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# Mizuho Economic Outlook & Analysis

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## *Farm Land Policy and Agriculture Recovery after the Great East Japan Earthquake*

### < Summary >

- ◆ The decline of Japanese agriculture has a lot to do with its post-war policies, which broke down farm land into small lots and prevented new entrants while easily approving diversion into other uses.
  
- ◆ In order to improve the current situation, the government should take the following measures.
  - a) accurately recognize farm land owners and how the land is being used
  - b) strengthen community involvement in discussing farm land use
  - c) reform taxation system
  - d) reinforce incentives for farm land transactions
  
- ◆ Some of these measures have been taken in the areas which suffered severe damages from the Great East Japan Earthquake of 2011. The government should learn from the experience in the afflicted areas and apply the suggested measures nationwide.

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Mizuho Research Institute Ltd.

**Chizu Hori**, Senior Research Officer    [chizu.hori@mizuho-ri.co.jp](mailto:chizu.hori@mizuho-ri.co.jp)

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## 1. INTRODUCTION

Japan considers the decline of agriculture as one of the major issues which needs to be tackled swiftly from the standpoint of sustaining rural areas or ensuring food security. Recently, the issue has become even more important with possibilities for further trade liberalisation and the outbreak of the Great East Japan Earthquake of 2011 which incurred huge agricultural damage.

This paper will discuss how Japan should “take measures aimed at fostering sustainable and strong agriculture<sup>1</sup>” through reforming farm land policies. First, this paper will describe how Japanese agriculture has declined because of farm land policies that have created too many small farmers (as well as their non-farmer inheritors) and propose several measures in order to encourage more farm land transactions so that competitive farmers can aggregate and make better use of the land. Then, this paper ascertains that some of these measures have been actually put in place in the areas suffering severe damages from the Great East Japan Earthquake, and discusses what needs to be done in order to reinforce these measures.

## 2. CURRENT STATUS OF JAPANESE AGRICULTURE

In Japan, the decline of agriculture appears prominently in the foundation for agricultural production which is weakening with less farm land and less farmers. To start with, cultivated land which reached 6.1 million hectares in 1961 fell to 4.6 million hectares in 2010 largely due to diversion of farm land into other uses (i.e., public property, commercial use, housing, etc.). Among these 4.6 million hectares, 396 thousand hectares are categorized as “abandoned cultivated area<sup>2</sup>” by the Ministry of Agriculture, Forestry, and Fishery (MAFF).

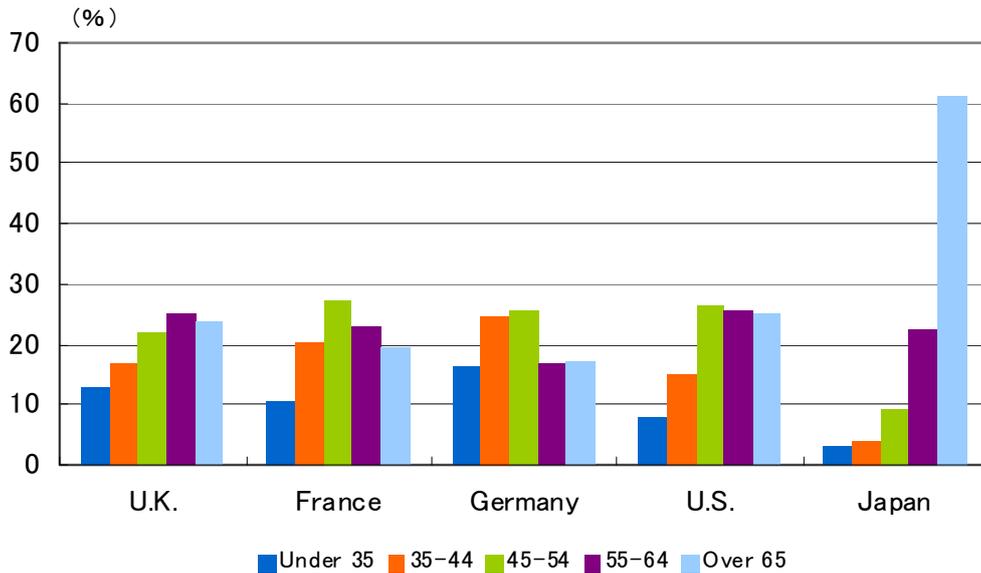
The population of farmers also fell from 14.5 million in 1960 to 2.6 million in 2010 due to technological improvements in farming as well as more employment opportunities in other industries. The decrease in population of farmers is common among industrialized countries, but Japan stands out in its high proportion of aged farmers (over age 65). The proportion is approximately 60% in Japan, whereas the figure is around 15-25% in Germany, France, the U.K., and the U.S. (**Figure 1**).

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1 National Policy Unit (2011) “The Basic Policy and Action Plan for the Revitalization of Japan’s Food, Agriculture, Forestry, and Fisheries”

2 Abandoned cultivated area is defined as arable land which was not cultivated within the past year, and is not intended to be cultivated within several years.

**[Figure 1: Farmers by age]**



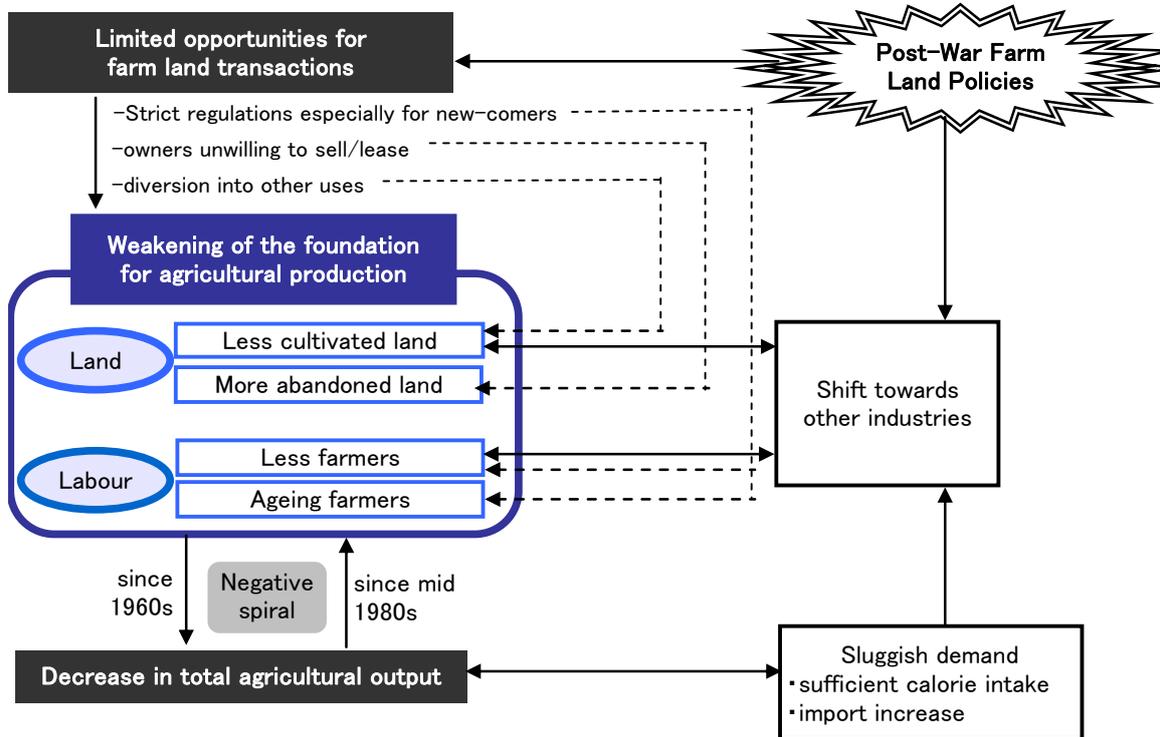
Note: The figure is as of 2005 in the U.K., France and Germany, 2007 in the U.S., and 2010 in Japan.

Source: MAFF “Agenda for Strengthening Competitiveness of Land-Extensive Farming (Draft) [in Japanese]”

While the foundation of agricultural production started to weaken since the 1960s, the growth in calorie intake per capita reached a plateau and the supply of inexpensive agricultural imports from other Asian countries increased prominently since the 1980s. As a result, demand for domestic agricultural produce shrank and the total agricultural output in Japan fell from 11.7 trillion yen in 1984 to 8.0 trillion yen in 2010, with a decrease of 31.3%. Japanese agriculture is currently in a negative spiral where sluggish demand leads to further decline in agricultural production, thus further weakening its foundation.

What can be done in order to strengthen the foundation of Japanese agriculture under these circumstances? The key move is to reform farm land policies which have limited opportunities for active farm land transactions. Among the factors related to the decline of Japanese agriculture (shown in **Figure 2**), sluggish demand is hard to control. However, post-war farm land policies can be reformed so that there would be more opportunities for farm land transactions, making it easier for competitive farmers to aggregate and cultivate the land more efficiently. Such reformed policies are expected to contribute to suppressing the shift of land and labour towards other industries. We will soon discuss how the policies should be reformed, but let us first review post-war farm land policies.

[Figure 2: Factors related to the decline of Japanese Agriculture]



Source: Mizuho Research Institute

### 3. POST-WAR FARM LAND POLICIES

As we see below, post-war farm land policies led to creating too many small farms as well as limiting the opportunities for farm land transactions. Though some progress was made through the amendment of the Agricultural Land Act in 2009, more efforts seem to be required.

#### (1) Farm land reform of 1947-1950

Farm land reform of 1947-1950 is a term referring to a grand buy-in and buy-out scheme of farm land by the Japanese government. The scheme was carried out under the influence of the General Headquarters of Allied Powers (GHQ), whose intentions were to promote democracy through freeing peasants from landlords. Under the scheme, 1.9 million hectares of land was either bought-in or confiscated from landlords and was sold to 4.2 million peasant households, with both transactions executed at extremely low prices.

As a result of the reform, farm land was broken down into small pieces, making it

hard for Japanese agriculture to enjoy economies of scale. On average, a commercial farm household<sup>3</sup> in Japan cultivates only 2.0 hectares even in 2010.

## **(2) Restrictions against farm land transactions**

The Agricultural Land Act enacted in 1952 regarded that farm land should be basically cultivated by its owners, implying the land should not be dominated by landlords as was the case before World War II. From this point of view, Article 3 of the Act specified that farm land cannot be sold or leased without an approval from local agricultural commissions mainly consisting of incumbent farmers, whereas Article 4 specified that farm land cannot be diverted into other uses unless approved by a prefectural governor, whose decision is largely based on opinions of agricultural commissions. These articles still stand as basic principles for farm land transactions.

Under these articles, it was not easy for new entrants to buy/borrow farm land and start agricultural production. In contrast, agricultural commissions had a tendency of easily approving diversion of farm land into other uses so that incumbent farmers can make a huge profit by selling off their land<sup>4</sup>, often deciding land zones in farmers' favor after applications for diversion are submitted<sup>5</sup>. As a result, cultivated land in Japan decreased and farmers as well as their non-farmer inheritors became reluctant to sell/lease farm land.

## **(3) Amendment of the Agricultural Land Act in 2009**

The Agricultural Land Act has been amended over 60 times from its enactment until the recent major amendment in 2009. Some of these amendments eased restrictions for farm land procurement very gradually<sup>6</sup>, but the Act still held on to its basic principle that farm land should be basically cultivated by its owners. The amendment in 2009 changed the principle, stating that it will try to “facilitate farm land procurement by those who cultivate the land efficiently”, meaning it will support farmers who borrow land as well as farmers who own land. With this respect, the amendment realized following measures.

- a) Companies can borrow farm land anywhere and up to 50 years (cf. they were allowed to borrow only in designated areas and up to 20 years before the amendment)

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3 A commercial farm household refers to a farm household that cultivates more than 0.3 hectares of land or sells more than 500 thousand yen worth of agricultural produce annually.

4 Godo, Yoshihisa (2010) *Farewell to Nippon Agriculture*, NHK Publishing Inc. [*in Japanese*]. Godo states that farm land with an approval to be diverted into other uses can be sold at exceedingly higher prices compared to the land without an approval.

5 Yamashita, Kazuhito (2010) *The Economics of Agricultural Big-Bang*, Nikkei Publishing Inc. [*in Japanese*].

6 Procurement in this context refers to both buying and borrowing land.

- b) Companies can invest in an agricultural production legal person<sup>7</sup> up to less than 50% of its capital under certain conditions<sup>8</sup> (cf. the limit was up to 25% before the amendment)

Many agricultural scholars construe the amendment as a positive move toward efficient land use, but argue that more needs to be done<sup>9</sup>.

#### **4. MEASURES FOR ACCELERATING FARM LAND TRANSACTIONS**

Below is a series of measures the author would like to propose in order for Japan to accelerate farm land transactions. It consists of a) accurately recognizing farm land owners and how the land is being used, b) strengthening community involvement in discussing farm land use, c) reforming taxation system, and d) reinforcing incentives for land transactions. Explanations of the measures are as follows.

##### **(1) Accurate recognition of farm land owners and how the land is being used**

First of all, the government should accurately recognize farm land owners and how the land is being used (e.g., cultivated by the owner, cultivated by farmers other than the owner, laid fallow, abandoned, etc.). In Japan, there are so many cases that registered farm land is used for other purpose or its true owner is not registered<sup>10</sup>. The government has made no drastic steps so far to address the situation because such steps would require tremendous efforts and costs, very likely to be exposing many illegalities along the way. However, the steps are vital in promoting farm land transactions and should be carried out sooner than later.

Once farm land owners and their current use are recognized, the government should move further to identify which land is available for sale/lease and create a national database so that ambitious farmers and new entrants into farming can easily find out and procure the land they desire. Currently, the data are scattered among local agricultural commissions, municipalities, and agricultural co-operatives engaged in state projects for farm land aggregation.

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<sup>7</sup> Agricultural production legal person is the only type of corporate entity entitled to own farm land.

<sup>8</sup> Such conditions include, for instance, that the company has approval from local municipality in accordance with the Act on Promotion of Improvement of Agricultural Management Foundation.

<sup>9</sup> For example, Godo *op.cit.*, advocates drastic renewal of farm land registry.

<sup>10</sup> This is because farm land registers which belong to municipalities' agricultural commissions are neither legally binding documents nor used for taxation.

## **(2) Stronger community involvement in discussing farm land use**

In order to deal with excessive land diversion and high entry barriers for new entrants, the government should consider revising the Act on Agricultural Commission so that the commissions can include more local non-farmers as their members or be monitored and judged by third-party organizations which would report to the communities. As mentioned earlier, agricultural commissions play an important role in farm land transactions, but tend to be too lenient to its fellow farmers<sup>11</sup>. This tendency should not be overlooked.

Furthermore, the government should encourage communities to thoroughly discuss the use of farm land and to come up with locally shared visions so that they can mark farm zones accordingly (e.g., Area A as a major production base intended for aggregation, Area B as a self-sufficient farming zone, Area C as land acceptable for diversion, etc.) and maintain the zones with few exceptions as possible.

If the government takes actions mentioned above, the decisions for the use of farm land are expected to be more equitable to both incumbent and new farmers and more beneficial to the communities.

## **(3) Reformation of taxation system**

Reformation of taxation should also be considered. Currently, most farm lands enjoy preferential rate of property tax compared to the standard rate of tax applied to land for residential use. If the tax rate for farm land used for non-farming purposes or farm land in the area approved of diversion were to be raised to the level equal or closer to the standard tax rate, owners of farm land might be less reluctant to engage in land transactions.

## **(4) Reinforcement of incentives for land transactions**

Corresponding to the predictable increase of retiring farmers mostly due to ageing, the government should provide them with incentives to sell or lease their land to remaining and new farmers. For example, developments in farm land infrastructure before land transactions can be subsidized or tax breaks can be provided for a limited period. Japan should carefully study the EU's early retirement scheme and come up with effective measures.

With regards to these measures, some steps have already been taken, beginning from areas which suffered serious damages from the Great East Japan Earthquake of 2011. Hence, let us observe how the Tohoku region is trying to recover damaged farm

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<sup>11</sup> Shogenji, Shinichi (2011) *Reality of Japanese Agriculture*, Chikumashobo Ltd. [in Japanese].

land and thereby improve efficiency of land use.

## **5. FARM LAND RECOVERY AFTER THE GREAT EAST JAPAN EARTHQUAKE**

As a consequence of the tsunami that followed the Great East Japan Earthquake, approximately 23.6 thousand hectares of farm land was drowned or damaged. Nearly 90% of drowned or damaged farm land was located in Miyagi and Fukushima Prefectures, which are major rice producing areas<sup>12</sup>. The damage value of farm land in Japan amounted to 401 billion yen, with additional damage value of agricultural facilities (ex. reservoirs, drains, pumps, etc.) reaching 441 billion yen.

The government responded by compiling a series of supplementary budgets for fiscal 2011, which included a) subsidizing part of the cost necessary to recover farm land, b) granting aid to resumption of farming, and c) providing interest-free loans, for the afflicted farmers. Owing to the policy measures above in addition to strenuous efforts by farmers themselves and the volunteers, about 90% of tsunami-afflicted farm land got rid of rubble by April 2012 and about 40% of the land is expected to resume cultivation by March 2013. The government aims to push the figure up to 90% by March 2015. Meanwhile, some parts of Fukushima which suffered from shattering damages of neutron leakage at the Fukushima Nuclear Power Plant after the earthquake remain almost untouched and would require decades before farming can be resumed. For the time being, let us focus on efforts for farm land recovery in tsunami-afflicted areas (hereinafter simply referred to as “afflicted areas”).

### **(1) Government measures conducive to both recovery and increased farm land transactions**

It is worth noting that some of the government’s measures for recovery can contribute to accelerating farm land transactions, thereby “turning the disaster to our advantage,” as the Japanese proverb says. First, the government’s damage investigation helped identify farm land owners, though there were some difficulties caused by losses of owners’ lives, records of land register, and landmarks locating boundaries of ownership. The investigation should be considered as the first and the most vital step towards recovery, and should be extended further into such purposes as figuring out owners’ intention of farm land use after recovery or creating a unified database of farm

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<sup>12</sup> Among 47 prefectures, Fukushima and Miyagi ranked 4th and 8th respectively with regards to the value of rice output in 2010.

land available for sale/lease among afflicted areas.

Second, the government's encouragement to the communities in the afflicted area to thoroughly discuss and submit "master plans" for local farm land use can be construed as an important step toward stronger community involvement<sup>13</sup>. Citizens in the afflicted area are faced with a task of discussing land use for public, commercial, residential, farming and other purposes from scratch in order to rebuild their communities. This makes it possible for those outside the closed doors of agricultural commissions to participate in the discussion regarding the use of farm land and to mark land zones clearly and effectively. Citizens should take this opportunity to adjust land uses among the area and aggregate farm land while concentrating residence and commercial/communal facilities into uplands, so that they can improve farm land efficiency and build a disaster-resistant community concurrently.

Third, the government decided to pay 30 thousand yen for every 0.1 hectares of farm land to retiring farmers, non-farmer inheritors, etc. if they lease their land under certain conditions (i.e., the period of lease is more than 6 years, the land will be blindly entrusted to government-approved agencies<sup>14</sup> which take part in farm land aggregation projects, and others). This incentive may increase farm land transactions within the afflicted area and give more opportunities for ambitious farmers to expand their production space by borrowing land from farm land aggregation agencies. The agencies should make the best effort to consolidate the aggregated land by re-plotting and re-partitioning so that ambitious farmers who borrow the land can enjoy economies of scale (**Figure 3**).

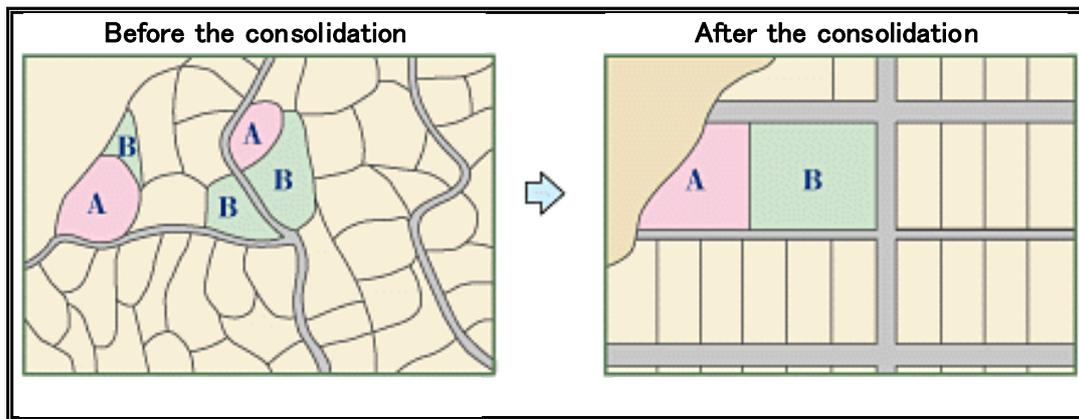
With the measures mentioned above, some of the afflicted areas are trying not only to retrieve original state of agriculture, but to strengthen local agriculture through increased farm land transactions and consolidations. One of these cases is East Sendai district where a large-scale project of farm land re-development is envisioned as described in the next section.

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13 The communities which submit master plans would be eligible for certain benefits provided by the government.

14 These agencies are mostly run by municipalities or agricultural co-operatives.

[Figure 3: An image of consolidation by re-plotting and re-partitioning]



Source: Nagano Prefecture

## (2) Farm land re-development project in East Sendai

City of Sendai, along with the Japanese government and Miyagi Prefecture, is planning a farm land re-development program of roughly 2 thousand hectares in East Sendai district, known as one of the areas with extremely severe damages from the tsunami in 2011. The city hopes to finalize the plan and start implementing the program by March 2013. The program which entails farm land consolidation and installation of new irrigation network will be fully public-funded with the budget of 18.7 billion yen.

City of Sendai as well as the Japanese government has been taking steps that contribute to accelerating farm land transactions. For example, the city carried out a questionnaire survey in December 2011 in order to figure out farmers' intentions on a) resuming farming, b) participating in the re-development scheme, c) selling or leasing the land if they would want to give up or cut back on farming, etc. Meanwhile, the city organized Reconstruction Meetings to discuss allocation of various types of local land use and decided to mark most parts of East Sendai district as "a frontier zone for agriculture and food" that is intended for farm land consolidation and a base for promoting competitive farming such as corporate or horizontally/vertically diversified farming<sup>15</sup>. Sendai is also examining the possibility to set up a new agency in charge of intermediating farm land transactions within the district.

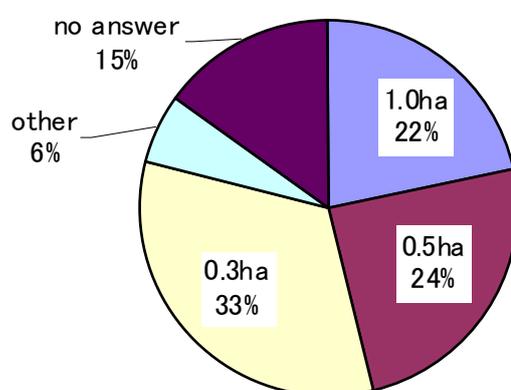
Sendai's land re-development program can be considered as a good example of

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15 Horizontally diversified farming means producing a variety of crops and/or animals, while vertically diversified farming means expanding into related businesses such as food processing, retailing, foodservice, tourism, biomass application, etc. For the latter, a term "sixth industrialization" is commonly used in Japan. The term derives from the idea that new-added value can be created by synergizing (multiplying) first (primary), second (secondary), and third (tertiary) industrial sectors ( $1 \times 2 \times 3 = 6$ ).

dealing with afflicted farm land. However, to attain its goal to strengthen the competitiveness of local agriculture, Sendai should work harder to gain further understanding and cooperation from local farmers. According to the aforementioned survey in 2011, only 22% of the respondents wanted the new paddy field to be plotted by blocks of 1.0 hectares while 57% wanted either 0.3 or 0.5 hectares (**Figure 4**). The city cannot act against the will of farmers, but since the advantage of land-redevelopment will be limited without drastically improving merit of scale, the city should try to persuade farmers into large-scale operation by explaining the merits clearly and supporting farmers' moves toward corporate or community farming.

**[Figure 4: The size of plots desired by farm land owners in East Sendai]**

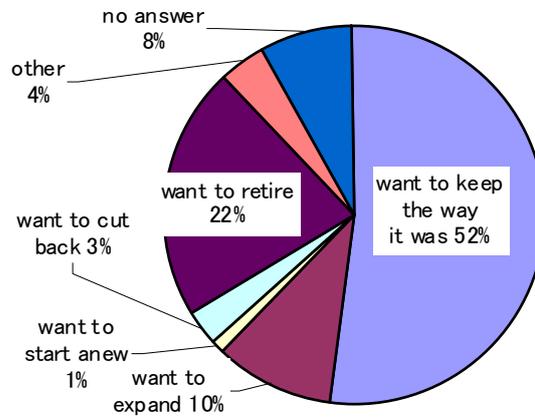


Note: Those who own tsunami-afflicted farm land in East Sendai District were asked to choose from four options shown above. The options were given according to Sendai's basic plan for re-developing paddy fields.

Source: Tohoku Regional Agricultural Administration Office

Moreover, Sendai should endeavor to find an efficient means to aggregate retiring farmers' land and distribute the land to ambitious farmers willing to expand their production space. The survey showed that 25% of the respondents wanted to retire or cut back on farming (most likely because they don't have a business successor) while 11% wanted to expand or start out from scratch (**Figure 5**). The city should persuade retiring farmers to sell or lease their land on the one hand and encourage ambitious farmers to take up as much land as possible on the other, so that resumed farm land would not be left uncultivated.

**[Figure 5: Future paddy field operations intended by farm land owners in East Sendai]**



Source: Tohoku Regional Agricultural Administration Office

Preventing resumed farm land from being left uncultivated is a task that all tsunami-afflicted areas share in common. While the government has already come up with incentives for retiring farmers, it should also consider providing incentives to farmers who would expand operations in the afflicted areas. After all, they are the ones who are expected to play a major role in agricultural recovery once the farm land is resumed.

## 6. CONCLUSION

This paper suggested a series of land policies that Japan should take in order to prevent its agriculture from further decline, and illustrated how some of the suggested policies are being realized in the earthquake afflicted areas on the way to recovery. The government's measures in the afflicted areas can be commended to some extent, but much more still needs to be done in the area. In order to aggregate farm land and improve efficiency in farming, the government and the municipalities in the area should continue to work on measures for accelerating farm land transactions, accompanied with patient negotiations with the local farmers.

Subsequently, the government should learn from the experience in the afflicted areas and apply the suggested policies nationwide. With regards to non-afflicted areas, the government started to encourage communities to submit "master plans" for local farm land use and to offer incentive payments to retiring farmers etc. under certain

conditions<sup>16</sup>, both from fiscal 2012, following the measures within the afflicted areas in fiscal 2011. However, unlike the afflicted areas where identification of farm land owners was literally essential, accurately recognizing farm land owners and their current use still remains difficult within non-afflicted areas. As it did in the afflicted areas, the government should consider such measures as allocating budgets for the investigation and encouraging municipalities and communities to compile renewed data on farm land. Such moves along with a series of formerly suggested land policies are expected to contribute to accelerating farm land transactions and aggregations, thereby improving farming efficiency with an advantage of scale and turning Japanese agriculture strong enough to withstand further trade liberalisation.

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<sup>16</sup> The rules for master plans and incentive payments are slightly different from those in the afflicted areas.