

Activation of Organizational Management in Agricultural Reform: A Case Study of Iijima Town, Japan

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Abstract

Recently, reform of regional agriculture has been one of the main concerns of Japanese agriculture. An essential condition for agricultural reform is to obtain farmer support for reform. This paper describes participation by farmers in a regional agricultural reform from the perspective of change management theory. The reform involved four stages. In the first stage, a sense of urgency was created among the farmers arising from the uncertain farming outlook and the discovery of ongoing problems related to succession in the long term. In the second stage, mutual trust was developed between the farming centre, which drove the reform and the farmers, since the latter could perceive that the centre was heeding their concerns regarding the reform process. In the third stage, the farming centre showed the proposed reform plan to the farmers, and explained the radical farming system adjustment it proposed and asked for the farmers' participation in the reform process. In this case, communication was achieved through the sharing of a sense of urgency and mutual trust. In the fourth stage, the farmers' ideas and brainstorming were combined with the planning team's proposal to create a practicable plan.

1. Introduction

The Japanese agricultural sector has been depressed for several decades because farm management efficiency has not improved despite the fact that agricultural product prices have fallen or remained constant at best. This has discouraged entry into the agricultural sector and led to a dearth of young, full-time farmers. The main reason for this is the immature and inefficient farming resource market, particularly the malfunctioning farmland market at the regional level. Since farmland prices are very high, farmers tend to keep their farmland as family property rather than as a production resource. Part-time farmers have little interest in selling or renting their farmland, and continue farming even if they incur losses since these can be recovered through off-farming income. On the other hand, full-time farmers face difficulties in expanding their farming operations through purchasing or renting farmland. Therefore, neither large-scale farming nor higher agricultural productivity

have eventuated, thereby weakening the competitive position of Japanese agriculture in world markets.

In the light of the above circumstances, and to enhance agricultural production, the Japanese government launched a farming programme to achieve improved resource use, particularly farmland at the regional level. The focus is on consensus building among farmers to ensure their participation in any programme to improve resource use. An important feature of any reforms are new organisational arrangements. Farm management researchers are determining how the traditional group farming units can be modified to provide a sustainable regional agriculture⁹. A group farming unit has its own management and accounting for yearly income and expenditure. This paper describes the participation process in regional agricultural reform using a case study of Iijima town in Japan.

2. Change management and regional agricultural reform

Since a number of farmers are involved in regional agricultural reform, change management theory contains abundant interesting suggestions for analysing this issue. Change management is the process followed in implementing change in an organization.

The following eight steps constitute a typical model of change management: (1) establishing a sense of urgency, (2) creating a guiding coalition, (3) developing a vision and strategy, (4) communicating the change vision, (5) empowering broad-based action, (6) generating short-term wins, (7) consolidating gains and producing additional change, and (8) anchoring new approaches in the culture².

Change management theory focuses on the role of a guiding team and its importance in developing a vision, communicating it to the members and involving as many of them as possible in achieving change. In regional agricultural reform, the guiding team is extremely important, particularly with regard to establishing a sense of urgency, creating a coalition, developing a vision and strategy, and communicating the change vision when inaugurating reform. Moreover, the guiding team is vital in motivating farmers to participate in planning reform since more feasible plans can be drawn up by using information provided by farmers. Furthermore, farmers who participate in planning could be expected to join the guiding team and strengthen it substantially.

In this paper, we explain how farmers can be inspired to be involved in regional agricultural reform from the viewpoint of change management.

3. Case study of regional agricultural reform

Iijima town is located in the southern region of Nagano prefecture in Japan, and practices systematic agriculture under the guidance of the farming centre (*Eino Senta*). The farming centre was founded in 1986 and was assigned the responsibility for formulating a practicable plan for stimulating regional agriculture. The farming centre received the 31st

'Japan Agriculture Prize' (*Nihon Nogyo Sho*) in 2002 for regional agricultural reform.

The following initiatives were undertaken to achieve agricultural reform in Iijima:

- a) Area Farming Unions (AFUs) were established between 1988 and 1989; approximately 95% of the farmers joined a union.
- b) Between 1990 and 1992, four new agricultural producers' co-operatives (*Nojikumiai Hojin*) were established in every AFU. These co-operatives were legal entities.
- c) A pool system was introduced under the farming centre's initiative. In this system, the total incentives provided to farmers accumulate to create a fund for undertaking development and reform activities. The Japanese government provides incentives in the form of subsidies for switching from rice cultivation to cultivating other crops. Farmers who undertake this conversion are eligible for a subsidy payment, although this incentive is insufficient to launch any farming improvements. For this reason, the farming centre initiated the pool system for carrying out regional agricultural reform in Iijima.
- d) Zone-based cultivation was introduced throughout the town to eliminate farming input waste and increase earnings. Since the town is situated in a hilly area, the first step was to cultivate a single rice variety in a particular zone. The land was divided into zones, based on elevation. To ensure maximum returns, the rice variety planted is based on the elevation of the land. Farmers are encouraged to cultivate the *koshihikari* (non-glutinous), *mochihikari* (glutinous), and *miyamanishiki* (brewing) varieties of rice. These varieties are used as food grain, and to make rice-cake and wine respectively. The income from the sale of rice is pooled and subsequently distributed among the farmers according to the farming acreage.
- e) An agricultural land-holding rationalization (*Nochi Hoyu Gorika*) programme was initiated in 1989. The Kamiina Agricultural Cooperative (JA Kamiina) was authorized to conduct this programme.
- f) Farming activities and farmland-use adjustment were supported by the geographic information system (GIS) introduced in 1994.

4. Fact-findings of regional agriculture

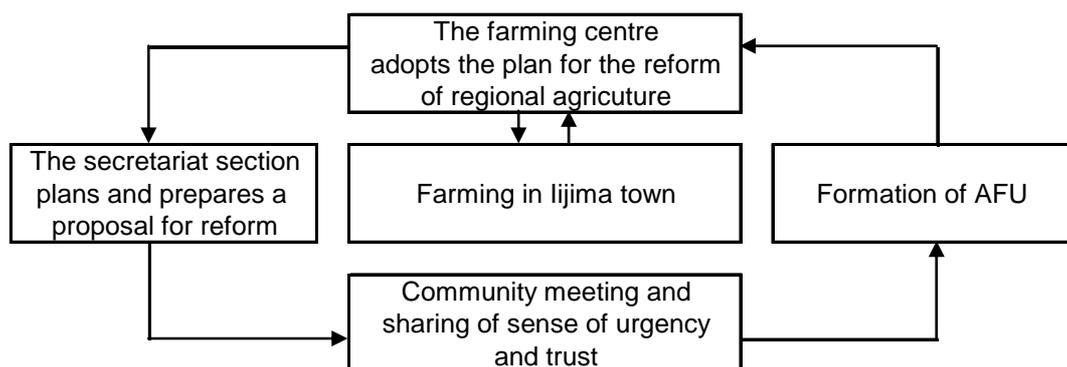
The transformation and modification of regional agriculture was carried out in the following steps. First, a farming centre was established to initiate and formulate the strategy for the reorganization of regional agriculture in Iijima. The town government and JA Kamiina, which were assigned the responsibility for agricultural planning, had not always shared the same vision and plan for regional agriculture; this sometimes caused confusion among farmers and resulted in them losing trust in both institutions. For this reason, the most important objective of the farming centre was to integrate the planning functions for regional agriculture. Thus, the farming centre emerged as a strategy-planning organization for regional agriculture which enabled the town government and JA Kamiina to

harmoniously carry out their regional agricultural activities. The second stage was to create a new framework for regional agricultural reform based on the early experience of JA Kamiina. The third stage was to create a practicable reform plan and the fourth stage was to implement the plan.

The creation of the Area Farming Unions and the agricultural producers co-operatives were the first steps undertaken, followed successively by plans for a pool system, zone based cultivation and land-holding rationalization. Iijima town expected that drawing up an overall plan as a package would consume a considerable amount of time; further, after its completion, the surrounding environment taken into account when formulating the plan would have changed significantly, thereby possibly ruining the effectiveness of the plan. For this reason, to ensure the effectiveness of the plan and to save time, Iijima town created the Area Farming Unions and the co-operatives only in the first stage.

Figure 1 shows the path followed in undertaking reform. The steps in this figure are elucidated in section five of this paper.

Figure 1. Working process for regional agricultural reform



5. Reform of regional agriculture in Iijima town

Iijima town comprises 35 natural villages (rural communities: *Nogyo Shuraku*) in four wards (*Kus*). Table I, lists the farming information for this town:

Table I. Basic farming information for Iijima town:

Name of the ward	Number of communities	Number of working group farming (GF) units	Number of communities with no GF units	Total number of farmers	Area of paddy fields (ha)	Percentage of farmers participating in AFU (%)
Iijima	14	6	2	162	223.5	96.9
Tagiri	6	3	2	281	103.3	94.3
Hongo	6	1		191	118.4	99
Nanakubo	9	3		448	171.3	93.8
Total	35	13	4	1398	616.5	95.6

Source: Report on the Long-Term Programme for Promotion of Agriculture in Iijima town [Iijima-machi Nogyo Sinko Choki Keikaku Chosa Hokokusho], Community Development Centre, Japan, 1987.

Prior to the introduction of organized regional agriculture, all communities apart from four were involved in group farming co-operatives⁴. A total of 13 group farming units were working in the four wards. One remarkable point of difference was the imbalance between the number of members in the groups; the smallest group included only six farmers, while the largest consisted of 151 farmers. Another problem was the inefficient use of machines and equipment. Initially, one set of farming equipment, which included a tractor, a rice planting machine, and a rice harvesting machine, was allotted to a group farming unit under the joint-use system. However, the development of the farming equipment's capabilities prompted a request for a broader scope for the use of the equipment, beyond the current (on-going) range of group farming. Contemporaneously, other group farming units did not have sufficient farmers who could manage the equipment since some had retired due to old age. This resulted in inefficient use of farming machines and equipment. A major contrast was observed in the use of tilling and harvesting machines. In the smallest group, the farming tractor was used to till only five hectares of land and the harvesting machine harvested only four ha of crop. On the other hand, in the largest group farming unit the working performances of the tractor and the harvester were 30 ha and 18 ha respectively. Therefore, the working performance of the community-based group farming units was considered inadequate. In other words, these big differences between group farming units were attributed to their actual work performance especially to their managerial capabilities. Consequently, in 1988, Iijima town decided to initiate regional agricultural reform. This reform involved the following processes.

i) Establishment of a farming centre

The farming centre comprised the following:

- a) General meeting committee: This is a decision-making body, responsible for strategy planning and for the execution and undertaking of the agenda for regional agriculture. The members of this committee comprise the representatives of the town council, the agricultural committee, farmers' organizations, the town branch office of the Kamiina Agricultural Cooperative, the prefectural office of the centre for agricultural

improvement and extension, consumers, the prefectural agricultural development corporation, and the town office. This committee has 60 members.

- b) Board of executives: Board members are elected from the general meeting committee. They are responsible for managerial activities in all the sections in the organization. They prepare and scrutinize the agenda for the general meeting. They are responsible for arranging regular general meetings.
- c) Special committees: Members of the general meeting committee are assigned to five special committees - the facilities and machine-use committee, the local life promotion committee, the farming activities planning committee, the farmland use committee, and the labour committee. They possess expertise in their respective fields.
- d) Secretariat: The secretariat office and the planning office are both in this division. The responsibility of the secretariat office is for the farming centre's general affairs and that of the planning office is to design a plan for regional agricultural reform. The members comprise representatives of the farming instructors of the Iijima branch office of the Kamiina Agricultural Cooperative, the town agricultural officers, and the prefectural agricultural extension officers.

The chief farming instructor of the Iijima branch office of JA Kamiina was appointed as the convenor and person in charge of the secretariat division. After assuming this position, he played the leading role in implementing reform. He evaluated Iijima town's future farming scenario based on the prior experience of JA Kamiina, which provided the framework for the regional agricultural plan. The framework was first presented to the planning team of the secretariat division. The convenor's ideas were shared with team members during the ensuing discussion. As shown in Figure 1, the reform proposal was generated in this section, after which it was examined and modified by each special committee and finally explained at a farming scenario for Iijima town at the farming centre's general meeting. The proposal was then introduced to the farmers in each community and ward and their active participation in the project was sought.

ii) Concepts in the proposal

At the community and ward meetings, the reform proposal was presented to the farmers as a new concept for farming cooperation. Its aim was to form a new farmers' organization – the area farming union (*Chiku Einou Kumiai*) – in each of the four wards to replace community-based group farming. At the time, however, the proposal was seen merely as providing information from the farming centre for the farmers. The essential features of the AFU are as follows:

- a) It is regarded as a subsystem of the farming centre and a practicable organization to carry out regional agricultural reform.
 1. Every AFU has an advisory committee which provides support and advice to the management. The committee acts for the secretariat section of the farming centre.

2. It is not mandatory for farmers to participate in the newly constituted AFUs. However, all farmers were requested to join an AFU, because improvements in land-use efficiency could not be achieved if a considerable number of farmers refrained from participation.

The AFUs were designed to carry out the following two principal activities:

- a) To inaugurate a new type of corporate farm in every ward to support regional agriculture and to recommend the setting up of three mushroom farms and a flower-growing greenhouse therein and to motivate the villagers to participate in these corporate farms and to work in the management and operation sections.
- b) To execute a land-holding rationalization programme to improve the efficiency of farmland use. In this programme, the AFUs were given responsibility for renting abandoned, convertible, and rentable farmlands from part-time and retired farmers and re-allocating such land to farmers to produce greater profit. Table II lists the total area of abandoned cultivated farmland and the number of farmers who had such farmland.

Table II. Abandoned farmland in Iijima town

Year	Abandoned cultivated land	
	Area (ha)	Number of concerned farmers
1985	6	53
1990	27	161
1995	22	103
2000	44	252

Source: Agricultural Censuses in Japan.

iii) Sharing an impending agricultural problem

At the first community meeting, the planning team explained the inefficiencies⁸ in current farming activities and the necessity for agricultural reform; it then showed the new development proposals to the farmers. However, many farmers did not see any necessity for agricultural reform and raised several questions regarding the plan. The farmers did not acknowledge the impending farming problems and discussed mainly the disadvantages of the proposed plan: to them, the plan appeared to be a socialistic adaptation, too drastic to achieve, etc. Some farmers went so far as to use harsh words to emphasize their dissent.

Table III shows the proportion of farmers who supported each of the two AFU proposals. The percentage of farmers interested in both the corporate farms establishment programme and the efficient farmland use programme were 18.6% and 32.9% respectively. Thus the majority of the farmers did not regard the proposals in a positive light.

Table III. Farmer interest in the two ventures associated with the proposed plan

Ward (<i>Ku</i>)	Percentage of the farmers who gave priority to	
	Corporate farms (%)	Efficient farmland use (%)
Iijima	16.2	30
Tagiri	20.1	32.5
Hongo	21.6	47.4
Nanakubo	19.1	30.6
Total	18.6	32.9

Source: Report on the Long Term-Programme for the Promotion of Agriculture in Iijima town [Iijima-machi Nogyo Sinko Choki Keikaku Chosa Hokokusho], Community Development Center, 1987.

At the time, 89.5% of the respondents were part-time farmers engaged in non-farming occupations, which provided the bulk of their income. The full-time farmers (approximately 10.5%) were more concerned with managing their own farms (in 1990). As a result farmers showed limited interest in the plan.

In response to this difficult situation, the planning team took two major actions to break this impasse. One was to establish a sense of urgency and the other was to foster the farmers' trust in the farming centre and its planning team. As the team's first step, instead of explaining the reform plan further, it requested each farmer to create his or her own vision for farming in the following ten years and to identify the family member who would lead the farming activities after his or her retirement. In this approach, the team members attempted to share a mental model with the farmers. The team concluded that the reform plan had not been understood by the farmers since their forecasts for regional agriculture were considerably different from that of the team members. At the time, few farmers did not have a positive forecast about their farming activities. However, through this process, the farmers realised that without reform in the near future, their farming situations might deteriorate. In creating their visions, some farmers could not identify a family member qualified to succeed. In reality, a number of farmers were on the verge of retirement; some had sons who were not interested in farming. In fact, since Japan became an industrial production-based economy the agricultural sector has increasingly failed to attract mass attention; only a small number of people become farmers after the retirement of the family head. In this case, the sharing of a concrete, ten-year vision made the farmers realise that without reform, regional agriculture would be poorly maintained. The exercise emphasized the sharing of a mental model and also led to the establishment of a sense of urgency.

After this, the team members endeavoured to explain the benefits and advantages of the farming centre's proposal, especially the efficiency of systematized regional agriculture. However, even then, the farmers did not support the reform plan proposed at the team meeting. The convener and his team were again required to respond to the farmers' queries. Therefore, after the meeting, the planning team held a discussion to prepare lucid replies to

the farmers' questions. It summarized and enumerated all of the farmers' questions and opinions in a few pages called the answer sheet; they used the farmers' exact words from the previous meeting, such as big wrapper (*furoshiki*), socialistic or too drastic. They then distributed these answer sheets to the farmers and discussed them again at subsequent meetings held at short intervals.

The distribution of the answer sheets induced two major changes in the farmers' mindsets. First, each farmer's reliance on the farming centre increased. After perusing the summarized answer sheets, the farmers realised that the farming centre had paid attention to their concerns and had responded to the issues discussed at the previous meeting. Second, it offered the farmers an opportunity to learn of the circumstances in Hongo ward, where farmers had been challenged to systematize their farming, and to recognize the inefficiencies in their farming techniques. In other words, the farmers began to understand the necessity for undertaking agricultural reform to avoid the worst-case scenario. Thus, in this stage, the proposed reform plan was transformed from simple information into knowledge; as a result, the farmers' feelings changed and they showed interest in the farming centre's strategic reform plan.

The concept of regional agriculture, born in the community and the ward, implies farming activities that focus on the conditions necessary for essential changes that can be achieved through systematic reform. It will ensure the elimination of all farming waste and simultaneously ensure optimal land cultivation and the efficient use of farmland and farming equipment. Such regional agriculture will require considerable change in management by farm households.

iv) Combining ideas for management

Thus, a change could be observed in the farmers' attitude toward regional agriculture - from negative to positive - signifying that the trust building initiative had inspired confidence in the proposal. Subsequently, to develop alternatives to their current farming practices, the farmers joined the discussion to formulate a practicable plan to systematize regional agriculture. A community leader's meeting was held, where they put forward ideas for a practicable regional agricultural plan. The plan was formulated by combining the proposals of the planning team with the farmers' on-site brainstorming. The combined⁷ plan was based mainly on the following:

- a) Recommendations of the managerial staff, such as the AFU directors
- b) Preparation of the AFU models

First, the recommendations to union directors by the farmers came up for discussion; this encouraged farmers to exchange their know-how based on their own convictions and experiences. Second, group farming units in each community were advised to merge with the AFU and carry out their usual activities. In addition, it was perceived that there was an over-investment in agricultural machinery and equipment allotted to each community-based

group farming unit. For this reason, some equipment was purchased by the AFUs and used for organized regional agriculture, and the rest sold in the second-hand market. Third, the term of the union directors was extended to two years from one year, as the latter was considered to be inadequate to obtain sufficient managerial experience of organizational development.

As a consequence of the first community meeting, held in September 1988, organizational reform was inaugurated in December of the same year. Subsequently, the various reforms outlined above were implemented through the AFUs under the leadership of the farming centre.

6. Change management in Iijima town

The process of change management in regional agriculture is depicted in a flow chart (Figure 2). In the first stage, discussions were held on the likely deterioration in farming if regional agricultural reform were not achieved soon. The farmers shared a common farming predicament; this was presented as a mental model to the farmers. At the same time, the farmers understood the necessity for solving the problems. This sharing of a sense of urgency among the farmers led to their growing interest in participating in reform. In the second stage, mutual trust was developed between the farming centre and the farmers, since the latter could perceive that the farming centre had listened to their concerns regarding reform. In the third stage, the farming centre showed the reform plan to the farmers, explained the radical farming system adjustment it proposed and asked for the farmers' participation in the reform activity. In this case, communication was achieved through the sharing of a sense of urgency among the farmers. In the fourth stage, the farmers' ideas and brainstorming were combined with the planning team's proposal to create a practicable plan that enhanced the functioning of the planning team.

Figure 2. Stages of the process of change-management in regional agricultural reform

Phase 1		Phase 2	
Stage 1	Stage 2	Stage 3	Stage 4
Sharing a sense of urgency	Trust building	Sharing of vision	Combination of ideas
Sharing of mental model	Building a mutual trust relationship	Sharing of visions for regional agriculture	Combination of the proposed plan with the farmers' opinions
1. Identification of farming uncertainties 2. Problem-finding in Iijima town.	1. Fostering of the farmers' trust. 3. Transformation of the farmers' attitude from negative to positive. 2. Fostering of their concern.	1. Drastic alteration of the farming activities. 2. Encouragement of farmers to participate in reform.	1. Formulation of a practicable plan. 2. Promoting communication. 3. Inauguration of AFUs and corporate farms in the four wards.

7. Conclusion

In agricultural reform, the participants are farmers who have no initial obligation to reform; thus, motivating them to participate actively is vital. However, it is difficult to do this by using only explanation or persuasion; from this case study, it is concluded that change management is more effective. In our case study, the effective methods for change management were as follows:

1. Creating a sense of urgency: Since the management situation of each farm is different, it is important to create a sense of urgency by encouraging farmers to discover their problems for themselves. In Iijima town, a sense of urgency was generated by requesting farmers to create their own farming visions.
2. Attracting concern: Iijima town set a rather high target for reform, which the farmers considered to be quite drastic believing that it would considerably influence their farming. The reform plan raised many concerns with farmers in Iijima town; however, many regions chose reform plans that could be resolved with little opposition from farmers.
3. Establishing a simple vision and strategy: In many regions an overall reform plan was drawn up as a package and subsequently implemented. However, this method was not adopted in Iijima town since the town expected that the plan's implementation would consume a considerable amount of time; further, after its completion, the surrounding environment taken into account when formulating the plan would have changed significantly, thereby possibly limiting the effectiveness of the plan. For this reason, Iijima town prepared and proposed plans to farmers, and presented these plans in succession.
4. Building trust: Farmers do not participate in reform if they do not strongly believe in it; this is because it is the farmers themselves who bear the risk in any reform. Iijima town succeeded in building trust among farmers by paying careful attention to all opinions, even to minority opinions and responding to every comment and question put forth by the farmers.
5. Strengthening the leading team: Initially, the planning team was established as the team leading the reform. However, after some ideas proposed by farmers were incorporated into the reform plan, those farmers or others who agreed with them joined the leading team and helped in communicating the plan to other farmers.

Based on change management, the farmers' active participation in the systematization of the regional agriculture was achieved. In conclusion, the above discussion has clarified the process for realising unique and committed regional agricultural reform.

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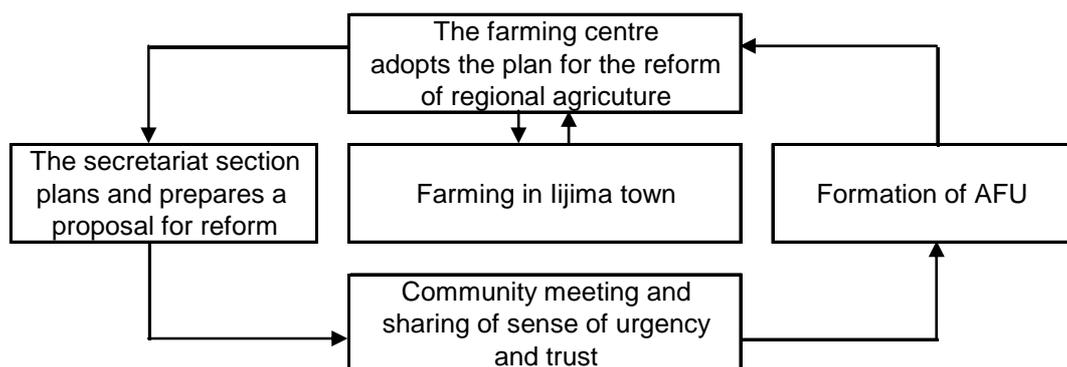
The transformation and modification of regional agriculture was carried out in the following steps. First, a farming centre was established to initiate and formulate the strategy for the reorganization of regional agriculture in Iijima. The town government and JA Kamiina, which were assigned the responsibility for agricultural planning, had not always shared the same vision and plan for regional agriculture; this sometimes caused confusion among farmers and resulted in them losing trust in both institutions. For this reason, the most important objective of the farming centre was to integrate the planning functions for regional agriculture. Thus, the farming centre emerged as a strategy-planning organization for regional agriculture which enabled the town government and JA Kamiina to

harmoniously carry out their regional agricultural activities. The second stage was to create a new framework for regional agricultural reform based on the early experience of JA Kamiina. The third stage was to create a practicable reform plan and the fourth stage was to implement the plan.

The creation of the Area Farming Unions and the agricultural producers co-operatives were the first steps undertaken, followed successively by plans for a pool system, zone based cultivation and land-holding rationalization. Iijima town expected that drawing up an overall plan as a package would consume a considerable amount of time; further, after its completion, the surrounding environment taken into account when formulating the plan would have changed significantly, thereby possibly ruining the effectiveness of the plan. For this reason, to ensure the effectiveness of the plan and to save time, Iijima town created the Area Farming Unions and the co-operatives only in the first stage.

Figure 1 shows the path followed in undertaking reform. The steps in this figure are elucidated in section five of this paper.

Figure 1. Working process for regional agricultural reform



5. Reform of regional agriculture in Iijima town

Iijima town comprises 35 natural villages (rural communities: *Nogyo Shuraku*) in four wards (*Kus*). Table I, lists the farming information for this town:

Table I. Basic farming information for Iijima town:

Name of the ward	Number of communities	Number of working group farming (GF) units	Number of communities with no GF units	Total number of farmers	Area of paddy fields (ha)	Percentage of farmers participating in AFU (%)
Iijima	14	6	2	162	223.5	96.9
Tagiri	6	3	2	281	103.3	94.3
Hongo	6	1		191	118.4	99
Nanakubo	9	3		448	171.3	93.8
Total	35	13	4	1398	616.5	95.6

Source: Report on the Long-Term Programme for Promotion of Agriculture in Iijima town [Iijima-machi Nogyo Sinko Choki Keikaku Chosa Hokokusho], Community Development Centre, Japan, 1987.

Prior to the introduction of organized regional agriculture, all communities apart from four were involved in group farming co-operatives⁴. A total of 13 group farming units were working in the four wards. One remarkable point of difference was the imbalance between the number of members in the groups; the smallest group included only six farmers, while the largest consisted of 151 farmers. Another problem was the inefficient use of machines and equipment. Initially, one set of farming equipment, which included a tractor, a rice planting machine, and a rice harvesting machine, was allotted to a group farming unit under the joint-use system. However, the development of the farming equipment's capabilities prompted a request for a broader scope for the use of the equipment, beyond the current (on-going) range of group farming. Contemporaneously, other group farming units did not have sufficient farmers who could manage the equipment since some had retired due to old age. This resulted in inefficient use of farming machines and equipment. A major contrast was observed in the use of tilling and harvesting machines. In the smallest group, the farming tractor was used to till only five hectares of land and the harvesting machine harvested only four ha of crop. On the other hand, in the largest group farming unit the working performances of the tractor and the harvester were 30 ha and 18 ha respectively. Therefore, the working performance of the community-based group farming units was considered inadequate. In other words, these big differences between group farming units were attributed to their actual work performance especially to their managerial capabilities. Consequently, in 1988, Iijima town decided to initiate regional agricultural reform. This reform involved the following processes.

i) Establishment of a farming centre

The farming centre comprised the following:

- a) General meeting committee: This is a decision-making body, responsible for strategy planning and for the execution and undertaking of the agenda for regional agriculture. The members of this committee comprise the representatives of the town council, the agricultural committee, farmers' organizations, the town branch office of the Kamiina Agricultural Cooperative, the prefectural office of the centre for agricultural

improvement and extension, consumers, the prefectural agricultural development corporation, and the town office. This committee has 60 members.

- b) Board of executives: Board members are elected from the general meeting committee. They are responsible for managerial activities in all the sections in the organization. They prepare and scrutinize the agenda for the general meeting. They are responsible for arranging regular general meetings.
- c) Special committees: Members of the general meeting committee are assigned to five special committees - the facilities and machine-use committee, the local life promotion committee, the farming activities planning committee, the farmland use committee, and the labour committee. They possess expertise in their respective fields.
- d) Secretariat: The secretariat office and the planning office are both in this division. The responsibility of the secretariat office is for the farming centre's general affairs and that of the planning office is to design a plan for regional agricultural reform. The members comprise representatives of the farming instructors of the Iijima branch office of the Kamiina Agricultural Cooperative, the town agricultural officers, and the prefectural agricultural extension officers.

The chief farming instructor of the Iijima branch office of JA Kamiina was appointed as the convenor and person in charge of the secretariat division. After assuming this position, he played the leading role in implementing reform. He evaluated Iijima town's future farming scenario based on the prior experience of JA Kamiina, which provided the framework for the regional agricultural plan. The framework was first presented to the planning team of the secretariat division. The convenor's ideas were shared with team members during the ensuing discussion. As shown in Figure 1, the reform proposal was generated in this section, after which it was examined and modified by each special committee and finally explained at a farming scenario for Iijima town at the farming centre's general meeting. The proposal was then introduced to the farmers in each community and ward and their active participation in the project was sought.

ii) Concepts in the proposal

At the community and ward meetings, the reform proposal was presented to the farmers as a new concept for farming cooperation. Its aim was to form a new farmers' organization – the area farming union (*Chiku Einou Kumiai*) – in each of the four wards to replace community-based group farming. At the time, however, the proposal was seen merely as providing information from the farming centre for the farmers. The essential features of the AFU are as follows:

- a) It is regarded as a subsystem of the farming centre and a practicable organization to carry out regional agricultural reform.
 1. Every AFU has an advisory committee which provides support and advice to the management. The committee acts for the secretariat section of the farming centre.

2. It is not mandatory for farmers to participate in the newly constituted AFUs. However, all farmers were requested to join an AFU, because improvements in land-use efficiency could not be achieved if a considerable number of farmers refrained from participation.

The AFUs were designed to carry out the following two principal activities:

- a) To inaugurate a new type of corporate farm in every ward to support regional agriculture and to recommend the setting up of three mushroom farms and a flower-growing greenhouse therein and to motivate the villagers to participate in these corporate farms and to work in the management and operation sections.
- b) To execute a land-holding rationalization programme to improve the efficiency of farmland use. In this programme, the AFUs were given responsibility for renting abandoned, convertible, and rentable farmlands from part-time and retired farmers and re-allocating such land to farmers to produce greater profit. Table II lists the total area of abandoned cultivated farmland and the number of farmers who had such farmland.

Table II. Abandoned farmland in Iijima town

Year	Abandoned cultivated land	
	Area (ha)	Number of concerned farmers
1985	6	53
1990	27	161
1995	22	103
2000	44	252

Source: Agricultural Censuses in Japan.

iii) Sharing an impending agricultural problem

At the first community meeting, the planning team explained the inefficiencies⁸ in current farming activities and the necessity for agricultural reform; it then showed the new development proposals to the farmers. However, many farmers did not see any necessity for agricultural reform and raised several questions regarding the plan. The farmers did not acknowledge the impending farming problems and discussed mainly the disadvantages of the proposed plan: to them, the plan appeared to be a socialistic adaptation, too drastic to achieve, etc. Some farmers went so far as to use harsh words to emphasize their dissent.

Table III shows the proportion of farmers who supported each of the two AFU proposals. The percentage of farmers interested in both the corporate farms establishment programme and the efficient farmland use programme were 18.6% and 32.9% respectively. Thus the majority of the farmers did not regard the proposals in a positive light.

Table III. Farmer interest in the two ventures associated with the proposed plan

Ward (<i>Ku</i>)	Percentage of the farmers who gave priority to	
	Corporate farms (%)	Efficient farmland use (%)
Iijima	16.2	30
Tagiri	20.1	32.5
Hongo	21.6	47.4
Nanakubo	19.1	30.6
Total	18.6	32.9

Source: Report on the Long Term-Programme for the Promotion of Agriculture in Iijima town [Iijima-machi Nogyo Sinko Choki Keikaku Chosa Hokokusho], Community Development Center, 1987.

At the time, 89.5% of the respondents were part-time farmers engaged in non-farming occupations, which provided the bulk of their income. The full-time farmers (approximately 10.5%) were more concerned with managing their own farms (in 1990). As a result farmers showed limited interest in the plan.

In response to this difficult situation, the planning team took two major actions to break this impasse. One was to establish a sense of urgency and the other was to foster the farmers' trust in the farming centre and its planning team. As the team's first step, instead of explaining the reform plan further, it requested each farmer to create his or her own vision for farming in the following ten years and to identify the family member who would lead the farming activities after his or her retirement. In this approach, the team members attempted to share a mental model with the farmers. The team concluded that the reform plan had not been understood by the farmers since their forecasts for regional agriculture were considerably different from that of the team members. At the time, few farmers did not have a positive forecast about their farming activities. However, through this process, the farmers realised that without reform in the near future, their farming situations might deteriorate. In creating their visions, some farmers could not identify a family member qualified to succeed. In reality, a number of farmers were on the verge of retirement; some had sons who were not interested in farming. In fact, since Japan became an industrial production-based economy the agricultural sector has increasingly failed to attract mass attention; only a small number of people become farmers after the retirement of the family head. In this case, the sharing of a concrete, ten-year vision made the farmers realise that without reform, regional agriculture would be poorly maintained. The exercise emphasized the sharing of a mental model and also led to the establishment of a sense of urgency.

After this, the team members endeavoured to explain the benefits and advantages of the farming centre's proposal, especially the efficiency of systematized regional agriculture. However, even then, the farmers did not support the reform plan proposed at the team meeting. The convener and his team were again required to respond to the farmers' queries. Therefore, after the meeting, the planning team held a discussion to prepare lucid replies to

the farmers' questions. It summarized and enumerated all of the farmers' questions and opinions in a few pages called the answer sheet; they used the farmers' exact words from the previous meeting, such as big wrapper (*furoshiki*), socialistic or too drastic. They then distributed these answer sheets to the farmers and discussed them again at subsequent meetings held at short intervals.

The distribution of the answer sheets induced two major changes in the farmers' mindsets. First, each farmer's reliance on the farming centre increased. After perusing the summarized answer sheets, the farmers realised that the farming centre had paid attention to their concerns and had responded to the issues discussed at the previous meeting. Second, it offered the farmers an opportunity to learn of the circumstances in Hongo ward, where farmers had been challenged to systematize their farming, and to recognize the inefficiencies in their farming techniques. In other words, the farmers began to understand the necessity for undertaking agricultural reform to avoid the worst-case scenario. Thus, in this stage, the proposed reform plan was transformed from simple information into knowledge; as a result, the farmers' feelings changed and they showed interest in the farming centre's strategic reform plan.

The concept of regional agriculture, born in the community and the ward, implies farming activities that focus on the conditions necessary for essential changes that can be achieved through systematic reform. It will ensure the elimination of all farming waste and simultaneously ensure optimal land cultivation and the efficient use of farmland and farming equipment. Such regional agriculture will require considerable change in management by farm households.

iv) Combining ideas for management

Thus, a change could be observed in the farmers' attitude toward regional agriculture - from negative to positive - signifying that the trust building initiative had inspired confidence in the proposal. Subsequently, to develop alternatives to their current farming practices, the farmers joined the discussion to formulate a practicable plan to systematize regional agriculture. A community leader's meeting was held, where they put forward ideas for a practicable regional agricultural plan. The plan was formulated by combining the proposals of the planning team with the farmers' on-site brainstorming. The combined⁷ plan was based mainly on the following:

- a) Recommendations of the managerial staff, such as the AFU directors
- b) Preparation of the AFU models

First, the recommendations to union directors by the farmers came up for discussion; this encouraged farmers to exchange their know-how based on their own convictions and experiences. Second, group farming units in each community were advised to merge with the AFU and carry out their usual activities. In addition, it was perceived that there was an over-investment in agricultural machinery and equipment allotted to each community-based

group farming unit. For this reason, some equipment was purchased by the AFUs and used for organized regional agriculture, and the rest sold in the second-hand market. Third, the term of the union directors was extended to two years from one year, as the latter was considered to be inadequate to obtain sufficient managerial experience of organizational development.

As a consequence of the first community meeting, held in September 1988, organizational reform was inaugurated in December of the same year. Subsequently, the various reforms outlined above were implemented through the AFUs under the leadership of the farming centre.

6. Change management in Iijima town

The process of change management in regional agriculture is depicted in a flow chart (Figure 2). In the first stage, discussions were held on the likely deterioration in farming if regional agricultural reform were not achieved soon. The farmers shared a common farming predicament; this was presented as a mental model to the farmers. At the same time, the farmers understood the necessity for solving the problems. This sharing of a sense of urgency among the farmers led to their growing interest in participating in reform. In the second stage, mutual trust was developed between the farming centre and the farmers, since the latter could perceive that the farming centre had listened to their concerns regarding reform. In the third stage, the farming centre showed the reform plan to the farmers, explained the radical farming system adjustment it proposed and asked for the farmers' participation in the reform activity. In this case, communication was achieved through the sharing of a sense of urgency among the farmers. In the fourth stage, the farmers' ideas and brainstorming were combined with the planning team's proposal to create a practicable plan that enhanced the functioning of the planning team.

Figure 2. Stages of the process of change-management in regional agricultural reform

Phase 1		Phase 2	
Stage 1	Stage 2	Stage 3	Stage 4
Sharing a sense of urgency	Trust building	Sharing of vision	Combination of ideas
Sharing of mental model	Building a mutual trust relationship	Sharing of visions for regional agriculture	Combination of the proposed plan with the farmers' opinions
1. Identification of farming uncertainties 2. Problem-finding in Iijima town.	1. Fostering of the farmers' trust. 3. Transformation of the farmers' attitude from negative to positive. 2. Fostering of their concern.	1. Drastic alteration of the farming activities. 2. Encouragement of farmers to participate in reform.	1. Formulation of a practicable plan. 2. Promoting communication. 3. Inauguration of AFUs and corporate farms in the four wards.

7. Conclusion

In agricultural reform, the participants are farmers who have no initial obligation to reform; thus, motivating them to participate actively is vital. However, it is difficult to do this by using only explanation or persuasion; from this case study, it is concluded that change management is more effective. In our case study, the effective methods for change management were as follows:

1. Creating a sense of urgency: Since the management situation of each farm is different, it is important to create a sense of urgency by encouraging farmers to discover their problems for themselves. In Iijima town, a sense of urgency was generated by requesting farmers to create their own farming visions.
2. Attracting concern: Iijima town set a rather high target for reform, which the farmers considered to be quite drastic believing that it would considerably influence their farming. The reform plan raised many concerns with farmers in Iijima town; however, many regions chose reform plans that could be resolved with little opposition from farmers.
3. Establishing a simple vision and strategy: In many regions an overall reform plan was drawn up as a package and subsequently implemented. However, this method was not adopted in Iijima town since the town expected that the plan's implementation would consume a considerable amount of time; further, after its completion, the surrounding environment taken into account when formulating the plan would have changed significantly, thereby possibly limiting the effectiveness of the plan. For this reason, Iijima town prepared and proposed plans to farmers, and presented these plans in succession.
4. Building trust: Farmers do not participate in reform if they do not strongly believe in it; this is because it is the farmers themselves who bear the risk in any reform. Iijima town succeeded in building trust among farmers by paying careful attention to all opinions, even to minority opinions and responding to every comment and question put forth by the farmers.
5. Strengthening the leading team: Initially, the planning team was established as the team leading the reform. However, after some ideas proposed by farmers were incorporated into the reform plan, those farmers or others who agreed with them joined the leading team and helped in communicating the plan to other farmers.

Based on change management, the farmers' active participation in the systematization of the regional agriculture was achieved. In conclusion, the above discussion has clarified the process for realising unique and committed regional agricultural reform.

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