

Asia-Pacific Climate Change Adaptation Forum 2013
Songdo ConvensiA, Incheon, Republic of Korea
18-20 March 2013

4.3 Disasters, losses and damages

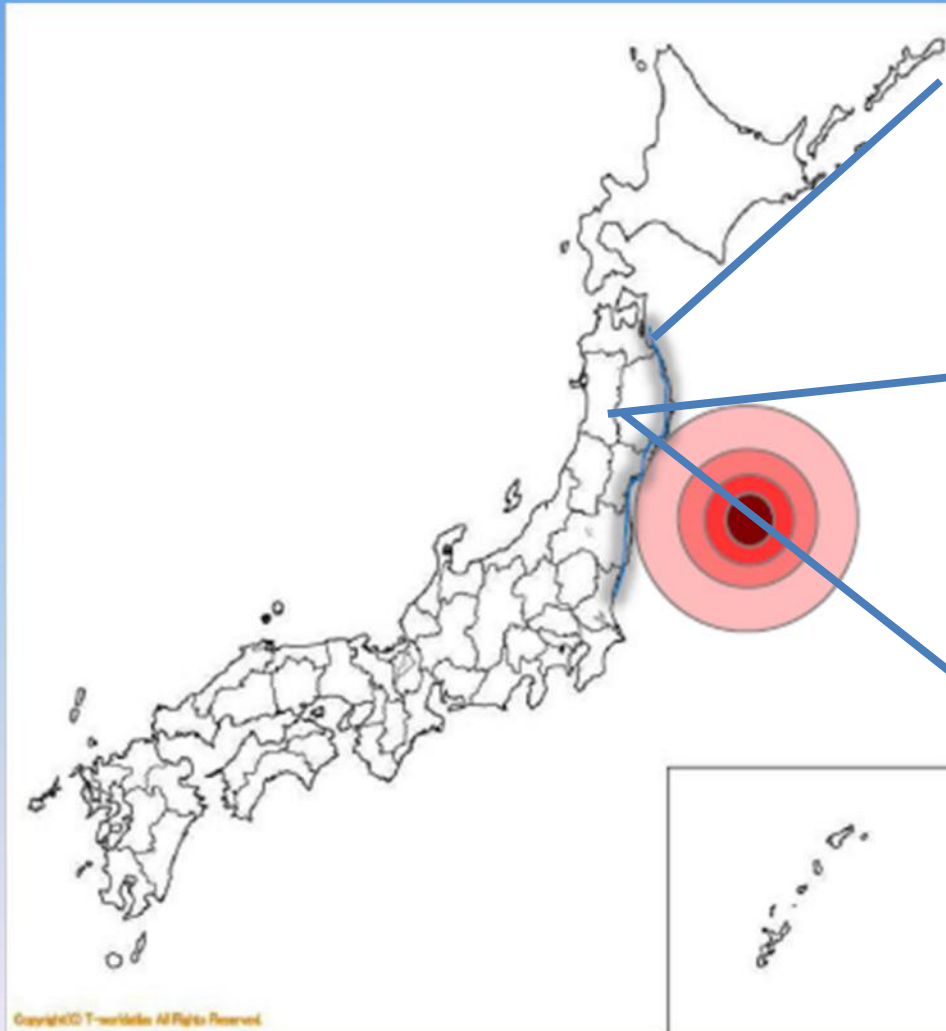
Disaster Tough City and Society

- Combination of hard infra and soft infra -

**Takashi Hongo
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Lessons from The Great East Japan Earthquake

(11 March 2011)



By Mainichi



By
City of Sendai

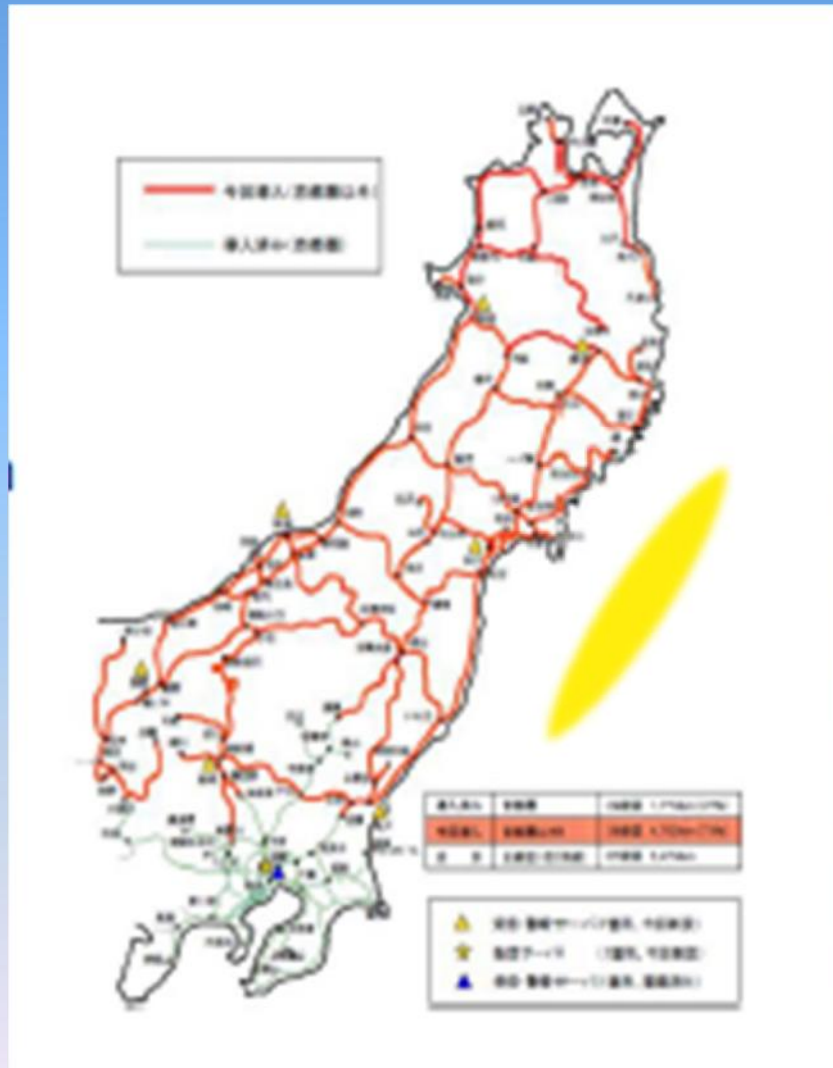


By
NHK

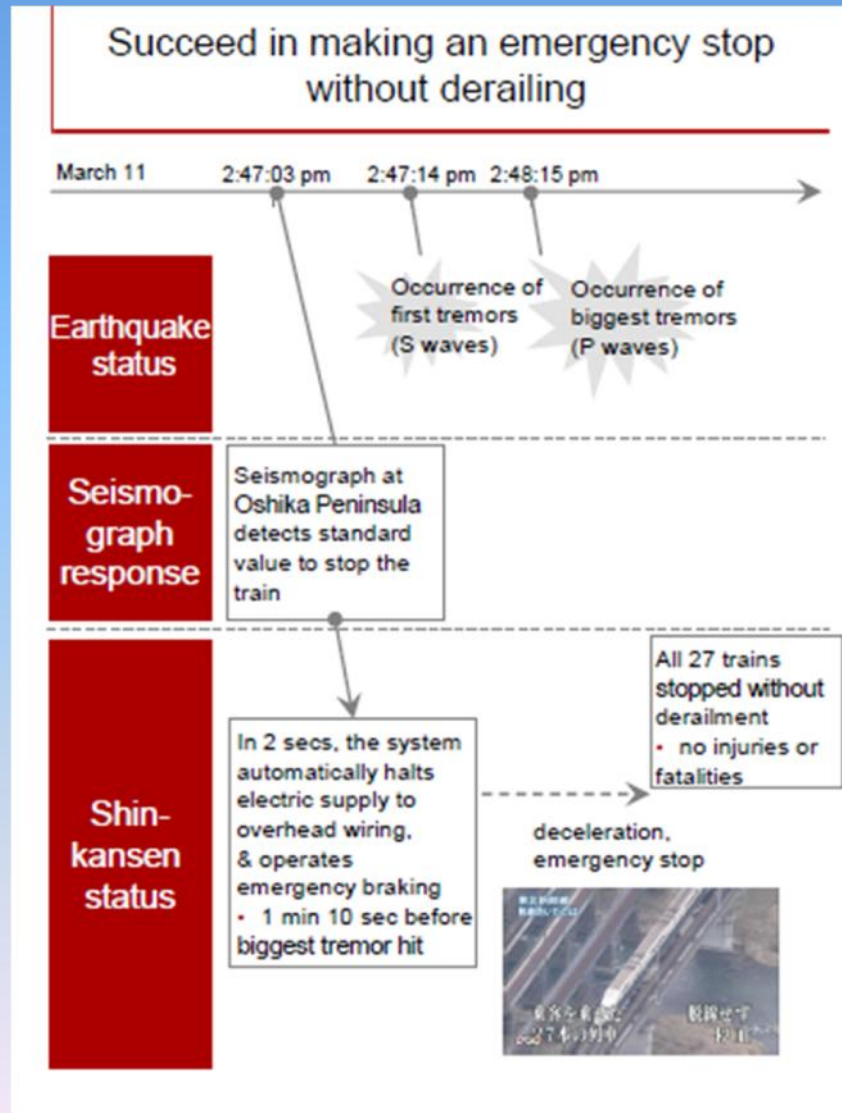
Lessons from The Great East Japan Earthquake

- ✓ Effectiveness of Tsunami Protect Breakwater was limited. Scale of natural disasters may be exceeded over the planned scale. Don't rely on hard infrastructure so much!**
- ✓ Evacuation system is effective but evacuation drill is strongly recommended.**
- ✓ Lifeline after the earthquake, particularly telecommunication, is crucial for saving lives.**
- ✓ Domestic and international rescue team were well functioned.**
- ✓ Post-disaster restore is also important but it takes time.**

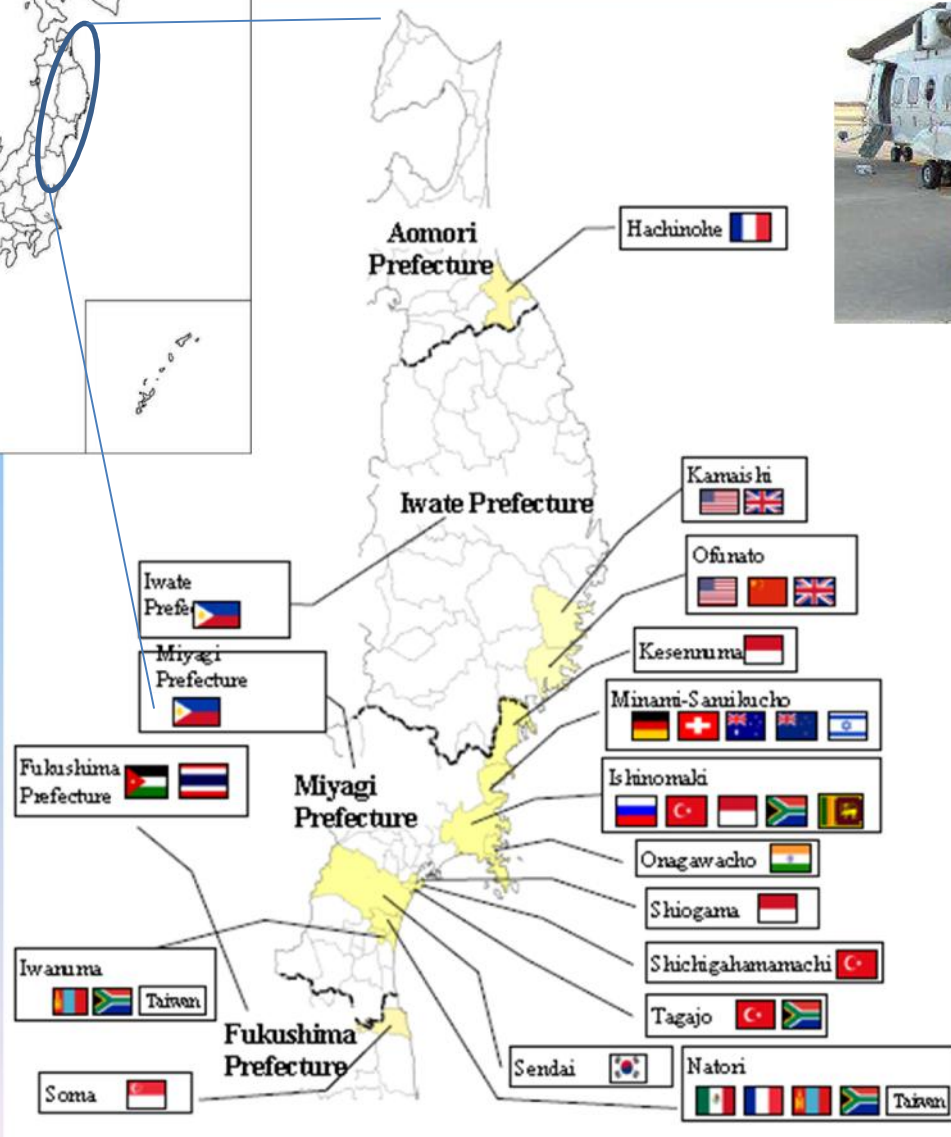
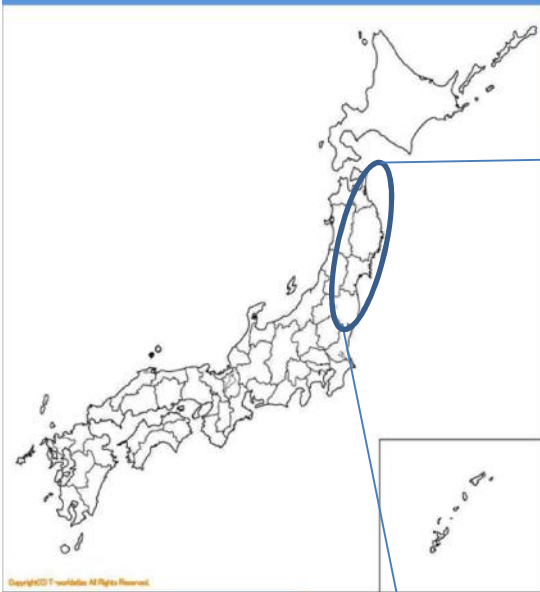
Risk Control System of the high speed link



Source Ministry of Foreign Affairs



Rescue teams from the world and volunteers



Source Ministry of Foreign Affairs



Ministry of Defense



US Navy



Volunteers

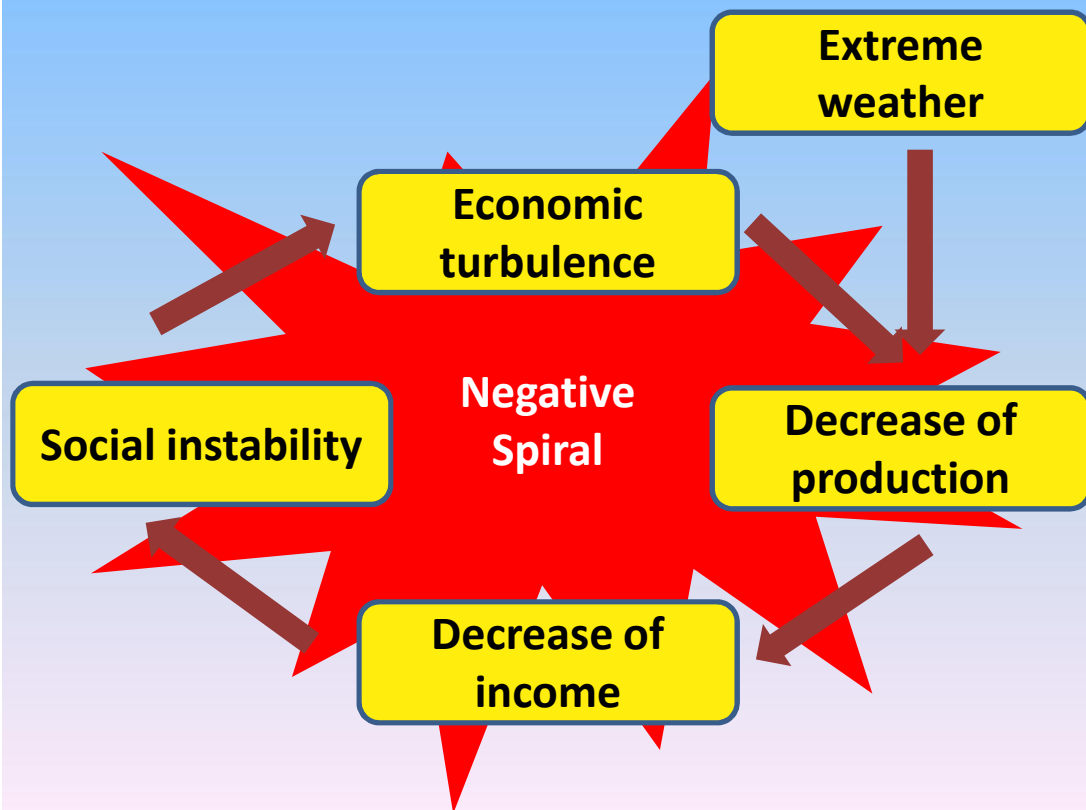
Restructuring of Land use in Higashi-Matsushima



WIIA : Weather Index Insurance for Agriculture

Agriculture is the most vulnerable sector under the climate change

Please see at “Potential of Weather Index Insurance for Agriculture in developing countries”, T Hongo
http://www.ubraintv.com/docs/Weather_Index_Insurance_for_Agriculture_FIN.pdf

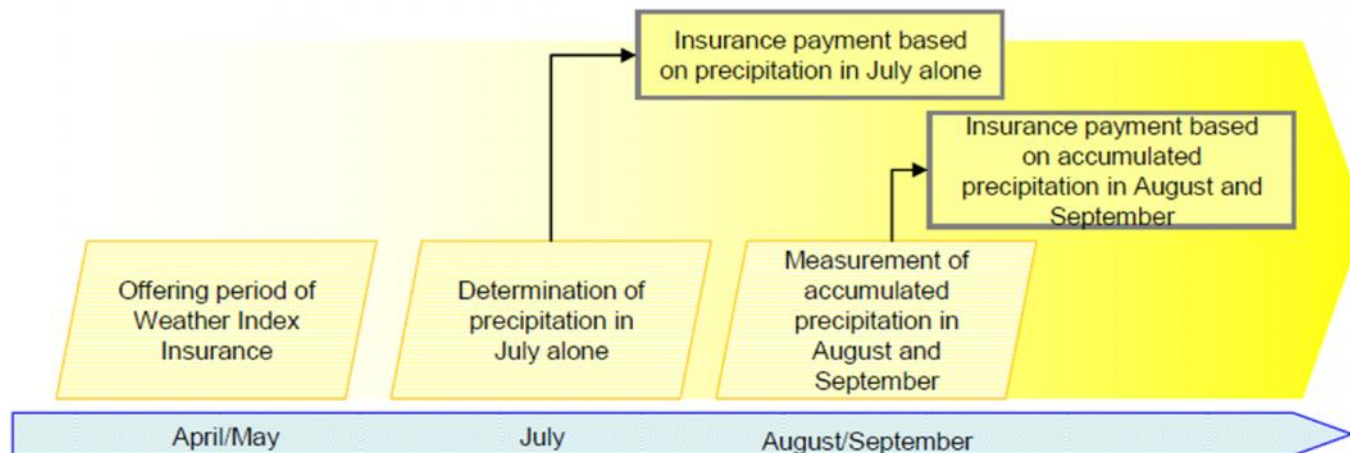
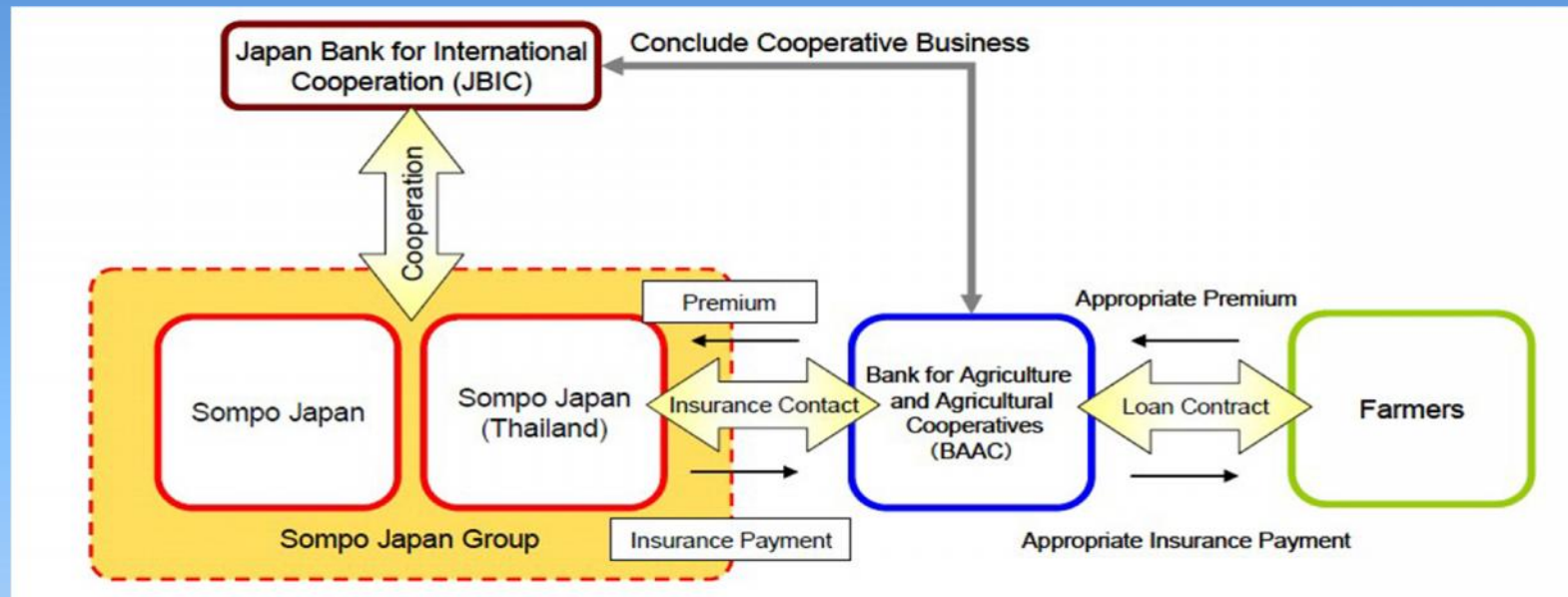


Risk mitigation

- Infrastructure
- Weather forecast
- Breed improvement
- Economic loss cover

**Insurance
(WIIA)**

Case Study : WIIA in Thailand by Sonpo Japan Insurance

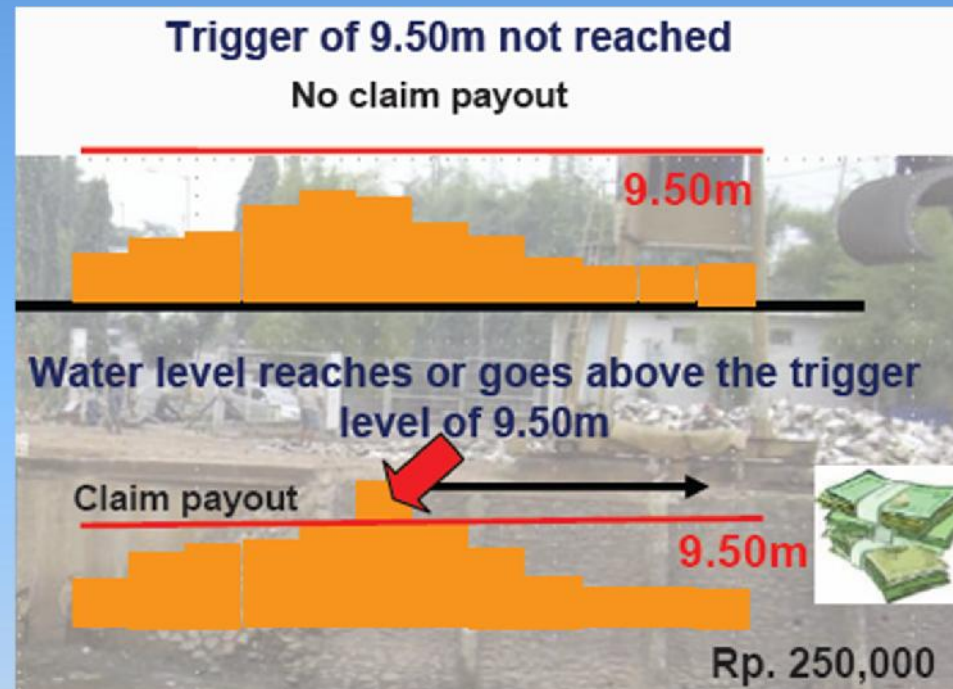


* When the accumulated precipitation in July alone meets the criteria for the payment of insurance payments, this insurance contract will be terminated.

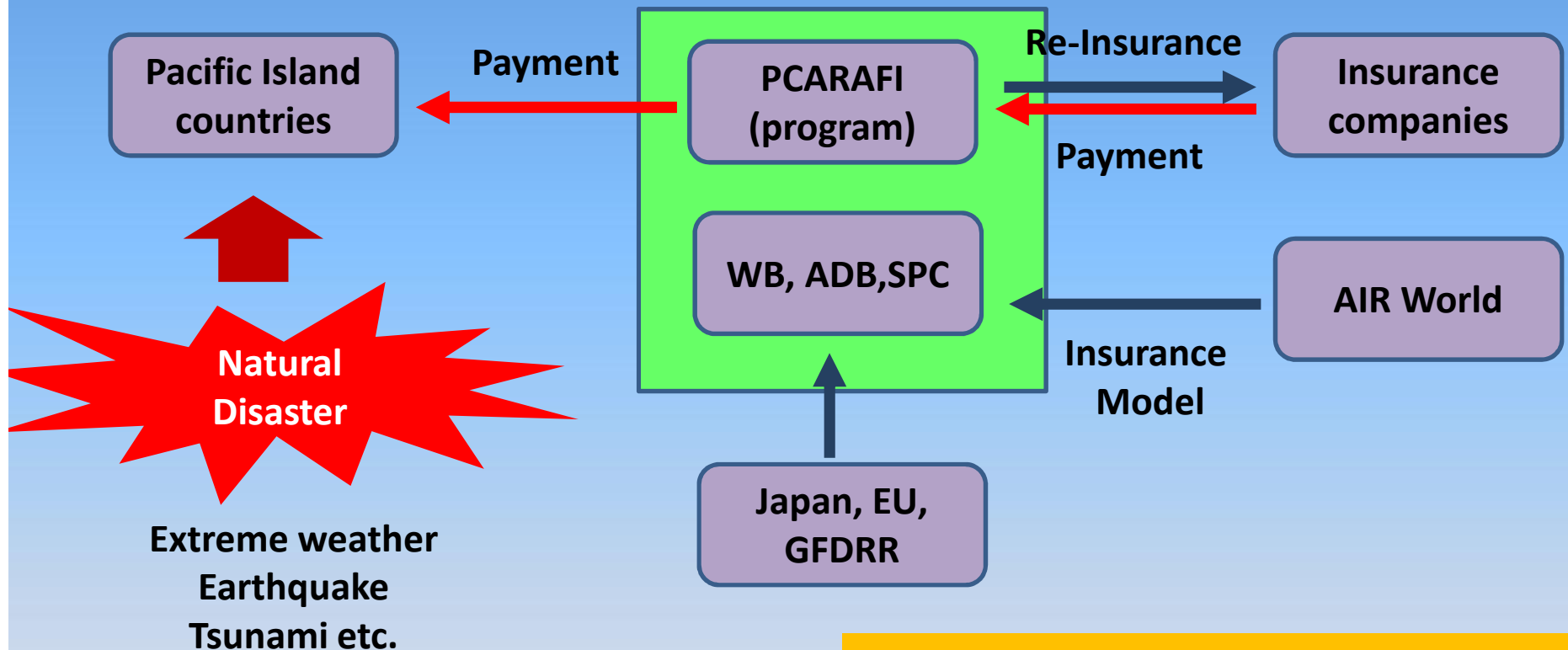
Flood insurance by GIZ : Jakarta



Source : GIZ



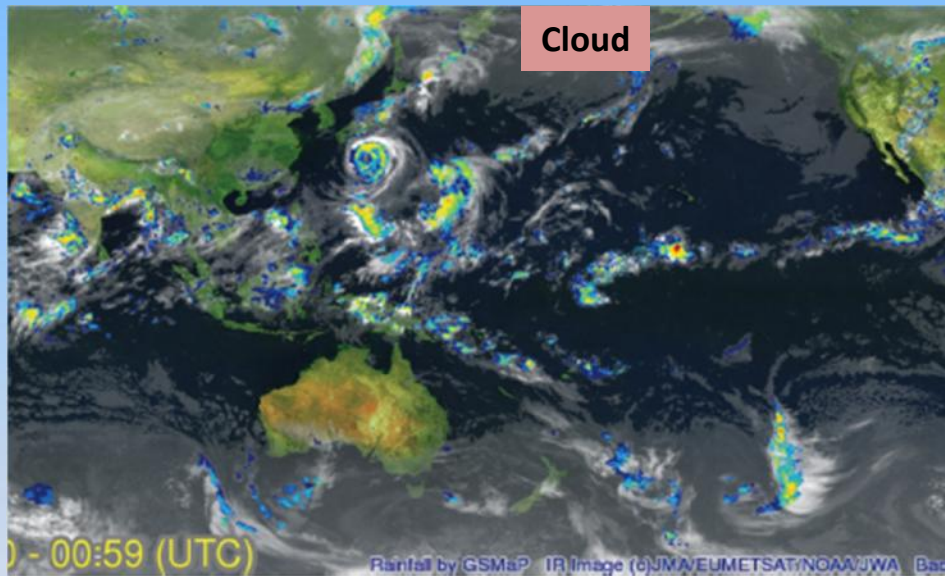
Natural Disaster Insurance : PCRAFI



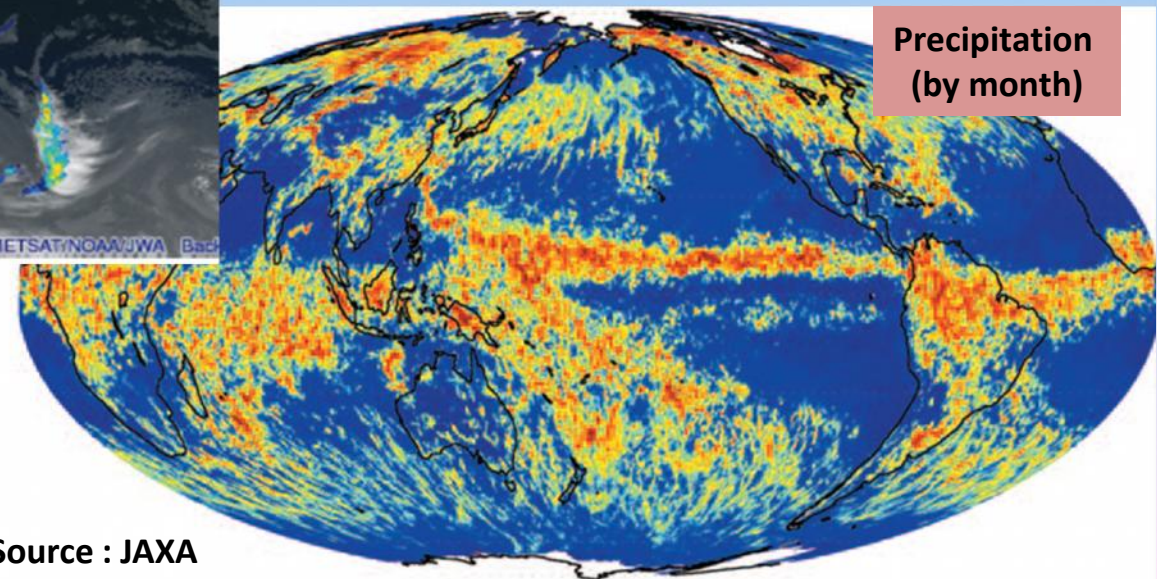
- ✓ Cost is funded by donors.
- ✓ Payment will be made by triggers and no investigation.
- ✓ Insurance companies buy derivatives.
- ✓ Model is made by private companies and multilateral is intermediary

Data gathering : Satellite Technology

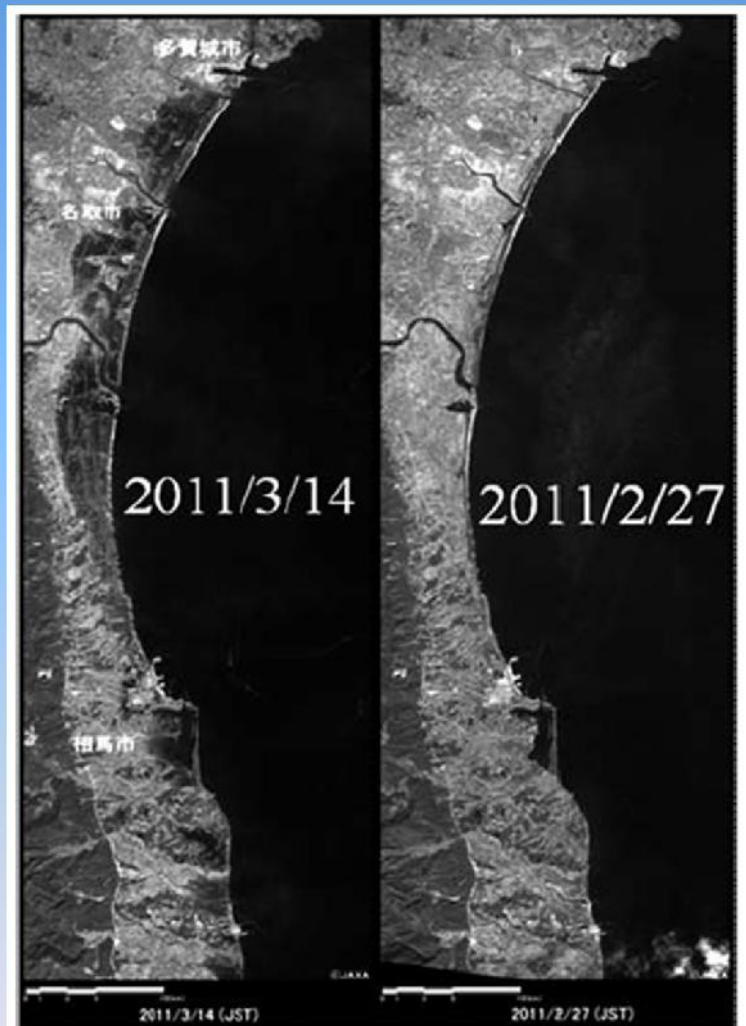
- ✓ Remote sensing technology is improving year by year.
- ✓ Use the satellite technology system for data gathering and estimation of the situation timely
- ✓ It may cheap option in the future



Source : JAXA



Improvement of satellite technology



**After the
Earthquake**

**Before the
Earthquake**

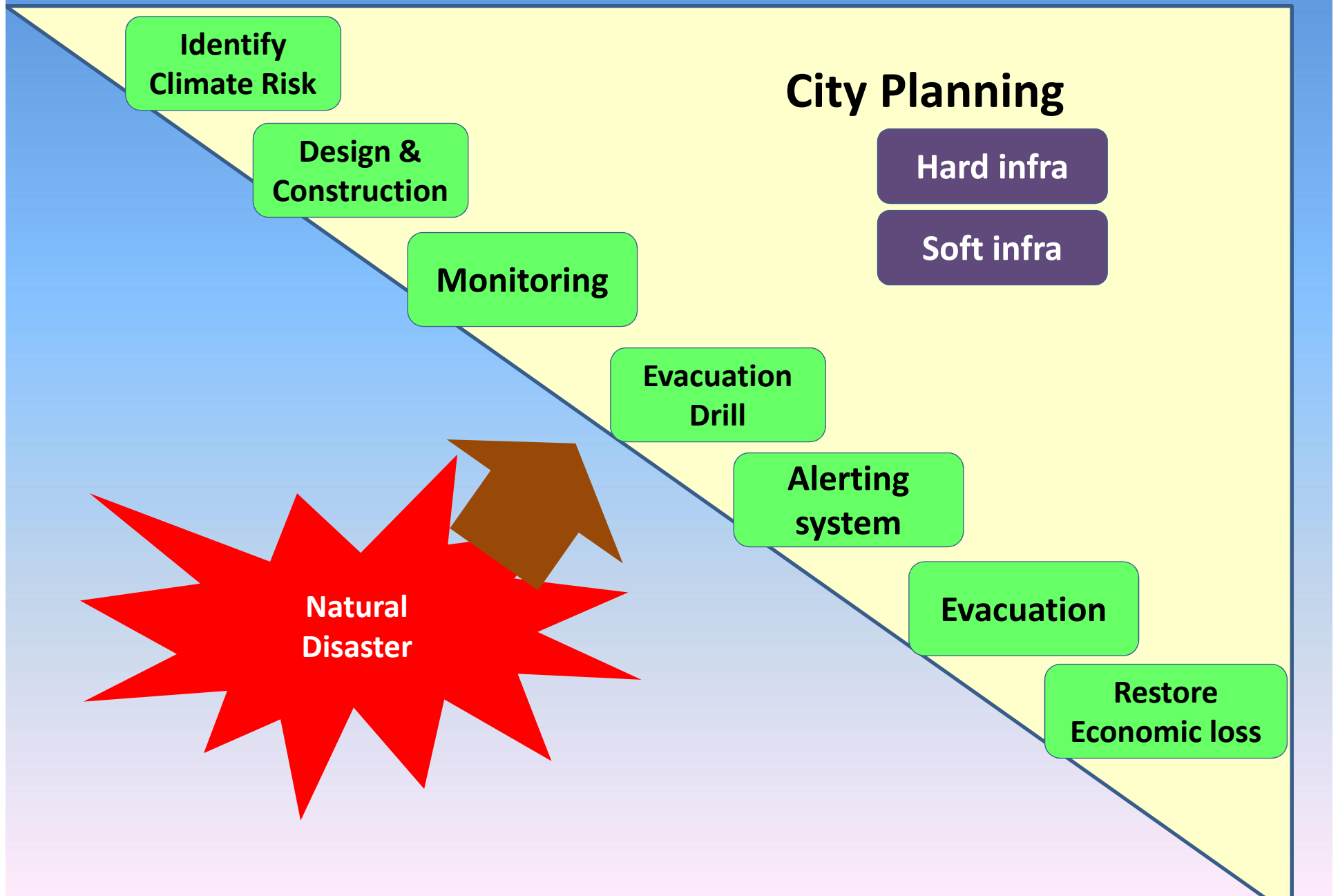
Source : JAXA



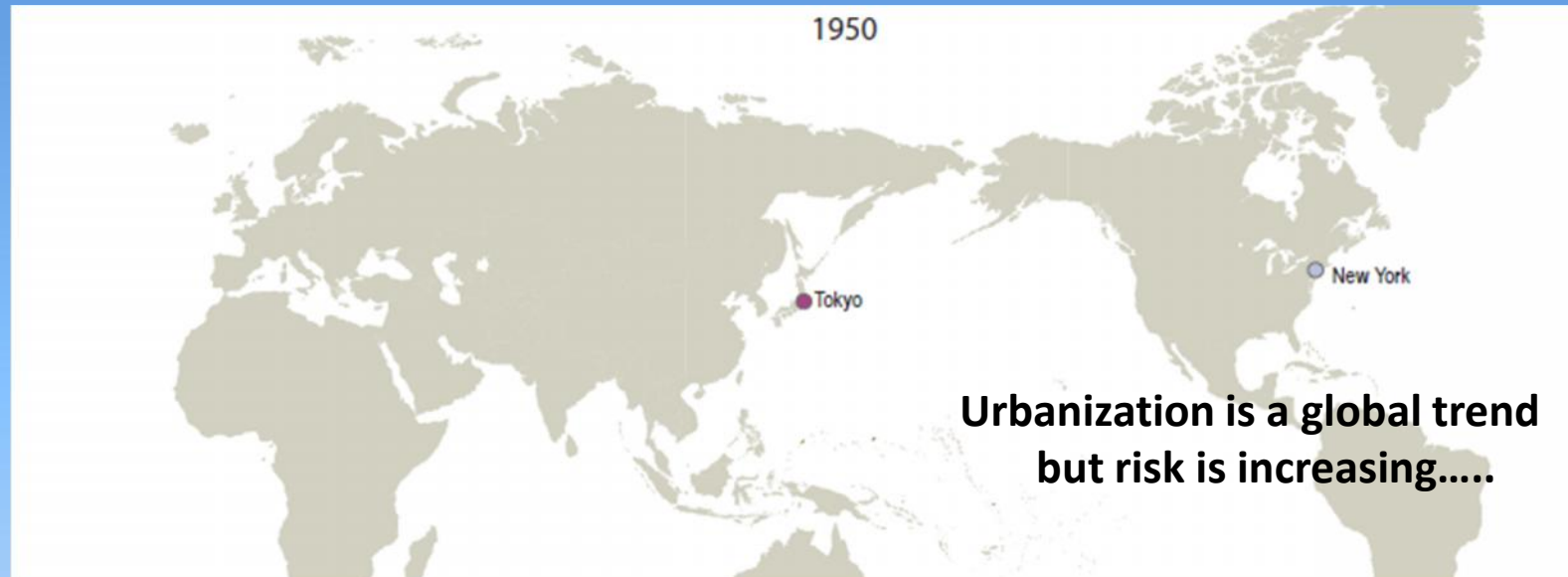
**ALOS
(2006)**

**ALOS2
(2013)**

Total management of disaster risk



Increase of Megacity



Source : ADB

Conclusion

City planning is crucial.

Life is the first priority

Economic damage can be covered by insurance

Combination of hard infrastructure and soft infrastructure is practical

New technology, such as satellite technology, is useful.

