



## **Towards Development of employment opportunities for persons with disabilities fully utilizing characteristics of agriculture (Research Report No. 102) Summary**

### **[Keywords]**

Activation of agriculture, distinguishing qualities of agriculture and vocational rehabilitation, 6<sup>th</sup> industrialization

### **[Key points]**

The study shows consideration, arrangement and devices to reduce/avoid various restrictions and to simplify work based on the case study conducted in agricultural businesses which employ persons with disabilities and promote stable management. It also mentions: efforts to facilitate employment of persons with disabilities in peripheral areas of agriculture; technological innovation in agriculture; current status of industrial development in agriculture. The NIVR expects that this report will be used as a basic reference in order to discuss employment of persons with disabilities in agriculture industry from the viewpoint of vocational rehabilitation.

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## **2. Period of Research**

FY2009 to FY2010

## **3. Composition of the research report**

Chapter 1 Background, Purpose and Method of this Study

Chapter 2 Genealogy of Agricultural Study and Efforts of this Research Group

Chapter 3 Important Precaution concerning Employment of Persons with Disabilities in Agriculture

Chapter 4 Case Report that shows Reality of Employment of Persons with Disabilities in Agriculture

Chapter 5 Efforts toward Employment Promotion

Chapter 6 Transformation in Agriculture and Employment of Persons with Disabilities

Chapter 7 Summary of the Research

References     Result of the Research through Visiting the Business Establishments

## **4. Background and Purpose of Research**

Japanese agriculture is drawing attention from various viewpoints: labor shortage and abandoned farmland associated with dwindling, aging workforce; decline in the food self-sufficiency ratio; and rising concerns about food safety. One of the issues directly associated with this study is the problem of workforce procurement. Employment of persons with disabilities has been focused as one of the measures to foster more farmers. On the other hand, some characteristics of agriculture such as seasonality and small business size may cause restrictions in employment of persons with disabilities. That is why agriculture has not been paid much attention in the vocational rehabilitation area.

Characteristics and recent trends of agriculture were reviewed to explore the possibility of agriculture to be the workplace for persons with disabilities. The goals of this study are: to clarify the problems of employment; and to suggest solutions for them.

## **5. Method**

### **(1) Collection of Literature and Materials**

The situation and problems of this and related areas were overviewed through research on literature of previous studies concerning employment of persons with disabilities in agriculture and associated studies.

### **(2) Survey by visiting related organizations**

In order to review advanced cases and measures to promote/support employment of persons with disabilities in agriculture, a survey was conducted by visiting business establishments, local governments, educational institutions, and vocational training centers.

### (3) Interview survey with specialists

In order to review the situation/background of agriculture-related employment of persons with disabilities in educational institutions, an interview survey was conducted with specialists.

### (4) Others

This study has been promoted in cooperation with a research project conducted by an independent administrative institution: the National Institute for Rural Engineering (referred to as the Institute hereinafter). The Institute was consigned by the Ministry of Agriculture, Forestry and Fishery to promote the Employment Development Project for Persons with Disabilities in Agriculture in 2009 and the Employment Support Project for Persons with Disabilities in 2010. The researchers of this study offered cooperation for the projects of the Institute as planning committee members, and obtained the findings through these cooperative efforts to reflect in the activities and result of this study.

## 6. Summarized Results of the Study

### (1) Trend in agriculture

Agriculture is now facing various problems such as labor shortage and expansion of abandoned farmland. The age composition of the workforce indicates the situation. Different from other industries, more than a half of the farmers are 65 years or older. A young labor force has not been secured yet (See Fig.1). Imports have been expanding and the food self-sufficiency rate, which is now 40% in calorie basis as of 2009, is further decreasing. Reflecting such a situation, awareness on stable supply and safety of food is on the rise among citizens.

On the other hand, general enterprises have recently been participating in the industry due to the implementation of the Loan Project for Specified Juridical Person associated with the revised Agricultural Management Framework Reinforcement Act (enacted on September 1<sup>st</sup>, 2005) and implementation of the Amended Agricultural Land Act thereafter (See Fig.2).

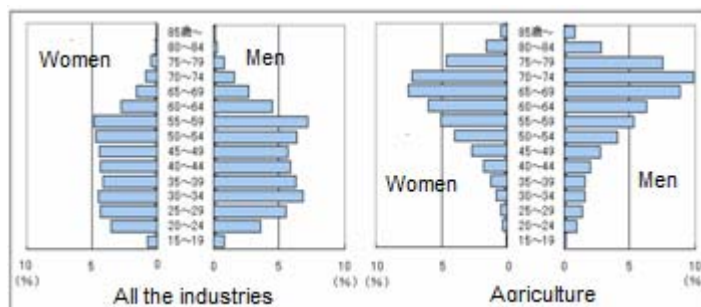


Fig.1 Workforce Demography  
Source: Statistic Bureau, MIC (Census 2005)

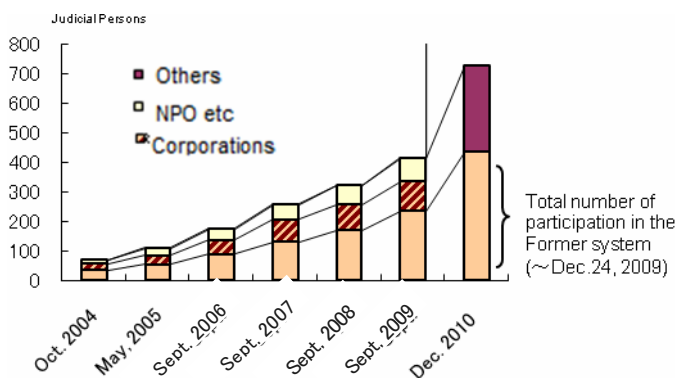


Fig. 2 Transition of Participating Juridical Persons etc.  
Source: Data related to the Amended Agricultural Land Act, Ministry of Agriculture, Forestry and Fisheries(2010)

## (2) Employment of Persons with Disabilities in Agriculture

### a. Employment of Persons with Disabilities in association with Agriculture

So-called healing effect of agriculture is drawing attention. Various surveys indicate that joy of growing plants and sense of achievement people feel when engaged in agriculture bring about emotional stability etc. It was confirmed that an increasing number of welfare institutions for people with disability have adopted farm work, suggesting that agriculture is now focused on from the viewpoint of “Welfare Power of Agriculture.”

In terms of promotion of employment of people with disability, “Promotion of Employment of Persons with Disabilities by Agricultural Judicial Persons” has been specified by the “Five-Year Plan for Implementation of Priority Measures”(December 25, 2007) based on the “Basic Program for Persons with Disabilities.” Employment of persons with disabilities in agriculture has been drawing people’s attention since then. On the other hand, the governmental agriculture policy mentions persons with disabilities in the statement, “Promotion of creating an environment where various types of people that include women, the elderly, and persons with disabilities can play an active role” as part of the policy, “Fostering new generations that have willingness and capability” in the “2008 Agriculture Policy for the 21<sup>st</sup> Century.” Unification

### b. Restrictions and actual situation of employment in agriculture from the viewpoint of employment of persons with disabilities

#### (a) Restrictions of employment in agriculture

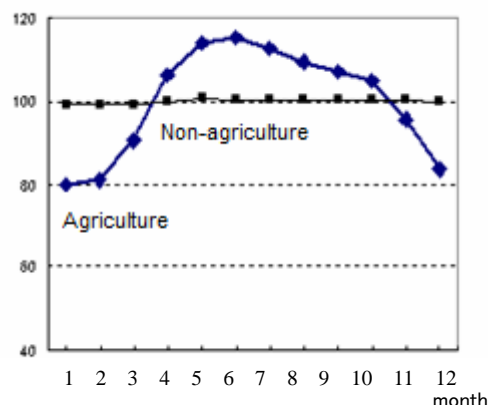
Agriculture has been diversified due to participation of companies from other industries. However, family business is still in high ratio and the majority is small-sized business. It can be inferred that many businesses are not familiar with hiring employees. Farm work itself is hugely influenced by seasons and weather. Figure 3 shows the seasonal transition in the number of workers by industries. Agriculture shows a conspicuous seasonality in comparison with other industries.

Several surveys indicate that farmers have concerns when hiring persons with disabilities such as “identification of work” and “accidents and injuries” etc.

#### (b) Actual situation of employment of persons with disabilities

In spite of the restrictions mentioned above, the number of agricultural businesses in a certain size is recently on the rise (See Table 1) <sup>Note 1)</sup>. Also, more and more persons with disabilities have been employed in the farming industry (See Tables 1 & 2). In 2009, the amount of employment in agriculture increased far more than other industries, especially the employment of persons with disabilities was clearly on the rise.

Note 1) Table 1 covers enterprises which hire not less than 56 employees. Please note that: both



"Fig. 3 Seasonality in agricultural workforce"

Source: MIC Statistics Bureau, Labour Force Survey  
(Seasonality index in 2007, annual average=100)

tables are based on the data that include agriculture as well as forestry and fishery; and the employment ratio has been calculated since April, 2006 with the data that include persons who possess Mental Patient Disability Certificates.

Table 1 Transition of the number of corporations and actual employment ratio in agriculture, forestry and fishery

	Number of corporations (cases)	Number of employed persons with disabilities (persons)	Year-over-year ratio (%)
June 1, 2006	146	347.0	110.5
June 1, 2007	155	354.5	102.2
June 1, 2008	163	377.0	106.3
June 1, 2009	173	385.5	102.3
June 1, 2010	180	405.0	105.1

Source: The table was prepared based on the "Report on the Status of Employment of Persons with Disabilities" by MHLW (FY2000- 2010)

Table 2 Number of people with disabilities employed by agriculture, forestry and fishery businesses through referral by "Hello Work "

	Number of employment (cases)	Year-over-year ratio (%)
FY2005	435	108.7
FY2006	412	94.7
FY2007	505	122.6
FY2008	553	109.5
FY2009	764	138.2

Source: The table was prepared based on the "Status of Referral for Employment of Persons with Disabilities" by MHLW (FY2005-2009)

### **(3) A Case Survey on Actual Situation of Employment of Persons with Disabilities by Agricultural Businesses**

#### **a. Method of Case Survey**

In order to research the actual situation of employment of persons with disabilities in agriculture, researchers visited business establishments and conducted an interview survey, and observed the actual work place if situations allowed. Business establishments were selected for the survey by referral from the local vocational rehabilitation centers for persons with disabilities and information from the internet.

The survey covered: [1] outline of the business establishment; [2] actual situation of employment of persons with disabilities; [3] process of participation to agriculture industry (for establishments which came from other industries); and [4] comments on employment of persons with disabilities in agriculture.

## b. Outline of business establishments surveyed

The surveyed 18 business establishments consist of: 8 farming establishments; 6 special subsidiaries; and 4 establishments which started as general farmers employing persons with disabilities and now are run as Type A business establishments to support continuous employment. As for the size of establishments (the number of employees engaged in farming-related business were counted for special subsidiaries that deal with other businesses in addition to farming), 4 establishments employ not less than 56 employees (1 special subsidiary is included); 3 establishments employ 31-55 employees; 9 establishments 11-30 employees; and 2 establishments employee not more than 10 employees. Most of these establishments employed at least 2 persons with disabilities. More than a half of them promoted employment of persons with disabilities regardless of the type of disability.

## c. Possibility of employing persons with disabilities seen in the case survey

### (a) Work characteristics by production item

It was confirmed that previously mentioned restrictions in employment and anxieties that employers are likely to suffer were avoided or reduced to a certain extent in many of the business establishments surveyed. Among these issues, selection of the type of produce seemed to be important. Individual work characteristics by type of produce were summarized in Table 3. Breakdown of the produce grown in the surveyed establishments were; greenhouse vegetables in 4 establishments; field vegetables in 2 establishments; greenhouse and field vegetables in 4 establishments (including 1 establishment that grows rice as well); flowers in 3 establishments; livestock in 3 establishments; and mushrooms in 2 establishments.

Table 3 Work characteristics by produce

Main produce	Work characteristics observed in the case survey	Remarks (specific cases etc.)
Greenhouse vegetables, flowers	<ul style="list-style-type: none"><li>○ <u>Diversified work</u> from sowing to harvesting and shipment adjustment</li><li>○ <u>Multiple work cycles</u> from sowing to harvesting and shipment adjustment are ongoing simultaneously all through the year.</li><li>○ Similar works are repeated in a short period, which is a <u>work environment easy for persons with disabilities to master</u>.</li><li>○ Work in a greenhouse is less likely to be influenced by the season or weather, which enables the procurement of a constant workload all through the year.</li></ul>	<ul style="list-style-type: none"><li>○ The types of work and the degree of repetition differ according to the type of produce grown in the establishment.</li><li>○ Different kinds of seedlings are grown in pots in different seasons. But the work procedures are not much different.</li></ul>
Mushrooms	<ul style="list-style-type: none"><li>○ Work in a facility is less likely to be influenced by the season or weather, which <u>enables the procurement of a constant workload all through the year</u>.</li><li>○ Work types are not as many as those for greenhouse vegetables, which enables the easy standardization of <u>work</u>.</li></ul>	<ul style="list-style-type: none"><li>○ Case of shiitake cultivation using mushroom bed</li></ul>
Field vegetables *	<ul style="list-style-type: none"><li>○ <u>Weeding bears a constant ratio</u> in various types of work. Quite a few cases have adopted organic, pesticide-free production, where weeding becomes more important.</li><li>○ Produce which can be harvested all through the year can solve the problem of seasonality to a certain extent.</li><li>○ If field vegetables are mainly grown and greenhouse vegetables are grown when field vegetables cannot be grown, <u>a constant work load can be secured all through the year</u>.</li></ul>	<ul style="list-style-type: none"><li>○ A half of the establishments grow organic, pesticide-free produce.</li><li>○ Leafy onion can be harvested all through the year although the crop yield varies.</li><li>○ A half of the establishments develop their business in combination with greenhouse vegetables.</li></ul>

Livestock	<ul style="list-style-type: none"> <li>◦<u>Less susceptible to seasons and weather</u> comparing with other produce</li> <li>◦<u>Standardized work</u> such as daily feeding and cleaning <u>can be secured</u> while other produces require different work as they grow.</li> </ul>	◦Diary such as swine, dairy cow, and goat
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\*Including the establishments that also grow greenhouse vegetables.

### (b) Consideration in work and employment

What kind of arrangement was made in individual establishments based on the work characteristics mentioned above? (See Fig.4) For example, in order to assign the work for the person with disabilities, numerous types of work will be divided into small parts, where the person with disabilities will experience multiple types of work. Quite a few establishments assign the work through this process based on the characteristics (job assignment based on the aptitude). It was also confirmed that: when assigning the work, work that involves decision making was avoided; and some arrangement is made in tools (e.g. visualized tools to avoid ambiguity) so that adaptation to work will be facilitated. Furthermore, some establishments assign several works, not just one kind of work, in order to secure enough volume of workload. It is a typical countermeasure observed in agriculture where the same work or a constant workload may not be secured because impact of weather and climate is unavoidable even though greenhouses are used. In order to upgrade the skills of persons with disabilities, some establishments probed expansion of work capacity by assigning more difficult work. Farming consists of numerous works, many of which must be done by hands instead of machines. The various arrangements shown here are considered to deal with such diversity in work as an agriculture characteristic.

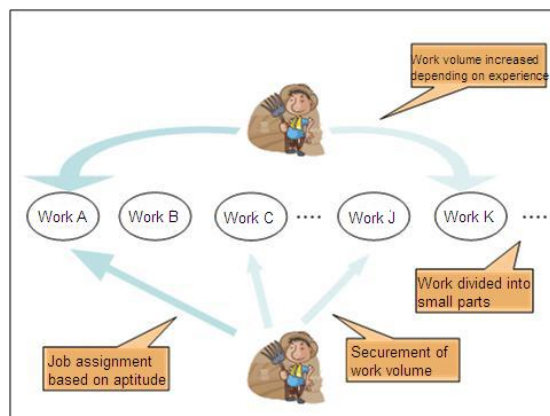


Fig.4 Arrangement seen in work

In the present environment that surrounds employment of persons with disabilities in agriculture, quite a few experts point out the necessity of personnel that have knowledge of both agriculture and employment of persons with disabilities. This survey found that some establishments offer employees an opportunity to obtain a No.2 Job Coach License. In order to secure personnel that have knowledge in both areas, other establishments hire employees who have agricultural experience and offer them an opportunity to learn about persons with disabilities. However, many establishments still do not have personnel that have knowledge in both areas. They seek the following external cooperation in the organized framework to solve their problems: utilization of the Job Coach Support Project when they need know-how of employment of persons with disabilities; technological training from contracted instructors; advice from counselors and neighbor farmers when they need agricultural knowledge and skills.

### (c) Arrangement/ characteristics seen in management

A half of the surveyed establishments dealt with processing and sales as well as production and cultivation of produce. They also manage rental farmland. Business diversified with agricultural production, food processing/ production, distribution/sales as well as tourism or business in cooperation



with other industries (so-called 6<sup>th</sup> industry) will also expand the work range for persons with disabilities. Employees with disabilities may not be directly engaged in food processing or sales, but such management will stabilize the business, resulting in steady employment of persons with disabilities.

Focusing on added values or demonstrating their appealing points may strengthen the action toward employment of persons with disabilities in the end. For example, value-added produces (e.g. differentiation as organic vegetables) will generate additional works and boost demand for the produce, requiring more workers. This will offer job opportunities for persons with disabilities. Many establishments aim to contribute to the community (revitalization of the community, reutilization of abandoned farmland etc.) as part of the background in employing persons with disabilities. As one characteristic, agriculture is deeply rooted with the community as it aims to revitalize the community through production of local specialties benefitting from the natural environment. Such a stronger attachment to the community than in other industries may encourage employment of persons with disabilities.

#### **(d) Effect of employment/work of persons with disabilities in agriculture**

Table 4 summarizes the advantages for business establishments when hiring persons with disabilities and the advantages for persons with disabilities when working in a farm based on the comments from business establishments.

Table 4 Advantages of hiring persons with disabilities in agriculture

Advantages for business establishments when hiring persons with disabilities	Advantages for persons with disabilities when working in a farm
<ul style="list-style-type: none"> <li>○Agriculture, the industry that attracts less job applicants than other industries, can <u>solve the labor shortage</u> and <u>secure stable workforce</u> when persons with disabilities seek jobs.</li> <li>○When non-disabled and disabled employees work together, work will be assigned based on individual characteristics, resulting in <u>improved efficiency</u>.</li> </ul>	<ul style="list-style-type: none"> <li>○<u>Mental stability</u> seen in change and improvement in facial expressions and human relationship</li> <li>○<u>Less stressful work environment</u> is provided for persons with disabilities because it deals with nature: production volume may not be strictly regulated; judgment criteria may be moderate.</li> </ul>

It is notable that mental stability is mentioned as a merit for persons with disabilities in agriculture even though it is a job opportunity, not an opportunity for rehabilitation or recreational activities. Some establishments started employment of persons with disabilities as they introduced production of organic vegetables and expanded their businesses. It was suggested that transition of business orientation and development in agriculture may have a positive impact on employment of persons with disabilities.

#### **d. Future tasks**

This survey revealed the fact that the support system etc. for employment of persons with disabilities has not been sufficiently disseminated among agricultural business establishments. It is guessed that the tendency is especially conspicuous in agriculture because there are fewer opportunities to hire employees in this industry. This should be considered as a future task. The tendency also limits the opportunity to know about persons with disabilities. It is necessary to discuss establishing a system to share information from agricultural business establishments which have already employed persons with disabilities.



#### **(4) To promote further employment**

The following efforts and various other efforts have been developed in recent years to promote employment in agriculture: a verification model aiming at employment of persons with disabilities in agriculture at the Institute previously mentioned in association with this study; and support for employment of persons with disabilities in agriculture by local municipalities. Agriculture is also drawing attention in the fields of vocational training and education, which provides many suggestions for employment of persons with disabilities in agriculture. Recent technological innovation in agriculture to stabilize production and reduce work load is expected to promote employment of persons with disabilities in the future.

#### **(5) Conclusion of the study**

The case survey indicated that there are many opportunities to make use of conventional vocational rehabilitation methods in employment of persons with disabilities in agriculture. However, if employment is considered within the framework for non-disabled employees, supporters are not willing to get involved in employment of persons with disabilities because there are various restrictions. That is why supporters do not have much support experience, and thus do not have clear vision to see what vocational rehabilitation methods are efficient and effective. On the other hand, many agriculture business establishments do not find urgent necessity to hire persons with disabilities, and accordingly they do not have a clear vision of employment. Not only procedures but also the advantages should be clearly informed when business establishments consider employment of persons with disabilities.

Employment of persons with disabilities may be accelerated in the future: if agriculture businesses grow in size in the process of transformation to the “industry that is comparable to other industries” thanks to technological innovation etc, where employment of persons with disabilities will be promoted in the viewpoint of social responsibility; or if businesses that have joined in from other industries utilize their experience of employment of persons with disabilities in agriculture. The survey also suggested that it is meaningful to aim at employment expansion for persons with disabilities in agriculture with the perspective, “Employment of Persons with Disabilities in Changing Agriculture,” considering this trend and the 6<sup>th</sup> industrialization mentioned previously.