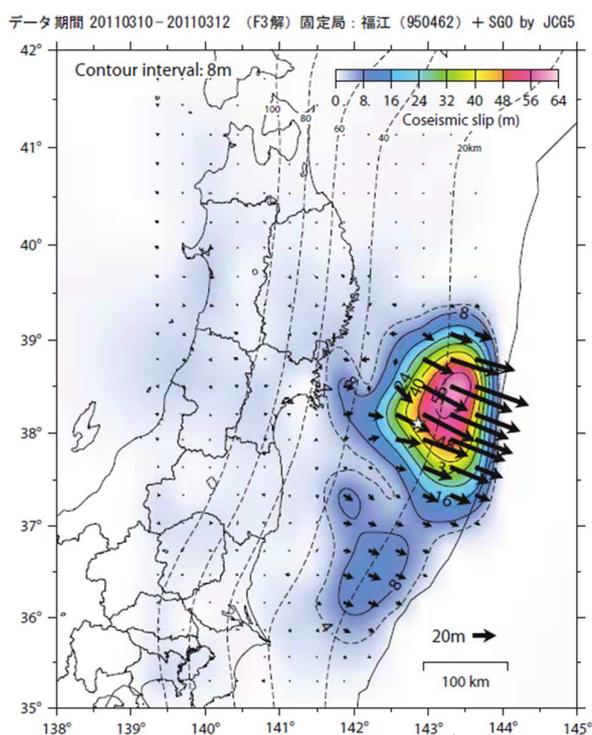


Land management issue related to recovery from East Japan Great Earthquake

Masaru KAIDZU, Japan

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East Japan Great Earthquake



Model of co-seismic slip of upper
block against descending slab
Estimated from GPS data
After Geospatial Information
Authority and Japan Coast Guard

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Tsunami drained town 2 months after the earthquake



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After Geospatial Information Authority, Japan

Investment on recovery

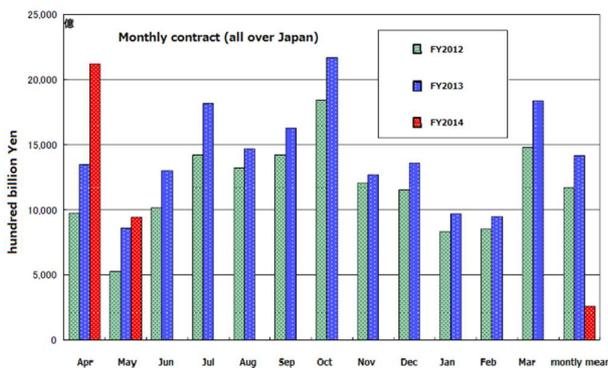
- Besides usual budget, Japanese government invest additional budget on recovery from East Japan Great Earthquake
- In intensive recovery period, Prime Minister Abe said 25trillion yen will be invested in 5 years (News report in 2014)

CORINS data as an indicator for construction investment

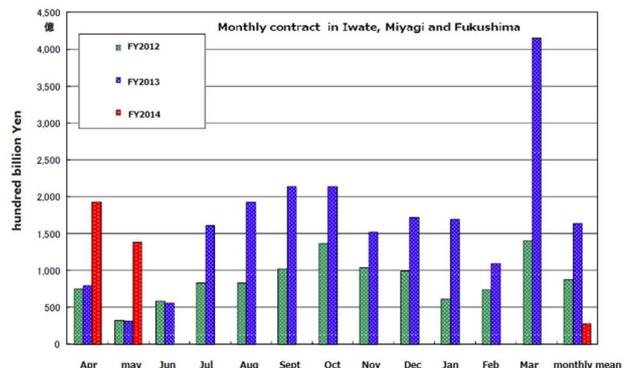
- CORINS :construction records information system used for confirming technical capabilities of tendering companies to support public organizations carry on proper procurement procedure
- Covers 80% of public construction contract
- Register on contract and on completion
- Good and quick indicator for investment in public construction
- Run by JACIC Foundation as a neutral non-profit organization

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Monthly total amount of contract registered with CORINS database



All over Japan

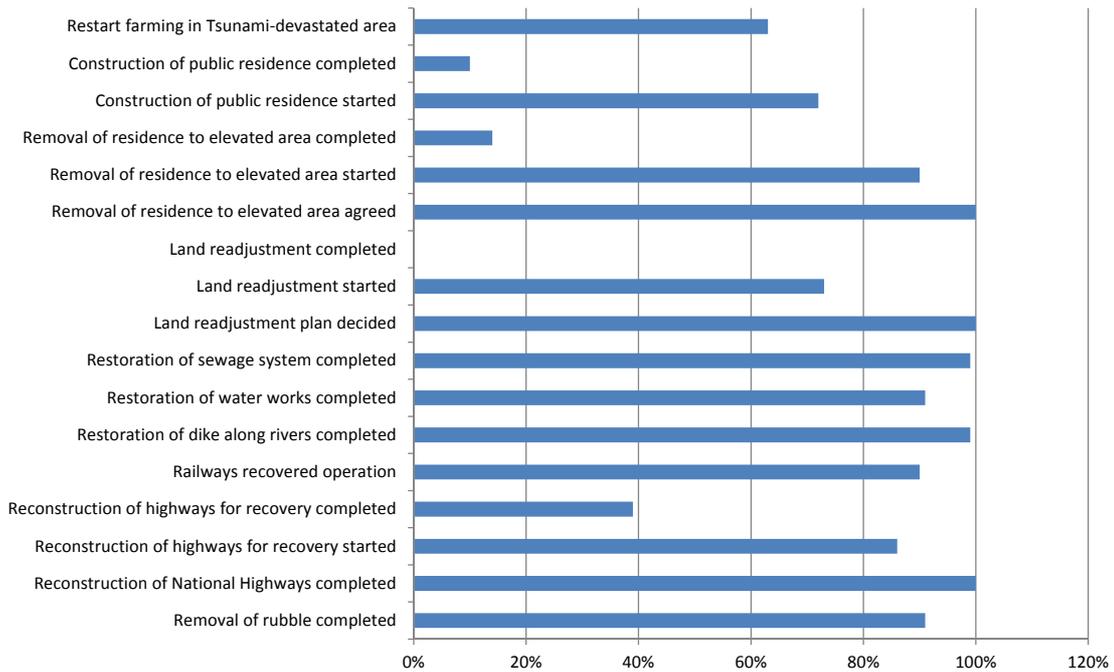


East Japan only

Investment on public works is increasing more rapidly in East Japan

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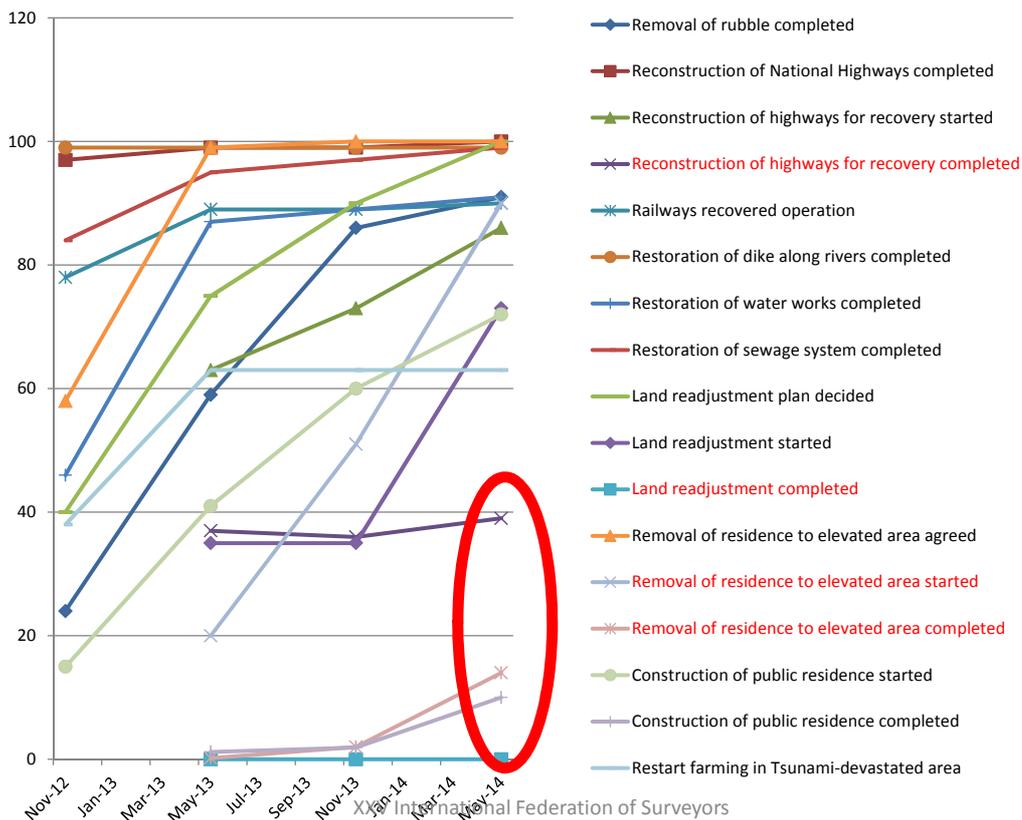
Progress of reconstruction



As of end of March 2014.

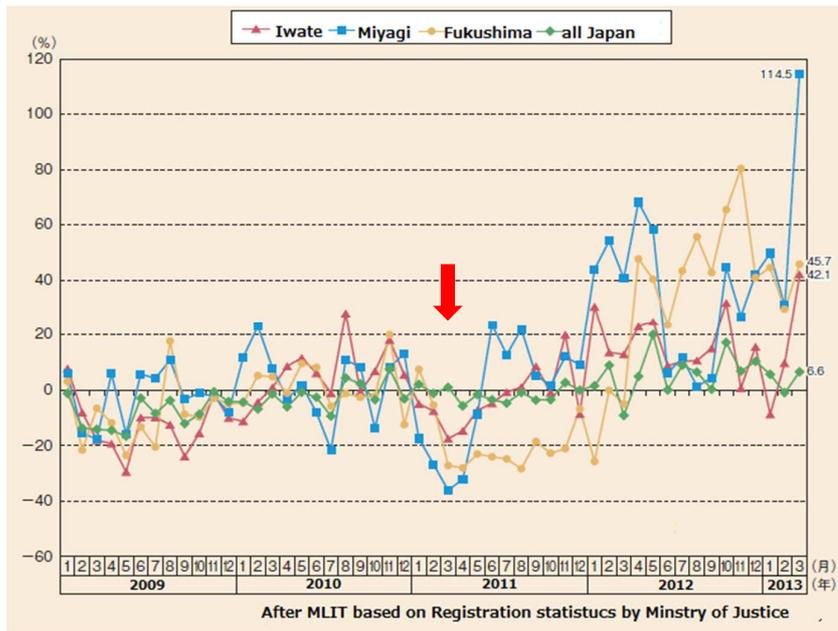
Based on Reconstruction Agency(2014)
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Progress of projects require land acquisition are slow



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Transaction of land



Transaction is increasing in East Japan

Year to year comparison of number of transaction based on registry record by Ministry of Justice (from White paper on Land 2013)

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East Japan Great Earthquake Reconstruction Special Area Act

- Tax reduction and increased depreciation for good quality lease houses for victims.
- One-stop Processing of administrative procedure for Restructuring of Land Use.
- Ease a restriction of land use for
 - Integrated construction of residential and agricultural area
 - Land adjustment
 - Group removal of residence to elevated land
 - Liquefaction counter measure
 - Landslides countermeasure
 - ...and so on
- Ease procedure for changing route of rail way or bus and newly establishing bus routes
- Extension of existing period of emergent temporal buildings
- Ease restriction of limit to private use of parks or similar public properties for temporal buildings for reconstruction purpose

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Special Provision related to land

- Cadastral survey was done by prefectural governments or municipalities so far. In special provision, it is allowed that national government act for local government.
- Parcel boundary demarcation was done only by land owners so far. In special provision, it is allowed project implementing body such as national or prefectural government or municipalities can carry out parcel demarcation when land owners are not found or difficult to access.
- In survey for public project, land owners' permission was necessary to enter private land so far. In special provision, it is allowed to enter private land for survey or exploratory drilling when land owners are not found or difficult to access.

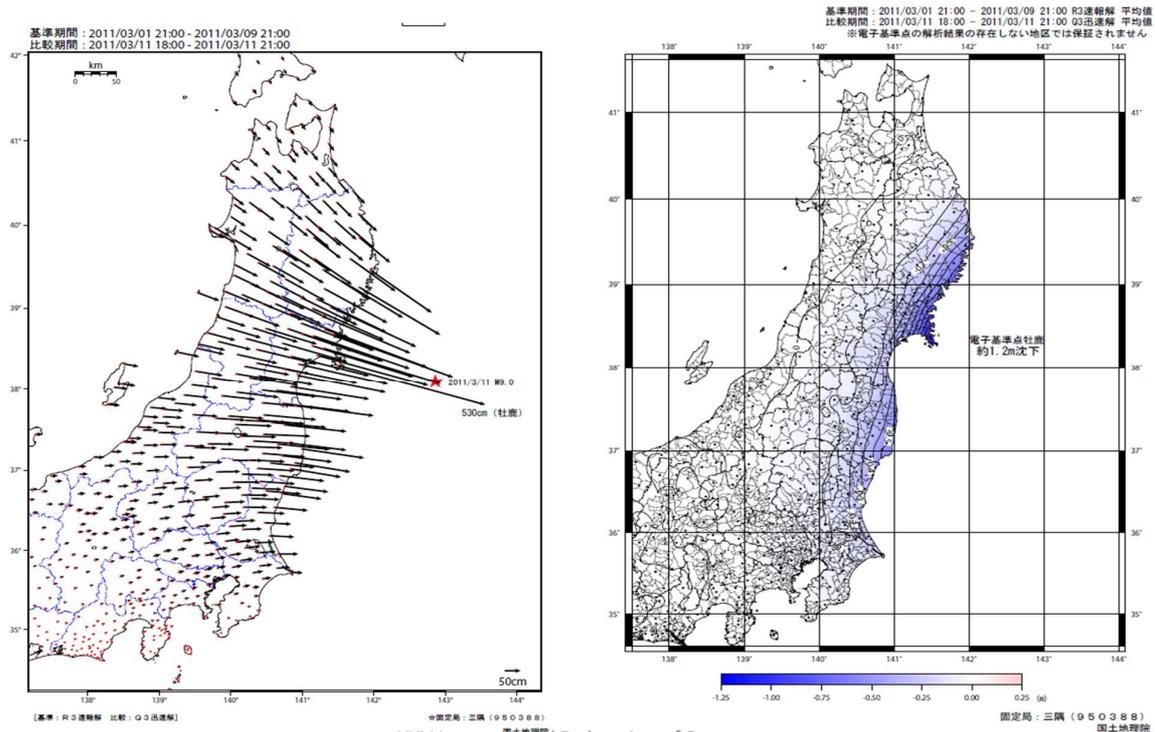
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Cadastral data help reconstruction

- group removal of residence in Shimomasuda, Natori, Miyagi Pref. to elevated land cost 12 million Yen and survey took 7 months.
- Natori City estimates the cost will be 22 million yen and duration will be 1 to 1.5 year if cadastral data be not available.
- In Shimomasuda area, construction work is going as expected.

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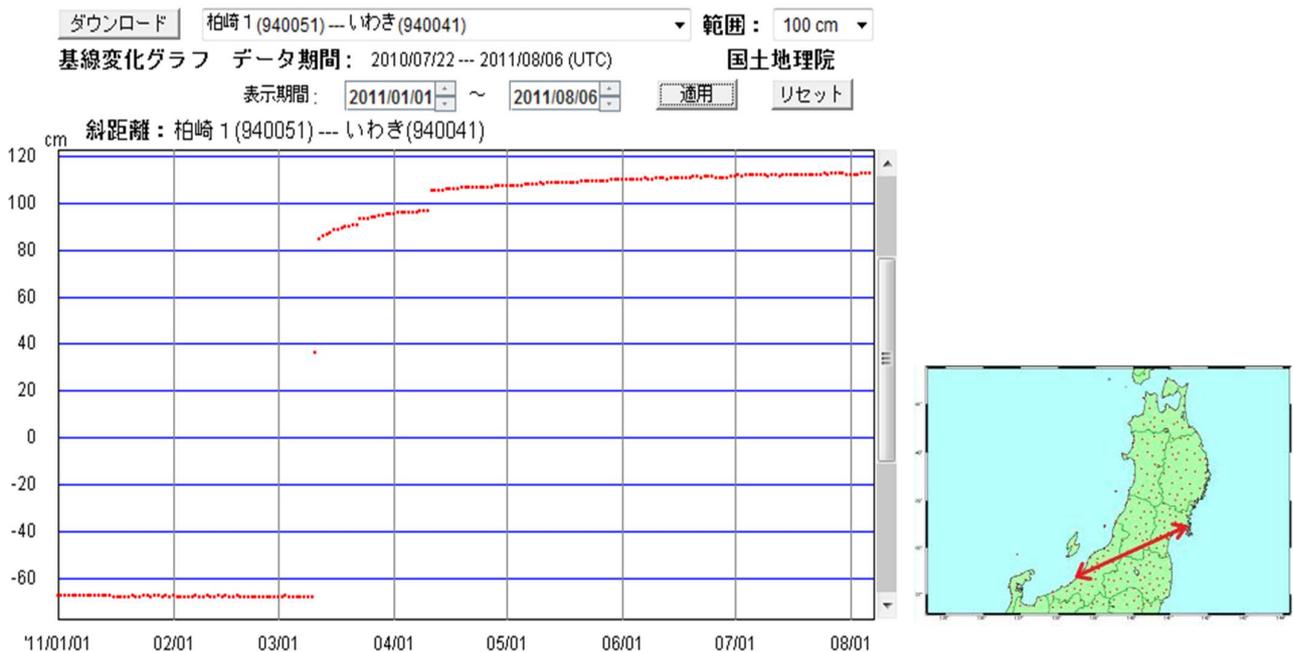
Co-seismic crustal deformation



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After GSI

After effect



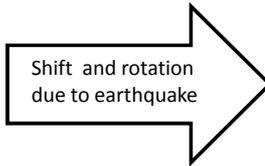
Drawn with service in GSI website

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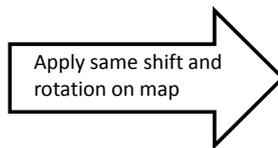
Recovery of cadastral maps



Sample map: after Hagi City



image



image

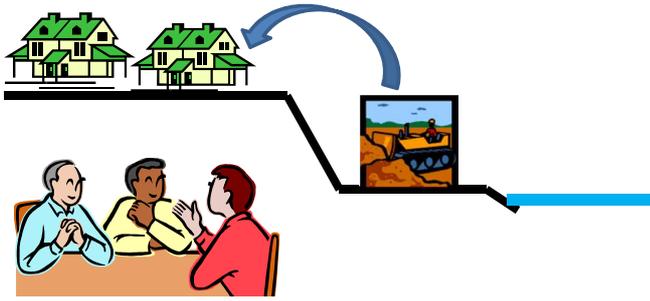
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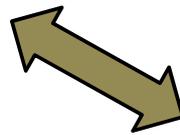
Boundaries of parcels are washed away by Tsunami.
If cadastral maps are available, we can recover present position of boundaries in
reference to displacement of control stations. (after GSI, Japan)

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group removal of residence in Shimomasuda, Natori city



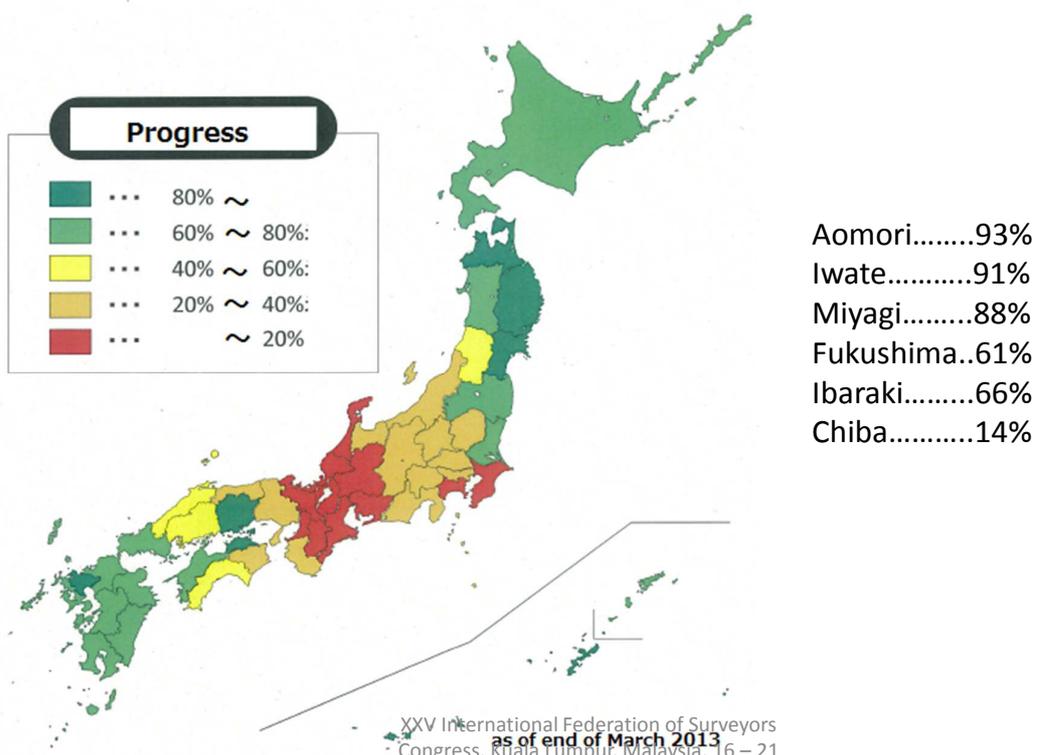
With Cadastral record, group removal project
Cost 12million Yen and survey took 7 months.



If cadastral record is not available, it will cost
22million yen and duration will be 1 to 1.5 year
(after estimation by Natori city)

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Progress of cadastral survey



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Concluding comments

- Restoration of public infrastructure is steadily proceeding
- Recovery of residence is still in early stage
- Projects require land acquisition shows slow progress

- We should promote cadastral survey in Central and Western Japan in preparation to other large earthquakes
- Digital backup of cadastral data is important