, 2004 North Sumatra earthquake, but since its source was located well outside the PTWC Area of Responsibility, the warning was not issued for the affected areas.
- Both Thailand and Indonesia are the members of International Tsunami Coordination group ((ICG/ITSU). However, since there was no regular drill they failed to identify/ process information and warn people.
- Central authorities of Sri Lanka, India, Maldives and other affected countries received the warning, but failed to act owing to lack of communication network or organizational infrastructure to deliver the warning to their coastal inhabitants.



Preparedness of the National Governments

- India traditionally was not member of any international tsunami warning system due to low threat perception and high cost.
- Even countries like Indonesia and Thailand with long experience in local tsunamis were taken by surprise.
- A large number of tourist mainly from Europe (and also other western nations) died while holidaying in Thailand. These countries usually issue travel advisory to their citizens. But at that point the globe went numb!



Lessons from Japan 2011

Japan has a well-developed warning system as well as preventive measures (tsunami walls, levees, etc).

But again, the situation was above-average!

The scale of destruction was unprecedented as tsunami waves managed to breach high tsunami walls erected along the coastline.

We do not know what EXACTLY nature can do!



Response of the National Governments 2004

Timeline – Just after tsunami – mid-term initiatives – long term initiatives

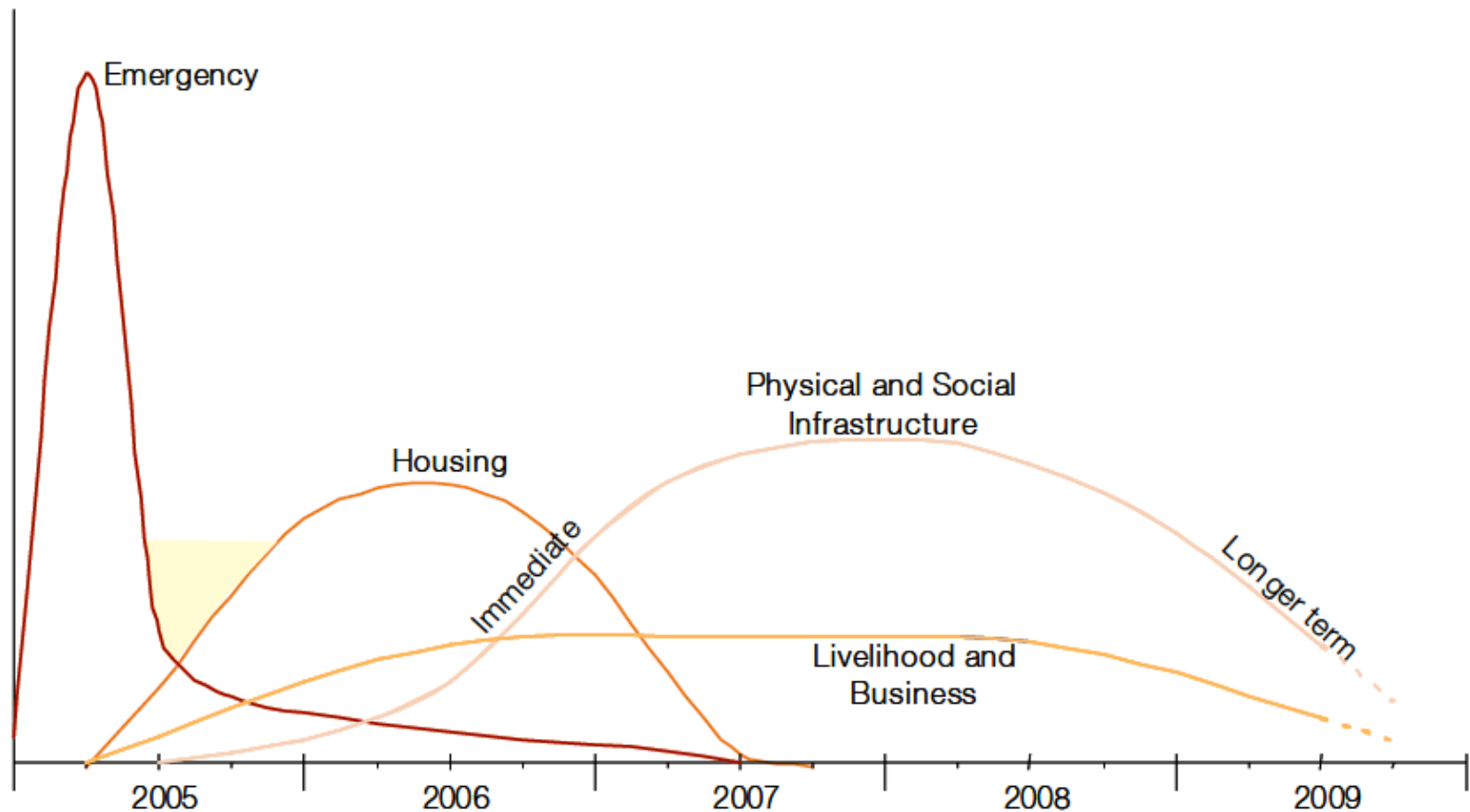
India	Indonesia	Sri Lanka
Government machinery was not in position. NGOs and volunteers initiated the first aid.		
Tsunami Relief and Rehabilitation Coordination – Tamil Nadu & Pondicherry was constituted	Rehabilitation and Reconstruction Agency Constituted	Sri Lanka Disaster Management Act No 13 of 2005 was enacted. Long-term disaster mitigation measures undertaken.
Environmental and rapid appraisals		
Fisher community and fisheries infrastructure were identified as most damaged. Livelihood programmes for fisheries.	Agriculture and fisheries suffered most. Long-term plans were developed for rebuilding of assets with donor support and aid/soft loan from Australia and Japan.	Fisher community and fisheries infrastructure were identified as most damaged. Livelihood programmes for fisheries initiated.

Build back better!



Sequencing of Emergency and recovery Effort in Indonesia

Level of Activity





Indonesia

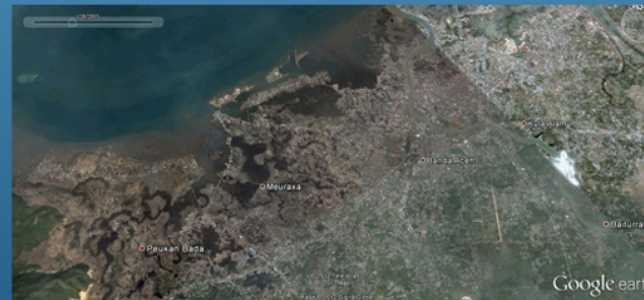
- The major points of recovery programme was constitution of Rehabilitation and Reconstruction Agency (BRR) at the Ministerial Level.
- Emphasis on participatory planning process at the ground level.
- Diplomatic win-win with dissident groups to foster rehabilitation.
- These processes initially delayed implementation, but are expected to produce better result in the long run.

Aceh, Indonesia

2004



2005



2010





India

- Concerned departments took initiative for reconstruction. For example, Department of Fisheries drew plan for rebuilding of fishing harbours. Department of Salt provided financial support to salt producers.
- Many NGOs implemented their own livelihood programmes, primarily replacing the fishing vessels. However, now there are more fishing vessels than there were before the tsunami in Tamil Nadu and Puducherry.
- A World bank assisted FAO project for recovery of tsunami livelihoods initiated.



India

- The process of reconstruction of fishing harbours is slow. Most of the harbours are yet to be reconstructed. Harbours with minor damages were repaired.
- Livelihood programmes also drying up. There is no structural change in fishing community of fisheries livelihood.
- Insurance of fishing assets is still a misnomer. In case of life insurance apart from a national insurance scheme for fishers which was being implemented for over 3 decades, state government (Tamil Nadu) also initiated health insurance schemes for poor.

Nagapattinam, India

2006



2009





Sri Lanka

- The reconstruction work progressed well and most of the fishing assets have been built back better.
- Disaster mitigation measures were updated and coordinated.
- Like India, fisheries sector became over-capitalized now due to uncoordinated donor support.
- Assisted by Spain and implemented by FAO, a fisheries livelihood programme has been undertaken. However, no structural change is still visible.

Galle, Sri Lanka

2005



2007



2009





The weak links

- The insured losses from tsunami are not expected to exceed US\$4 billion, and may be less than US\$2.5 billion. Negligible globally.
- Reason is who died were poor by modern developed world standards, and by the same standards, most of the property destroyed was of low economic value. Losses were also dispersed widely over many countries.
- Lack of industries in the region resulted in lack of private sector involvement.



The biggest flaw in the South-east and South Asian countries has been lack of ‘sustainability’ concepts in the post-Tsunami rehabilitation and recovery phases.

‘The story of too many boats’



The Tsunami recovery programmes are still underway in all the three countries. Many questions still remain unanswered. *Example:* exact nature of environmental damage, increased fishing effort, total economic loss and what if it happens again?

The Strategy for Rebirth of Japan



Japan 2011

- Reconstruction Design Council prepared recommendations “Towards Reconstruction – Hope Beyond Disaster” based on the principle of “solidarity and sharing.”
- The Reconstruction Agency was set up with branches in disaster-affected regions under the leadership of the Prime Minister.
- The Reconstruction Agency is positioned one level higher than other government ministries and agencies, to ensure overall control of the Government budget for reconstruction as well as powers of guidance and instruction to other government bodies.



Japan 2011

- Two major policy tools for reconstruction have been established: (1) Special Zones for Reconstruction and (2) Reconstruction Grants.
- Special Zones are meant to provide one-stop measures to enable communities to promote and execute reconstruction including rebuilding businesses through reorganizing land use and fiscal measures.
- Reconstruction grant is a special account to support reconstruction initiatives by the community.



Then and Now: The Lessons Learned

Build Back Better	The Strategy for Rebirth of Japan
The philosophy for restoration work of 2004 Tsunami was 'build back better'.	The philosophy for restoration work of 2011 Tsunami is creating a New Japan.
However, there was no agreement on what is better.	It is about not repeating any past mistake. Deficiencies are easy to identify.
No fiscal plans developed. The countries were fully dependent on international support.	Fiscal resources were mostly mobilized from domestic resources – Dealing the tragedy by itself.
This is understandable as these countries are lower to middle income countries.	In the wake of ageing population, social structures need to be maintained.
However, international aid and its magnitude is uncertain.	Build communities that are resilient against disasters; focus on sustainability.

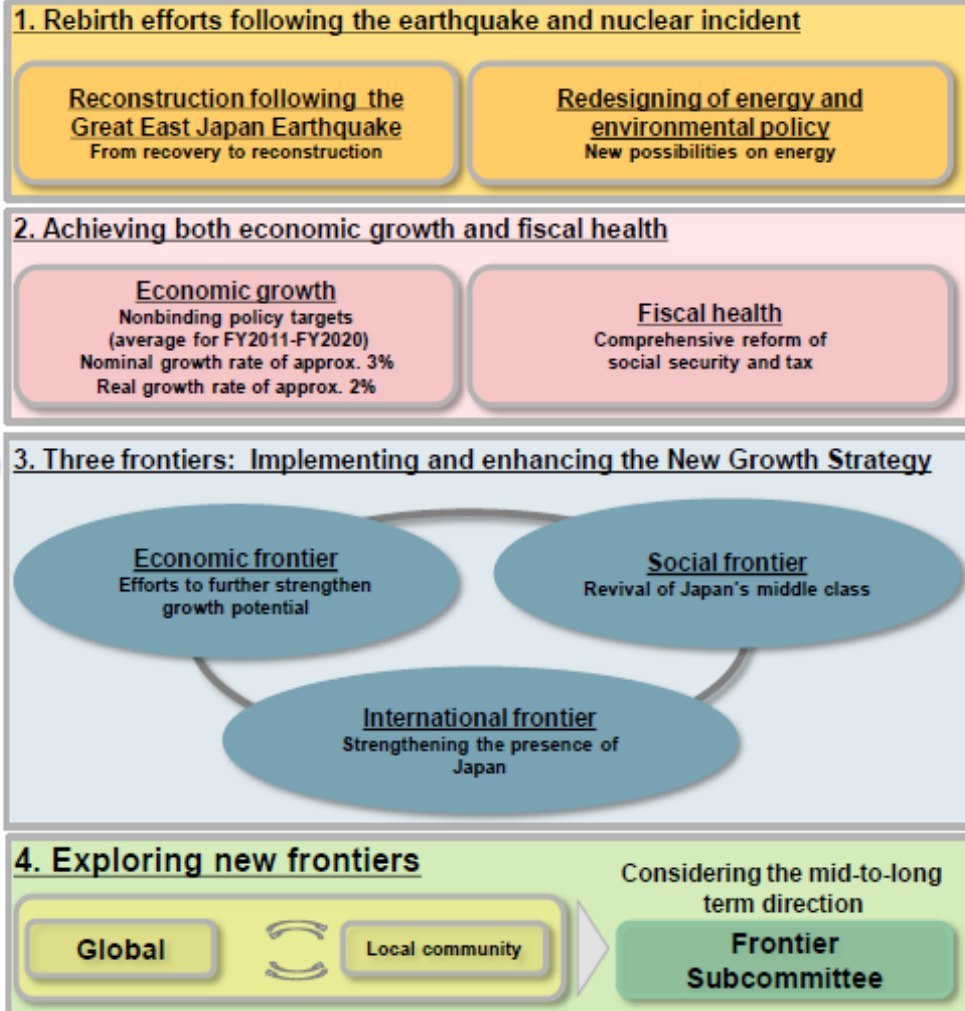
Overcoming Crises and Embarking on New Frontiers

-The Strategy for Rebirth of Japan-

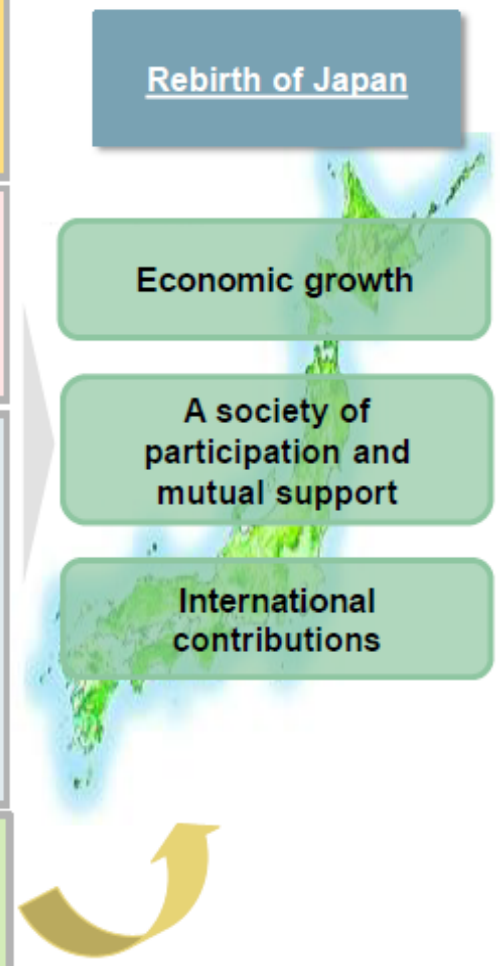
Background

- Declining population
- Aging society
- Delayed transformation of the industrial structure
- Deflation since the mid-1990s
- Great East Japan Earthquake
- Nuclear power station accident
- Appreciating yen
- Global financial market instability

Strategies



Goal





The three pledges!

The Government will work to accomplish reconstruction in the disaster-affected regions without delay.

Pass on to the future generations the lessons of the disaster.

Never forget the spirit of 'mutual assistance' and 'appreciation' that links us all.

Yoshihiko Noda, Prime Minister of Japan – 11 March 2012



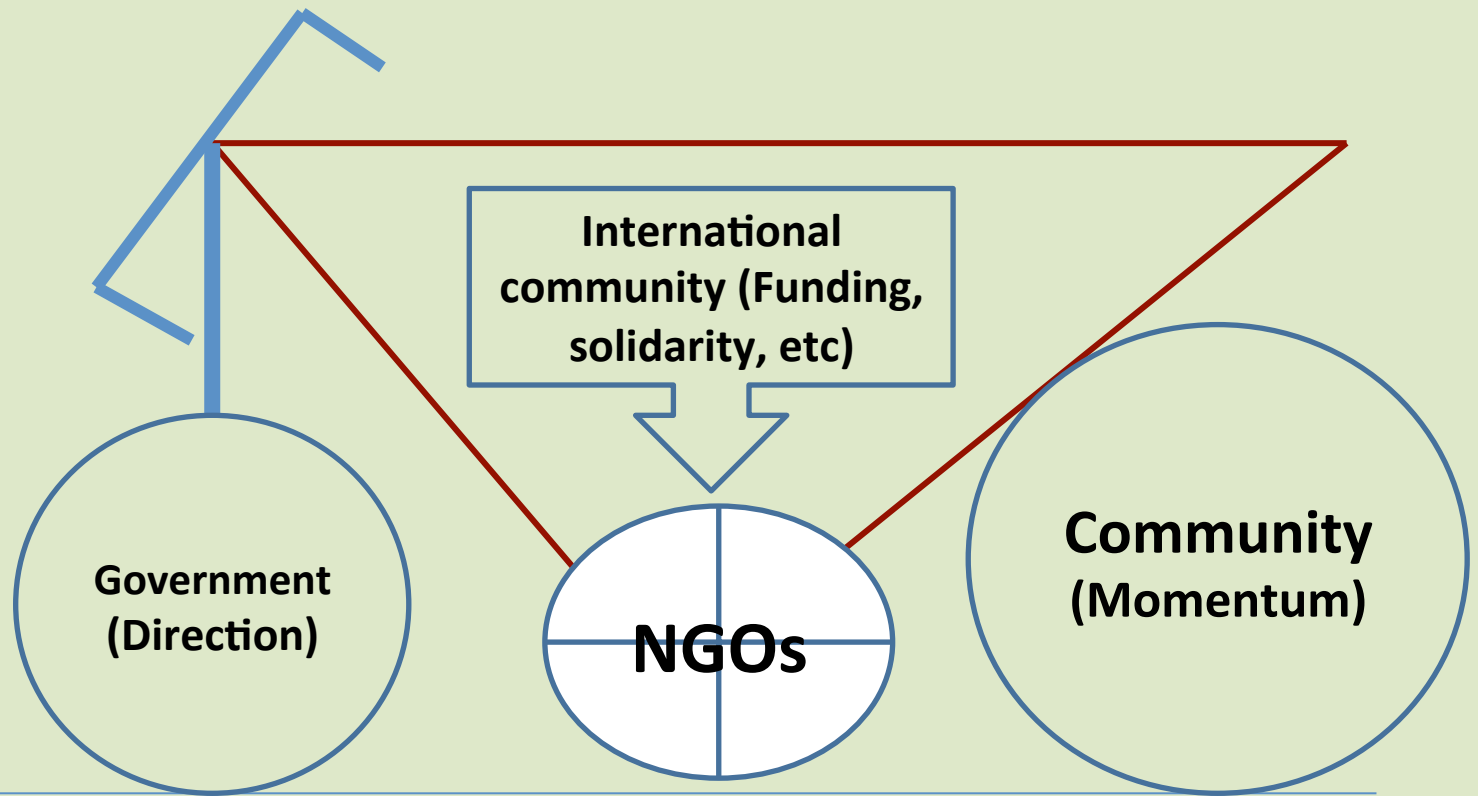
Stone monument inscription, which warned the village people of Anekaki of Omoe Peninsula, Miyako City, Iwate Prefecture, Tohoku region, not to build any houses below that stone monument built at a place of approximately 60 m above the sea level - *Photo by Tetsuya Kikumasa.*



Summing up...

- *Prima facie* handling of disaster is much streamlined in Japan. The lesson we can learn is how to organise the 'organisations' and how also to provide finance. The Japan Red Cross has currently amassed approximately 350 billion Yen – a scale previously unknown.
- While tsunami 2004 created unprecedented damage, there is no news of social conflict post-tsunami. The case of Indonesia is a point.
- In India and Sri Lanka religious agencies played a major role in pacifying the community and facilitating recovery work.

Summing up: the Bicycle model





Finally, we still do not know the nature.
We cannot prevent disasters. But we can
certainly minimise their scales.

Plans being conceived for the possible
Tokai, Tonankai and *Nankai*
earthquakes, which are likely to occur in
the first half of this century!

The Sun also rises
– Japan will also
rise again!

*Tsuyoshi Sato, DCCS, Japan, 22 March
2012 at the Reconstruction Design
Global Forum*





*November 12, Kamaishi City: At the Hakozaki Fishing Port, which remains strewn with broken levees, there was a launching ceremony for the new vessel *Dai-nana Hakozaki Maru*.*



***Gambatte
Nippon –
Chin up Japan!***

And finally.....

*Hope is the thing
with feathers
That perches in the
soul,
And sings the tune –
without the words,
And never stops at all*

By Emily Dickinson





Arigatou gozaimasu!

