

Evaluation and Expectations in Disaster-Affected Areas for Corporate Support Initiatives in the Reconstruction of Agriculture following the Great East Japan Earthquake : Based on a Survey of Municipal Authorities in Iwate, Miyagi and Fukushima Prefectures

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(Received May 20, 2014/Accepted December 5, 2014)

Summary : This study has been conducted in order to clarify evaluation by disaster-affected municipalities of corporate initiatives to support agricultural reconstruction following the Great East Japan Earthquake, in terms of expectations for, concerns about, and effects of support initiatives, as well as how corporate support is defined by recipients and how attitudes of corporations in providing support is perceived. At the same time, this study has also been aimed at identifying desirable forms of corporate support for post-earthquake agricultural reconstruction. In order to achieve the above study objectives, we carried out a survey of agriculture-related departments of 127 municipalities that received special designation for post-disaster government assistance. The municipalities covered are all in Iwate, Miyagi, and Fukushima Prefectures, which were severely affected by the Great East Japan Earthquake. The main findings of this study are as follows. 1) Affected municipalities' expectations for corporate support for agricultural reconstruction are higher today than immediately after the disaster. 2) Many affected municipalities in general have recognized the effects of corporate support for agricultural reconstruction. Especially, municipalities that have received corporate support have rated the support highly. With regard to concerns associated with corporate support for agricultural reconstruction, the frequently cited responses include withdrawal by corporations without fully implementing support initiatives, provision of support that does not match the needs or that is unfair. 3) As to how corporate support for agricultural reconstruction is defined in the overall picture and the kind of corporate attitudes expected of corporations that provide support, municipalities—especially those that have received corporate support—recognize that corporate support is indispensable for agricultural reconstruction; consider that it will be effective to build a complementary relationship between corporate support and state and prefectural support; and hope that corporations provide support that is integrated with their core business and suits the recipients' post-disaster circumstances and needs. 4) With regard to measures that corporations should take in order to implement support smoothly and effectively, particularly municipalities that have received corporate support mentioned collaboration among corporations, local communities, and agricultural organizations, instead of provision of support on a stand-alone basis. As measures that municipalities should take for smoother and more effective corporate support, municipalities that have received corporate support mentioned matching of corporations that want to provide support and farmers or areas that seek support; promotion of collaboration among corporations, local communities, and agricultural organizations; securing of subsidies to help attract corporate support or equivalent financial assistance; understanding of needs for support in disaster sites; and consolidation, sharing, and provision of information on support.

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Key words : the Great East Japan Earthquake, reconstruction of agriculture, corporate support, disaster-affected municipalities

Introduction

The Great East Japan Earthquake of March 11, 2011 caused extensive damage to agriculture in the Tohoku Region, particularly in Iwate, Miyagi, and Fukushima Prefectures. As of two and a half years after the disaster, progress has been made on the reconstruction of agriculture in areas that saw relatively minor damage, whereas efforts are lagging behind in areas that suffered severe impacts from the tsunami or radioactive contamination.

Meanwhile, the Reconstruction Design Council in response to the Great East Japan Earthquake notes in its report three basic disaster management concepts of self help, mutual help, and public help. Mutual help involving various actors—such as affected residents, local governments, corporations, and non-profit organizations (NPOs)—is particularly important as a guiding principle for post-disaster reconstruction. The Reconstruction Agency established in fiscal 2012 an office for collaboration between disaster-affected municipalities and corporations and has been promoting cooperation between them and creation of businesses utilizing the Special Reconstruction Zones. For the reconstruction in the area of agriculture, the Ministry of Agriculture, Forestry and Fisheries devised a Reconstruction Master Plan for Agriculture and Farming Villages, which calls for strengthening collaboration between farmers and diverse businesses to amalgamate primary industry with secondary and tertiary industries to create a “senary” or “sixth-order” industry. A report published by the Reconstruction Agency in April 2013 provides 55 examples of agricultural reconstruction initiatives undertaken by corporations. As such, corporations are counted on for their abundant business resources and ability to take action for providing support for the rebuilding of agriculture.

In the field of agricultural economic research, many studies have been conducted concerning the Great East Japan Earthquake. In particular, studies by SANO and SHIBUYA¹⁾ (2013), SHIBUYA and YAMADA²⁾ (2013), and MONMA³⁾ (2013), focus on corporate support for agricultural reconstruction. SANO and SHIBUYA¹⁾ take an example of support provided by Kagome Co., Ltd. for the reviving of vegetable farming in Tohoku and sort out issues concerning corporate initiatives for assisting post-disaster reconstruction of agriculture. They point out that it is difficult to strike a harmony between the logic of the

business (i.e., on the part of corporations) and that of farming (i.e., on the part of disaster-affected areas), since the former and the latter are quite different in purpose. SHIBUYA and YAMADA²⁾ analyzed characteristics of agricultural reconstruction initiatives undertaken by 31 corporations following the disaster, and clarified the following three points: (1) Based on support style, corporate support initiatives can be classified into direct support, in which corporations provide support directly to their targeted recipients, and indirect support provided through intermediary agencies such as NPOs. Those defined as direct support can be further classified into those provided on a stand-alone basis and those involving multiple corporations coordinating with each other. (2) The initiatives are diverse in content, ranging from those involving participation in farming operations, the distribution and marketing of farm products, etc. to the provision of business resources. (3) As a means to analyze characteristics of corporations supporting agricultural reconstruction, corporate support initiatives can be typologically classified into several patterns based on the attributes of corporations and the underlying ideas of support. Each corporation implements its support initiative based on its rational judgment.

MONMA³⁾ sorts out methods for local residents (i.e., actors in the self-help initiatives), NPOs and universities (i.e., actors in the mutual-help initiatives), and local and central governments (i.e., actors in the public-help initiatives) to collaborate in solving problems in post-disaster recovery and reconstruction of agriculture and farming communities and states that it is necessary to identify measures for achieving an ideal collaboration among different organizations.

As such, corporate support initiatives have become essential for the rebuilding of agriculture in areas in the Tohoku region that suffered enormous damage from the Great East Japan Earthquake, and the significance of the characteristics of corporate support in agricultural reconstruction has been implied, along with the importance of coordination among self-help, mutual-help, and public-help initiatives for reconstruction. No previous studies have attempted, however, to clarify to what extent people in the disaster-affected areas, as recipients of assistance, have been aware of such corporate support initiatives for agricultural reconstruction and how those support initiatives have been evaluated in the process of becoming established in the disaster-hit areas.

Study Objectives, Study Method, and Analysis Method

(1) Study objectives

This study aims to derive implications so that more corporations can consider what type of support they can provide promptly and effectively and by what means, and how they can cooperate and coordinate with disaster-affected farmers and municipalities, assuming that disasters of the same magnitude as the Great East Japan Earthquake can strike again. To that end, this study attempts to clarify the evaluation and expectations in the areas in the Tohoku region affected by the Great East Japan Earthquake with regard to corporate support initiatives in the reconstruction of agriculture. And based on that evaluation, the study also examines how corporate support for agricultural reconstruction is positioned in the overall picture, as well as attempting to identify the ideal state of reconstruction efforts in the future.

(2) Study and Analysis Method

In order to clarify evaluation of corporate initiatives to support agricultural reconstruction in the disaster-affected areas in a comprehensive manner, we carried out a survey of municipal authorities who have an overall grasp of the status of these areas. Specifically, the survey covered agriculture-related departments of 127 municipalities in Iwate, Miyagi, and Fukushima Prefectures, which were

severely affected by the Great East Japan Earthquake and received special designation for post disaster government assistance. As a preparation for the questionnaire survey, we also performed interview surveys between May and June 2013 and in August 2013 of prefectural government officials involved in initiatives for agricultural reconstruction in Iwate, Miyagi, and Fukushima. We asked about how corporate support is defined in the overall picture, status of collaboration between corporations and municipalities in reconstruction support, and effects brought by corporate support initiatives, and then drew up a draft questionnaire. With the aim of clarifying to what extent people in the disaster-affected areas are aware of corporate support initiatives for agricultural reconstruction and how they evaluate those initiatives, as well as identifying the position of corporate support for agricultural reconstruction in the overall picture, the questionnaire included the following seven items. (1) The status of implementation of corporate support initiatives for agricultural reconstruction in the municipality and the status of the municipality's grasp of the initiatives; (2) expectations for corporate support initiatives for agricultural reconstruction and changes in the level of the expectations; (3) effects of corporate support initiatives for agricultural reconstruction; (4) content of support initiatives expected of corporations; (5) concerns about corporate support initiatives for agricultural reconstruction; (6) corporate support as defined in the overall

Table 1 Questionnaire distribution and collection

Prefecture	Number of questionnaires distributed	Number of respondents (municipalities)	Valid responses (%)
Iwate	33	24	73
Miyagi	35	19	54
Fukushima	59	33	56
Total	127	76	60

Table 2 Implementation status of corporate support for agricultural reconstruction in affected municipalities, each municipality's grasp of the support, and typological classification of municipalities

Municipality's grasp of corporate support	Number of municipalities	%	Classification
Corporate support has been implemented and the municipality has a general grasp of the status of support and the corporation that provides support	13	17	Group I
Corporate support has been implemented but the municipality does not have a clear grasp of the status of support and the corporation that provides support	10	13	Group II
Corporate support has not been implemented	35	47	Group III
The municipality is not aware of whether corporate support has been implemented	17	23	Group IV

Note: One municipality did not answer this question.

Table 3 Affected municipalities' expectations for agricultural reconstruction support by volunteers, NPOs, and corporations; and changes in expectation levels

Expectations for agricultural reconstruction support and changes in expectation levels	Support from volunteers			Support from NPOs			Support from corporations		
	Immediately after the disaster (%) (n = 74)	Now (%) (n = 75)	Increase/decrease (percent point)	Immediately after the disaster (%) (n = 74)	Now (%) (n = 75)	Increase/decrease (percent point)	Immediately after the disaster (%) (n = 73)	Now (%) (n = 75)	Increase/decrease (percent point)
Strongly counted / can strongly count on support	3	5	2	0	5	5	7	11	4
Counted / can count on support	22	32	10	20	29	9	21	40	19
Could not / cannot say either	39	43	4	42	43	1	37	32	-5
Did not / cannot count on support	14	4	-10	12	3	-9	15	3	-12
Did not / cannot count on support at all	7	0	-7	5	0	-5	5	0	-5
Had/have no idea about support	16	16	0	20	20	0	15	15	0

Notes: "Immediately after the disaster" refers to April 2011, before volunteers, NPOs, and corporations began providing support for agricultural reconstruction. "Now" refers to October 2013, when the survey was conducted.

picture and attitudes expected of corporations in providing support; and (7) measures for smoother and more effective implementation of support initiatives for agricultural reconstruction by corporations.

The questionnaires were sent to the 127 municipalities by postal mail between October 18 and November 20, 2013, and valid responses were received from 76 municipalities (a 60 percent valid collection rate). The number of valid responses received (valid collection rate) by prefecture was 24 (73 percent) for Iwate, 19 (54 percent) for Miyagi, and 33 (56 percent) for Fukushima (see Table 1).

(3) Characteristics of the respondent municipalities and method of analysis

With regard to the implementation status of corporate support initiatives in the municipality and the status of the municipality's grasp of the initiatives in the 76 respondent municipalities (hereinafter, "the affected municipalities") (see Table 2), 1) 13 affected municipalities (17 percent) said "corporate support has been implemented and the municipality has a general grasp of the status of support and the corporation that provides support," 2) 10 affected municipalities (13 percent) said "corporate support has been implemented but the municipality does not have a clear grasp of the status of support," 3) 35 affected municipalities (47 percent) said "corporate support has not been implemented" and 4) 17 municipalities (23 percent) said "the municipality is not aware of whether corporate support has been implemented."

In the total of 23 municipalities that responded "corporate support has been implemented," manufacturing

companies (11 cases) and retailers (4 cases) were undertaking support initiatives in the area of agriculture.

In analyzing the data obtained through this survey, we hypothesized that municipalities' evaluation of corporate support for agricultural reconstruction is affected by whether such support is implemented in the municipality and the status of the municipality's awareness of the support provided. Based on this hypothesis, we classified the affected municipalities into groups and compared their characteristics in terms of their awareness and evaluation. We classified the municipalities described in (1) above as Group I, (2) above as Group II, (3) above as Group III, and (4) above as Group IV, and used tests of independence and analyses of variance as appropriate to ensure an objective comparison of evaluation results obtained from the four groups.

Analysis and Observations

(1) Affected municipalities' expectations for corporate support for agricultural reconstruction and changes in the levels of expectations

Table 3 shows the affected municipalities' evaluation of corporate support in terms of their expectations for initiatives to support agricultural reconstruction. The table shows the changes in the levels of expectations by comparing the status in April 2011, immediately after the Great East Japan Earthquake, and the current status as of October 2013. In order to clarify the characteristics of corporate support in an effective manner, we also asked the same questions about the municipalities' expectations concerning volunteers and NPOs, which are positioned

Table 4 Municipalities' expectations for corporate support for agricultural reconstruction by group (municipalities were classified according to whether the municipality has received corporate support and the level of grasp of the support status); and changes in expectation levels

Expectations for corporate support for agricultural reconstruction	Group I			Group II			Group III			Group IV		
	Immediately after the disaster (%)	Now (%)	Increase/decrease (percent point)	Immediately after the disaster (%)	Now (%)	Increase/decrease (percent point)	Immediately after the disaster (%)	Now (%)	Increase/decrease (percent point)	Immediately after the disaster (%)	Now (%)	Increase/decrease (percent point)
	(n = 13)	(n = 13)		(n = 10)	(n = 10)		(n = 34)	(n = 35)		(n = 16)	(n = 17)	
Strongly counted / can strongly count on support	8	15	8	20	20	0	3	11	8	6	0	-6
Counted / can count on support	15	62	46	30	70	40	24	37	14	13	12	-1
Could not / cannot say either	46	23	-23	30	10	-20	38	34	-4	31	47	16
Did not / cannot count on support	15	0	-15	0	0	0	18	6	-12	19	0	-19
Did not / cannot count on support at all	0	0	0	10	0	-10	3	0	-3	13	0	-13
Had/have no idea about support	15	0	-15	10	0	-10	15	11	-3	19	41	22

Notes: 1) "Immediately after the disaster" and "now" respectively refer to April 2011 and October 2013 as in Table 3.

2) The definitions of Groups I through IV are the same as those described in Table 2.

as actors in mutual-help initiatives for agricultural reconstruction along with corporations.

The survey result shows that with regard to the status immediately after the disaster, many of the affected municipalities said they "counted on support" from volunteers, NPOs, or corporations or "could not say either," while a number of municipalities said they "had no idea about support" or "did not count on support" from volunteers, NPOs, or corporations. In contrast, the figures for the current status show the number of affected municipalities that think they "can strongly count on support" or "can count on support" from volunteers, NPOs, and corporations have significantly increased. The increase in expectations for corporate support was particularly notable: the combined percentage of municipalities saying they "can strongly count on support" and "can count on support" from corporations (11 percent and 40 percent, respectively) increased as much as 23 percentage points from immediately after the disaster. Furthermore, although small numbers of municipalities said they "did not count on support at all" or "did not count on" reconstruction support from volunteers, NPOs, or corporations immediately after the quake, almost no municipalities denied their current expectations for such support.

Next we classified the data shown in Table 3 into Groups I through IV and conducted comparison and analysis of the data focusing on their expectations for corporate support for agricultural reconstruction and changes in the levels of expectations (see Table 4).

With regard to expectations for corporate support im-

mediately after the disaster, many affected municipalities in the four groups said they "could not say either." As for the current status, almost no municipalities in the four groups said they "cannot count on support" or "cannot count on support at all" from corporations, although the tendencies of changes in the levels of expectations are different. Looking at the current status of expectations by group, many affected municipalities among Groups I and II said they "could not say either" immediately after the disaster, but the data indicate their expectations for corporate support have increased since then. Among municipalities in Group III, there were positive responses that they "can strongly count on support" or "can count on support" from corporations, but expectations for corporate support in Group III have not risen as much as in Groups I and II. In Group IV, fewer municipalities than in other groups said they "strongly counted on support" or "counted on support" from corporations immediately after the quake, and expectations in the group have declined since then. We do not include detailed data on responses concerning factors behind the changes in levels of the affected municipalities' expectations for agricultural reconstruction support, since the number of responses was too small to allow an objective analysis. As for the reason why expectations for corporate support increased, however, many municipalities cited "support initiative implemented with successful results" in the municipality, a neighboring municipality, or elsewhere. In the confusion immediately after the earthquake, the affected municipalities apparently had little

time to have expectations for any reconstruction support. With regard to support provided by volunteers and NPOs, expectations held by the affected municipalities have increased since then probably because volunteer and NPO activities following the 1995 Great Hanshin-Awaji Earthquake had already been widely known, and their efforts to assist recovery from the 2011 Great East Japan Earthquake have also been reported frequently by the mass media. As for corporate support for agricultural reconstruction, in contrast, initiatives following the 2011 earthquake were the first efforts of the kind undertaken in earnest by corporations, and their support initiatives have rarely been covered by the mass media. This means that expectations for corporate support have increased because of the real experience of municipalities that have received support, unlike in the case of assistance from volunteers and NPOs covered frequently by TV and other media.

(2) Effects of corporate support for agricultural reconstruction and effective content of support

Table 5 shows evaluation results of the effects of corporate support for agricultural reconstruction. The evaluations by affected municipalities in general show that many of them said corporate support is “very effective” (20 percent) or “effective” (52 percent). Although there were also municipalities that said they “cannot say either” (16 percent) or “have no idea” (12 percent), no municipalities denied the effect of corporate support and said corporate initiatives are “not effective” or “not effective at all.”

Now let us look at differences in evaluation by group. In Groups I and II, almost all affected municipalities said corporate support is “very effective” or “effective.” In Groups III and IV, however, a significant percentage of municipalities said they “cannot say either” or “have no

idea” .The data indicates that municipalities where corporate support initiatives for agricultural reconstruction have been implemented tend to give a high evaluation of the effects of such corporate support.

As such, the growth in expectations for corporate support for agricultural reconstruction is considered to be based on the actual effects of the support initiatives.

(3) Types of support for agricultural reconstruction for which corporations are counted on

Now let us examine the types of support for which corporations are counted on in the affected areas.

Table 6 shows the content of support that municipalities expect from volunteers, NPOs, and corporations. Expectations for volunteers are high concerning support in work that requires a lot of hands, such as removal of debris from farms and other areas, dismantling of and reconstruction of houses and greenhouses, and harvesting of crops. NPOs are counted on not only for assistance in removal of debris and farm work in affected areas but also for support that requires expertise, such as provision of specialized knowledge and personnel, linking volunteers and affected areas and making adjustments, sales promotion of agricultural crops, and provision of relief supplies. Corporations are counted on for support making use of their abundant capabilities, funds, and other business resources, such as provision of their products, technologies, and know-how; supporting the sale of agricultural and other products and purchase of them as raw materials; and provision of financial support for reconstruction.

Next, we show in Table 7 which types of support for agricultural reconstruction the affected municipalities consider to be particularly effective among the above described efforts for which corporations are counted on. The most frequently cited response by affected municipi-

Table 5 Effects of corporate support for agricultural reconstruction

Effects of support	All municipalities that responded (n = 75)		Group I (n = 13)		Group II (n = 10)		Group III (n = 35)		Group IV (n = 17)		Test (P-value)
	No.	%	No.	%	No.	%	No.	%	No.	%	
Very effective	15	20	5	38	4	40	6	17	0	0	** (0.0004)
Effective	39	52	7	54	6	60	19	54	7	41	
Cannot say either	12	16	0	0	0	0	9	26	3	18	
Not effective	0	0	0	0	0	0	0	0	0	0	
Not effective at all	0	0	0	0	0	0	0	0	0	0	
Have no idea	9	12	1	8	0	0	1	3	7	41	

Notes:1) The definitions of Groups I through IV are the same as those described for Table 4.

2) Test of independence(level of significance is 1% level).

3) “No.” refers to the number of municipalities that selected each response.




palities in general was “distribution and marketing of farm products and/or purchase of farm products as raw materials,” followed by “provision of financial support including investment for reconstruction,” “engagement in farming operations,” and “provision of technologies.” Municipalities in Groups I and II frequently cited “distribution and marketing of farm products and/or purchase of farm products as raw materials,” “provision of financial support including investment for reconstruction,” and “provision of technologies” as effective forms of support. Municipalities in Groups III and IV, which have not received or were not aware of any corporate support, frequently cited “distribution and marketing of farm products and/or purchase of farm products as raw materials,” “provision of financial support including investment for reconstruction,” and “engagement in farming

operations” as effective. As such, although some significant differences have been confirmed among the four groups in terms of which reconstruction efforts they view as effective, the affected municipalities consider “distribution and marketing of farm products and/or purchase of farm products as raw materials” as an effective form of support. The data indicates powerful distribution and marketing capabilities of corporations that enable promotion of farming areas and branding of agricultural products are considered helpful in agricultural reconstruction in areas severely affected by the disaster.

(4) Concerns about effects of corporate support for agricultural reconstruction on disaster-affected farmers and municipalities

Table 8 shows concerns about effects of corporate sup-

Table 6 The content of support municipalities hope to receive from volunteers, NPOs, and corporations

Volunteers	Removal of debris from farmland and water-use facilities (11) Assistance in farm work such as seeding and harvesting (7) Dismantling, removal, and reconstruction of houses, work facilities, greenhouses, etc. (6) Provision of psychological care for affected farmers; giving encouragement to farmers by providing help in their work New engagement in farming Provision of technologies		Characteristics of support Support in work that requires a lot of hands immediately after the disaster
NPOs	Provision of expertise, technologies, and personnel (3) Removal of debris from and restoration of farmland (3) Organized, long-term assistance in farm work in ways different from volunteers (2) Acting as intermediary agencies between volunteers and farmers who need assistance and make arrangements as needed (2) Publicity for and marketing of farm products Use of refined skills for support (procedures for support, etc.) Provision of relief supplies to affected farmers Provision of assistance in daily life and farm work for affected farmers who have not received help from the authorities Checking radiation levels in farm products and farmland Communicating information on the status of damage suffered, support provided, etc. Utilization of farmland left unused New engagement in farming		Characteristics of support Diverse types of support including long-term initiatives
Corporations	Provision of the company’s products, technologies, and know-how (10) Assistance in marketing of farm products (elimination of harmful rumors); purchase of farm products as raw materials (8) Provision of financial support for reconstruction (4) Restoration of farmland, farm roads, and irrigation canals using heavy machinery (2) Provision of relief supplies to affected farmers Creating jobs and helping find jobs Technological development to meet the needs of affected areas (decontamination, etc.)		Characteristics of support Support utilizing abundant business resources

Note: This question was open-ended. The figures in parenthesis indicate the numbers of municipalities that gave the same response.

Table 7 Effective content of corporate support for agricultural reconstruction

Support considered effective	All municipalities that responded (n = 75)		Group I (n = 13)		Group II (n = 10)		Group III (n = 35)		Group IV (n = 17)		Test (P-value)
	No.	%	No.	%	No.	%	No.	%	No.	%	
Distribution and marketing of farm products and/or purchase of farm products as raw materials	54	72	8	62	7	70	28	80	11	65	
Provision of financial support including investment for reconstruction	28	37	9	69	3	30	11	31	4	24	
Engagement in farming operations (job creation)	27	36	4	31	0	0	15	43	8	47	* (0.013)
Provision of technologies	16	21	2	15	7	70	4	11	3	18	
Provision of products from corporations	7	9	3	23	0	0	2	6	2	12	
Provision of personnel from corporations	7	9	0	0	1	10	2	6	4	24	
Other	5	7	1	8	0	0	3	9	1	6	

Notes: 1) Multiple answers allowed.

2) The definitions of Groups I through IV are the same as those described for Table 4.

3) Test of independence (level of significance is 5% level).

4) "No." refers to the number of municipalities that selected each response.

port for agricultural reconstruction on disaster-affected farmers and municipalities. Frequently cited concerns about effects on farmers were "the corporation may withdraw without fully implementing an initiative," "implementation of support initiatives that do not match the needs," "unfair implementation of reconstruction support," and "sale of products or services labeled as 'support' by the corporation." No municipalities that have received corporate support were concerned that "support recipients' farmland may be taken by the corporation" or "support recipients' farmland may be converted to other uses by the corporation," whereas some municipalities that have never received corporate support cited those possibilities as a concern. It is assumed that if such effects of corporate support for agricultural reconstruction on disaster-affected farmers manifest themselves, they will cause confusion in the disaster-hit areas in various manners, as well as a loss of trust in corporate support from local communities. In order to avoid such occurrences, corporations will have to share information on the content, plans, and means of support thoroughly with disaster-affected municipalities and farmers as well as with relevant organizations, and at the same time to understand the needs of the affected areas in detail. With regard to concerns on the part of municipalities, frequently cited responses were "the corporation may ask

municipality officials for cooperation (e.g., introduction of the corporation to farmers)," "the corporation may ask the authorities for financial support," "corporate officials may visit the municipality office when it is busy carrying out its work." In this question, no differences have been confirmed between the types of responses cited by the municipalities that have received corporate support and those cited by the municipalities that have not. It can be imagined that although municipalities play the role of intermediary agencies to facilitate collaboration among corporations that provide support and farmers and areas that receive support, the municipal authorities tended to be confused by frequent consultations and proposals from corporate officials at a time when the authorities were busy handling their own duties in the wake of the disaster.

(5) Corporate support as defined by municipalities and their perception of corporate attitudes in providing support

Table 9 shows how disaster-affected municipalities define corporate support for agricultural reconstruction in the overall picture and what kind of attitudes they expect from corporations that provide support. For each evaluation item in this question, we used a 5-point scale, with 5 being "completely agree," 4 being "agree," 3

Table 8 Concerns about effects of corporate support on disaster-affected farmers and municipalities

Concerns about effects of corporate support for agricultural reconstruction on disaster-affected farmers and municipalities		All municipalities that responded (n = 75)		Group I (n = 13)		Group II (n = 10)		Group III (n = 35)		Group IV (n = 17)		Test (P-value)	
		No.	%	No.	%	No.	%	No.	%	No.	%		
		Concerns about effects on disaster-affected farmers		The corporation may withdraw without fully implementing an initiative	44	59	7	54	7	70	21		60
Implementation of support initiatives that do not match the needs	32			43	4	31	5	50	17	49	6	35	
Unfair implementation of reconstruction support	20			27	4	31	2	20	7	20	7	41	
The corporation may ask farmers for cooperation	15			20	2	15	2	20	7	20	4	24	
Sale of products or services labeled as "support" by the corporation	9			12	2	15	1	10	3	9	3	18	
Support recipients' farmland may be taken by the corporation	5			7	0	0	0	0	4	11	1	6	
Support recipients' farmland may be converted to other uses by the corporation	5			7	0	0	0	0	3	9	2	12	
Other	3			4	2	15	0	0	0	0	1	6	
Concerns about effects on disaster-affected municipalities		The corporation may ask municipality officials for cooperation (e.g., introduction of the corporation to farmers)	31	41	3	23	7	70	11	31	10	59	(0.76)
		The corporation may ask the authorities for financial support	31	41	5	38	3	30	16	46	7	41	
		Corporate officials may visit the municipality office when it is busy carrying out its work	19	25	2	15	4	40	8	23	5	29	
		Other	9	12	3	23	2	20	2	6	2	12	

Notes: 1) Multiple answers allowed.

2) The definitions of Groups I through IV are the same as those described for Table 4.

3) Test of independence(non-significance).

4) "No." refers to the number of municipalities that selected each response.

being "cannot say either," 2 being "disagree," and 1 being "completely disagree." With regard to how corporate support for agricultural reconstruction is defined, responses from affected municipalities in general show high ratings for "corporate support is indispensable to agricultural reconstruction from the disaster" (3.35 points) and "although corporate support and state or prefectural support are different in nature, complementary relationship between the two will enhance the effectiveness of support" (3.59 points). Municipalities in Groups I and II, where corporate support initiatives have been implemented, gave especially high points to these items. In other words, by actually receiving corporate support, municipalities tend to recognize and appreciate the effects of corporate support. At the same time, municipalities in Groups I and II gave lower ratings to "although

corporate support and state or prefectural support are different in scale, the two have the same role" and "corporate support is optional in nature and it is not something to be counted on." As such, the responses show that affected municipalities consider corporate support in the area of agriculture as essential for reconstruction; and they recognize that more effective reconstruction support can be expected through a complementary relationship between corporate support and support by the authorities with different nature and role. As to attitudes expected of corporations that engage in support initiatives for agricultural reconstruction, responses from affected municipalities in general gave high ratings to "corporations should provide support that meets the circumstances and needs of the recipients" (4.04 points) and "it is desirable that corporations provide support proac-

Table 9 Corporate support as defined in the overall picture by municipalities and attitudes expected of corporations that provide support

Corporate support as defined in the overall picture by municipalities and attitudes expected of corporations that provide support		All municipalities that responded (n = 75)	G-I (n = 13)	G-II (n = 10)	G-III (n = 35)	G-IV (n = 17)	Test (P-value)
Corporate support as defined by municipalities	Corporate support is indispensable to agricultural reconstruction from the disaster	3.35	3.50	3.80	3.15	3.38	0.17
	Corporate support is optional in nature and it is not something to be counted on	3.21	3.17	3.10	3.24	3.25	0.99
	Although corporate support and state or prefectural support are different in scale, the two have the same role	2.90	2.92	2.90	2.82	3.06	0.87
	Although corporate support and state or prefectural support are different in nature, complementary relationship between the two will enhance the effectiveness of support	3.59	4.08	3.50	3.54	3.38	0.08 *
	Corporate support and state or prefectural support are different in nature and it is impossible to build any complementary relationship between the two	3.35	3.67	3.40	3.30	3.19	0.47
Corporate attitudes expected	Given the nature of corporate support, it is only natural for corporations to expect return	3.11	3.00	3.50	3.12	2.94	0.37
	It is desirable that support for agriculture involves purchases of farm products as raw materials and/or products, is linked to the corporation's core business, and leads to creation of new businesses	3.46	3.45	3.50	3.55	3.25	0.51
	Support is desirable regardless of whether it is linked to the corporation's core business / support without any linkage to the corporation's core business is desirable	3.04	2.92	3.50	2.88	3.19	0.06 *
	Corporations should provide support that meets the circumstances and needs of the recipients	4.04	4.08	4.10	4.03	4.00	0.97
	It is desirable that corporations provide support proactively if there are recipients they can help	3.76	3.83	4.00	3.73	3.63	0.37

Notes: 1) "Corporate support" refers to corporate support for agricultural reconstruction and "state or prefectural support" refers to state or prefectural support for agricultural reconstruction.
 2) "G-I," "G-II," etc. stand for "Group I," "Group II", etc.
 3) The figures indicate average points (on a scale of 1 to 5).
 4) Analysis of variance (**p<0.01, **p<0.05, *p<0.1).

tively if there are recipients they can help" (3.76 points). It is considered that behind these ratings were concerns as indicated in Table 8 that corporations could prioritize considerations to their own situation and implement support initiatives that would not necessarily meet the needs of the local communities. Moreover, "It is desirable that support for agriculture involves purchases of farm products as raw materials and/or products, is linked to the corporation's core business, and leads to creation of new businesses" (3.46 points) received a higher rating than "support is desirable regardless of whether it is linked to the corporation's core business/support without any linkage to the corporation's core business is desirable" (3.04 points). It is inferred that municipalities hope that corpo-

rations will provide support for agricultural reconstruction based on their strength (core business) rather than support not linked to the core business, which is thought to entail higher risk of failure.

(6) Measures for smoother and more effective implementation of corporate support for agricultural reconstruction

Lastly, Table 10 shows measures that should be taken by corporations or affected municipalities in order to promote smoother and more effective implementation of corporate initiatives to support agricultural reconstruction. As to measures that should be taken by corporations, affected municipalities that have received corporate sup-

Table 10 Measures for smoother, more effective implementation of corporate support for agricultural reconstruction

	Measures that corporations should take	Measures that municipalities should take
Group I	<ul style="list-style-type: none"> • Provide continuous support for affected areas (farmers) • Understand support needs of affected areas • Provide corporation's know-how and networks • Ensure communication of information on content and policies of support 	<ul style="list-style-type: none"> • Match corporations that want to provide support and the needs of farmers or areas that seek support (3) • Enhance collaboration with local organizations and communities
Group II	<ul style="list-style-type: none"> • Provide support information to standardized destinations (3) • Understand support needs of affected areas • Provide support in collaboration with farmers and the authorities in affected areas • Refrain from seeking return in the initial stage of support 	<ul style="list-style-type: none"> • Understand support needs of affected areas in detail (3) • Collect, share, and provide information on corporate support (3) • Match corporations that want to provide support and the needs of farmers or areas that seek support (2) • Apply for subsidies to attract corporate support or look for alternative measures to secure financial assistance (2)
Group III	<ul style="list-style-type: none"> • Understand support needs of affected areas and develop support plans • Provide financial support for reconstruction • Conduct sales promotion to eliminate harmful rumors • Provide support information • The respondent has nothing in particular to say or has no idea (2) 	<ul style="list-style-type: none"> • Match corporations that want to provide support and the needs of farmers or areas that seek support (2) • Identify farmers who need support and understand their support needs (2) • Enhance capabilities for matching of corporations that provide support and support recipients (affected farmers or areas) • Restore farmland and farm facilities quickly and improve infrastructure to prepare for corporate support • The respondent has nothing in particular to say
Group IV	<ul style="list-style-type: none"> • Develop support plans covering a period until initiatives are on track and implement them • The respondent has no idea 	<ul style="list-style-type: none"> • Make adjustments so that affected areas and farmers can receive corporate support in an equitable manner

Note: This question was open-ended. The figures in parenthesis indicate the numbers of municipalities that gave each response.

port mentioned meticulous handling of support with due consideration to farmers and areas that receive help, including provision of information on support, understanding of the needs of the areas, and communication on the content of and policies for support, as well as collaboration with farmers and the authorities in the areas. In contrast, municipalities that have never received corporate support mentioned several forms of corporate support provided on a stand-alone basis, such as development and implementation of support plans and provision of financing and information on support.

As such, affected municipalities that have received corporate support are believed to consider, through their experience, that collaboration among corporations, local communities, and agriculture-related organizations will facilitate support for agricultural reconstruction and enhance its effects more than individual corporate initiatives. Municipalities that have not received corporate support or those not aware of whether they receive corporate support, however, appear to consider that corporate support is provided on a stand-alone basis in principle and that it is important that the support content should be already in use and predictable, such as provision of financial support for reconstruction, sales promotion aimed at elimination of damage from harmful ru-

mors, and provision of information on support status.

With regard to measures that should be taken by affected municipalities for smoother and more effective implementation of corporate support initiatives, municipalities in Groups I and II, which have received corporate support, mainly noted the necessity of matching of corporations that want to provide support and farmers or areas that seek support; promotion of collaboration among corporations, local communities, and agricultural organizations; securing of subsidies to help attract corporate support or equivalent financial assistance; understanding of needs for support in disaster sites; and consolidation, sharing, and provision of information on support. In Group III, where corporate support has not been implemented, municipalities mentioned only a few measures for smooth and effective corporate support, including early restoration of farmland and farm facilities in order to receive support; understanding of needs for support in affected areas; and matching of corporations that want to provide support and farmers or areas that seek support. In Group IV, in which whether corporate support is implemented is unknown, the only measure mentioned was adjustment so that affected areas and farmers can receive equitable corporate support.

Conclusion

This study has shed light on the evaluation and expectations in the areas in the Tohoku region affected by the Great East Japan Earthquake for corporate support initiatives in the reconstruction of agriculture, based on a survey of agriculture-related departments of 127 municipalities in Iwate, Miyagi, and Fukushima Prefectures. The main findings of the study are as follows:

(1) The affected municipalities' expectations for corporate support for agricultural reconstruction have increased notably, especially among municipalities that have received such support from corporations. As for the reason, the survey results indicate that the growth in expectations for corporate support was not because of frequent media coverage as in the case of NPO and volunteer activities, but because of the fact that the effects of corporate support initiatives for agricultural reconstruction have been confirmed within the municipalities or their neighboring municipalities.

(2) With regard to the effects of corporate support for agricultural reconstruction, evaluation by the affected municipalities that have received corporate support was particularly high. As for the content of support, initiatives cited as particularly effective by the municipalities that have experience of receiving corporate support for agricultural reconstruction included distribution and marketing of farm products and/or purchase of farm products as raw materials and provision of financial support for reconstruction—initiatives that make use of business resources and ample funds held by corporations. In other words, it has become clear that initiatives that can be realized only by corporations or those that are characteristic of corporations were regarded as effective.

(3) The survey shows that concerns on the part of affected municipalities about corporate support for agricultural reconstruction included possible withdrawal of corporations from their support initiatives without full implementation, along with implementation of initiatives that are unfair or do not meet local needs. This indicates that if such problems manifest themselves, they will cause confusion for the disaster-affected areas and farmers, and corporations that provide support will lose trust of local communities. With regard to the definition of corporate support for agricultural reconstruction in the overall picture, the survey respondents emphasized the building of a complementary relationship between corporate support and state and prefectural support, instead of corporate support on a stand-alone basis. The result endorses the importance of coordination between mutual and public help in reconstruction support in the area of agriculture, which was made clear in previous studies. As for atti-

tudes expected of corporations that provide support, the survey shows that the affected municipalities hope to receive support incorporating the corporation's expertise and that meets the status and needs of the disaster-affected areas, with careful considerations given to these factors.

The survey results summarized above clearly show that the affected municipalities that have received support for agricultural reconstruction from corporations rate corporate support highly and have high expectations for corporate support; and that the municipalities want support initiatives that make appropriate use of the corporation's own business resources and its core business. On the other hand, there are some uncertainties and concerns about corporate support for reconstruction, making it necessary for corporations to pay careful attention in providing support.

Nearly three years have passed since the 2011 earthquake, and disparities have arisen in terms of the progress of reconstruction depending on areas and the extent of damage suffered. Corporate entry into reconstruction support in the area of agriculture has slowed to a certain extent, with no more significant increase expected. Conversely, corporations providing agricultural reconstruction support may begin to review the content of their support based on their experience so far—they may select and concentrate on effective forms of support or withdraw from their support initiatives.

In order to gain an accurate grasp of these trends, we will continue research to understand the wishes and requests of the affected municipalities concerning corporate support for reconstruction.

In this study, we carried out a survey targeting disaster-affected municipalities that receive assistance. We intend to conduct a detailed survey in the future focusing on corporations that provide support. Furthermore, although the importance of coordination between different actors in ensuring effective corporate support has been confirmed, details about what types of coordination should be made by which actors at what stage of agricultural reconstruction remain to be clarified. We believe that continued research on these issues will help realize support for agricultural reconstruction in a more effective manner in case a massive earthquake disaster may strike our country in the future, and also help rehabilitate operations of disaster-affected farmers and maintain the system for providing food for the people of the country.

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東日本大震災からの農業分野の復興における企業支援 に対する被災地の評価と期待

—岩手県・宮城県・福島県の被災市町村担当部署へのアンケート調査に基づく—

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(平成 26 年 5 月 20 日受付/平成 26 年 12 月 5 日受理)

要約：本研究では、東日本大震災において甚大な被害を受けた岩手県、宮城県、福島県内の特定被災地方公共団体計 127 市町村（以下、被災市町村）を対象に実施したアンケート調査により、被災地の視点から企業による農業分野の復興支援の効果、効果的な支援の内容、企業による復興支援に対する期待や懸念、復興支援を行う企業に望む姿勢、企業支援を円滑かつ効果的に行うために講ずべき方策を明らかにした。また、これらの結果に基づき農業復興における企業の望ましい支援の在り方を検討した。本研究より得られた主要成果は次の通りである。1) 企業の農業復興支援に対する被災市町村側の期待は、震災直後に比べて高まっており、なかでも企業の農業復興支援の受入れ実績のある被災市町村において顕著に表れている。2) 企業による農業復興支援の効果は、特に企業による農業復興支援の受入れ実績のある被災市町村から高い評価を得ており、とりわけ農産物の流通販売・原料調達、復興資金の提供を効果的な支援に挙げている。一方で、懸念点は、企業が支援半ばに撤退すること、ニーズに合わない支援や不公平な支援が行われること等が挙げられている。3) 復興支援を行う企業に望む姿勢について被災市町村は、企業の本業を組み込んだ支援、被災状況やニーズに適合した支援等を行うことを望んでいる。4) 復興支援に取り組む企業が農業復興支援を円滑かつ効果的に行うための方策として企業と地域のコミュニティ、農業関連機関の連携を挙げている。一方で企業による復興支援の円滑化と有効化のために被災市町村が講ずべき方策として、支援活動を行いたい企業側と支援農家・地域側とのマッチング、被災現場の支援ニーズの把握、支援情報の集約・共有化・提供等の取組みを挙げている。

キーワード：東日本大震災、農業分野の復興、企業支援、被災市町村

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