

Progress and Obstacles to Housing Reconstruction in Disaster-hit Areas of Northeast Japan

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Two and a half years have passed since the Great East Japan Earthquake, the quake that occurred off the Pacific Coast of Tohoku in 2011. Disaster victims have begun reconstructing their homes. However, studies on the progress of reconstruction based on official statistics are nonexistent. To bridge this research gap, the current study presents the progress and obstacles to housing reconstruction in disaster-hit areas of Northeast Japan. This work analyzes time series data on the number of displaced people collected by the Reconstruction Agency as well as number of mortgage application available only to disaster victims provided by the Japan Housing Finance Agency (JHF), an incorporated administrative agency.

The number of displaced people reached 346,987 in July 2012. This number decreased by about 40,000 to 309,057 in April 2013. Meanwhile, temporary house occupants reached 136,057 in July 2012, and decreased by about 18,000 to 117,674 in April 2013. The numbers indicate that about 20,000 households are still in the process of reconstructing houses.

Next, the study focuses on the number of mortgage application to capture the progress of housing reconstruction. Application numbers can be regarded as the benchmark of progress among disaster victims in reconstructing their houses. According to data from JHF, applications peaked from the summer of 2011 to the autumn of 2012, followed by a declining trend. In addition, total applications reached 8,104, which is comparable to approximately 40% of disaster victims who escaped displacement and to 7% of those who reported totally collapsed houses in Northeast Japan. Although JHF data on application numbers do not cover those who take a loan from other regional/cooperative banks and those who have enough money to reconstruct their house, the study finds that the progress of housing reconstruction has lagged, given that around 300,000 people remain displaced. Moreover, the study analyzes local differences when the applications peaked. Data show that applications peaked during winter of

2011 in the southern part of Northeast Japan, and during spring of 2012 in the northern part of Northeast Japan.

An analysis of the data yielded the following reasons for the slow pace of application and for regional differences: 1) difficulty in finding suitable land to rebuild homes, 2) time-consuming process entailed in following the necessary procedures for land tenure, 3) necessity to develop land, and 4) time-consuming process for those who had lived in tsunami-hit areas to agree on collective relocation plans. Moreover, people who could prepare the land and money needed for rebuilding have proceeded with reconstruction.

The study finds that the progress of housing reconstruction has temporally fallen at a slow pace, and its starting point is different by locality. Another finding is that only a few among the displaced people could reconstruct their homes. Although housing reconstruction is gradually progressing at a faster pace, it can be expected to take several years to be completed if obstacles to housing reconstruction are not addressed appropriately.

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Introduction

- Two and a half years have passed since the Great East Japan Earthquake, the quake that occurred off the Pacific Coast of Tohoku in 2011.
- Disaster victims have begun reconstructing their homes. Their options are;

Focus here!

- Voluntarily relocation & Self-reconstruction (to build a detached house; to purchase a room of condominium/privately-owned flat)

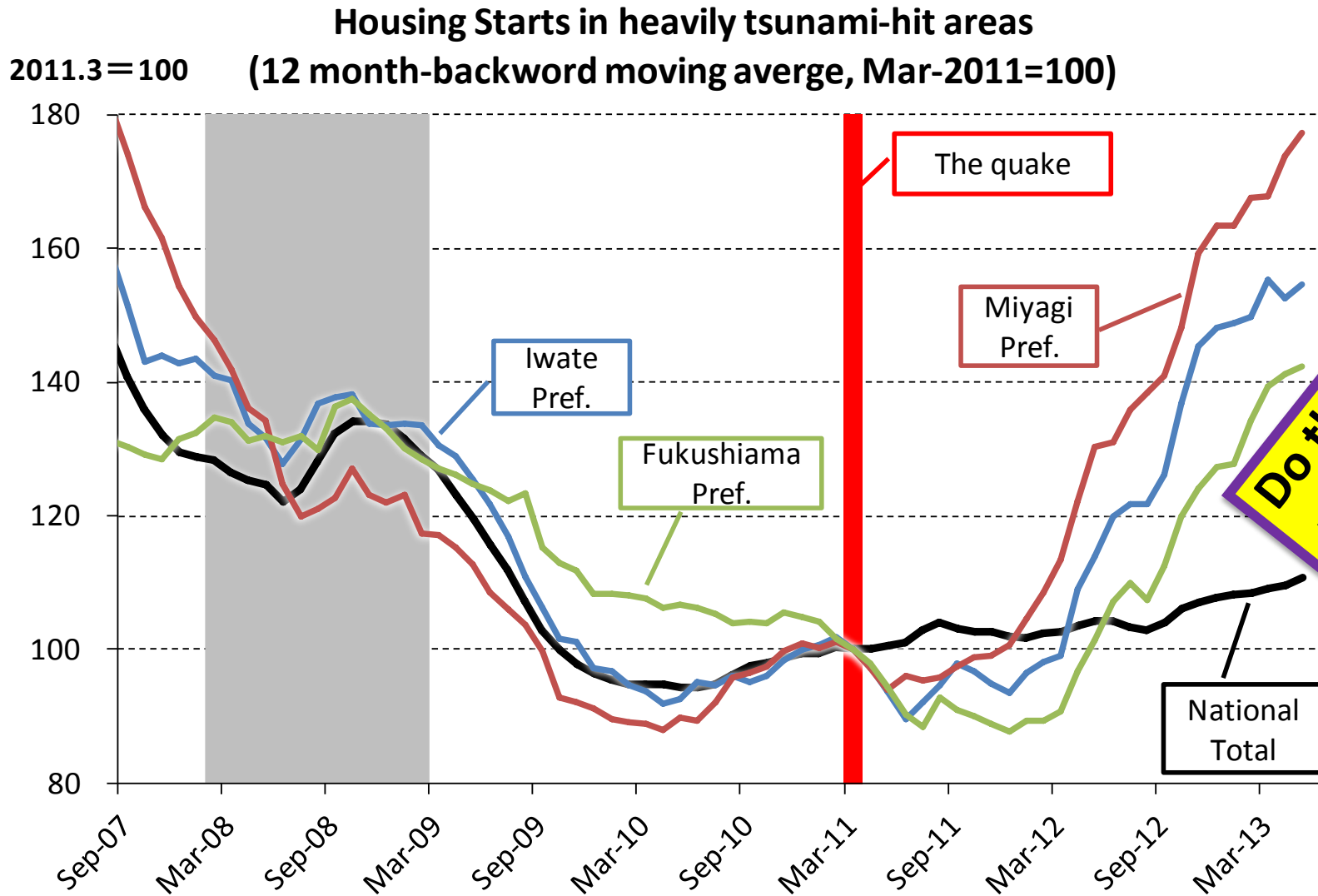
- Collective relocation & Self-reconstruction

- To move into public housing (extra construction for the disaster)

- To move into rental housing

Still underway...

Problem: Studies on the progress of reconstruction based on official statistics are nonexistent.



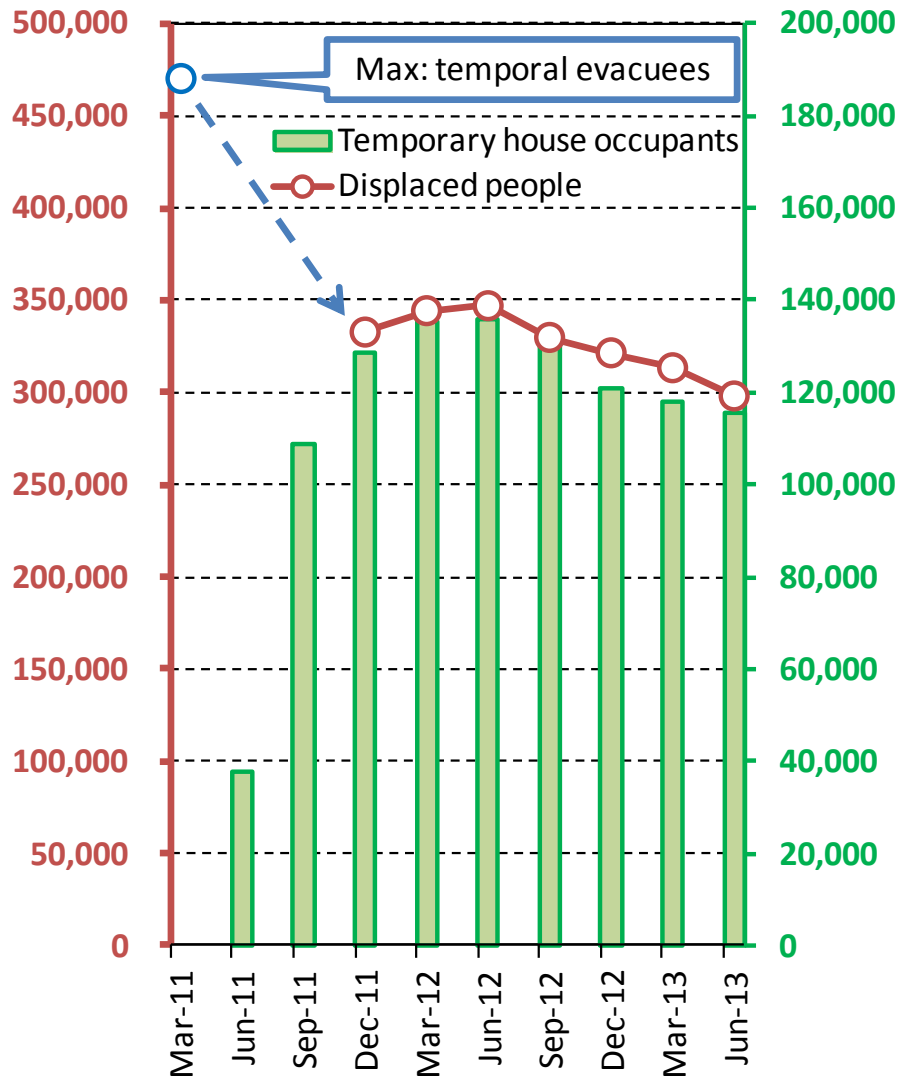
Do the disaster victims build?

Source: Housing Starts, MLIT Note: Gray area indicates recession defined by CAO.

Research Aim & Methodology

- Aim of the study is
 - presents the progress and obstacles to housing reconstruction in disaster-hit areas of Northeast Japan.
- Methodologies
 - To analyze time series data on
 - (1) the number of displaced people collected by the Reconstruction Agency
 - (2) as well as number of mortgage application **available only to disaster victims** provided by the Japan Housing Finance Agency (JHF), an incorporated administrative agency.

Displaced People and Temporary House Occupants

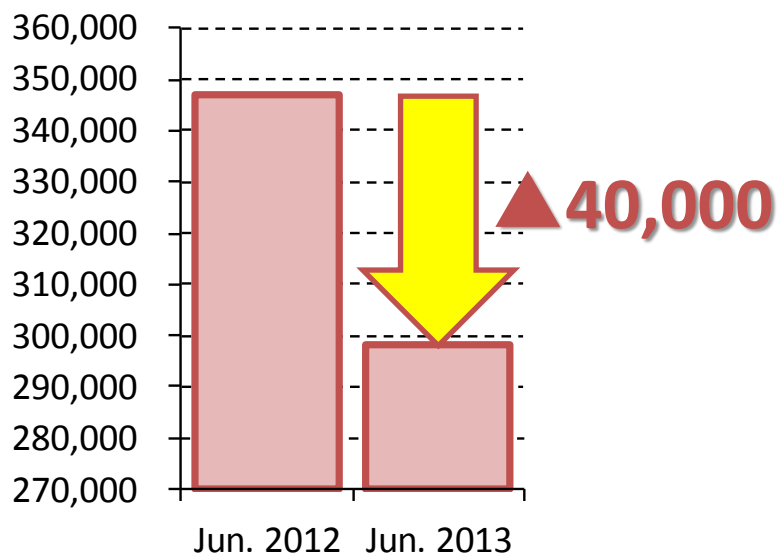


Source: Reconstruction Agency of Japan

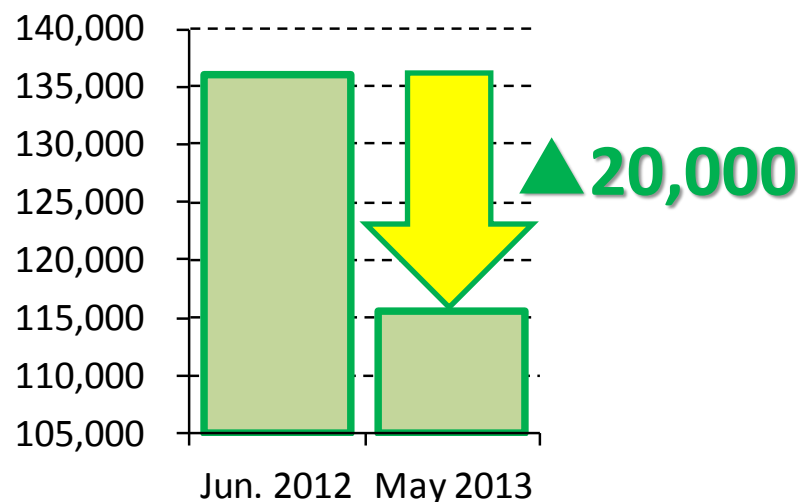
- **Mar. 2011: Temporal evacuees reached about 470,000.**
- **Jun. 2012: Displaced people (= Escaped temporal evacuation but still in the state of secondary evacuation; they occupy temporary house) reached the maximum, about 350,000.**

Comparing Jun. 2012 and May/Jun. 2013

Displaced people

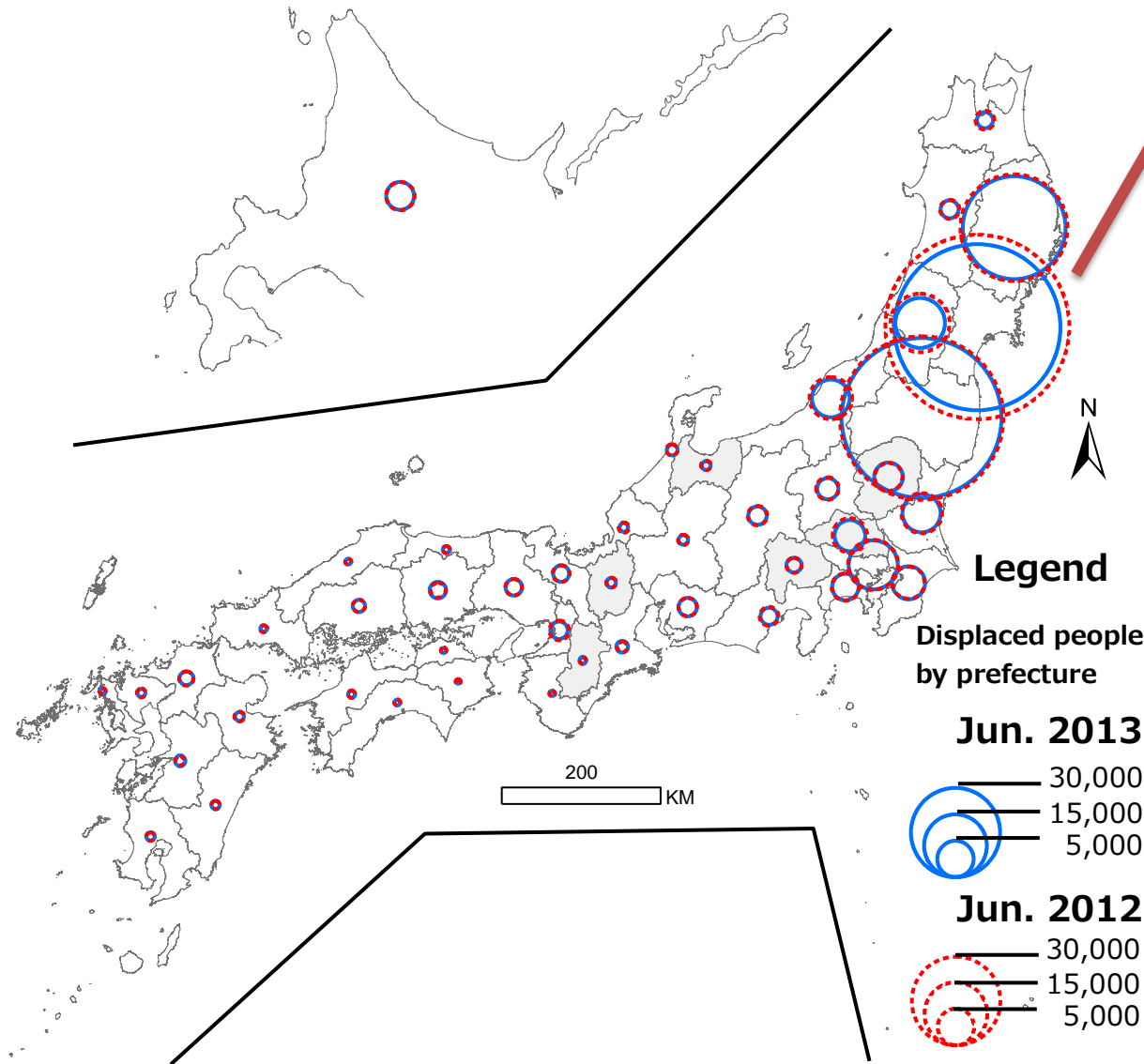


Temporary house occupants



- The number of displaced people reached 346,987 in July 2012. This number decreased by about 40,000 to 298,033 in June 2013.
- Temporary house occupants reached 136,057 in July 2012, and decreased by about 20,000 to 115,663 in May 2013.

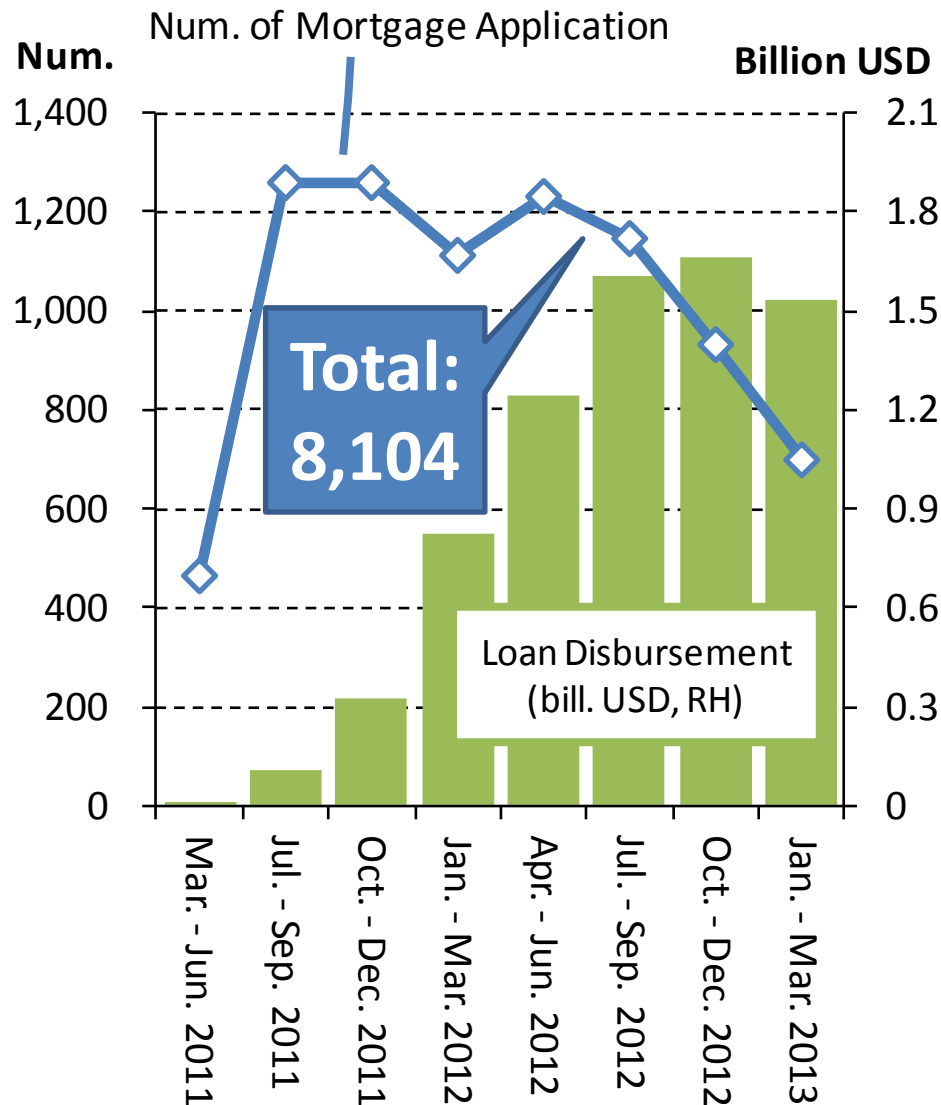
Displaced people by prefecture



Except Miyagi Pref., Most of the red and blue rings are overlapped.

Most of displaced people are still facing difficulties in reconstructing their housing.

Mortgage Application in Northeast Japan



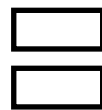
Source: Data provided by JHF
Exchange rate: 1 USD = 100 JPY.

- JHF Application numbers:
 - A benchmark of progress among disaster victims in reconstructing their houses
 - the disaster victims share: 40 – 50%? (unconfirmed)
- Applications peak:
 - From the summer of 2011 to the autumn of 2012, followed by a declining trend. Currently, it is temporally falling at a slow pace.

Housing damage (As of 26-Mar-2013)							
Pref.	Totally Collapsed		Half Collapsed		Totally + Half		
	Num.	%	Num.	%	Num.	%	
Iwate		18,370	14.2	6,558	2.5	24,928	6.3
Miyagi	124,522	85,311	65.9	151,719	57.2	237,030	60.1
Fukushima		20,841	16.1	70,901	26.7	91,742	23.3
Others		4,869	3.8	35,918	13.5	40,787	10.3
Total		129,391	100.0	265,096	100.0	394,487	100.0

Source: FDMA, Ministry of Internal Affairs and Communications

**Total application
of JHF mortgage: 8,104**

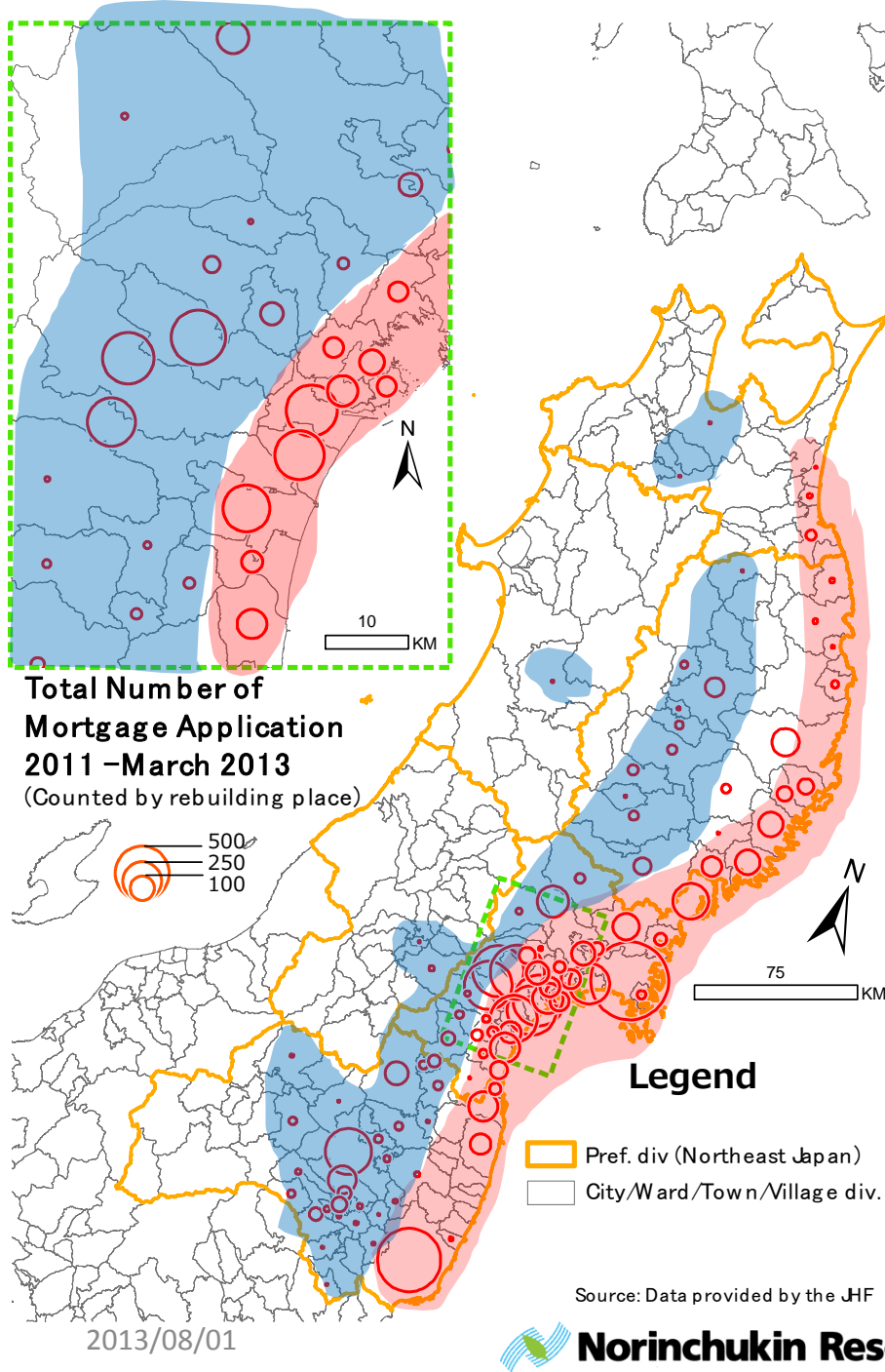


**7% of those who reported
totally collapsed houses**

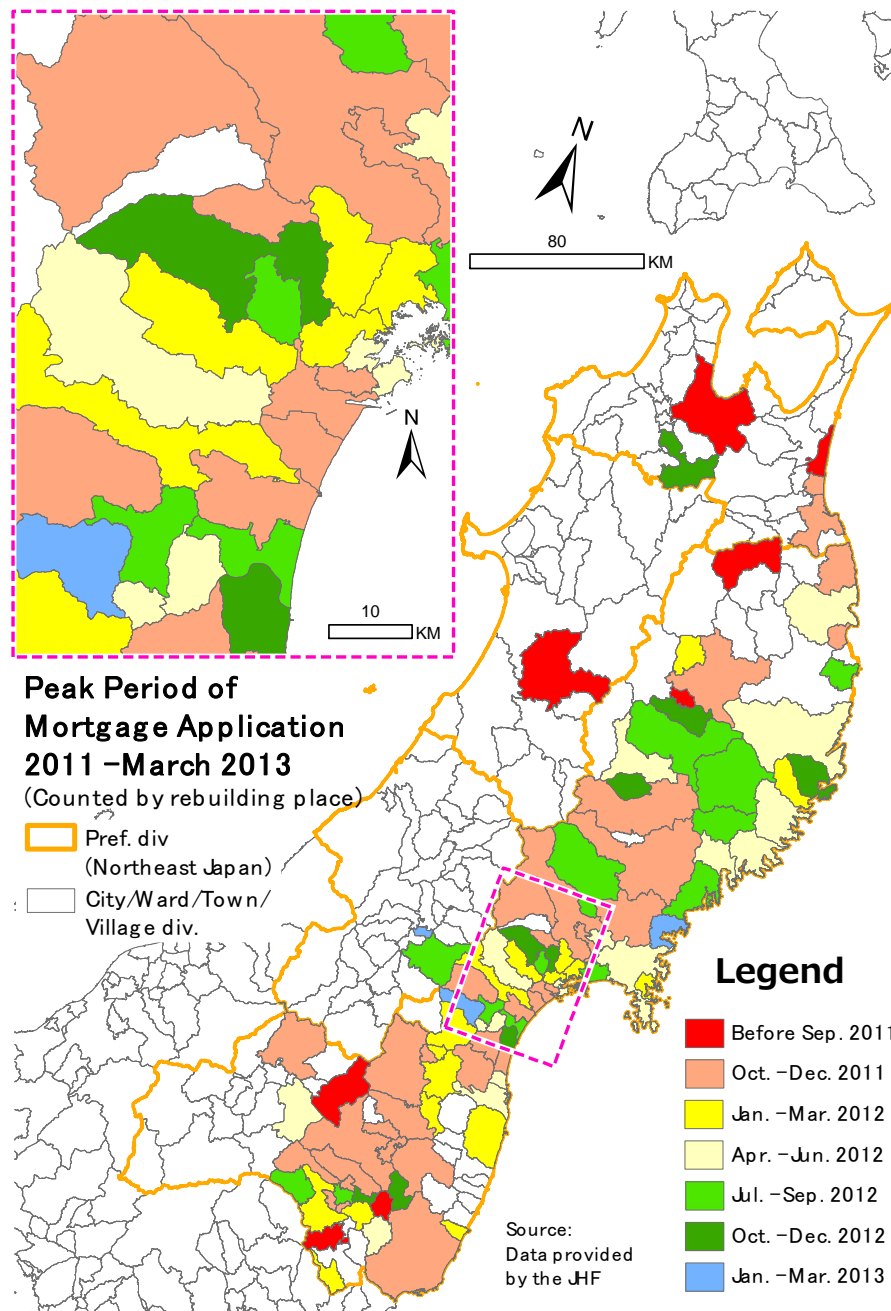
- Why do they apply the mortgage at slow pace?
 - They could received “Earthquake Insurance” in addition to several donation. (=no need to finance)
 - They are facing “obstacles” to (re)build house.

Regional differences of Mortgage Application

- **Costal areas**
= Tsunami-hit areas
 - They reconstruct house where they lived or near they lived.
- **Inland areas**
 - They build house where it is convenient for them to work, live, school, and so on.



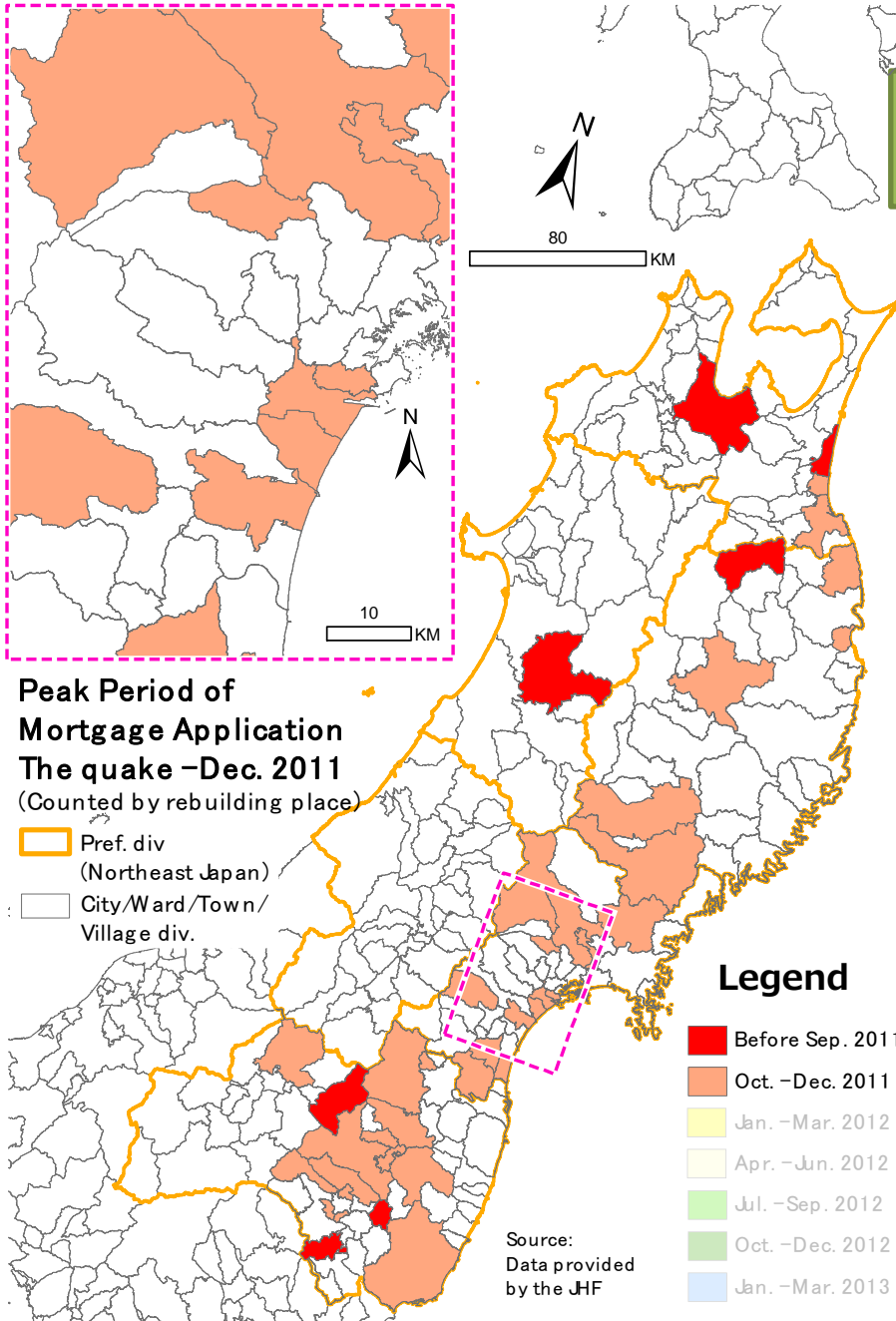
Peak Period of Application by city/town/village



- Moreover, the study analyzes local differences when the applications peaked.
- Data show that applications peaked during winter of 2011 in the southern part of Northeast Japan, and during spring of 2012 in the northern part of Northeast Japan.

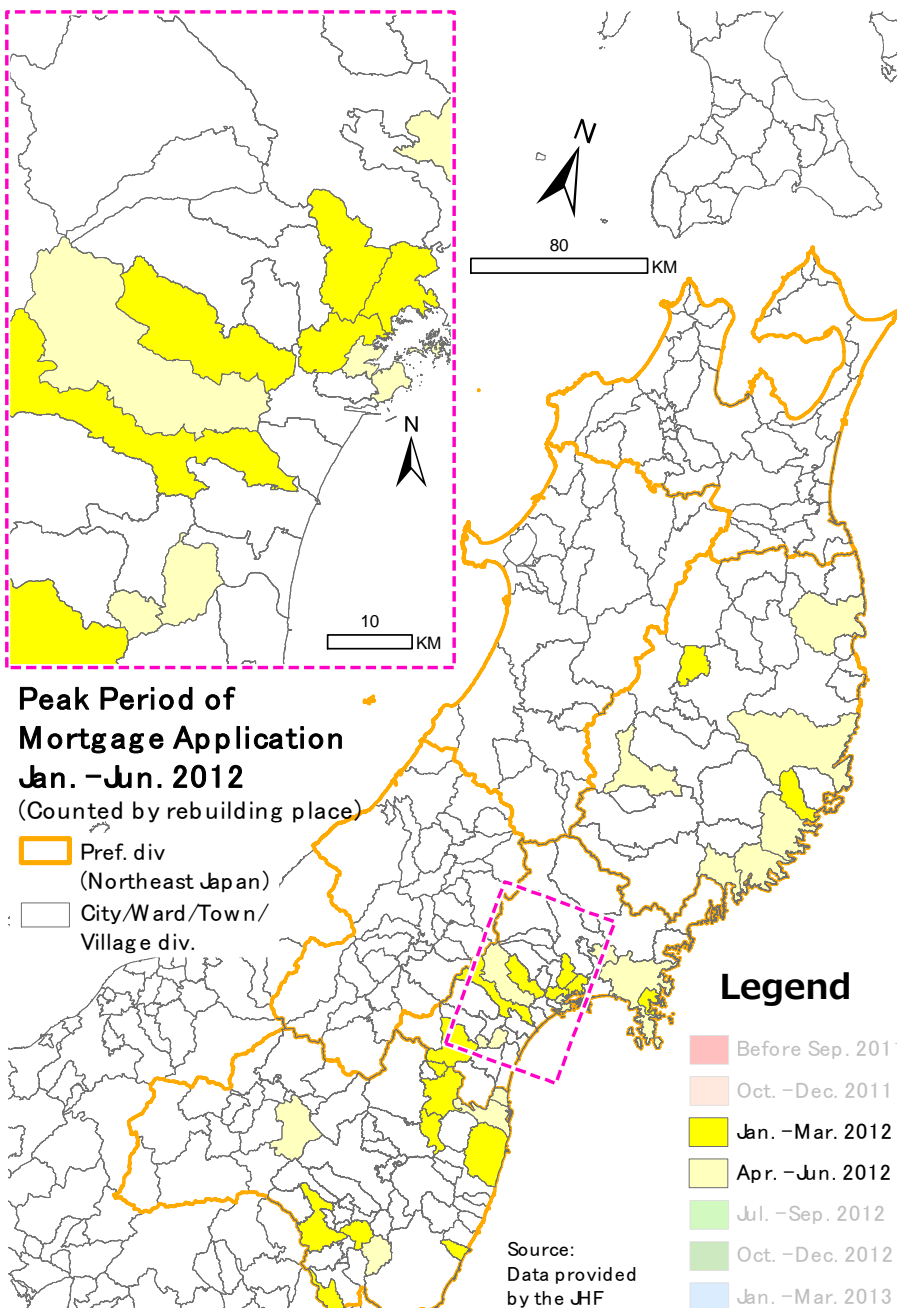
First Peak Period: -Dec. 2011

- Far from the tsunami-hit area (red areas)
- Inland areas, relatively large cities.



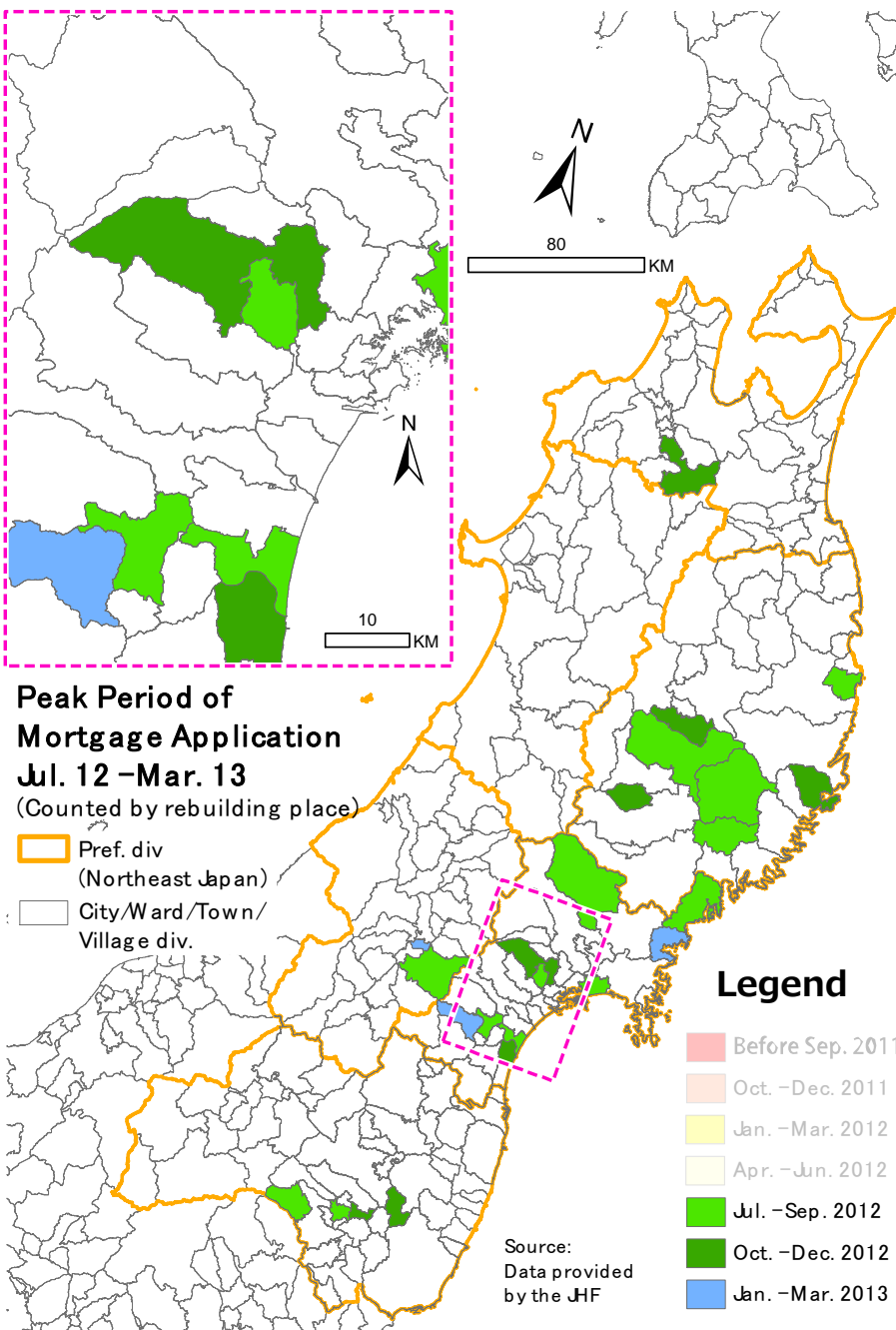
First Peak Period: Jan. 2012 - Jun. 2012

- Some costal areas reached the first peak of application.
- Sendai metropolitan area

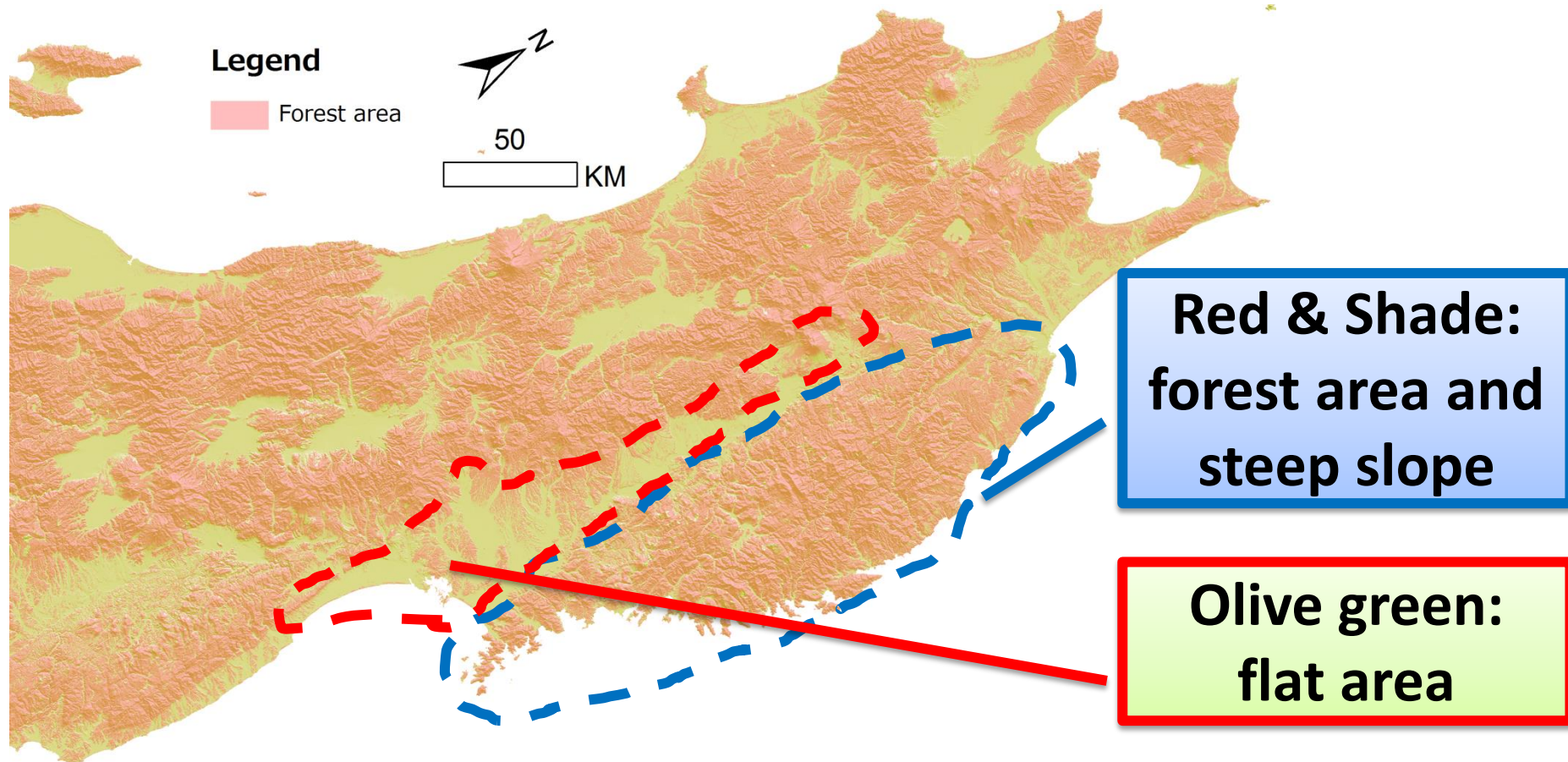


First Peak Period: Jul. 2012 - Mar. 2013

- Middle-South Iwate inland areas; slowest among three prefectures?
- Peripheries of Sendai
- Why do these spatial patterns emerge?
- What obstacles are?



Obstacles: Demand Side (1)



1. difficulty in finding suitable land to rebuild homes,
2. time-consuming process entailed in following the necessary procedures for land tenure,

Obstacles: Demand Side (2)



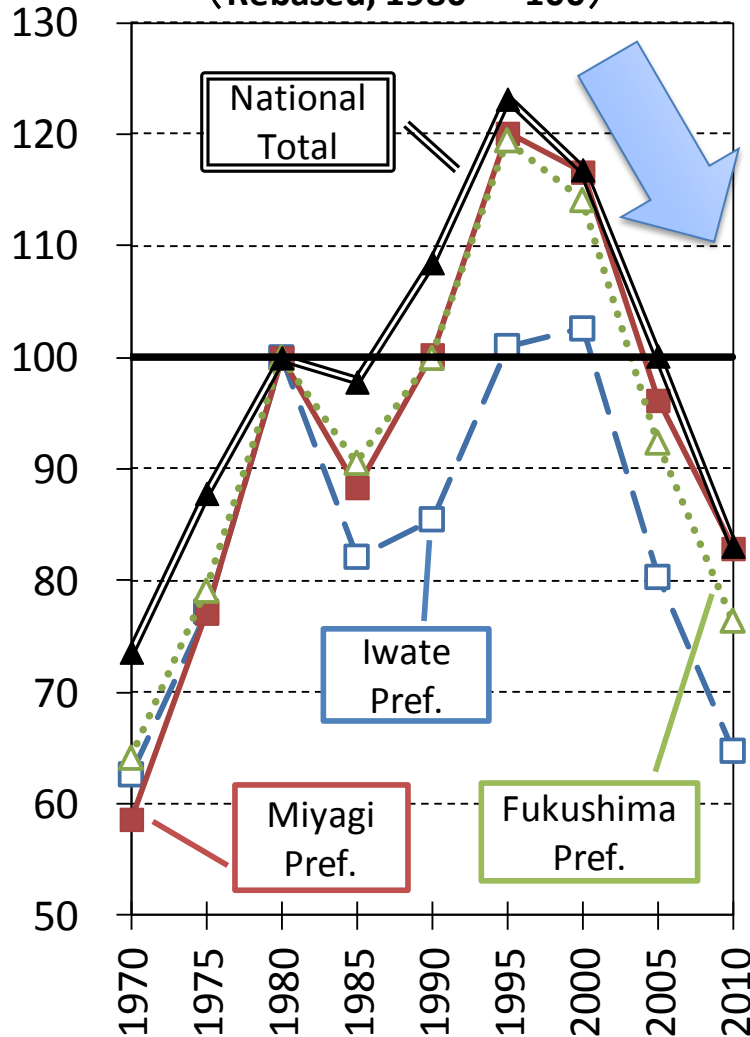
Photograph by the author in Dec. 2012 in Arahama Area, Sendai City

3. necessity to develop land, and
4. time-consuming process for those who had lived in tsunami-hit areas to agree on collective relocation plans.

Obstacles: Supply side (1):

Lack of professional/skilled workers for construction

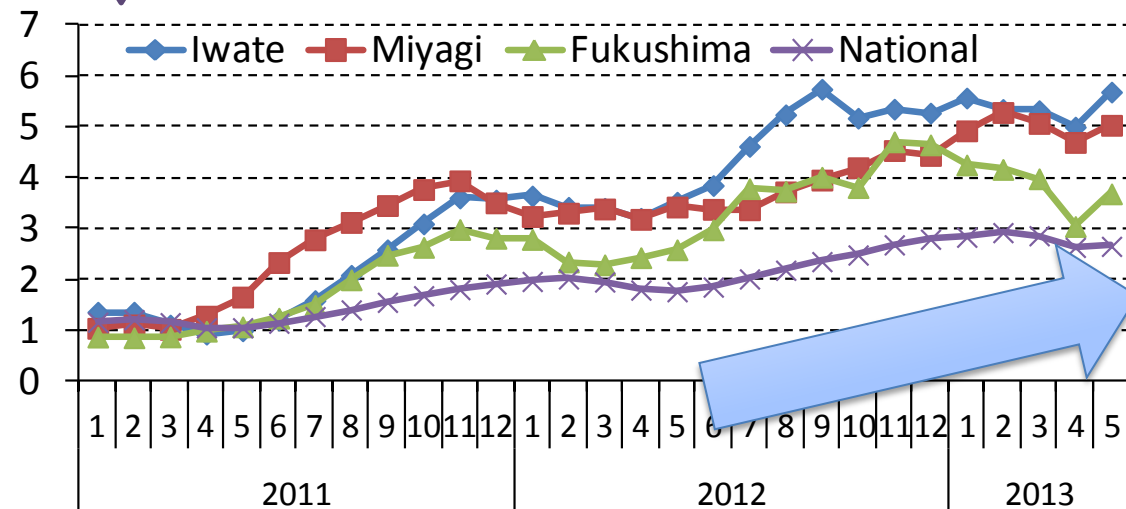
Employees at Construction Sector
(Rebased; 1980 = 100)



Source: Population Census, Statistics Bureau

Employees at Construction sector have already decreased since 1995.

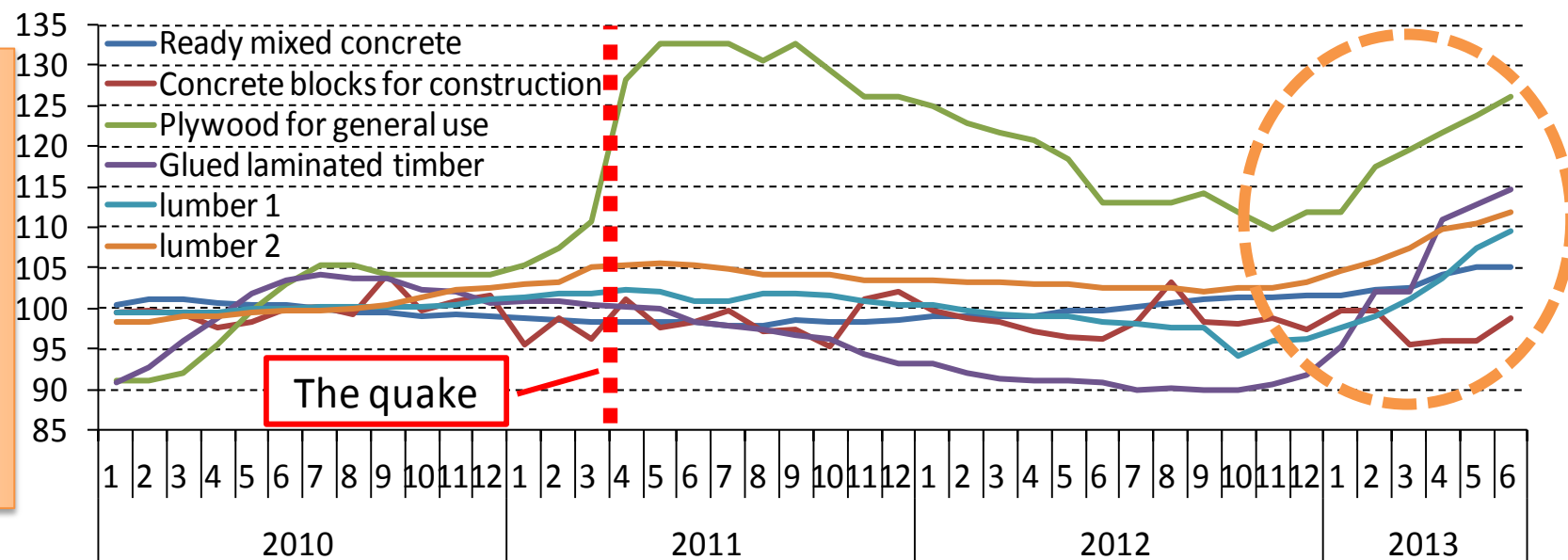
Active job openings-to-applicants ratio of architect/civil engineer highly exceeds more than 2.5 in total.



Source: Active job openings-to-applicants ratio (Seasonally adjusted), Employment referrals for general workers, The Ministry of Health, Labour and Welfare

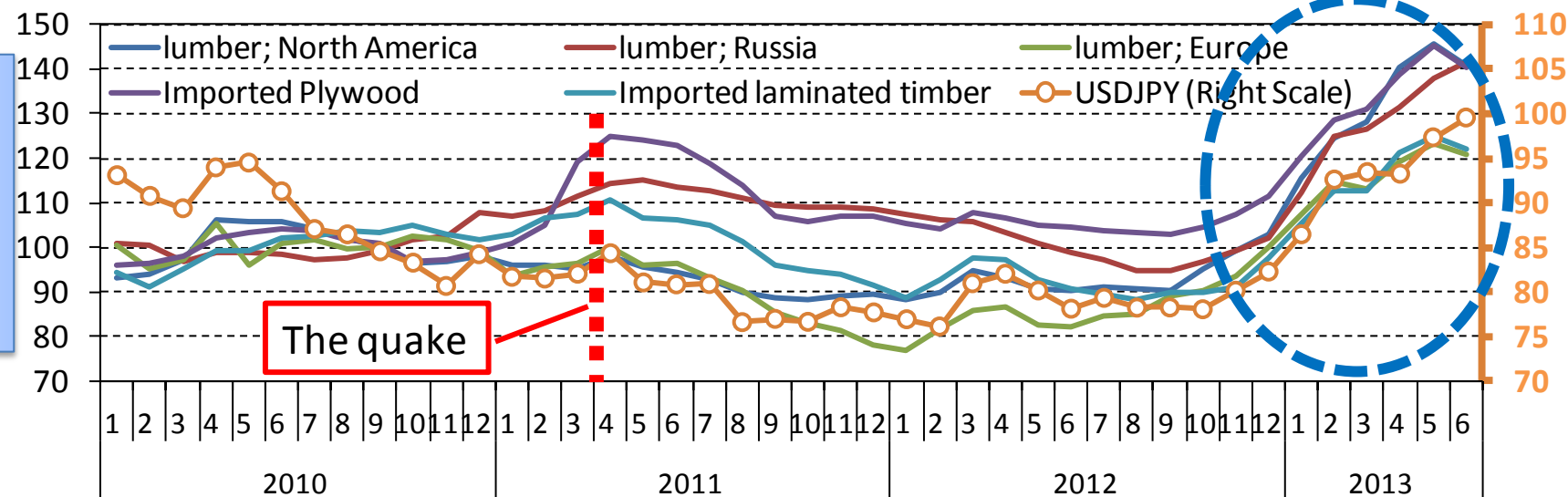
Obstacles: Supply side (2): Climbing up material prices

Domestic Corporate
Goods Price Index
(2010 = 100)



Source: Domestic Corporate Goods Price Index, Corporate Goods Price Index (CGPI) (2010 base), The Bank of Japan

Import
Price Index
(2010 = 100)



Source: Import Price Index, Corporate Goods Price Index (CGPI) (2010 base), The Bank of Japan

Conclusion

- The study finds that;
 1. the progress of housing reconstruction has temporally fallen at a slow pace, and
 2. its starting point is different by locality.
 3. Another finding is that only a few among the displaced people could reconstruct their homes.

[Future prospects]

Although housing reconstruction is gradually progressing at a faster pace, it can be expected to take several years to be completed if obstacles to housing reconstruction are not addressed appropriately.



Thank you for your kind attention!

A view of Sendai City Center
from Arahama Area, Sendai City

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Photograph by
the author in Dec. 2012

[Explanation]

Conference Name: The 8th Japan-Korea-China Joint Conference on Geography

Venue: Hakozaki Campus, Kyushu University, Fukuoka, Japan

Date: Jul. 31, 2013 - Aug. 4, 2013

Program:

[http://file.geographers.asia/8thcon/Program\(ver2013.07.25\).pdf](http://file.geographers.asia/8thcon/Program(ver2013.07.25).pdf)

Conference Web :

<http://8thcon.geographers.asia/>

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