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Federal Democratic Republic of Nepal

Ex-Post Evaluation of Japanese Technical Cooperation Project

“Agricultural Training and Extension Improvement Project”

External Evaluator: Saori Fujimoto, Tekizai Tekisho Organization

0. Summary

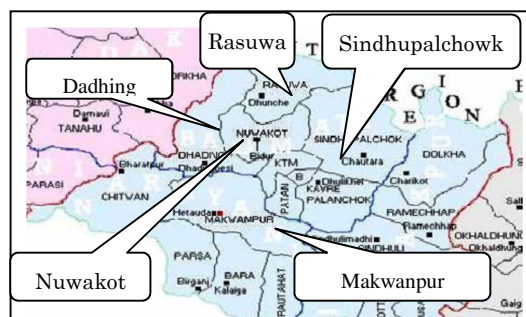
This Project was implemented with the aim of improving Nepal's agricultural extension service by introducing new extension systems, such as Agricultural Development Committee (ADC) and Training and Demonstrations farms (T/D farms) and working to strengthen the capacity of the Junior Technician/ Junior Technical Assistant (JT/JTA) and District Agricultural Development Office (DADO) officers responsible for agricultural extension so that these systems could be executed smoothly. This Project was consistent with Nepal's development policy, development needs and Japan's aid policy. Therefore, relevance was high. The Project input were provided according to plan, and completed during the Project period, so efficiency was also high. The output and Project objective had been generally achieved when the Project was completed. However, the approaches introduced by the Project were not continued after the Project, and efforts to extend and expand them in other areas have been limited overall, with the exception of some areas. Accordingly, the effectiveness and impact were fair. The Project output is being continued at the level of individual farmers, as indicated by improvements in agricultural extension services. Farmers' activities and agricultural productivity, even after the Project attributable to the approaches introduced, as well as extension activities, were carried out by farmers' groups themselves. However at the level of the implementing agency, the approaches introduced by the Project were not incorporated in the agency, there were no specific implementation strategies, and no budget provisions were taken. Thus, sustainability is low.

In light of the above, this project is evaluated to be partially satisfactory.

1. Project Description



(Project Locations)



(Target districts/ Central region)



(Extension model farmer's farm in Dadhing district)

1.1 Background

About 66% of Nepal's actual working-age population (over the age of 10) is engaged in agriculture, and the agriculture sector accounts for about 40% of the country's GDP. This means that revitalizing agriculture is essential if poverty is to be reduced. However, Nepal's diverse topography, ranging from a mountain region encompassing the Himalayan hinterland and lowland plains, or Terai, bordering India, effectively disperses its population, while at the same time infrastructure such as roads and irrigation systems are woefully inadequate. The absolute number of extension workers is also limited, which has restricted support for farmers. Moreover, since the DADO officers that carry out the extension work and the JT/JTA working underneath them are not able to adequately respond to the technical needs of the farmers, it has been reported that farmers' satisfaction with the extension workers is quite low.

Given this background, in the Agricultural Research and Extension Project, conducted with support from the World Bank, the Nepalese government promoted on-site experiments and research incorporating farmers' needs in the Experiment and Research Division, carried out the organizational reforms needed for such experiments and research, and improved systems through decentralization of agricultural extension in the Extension Division. At the same time, the Nepalese government requested technical cooperation from the Japanese government in 2000 with the primary goal of improving the skills of extension workers so that they could meet the needs of local farmers. In response to this request, the Japan International Cooperation Agency (JICA) carried out ex-ante evaluations on three occasions between 2002 and 2003, and in November 2003 Nepal's Ministry of Agriculture and Cooperatives (MOAC) and Department of Agriculture (DOA), as the implementing agencies, signed the Record of Discussion (R/D) for the Agricultural Training and Extension Improvement Project (ATEIP). This technical project was intended to improve agricultural training and extension services in the Project districts so that they were more practical and better met farmers' needs. The project began the following year, on January 9, 2004, for a period of 5 years.

1.2 Project Outline

Overall Goal		<ul style="list-style-type: none"> Farmers' farming activities are improved in the Project districts. Improved agriculture service delivery system is replicated to other areas inside and outside the Project districts.
Project Objective		<p>Agriculture service delivery system is improved in the Project districts through training and extension.</p> <p>(Delivery system involves agriculture technology, group organization, facilitation, M&E, documentation, coordination, etc.)</p>
Outputs	1	Practical training is imparted to extension workers and farmers.
	2	Farmers' need-based extension services are delivered.
	3	Activities of different service providers in agriculture development are coordinated/ facilitated.
Inputs		<p>Japanese Side:</p> <ol style="list-style-type: none"> Experts 28 in total 4 for long-term, 24 for short-term 16 Trainees received (16 for Counterpart training in Japan) 68 Trainees for Third-Country Training Programs (62 for India, 6 for the Philippines) Equipment 23,000,000 yen Local Cost 405,015 US dollars Others (inc. dispatch of related missions) Mid-term Review Mission in September, 2006 <p>Nepalese Side:</p> <ol style="list-style-type: none"> 15 Counterparts, DADO officers and JT/JTAs Land and Facilities, Project Office, Utilities Local Cost, Counterpart Salary, Seminars 21,108,000 NRs
Total cost		368,000,000 yen
Period of Cooperation		January, 2004 – January, 2009
Implementing agency		Ministry of Agriculture and Cooperatives (MOAC) ¹ Department of Agriculture (DOA)
Cooperation Agency in Japan		Ministry of Agriculture, Forestry and Fisheries
Related Project		Agricultural Research and Extension Project (World Bank)

¹ MOAC was reorganized as the Ministry of Agricultural Development in 2012

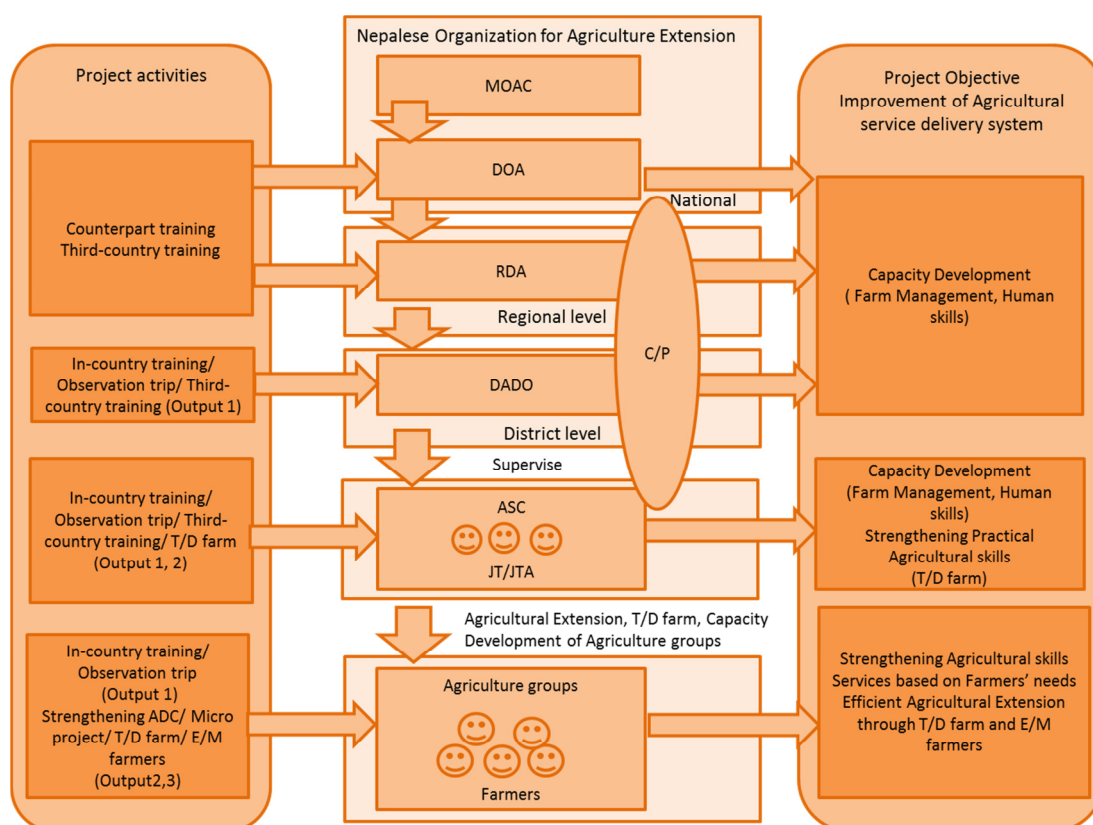


Figure 1: Project activity

Source: Prepared by the evaluator based on JICA-provided materials

1.3 Outline of the Terminal Evaluation

1.3.1 Achievement of Overall Goal

When the terminal evaluation was carried out, the Project output had not been reflected in agricultural productivity at the district level; only some cases of improvements in farmers' agricultural activities had been confirmed in part in interviews and observations. In addition, a T/D farm internalization committee had been set up on the Nepal side to facilitate the transfer to the new extension system introduced in the Project, including budgetary provisions. Preparations went ahead for the Nepal side to implement and run the T/D Farms, and as of the terminal evaluation, DADO had requested budgets to continue T/D Farm activities in the Project's 5 districts. There were also plans to continue such activities even after the Project was completed. Although a budget had not been provided for the expansion of T/D farm activities to districts other than the 5 target districts as of the terminal evaluation, the 5 districts that had made the request as of the terminal evaluation had received funding, and if the T/D Farm activities continue effectively, there is a good chance that such activities would be incorporated in other districts as well.

1.3.2 Achievement of Project objective

The Project objective had been achieved as of the terminal evaluation. According to the results of interviews² conducted at the time of the terminal evaluation, more than 85% of the farmers able to access the Project activities were satisfied with the agriculture training and extension activities provided and recognized improvements. Many farmers were able to exchange information with extension workers in a close relationship through Project activities, and responded that they had received useful information on superior crop varieties, soil improvement, fertilizers and DADO programs. Accordingly, the Project Objective can be deemed to have been generally achieved.

1.3.3 Recommendations

The main recommendations for the Project and the steps taken to address them are described as below.

Short-term issues to be addressed during remaining Project period	
Recommendation	Steps taken to address situation (at Project completion stage)
Achievement of indicators	The output and project objective have generally been achieved (the achievement of the individual indicators is described below in the section on effectiveness).
Activities in which ADCs and Extension Model farmers (E/M farmers) share what they have learned with local farmers should continue to be implemented.	E/M farmers and T/D farmers share information at monthly ADC meetings and monthly meetings at the Agriculture Service Centre (ASC), and also provide technical support at the request of small-scale agricultural groups and neighboring farmers.
DADO should be encouraged to register ADCs officially to ensure the institutional sustainability of ADC activities.	DADO had registered 12 ADC by the time the Project was completed.
Extension workers should retain know-how so that they are able to continually strengthen the capacity of ADCs.	Activities, including ADC guidance, are reported in the JT/JTA monthly reports, but no particular steps were taken to ensure that know-how is retained when providing ADC guidance.
The Project's output should be proactively publicized and deliverables such as texts, educational materials and good practices should be documented and distributed.	Workshops to share Project output were held 3 times during the Project period, and Project deliverables (training manuals and introductions to good practices, among others) were distributed to relevant organizations and publicized.

² Interviews using questionnaires and group interviews (targets: Japanese experts, C/P, DADO officers in the 5 districts targeted in the Project, JT/JTA, more than 100 farmers)

Medium- and long-term issues after Project completion	
Recommendation	Steps taken to address situation (as of terminal evaluation)
A budget from the Nepalese government's general account should be secured.	A budget for operating ADCs and T/D Farms and extending them to other areas has not been secured.
Appropriate evaluations of extension workers' activities should be conducted and reflected in human resources, appropriate allowances and travel costs should be paid, mechanisms to improve incentives for extension workers should be considered, and changing the JT/JTA title should be considered.	Evaluations of extension workers are conducted once a year, and evaluation standards are set, but the results are not used except for promotions. Payment of allowances and travel costs has not improved, and allowances and travel costs are not paid for activities in assigned areas. Not only MOAC can make decisions about systems to boost incentives, and there has not been any progress in considering this issue since this would require accommodation from the Ministry of Finance and other government agencies. There has not been any discussion of changing the JT/JTA title.
T/D Farm activities should be continued in the 5 districts and carried out in other districts.	T/D Farm activities have not been continued in the 5 target districts, nor are they implemented in other districts.
JT/JTA should facilitate activities in which farmers take the lead, such as the ADCs' micro projects.	As of the ex-post evaluation, the ADCs were continuing activities by the farmers. Of the 86 JT/JTA who had been assigned to the target districts when the mid-term evaluation and terminal evaluations were carried out, 18 JT/JTA were still working in the districts as of the ex-post evaluation (including JT/JTA who had been moved among the target districts). Of the 90 JT/JTA working in the target districts as of the ex-post evaluation, 18 had experience with Project activities and 72 had been newly appointed. As such, many of the JT/JTA who had supported ADC activities during the Project implementation period had been transferred, and the newly appointed JT/JTA did not have the experience and knowledge needed to promote activities led by farmers.
This Project's output (curriculum, training content, etc.) should be incorporated in regular training of JT/JTA and	There are no cases in which the output has been incorporated in the curriculum for agricultural schools,

the curriculum for agricultural schools, and the Project output should be utilized on an ongoing basis.	but it is used in part. For example, instructors in training targeting JT/JTA and agricultural schools refer to the training reports and curriculum regarding farm management and organization reinforcement prepared by the Project.
Output should be extended to areas other than the target areas utilizing the In-country Training of Agricultural Extension Workers program	In-country training on human skills and farm management was carried out in 2009 and 2010, and 73 people at the officer level, including DADO officers, and 170 JT/JTA participated. As regards extension to areas other than the target districts, after in-country training was held, human skill training was held once at the regional agricultural training center in the eastern region.
Documents prepared and distributed in the Project should be revised and used as regular publications by the Nepalese government.	Deliverables introducing Project activities and progress made (T/D farm activities report, training reports, videos introducing activities, etc.) were distributed to relevant organizations such as MOAC, DOA, DADO and NARC (National Agriculture Research Council), but we were not able to confirm cases in which the Nepalese government used it as a regular publication.

2. Outline of the Evaluation Study

2.1 External Evaluator

Saori Fujimoto (Tekizai Tekisho Organization)

2.2 Duration of Evaluation Study

Duration of the Study: January – July 2012

Duration of the Field Study: March 4-24, 2012, July 1-7, 2012

2.3 Constraints during the Evaluation Study

None in particular

3. Results of the Evaluation (Overall Rating: C³)

3.1 Relevance (Rating: ③⁴)

3 A: "Highly satisfactory," B: "Satisfactory," C: "Partially satisfactory," D: "Unsatisfactory"

4 ③: "High," ②: "Fair," ①: "Low"

3.1.1 Relevance with the Development Plan of Nepal

“The Agriculture Perspective Plan (1995-2015)” and “National Agriculture Policy” were in effect from the Project’s start until it was completed, “the Tenth Five-Year Plan (2002-2007)” and “the subsequent Three-Year Interim Plan (July 2006 – October 2009)” and “the Three-Year Plan (October 2009- 2012/2013)” specified the importance of promoting growth in the agricultural sector to improve agricultural productivity, reducing poverty and creating jobs through growth in this sector, and diversifying agriculture with the introduction of high value-added agricultural products. Agricultural technology suited to farmers’ needs and effective extension were recommended as one means of achieving these goals. In 2007, “the National Agriculture Extension Strategy” was introduced, and improving the capacity of JT/JTA was deemed essential in improving agricultural capacity. Accordingly, the Project was consistent with the Nepalese government’s policies during the Project implementation.

3.1.2 Relevance with the Development Needs of Nepal

This Project helped to improve Nepal’s agricultural extension services by introducing new extension systems such as ADC and T/D farms and reinforcing the capacity of the JT/JTA and DADO officers responsible for agricultural extension in order to ensure that these systems were implemented smoothly. This was consistent with the development needs of Nepal, which has issues with the quality and efficiency of extension workers’ agricultural extension services as well as inadequate capacity on the part of the extension workers. The Nepalese government’s existing policy documents on agricultural extension did not specify the priority strategies and approaches for strengthening agricultural extension and reinforcing extension workers’ skills or the specific support measures, and as a result the needs for individual extension approaches (ADC, T/D farms) could not be confirmed. According to the implementing agency, the insufficient skills of the JT/JTA had previously been recognized as a problem, and the farmers’ groups do not have sufficient capacity to develop extension activities themselves, so the Project’s approach was generally consistent with needs. 3 ex-ante surveys were carried out during the Project. The Project’s objective was to improve agricultural training and extension services to make them more practical and more closely tailored to farmers’ needs, and activities to achieve these objectives included (1) carrying out technical training of extension workers and model farmers suited to their needs, (2) teaching the extension workers and model farmers who received technical training about participatory planning and extension methods to be used with farmers’ groups so that they can carry out effective demonstrations at farms, and (3) giving DADO officers supervising the aforementioned activities in (1) and (2) at the district level training in agricultural development planning, extension planning, and needs assessment, among other areas (Ex-Ante Evaluation). Accordingly, specific activities for (1) were implemented with farm management and human skill training and practical training at T/D farms. Activities for (2) included ADC organization, T/D farm activities, participatory planning through support for E/M

farmers, and extension methods to be used with farmers' groups. Specific activities for (3) consisted of in-country training and training in Japan for DADO officers. The ex-ante study had not included proposals for specific strategies and approaches for the Project from the Nepalese side, and no other donors had similar projects that could have served as a reference. Accordingly, the Japanese side proposed extension approaches (ADC, T/D farms, E/M farmers) after the Project started, with reference to the Project draft prepared based on interviews that local consultants conducted with stakeholders in advance. These approaches were then implemented based on an agreement reached in discussions with the Nepalese side.

Prior to the Project's implementation, interviews with farmers revealed several issues: JT/JTA did not have the knowledge or techniques needed to instruct farmers, itinerant programs were infrequent, and farmers had not received agriculture extension services based on their needs. Moreover, needs for agricultural activities and agricultural extension were identified prior to the Project's implementation as the acquisition of cultivation techniques for more efficient crops with a high profit margin since farmers had grown rice and maize using traditional methods, but profits were low relative to the time and labor involved. In addition, farmers not only needed guidance in cultivation techniques, but support in building connections with markets and building irrigation systems since they relied on rainwater. The Project was consistent with farmers' needs because, by introducing T/D farms and ADC, the Project strengthened the skills of JT/JTA and built trusting relationships with farmers, provided instruction on cultivation techniques for high value-added crops, primarily vegetables, carried out on-site observations to give opportunities to learn about cultivation techniques and building links with markets, and also supported micro projects (such as providing training and improving irrigation systems).

3.1.3 Relevance with Japan's ODA Policy

The approach outlined in Japan's "Economic Growth to Reduce Poverty" formed the basis for Japan's ODA Policy for Nepal in fiscal 2004-2005; agricultural development was specified as one of the 5 priority areas. In fiscal 2006-2008, the Japanese government provided support with an emphasis on reducing poverty in outlying regions, identifying agricultural and rural development, basic education and healthcare as priority issues (Ministry of Foreign Affairs' Data Book). Japan continues to support Nepal with an emphasis on agriculture in order to reduce poverty, and thus this Project can be deemed consistent with Japan's aid policies.

Given the above, this project has been highly relevant with the country's development plan, development needs, as well as Japan's ODA policy. Therefore, its relevance is high.

3.2 Effectiveness and Impact (Rating ②)

3.2.1 Project Outputs

In Nepal, the JT/JTA responsible for agricultural extension had no opportunities to learn practical agricultural technology, and few had the agricultural techniques and skills needed to instruct farmers, even mid-level JT/JTA. Moreover, Nepalese government regulations meant that they were not paid benefits, such as reimbursement for the cost of travelling for itinerant activities in the areas for which they were responsible. As a result, few JT/JTA proactively guided farmers, and most JT/JTA simply waited at the ASC to which they were assigned, only working with the farmers who visited. Farmers had no opportunities to acquire new agricultural techniques and knowledge, due in part to the inadequate capacity of JT/JTA, and agricultural extension services did not meet the needs of farmers. In light of these conditions, this Project was started with the primary objective of organizing farmers' groups, promoting independent agricultural activities, and reinforcing the capacity of the JT/JTA supporting these activities.

This Project's goal is to improve the agricultural service delivery system and run trial programs. "Support for agricultural extension based on all farmers' needs (ADC) and "promotion of farm management activities and extension in line with cultivation plans (T/D farms)" were newly introduced (2 in Figure 2 below) as the approaches used to improve the agricultural service delivery system. Moreover, E/M farmers were selected and taught farm management skills, such as preparing farm management record books, in order to pursue extension activities based on farmers' needs (2 in Figure 2 below). Farm management training, human skill training and practical training (T/D farms) were provided since reinforcing the capacity of the extension workers needed to support the implementation of these systems was included as a component (1 in Figure 2 below).

The ADCs were formed as community organizations in units of Village Development Committees (VDC). The Project created these organizations with the aim of identifying, specifying and consolidating farmers' needs through the ADC and using this information to improve the agricultural extension services provided by DADO.

T/D farms were also set up by the Project with the aim of giving JT/JTA the chance to learn practical technology from farmers at the production site and encouraging agricultural activities and extension in line with cultivation plans.

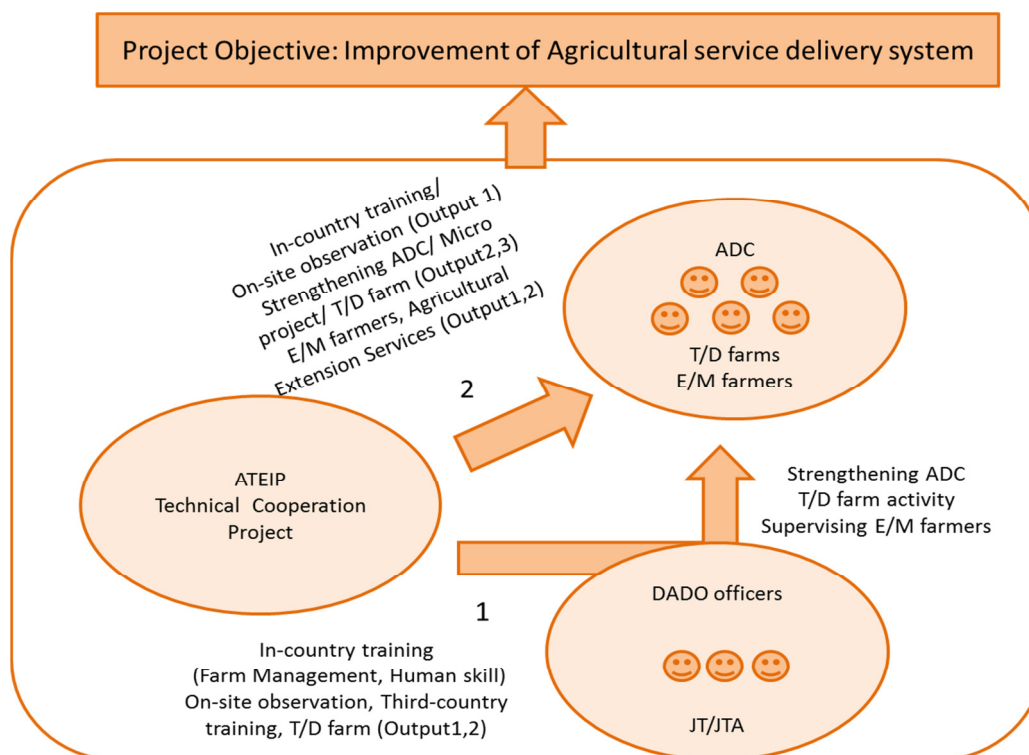


Figure2: Project Approach

Source: Prepared by the evaluator based on JICA-provided materials

3.2.1.1 Project Output

1) Output 1: Practical training is imparted to extension workers and farmers.

As of the Project's completion, almost all DADO officers and JT/JTA had received the farm management training and human skill training offered by the Project, and JT/JTA were learning agricultural techniques in the field through T/D farm activities. In farm management training, DADO officers and JT/JTA primarily acquired knowledge and skills about preparing farm management record books, which were used in instructing farmers. E/M farmers prepared and submitted farm management record books for each crop, and JT/JTA provided the necessary support based on the content of the farm management record books submitted. In human skill training, they learned how to strengthen ADC organizations, facilitation skills and presentation skills, and used these to support ADC. As shown in Table 1, about 89% (16 out of 18) of the JT/JTA assigned to the 5 target districts continued to participate in T/D farm activities during the Project's implementation through the ex-post evaluation, so that almost all of the JT/JTA had practical opportunities to learn about agriculture. The JT/JTA visited the T/D farms set up by farmers one to 2 times a week, and learned about agriculture in a practical setting. Before the Project was implemented, JT/JTA went to work at their assigned ASC and waited for farmers to visit, but once they had participated in T/D farm activities, they visited farmers more frequently and built human relationships, and farmers' trust in the JT/JTA improved. Accordingly, Output 1 was accomplished.

Table 1 : Achievement of Output 1

Objectively Verifiable Indicators	Target (2004)	Achievement (2009)	Achievement (%)
1. All DADO officers in the target 5 districts participate in the training courses by the Project	All DADO officers (18-20officers) ⁵	99 in total ⁸ (5-5.5times/person)	-
2. 80% of DADO officers, who received trainings from the Project, agree that their capabilities on planning, providing guidance to JT/JTAs, managing/ monitoring have been improved.	80%	100%	125%
3. All JT/JTAs in the target 5 districts participate in training courses by the Project	All (86-103JT/JTAs) ⁶	540 in total ⁹ (5-6times/person)	-
4. All JT/JTAs in the target 5 districts participate in T/D farm activities	All (86-103JT/JTAs) ⁷	89% (16 out of 18)	89%
5. 80% of JT/JTAs, who received trainings from the Project, agree that their capabilities (technical and human skill) have been improved	80%	100%	125%

Source: JICA-provided materials/ Questionnaire survey

2) Output 2: Farmers' need-based extension services are delivered.

During the Project period, 35 ADC were formed in the 5 districts and, as organizations building consensus among farmers, they requested that the Project and relevant organizations (DADO and VDC) provide extension services based on farmers' needs and served their role in managing implementation of these services. Every month 18 ADC representatives, one from each ward, held meetings, and were responsible for coordinating each wards' needs (prioritizing programs), drafting activity plans, making requests for micro projects and carrying out the approved projects. As of the Project's completion, 35 ADC had carried out 126 micro projects, and as shown in Indicator 7 in Table 2, each ADC submitted and received authorization for an average of 3.6 proposals. Most of the micro project proposals were for upgrades to irrigation systems, and projects related to vegetable cultivation (technical training, purchase of equipment needed for vinyl cultivation, etc.), bee keeping, and mushroom cultivation were carried out. The number of proposals prepared and submitted was likely higher than the number approved (126), which indicates that the capacity of the ADC as a player supporting extension services was sufficiently reinforced (ability to acquire resources and draft plans, etc.).

< Utilization of E/M farmers >

The Project selected 35 E/M farmers from among the farmers at the T/D farms. Almost all of the E/M farmers were practical farmers, and were very interested in spreading their knowledge to nearby

⁵ The number is as of 2004 to 2007 (Source: JICA provided materials)

⁶ Same as footnote 5

⁷ Same as footnote 5

⁸ DADO officers were equally provided training opportunities, it indicates all DADO officers participated in trainings.

⁹ Same as footnote 8

farmers. They made substantial contributions to strengthening extension activities, such as introducing activities at ASC and ADC, giving farm management demonstrations for nearby farmers (refer to indicator 4 in Table 2 below) and providing instruction in cultivation techniques. As of the Project's completion, the E/M farmers (35 farms) were continuing their activities, and preparing their farm management record books and activity reports (achievements and problems, etc.), which were submitted to JT/JTA twice a year. In addition, E/M farmers learned how to prepare and utilize farm management record books through Project activities, and they also instructed nearby farmers. Of the farmers with access to the Project, the number answering that they choose to consult with E/M farmers on agricultural activities increased from 9% prior to the Project to 35% after the Project started (refer to Table 6 in 3.2.1.2 Achievement of Project Objectives), which indicates that E/M farmers made a significant contribution to improving extension services.

The indicators for Output 2 were generally achieved, and Output 2 was achieved as of the Project's completion.

Table 2 : Achievement of Output 2

Objectively Verifiable Indicators	Target (2004)	Achievement (2009)	Achievement (%)
1. 70% of JT/JTAs, who received trainings from the Project, agree that extension services provided by them to farmers have been improved.	70%	78%	111%
2. About 45 farmers will become E/M farmers.	45	35	77.8%
3. 80% of E/M farmers agree that they receive practical guidance from JT/JTAs.	80%	93%	116%
4. About 200 farmers visit each E/M farmer a year.	200	More than 400	More than 200%
5. 80% of farmers, able to access to Project activities agree that capabilities of JT/JTAs have improved.	80%	88%	110%
6. About 35 ADCs are organized.	35	35	100%
7. 80% of ADCs prepare and apply the project proposal for concerned agencies.	80%	100% ¹⁰ 3.6 proposals (implemented) /ADC ¹¹	125%

Source: JICA-provided materials/ Questionnaire survey

3) Output 3: Activities of different service providers in agriculture development are coordinated and facilitated.

As groups building consensus among farmers, ADCs identified farmers' needs through representatives in the individual wards, and worked on projects whose benefits would accrue equally to all farmers in VDC, such as building irrigation systems and other shared infrastructure, so that the benefits did not go to any one particular group. Moreover, 63% of the ADC recognized that agriculture-related services from other organizations (service providers) were offered in a

¹⁰ All ADC (11) interviewed prepared and applied the project proposal.

¹¹ Average 3.6 micro projects were implemented by each ADC.

coordinated manner, so that the support activities from the respective organizations were carried out efficiently without duplicating each other. Coordination and monitoring meetings at the district level were held 14 times in 5 districts. Major stakeholders (VDC, DADO and NGOs) participated in the meetings, where ADC introduced their own activities. This led to support for these activities. Moreover, they shared information through daily communication with major stakeholders. Deliverables introducing Project activities and their progress were distributed to agriculture-related organizations such as MOAC, DOA, DADO and NARC (National Agriculture Research Council) as they proactively worked to disseminate information. During the Project's implementation, experts shared information on the status of Project activities by communicating with other donors and related organizations, and coordinated so that there was no overlap with other organizations' activities. As a result, the indicators for Output 3 have been achieved.

Table 3 : Achievement of Output 3

Objectively Verifiable Indicators	Target (2004)	Achievement (2009)	Achievement (%)
1. Major stakeholders participate in district level coordination/monitoring meeting.	-	14 times /5 districts	-
2. 40% of ADCs agree that activities related to agriculture development from different service providers are delivered in a coordinated way.	40%	63%	158%
3. Publications introducing project activities and progress are distributed to all major stakeholders.	-	-	-

Source: JICA-provided materials/ Questionnaire survey

3.2.1.2 Achievement of Project Objectives

Project Objective: Agriculture service delivery system is improved in the Project districts through training and extension.

The ADC organized in the Project carried out their own projects with support from related organizations in holding agricultural training based on farmers needs and securing the necessary input (building irrigation systems, etc.). Moreover, the JT/JTA in the 5 target districts learned practical cultivation techniques at the T/D farms, and instructed ADCs in skills such as preparing farm management record books and proposals—skills which they themselves had learned in farm management training and human skill training. This helped to strengthen ADC organizations. As a result, the approaches newly introduced by the Project (ADC and T/D farms) were smoothly implemented with support from DADO officers and JT/JTA, whose skills had been refined in training, and the agriculture service provider system was improved. Accordingly, the each indicator for the Project Objective and therefore the Project Objective itself was achieved.

1) Indicator 1: 70% of the farmers, able to access to the Project activities are satisfied with training and extension services provided.

96% of the farmers interviewed at the Project's completion and 94% as of the ex-post evaluation responded that they were "satisfied" and "satisfied to some extent" with the agriculture training and extension services provided by the extension workers. Thus, the indicator has been achieved. The farmers were satisfied with the organization of ADCs, the ongoing technical guidance provided by JT/JTA, and comprehensive support. The organization of ADCs and support for their activities (support for implementation of micro-projects), which was one of the Project's approaches and the reinforcement of JT/JTA skills through T/D farm activities and training contributed. At the same time, although this was a minority opinion, respondents who were not satisfied gave as their reason their sense that "only ADC members benefitted." This was likely primarily because although each ADC had 2 representatives from each ward (one representative from 12-38 farm households) and carried out activities that benefited the farmers equally, mechanisms had not been established whereby ADC members shifted their knowledge and techniques to other farmers, and thus there were discrepancies in the extension effect in the wards depending on the ADC members. E/M farmers did try to transfer technology to neighboring farmers, but since there was only one in each ADC (one per 430-1,300 farm households), the number of farms that received technology transfer was limited. As regards the level of satisfaction when the ex-post evaluation was carried out, interviews confirmed that farmers were satisfied with the training offered through the ADCs and their support for agricultural activities, as well as support from DADO (subsidies for agricultural equipment). This testifies to the satisfaction in the activities provided by the ADCs, whose role as an organization responsible for agricultural extension services was strengthened through Project activities, and support for the training and agricultural activities provided by DADO officers and JT/JTA, whose agricultural technology and skills were strengthened through the training and T/D farm activities implemented in the Project, and thus can be deemed contributions made by the Project.

Table 4 : "Are you satisfied with training and extension services?"

(%)

	Satisfied	Satisfied to some extent	Not satisfied	Don't know	Total
After the project (2009)	90	6	3	1	100
Ex-Post Evaluation (2012)	85	9	5	1	100

Source: Beneficiary survey¹²

¹² For the purpose of beneficiary survey, 100 farmers (20 farmers from each district) who belong to the following six categories were targeted to be interviewed, being assumed as "the farmers, able to access to project activities", members of ADC, participants of the training courses on ADC, beneficiaries of micro projects, T/D Farm cooperating Farmers, E/M Farmers, participants of field days organized by T/D Farms and E/M Farmers.

(Reasons for satisfaction)

- The establishment of farmers' groups (ADCs) created links between these organizations and the market, giving them access to the market.
- They received ongoing technical support, such as training and on-site instruction from JT/JTA.
- The farmers were able to independently request and access consolidated support integrating technical guidance, construction of irrigation systems, farm management guidance and subsidies for agricultural materials. A foundation was established that enabled them (ADC) to continue their activities, thanks to an environment (with the construction of irrigation systems, etc.) in which they were able to use the technology learned in training in practical applications and follow-up following training.
- Since the ADC prepare proposals, including budget amounts and manage all stages from the procurement of necessary materials to project implementation, ADC members were able to facilitate projects while confirming the use of project funds and their validity.

(Reasons for dissatisfaction)

- Only farmers who were also ADC members benefitted.

2) Indicator 2: 70% of the farmers, able to access to Project activities, agree that training and extension services provided have been improved.

In interviews, 96% of farmers at project completion and 93% as of the ex-post evaluation responded that the agriculture training and extension services provided had “improved” or “improved to some extent.” Accordingly, the indicator has been achieved. The extension services mentioned as having improved include those services provided by DADO officers and JT/JTA, which suggests that the farmers recognize improvements in the agriculture training and extension services provided by DADO officers and JT/JTA.

Table 5: “Have training and extension services provided been improved?”

(%)

	Improved	Improved to some extent	Same as before	Don't know	Total
After the project (2009)	90	6	2	2	100
Ex-Post Evaluation (2012)	86	7	5	2	100

Source: Beneficiary survey

(Areas of Improvement)

- Cultivation technology

- Methods for using fertilizer
- Farm management techniques such as methods for preparing farm management record books
- Organization and strengthening of groups

Given the above, the indicators for the Project Objective have been achieved.

Other factors indicating the extent to which the Project Objective has been achieved include confirmation that farmers' confidence in extension workers (DADO officers and JT/JTA) has risen. Confidence in extension workers has increased compared to the period before the Project's implementation. According to the results of a beneficiaries' survey (Table 6 below), the percentage of farmers responding that they would choose JT/JTA for consultation on agricultural issues increased from 55% (before the Project started) to 77% (after the Project completion). Similarly, those responding that they would consult with DADO officers increased from 3% to 7% and from 9% to 35% for E/M farmers, demonstrating that confidence in the DADO officers, JT/JTA and E/M farmers trained in the Project activities has improved and that the agriculture extension services they provide have improved.

Table 6: "Whom do you choose for consultation on agricultural issues?"

(%)

Whom	Before the project	During the project	After the project
JT/JTA	55	93	77
DADO officers	3	17	7
Neighboring farmers	8	8	10
E/M farmer	9	50	35
Private sector	19	8	7
Others	16	3	28
	NGOs		ADC, Agriculture groups, myself

Source: Beneficiary survey

3.2.2 Impact

3.2.2.1 Achievement of Overall Goal¹³

Overall Goal 1: Improved agriculture service delivery system is replicated to other areas inside and outside the Project districts.¹⁴

¹³ In this Project, indicators for the respective Overall Goals were not set, and instead 3 indicators were set for Overall Goals 1 and 2.

¹⁴ This is defined as "other areas inside and outside the Project districts," which refers to other areas inside the 5 target districts (VDC that did not establish ADC) and other districts.

Overall Goal 2: Farmers' farming activities are improved in the Project districts.

Regarding Overall Goal 1, as of the ex-post evaluation, replication of the system in other areas in the 5 target districts (other VDC) had only been done in 1 district (Makwanpur District). This was partly because the Project had not done enough to encourage MOAC in this direction, and MOAC had not clarified the methods and strategies to be used to extend the system to other areas (other VDC in the target districts and other districts). According to questionnaires and interviews given in the 4 districts other than Makwanpur (Dhading, Rasuwa, Nuwakot, Sindhupalchowk), the system had not been replicated in other areas within the districts (other VDC), and as of this point no measures had been taken, such as extension planning and securing a budget for extension, so there are no prospects that the system will be replicated. Similarly, the system has not been replicated in districts other than the 5 target districts and there are no prospects that it will in the future. As regards Overall Goal 2, farmers able to access the Project recognize that their own agricultural activities have improved, and improvements in agricultural productivity can be observed. Comparing the period before the Project began and the ex-post evaluation period, we note that growth in agricultural productivity in the districts overall exceeded the national average in 4 districts for maize and 3 districts for vegetables and wheat. However, of the 252 VDC (including one municipality) in the 5 target districts, 35 were areas in which Project activities had been carried out (ADC and T/D farms established), amounting to only 14% of the target districts overall, so we cannot confirm a cause-and-effect relationship between the growth rate in the districts overall and the Project. In sum, the increase in productivity cannot be attributed to the Project's contribution.

1) Indicator 1: 60% of the farmers, able to access to Project activities, agree that their farming activities have been improved.

95% of farmers responded that their own activities had "improved" or "improved to some extent," so this indicator has been achieved. The vegetable cultivation techniques and farm management techniques were introduced with the Project's support. Nearby farmers are aware of the existence of farmers at T/D farms and E/M farmers thanks to PR activities such as bulletin boards put up at T/D farms with Project support and E/M farmers' efforts to publicize their activities at ADC and ASC meetings. As shown in Table 6, more farmers seek instruction and advice. Cooperative relationships with other farmers have strengthened as a result of activities by ADCs and E/M farmers, which is the Project's contribution.

Table 7: "Have your farming activity been improved? (from after the project's completion to date)"
(%)

Improved	Improved to some extent	Same as before	Worse
88	7	5	0

Source: Beneficiary survey

(Areas of Improvement)

Vegetable cultivation, farm management techniques, irrigation systems, market development, measures to counter disease and insect damage, cooperation with other farmers, confidence in farming

<Specific examples of improvements in productivity (according to interviews with farmers able to access the Project)>

- Revenue from cabbage increased. Prior to the Project, revenue amounted to about 35,000 rupee annually, but currently it stands at 100,000 rupee per year. This can be attributed to an increase in the production volume on the same land area, an increase in market prices, and a decrease in costs for fertilizer and other materials (Rasuwa district).
- Rice production increased from 360 kilos to 540 kilos due to better selection of fertilizer and varieties and improvements in spacing and timing when planting rice seedlings (Rasuwa district).
- Prior to the Project, farmers planted potatoes for their own consumption and their annual revenue was 20,000 – 30,000 rupee, but currently they are growing a wide variety of crops such as bitter melon, cucumbers, peppers and potatoes, and their revenue amounts to 150,000 rupee annually. Farm management training by JT/JTA during Project implementation and the establishment of irrigation systems in micro projects were contributing factors (Makwanpur district).

2) Indicator 2: Agricultural productivity of farmers in target 5 districts have been enhanced.

Data on crop productivity and yield in the target districts overall shows that productivity improved for paddy, wheat, maize and vegetables compared to the period prior to the Project's implementation, with the growth in productivity exceeding the national average for maize in 4 districts and vegetables and wheat in 3 districts. However, the cause-and-effect relationship with the Project could not confirm and it is not clear that this was due to the Project's effect (Table 9). Although 98% of farmers able to access the Project stated that productivity had "improved" or "improved to some extent," only 35 of the 252 VDC (including one municipality) in the 5 target districts were areas in which Project activities had been carried out (ADC and T/D farms established), amounting to only 14% of the target districts overall. Accordingly, this should be treated as a reference point. Given the above, improvements in agricultural activities in the target districts overall (Indicator 2) was limited.

Table 8: "Has your agriculture productivity been improved? (after the project's completion to date)"

(%)

Improved	Improved to some extent	Same as before	Worse
94	4	2	0

Source: Beneficiary survey

(Factors contributing to agricultural productivity) *The figures in parentheses indicate the percentage of respondents.

- Use of the appropriate amount of fertilizer (90%)
- Introduction of manure (80%)
- Introduction of high-quality varieties (81%)
- Disease and pest damage management (79%)

Table 9: “Agricultural productivity in 5 target districts (Kg/ha) *The underlined figures indicates the figures exceeding the national average.

(Kg/ha)

	Paddy	Wheat	Maize	Crop	Vegetables
Sindhupalchowk district					
2000/2001	2,200	1,600	1,700	1,600	9,000
2010/2011	2,089	950	2,200	1,000	10,338
Growth rate	95.0%	59.4%	<u>129.4%</u>	<u>62.5%</u>	114.9%
Dhading district					
2000/2001	2,200	1,500	1,700	1,700	<u>12,000</u>
2010/2011	2,452	1,691	<u>2,500</u>	1,003	<u>17,967</u>
Growth rate	111.5%	112.7%	<u>147.1%</u>	<u>59.0%</u>	<u>149.7%</u>
Nuwakot district					
2000/2001	<u>2,400</u>	<u>1,900</u>	<u>1,900</u>	2,000	9,000
2010/2011	<u>3,299</u>	<u>2,750</u>	2,260	<u>1,800</u>	11,797
Growth rate	<u>137.5%</u>	<u>144.7%</u>	118.9%	<u>90%</u>	<u>131.1%</u>
Rasuwa district					
2000/2001	2,000	900	1,500	1,300	9,000
2010/2011	2,200	1,480	1,940	990	9,721
Growth rate	110%	<u>164.4%</u>	<u>129.3%</u>	<u>76.2%</u>	108%
Makwanpur district					
2000/2001	<u>2,600</u>	1,700	<u>2,000</u>	<u>2,100</u>	<u>11,000</u>
2010/2011	<u>3,300</u>	<u>2,800</u>	<u>2,600</u>	<u>1,125</u>	<u>15,143</u>
Growth rate	<u>126.9%</u>	<u>164.7%</u>	<u>130%</u>	<u>53.6%</u>	<u>137.7%</u>
National average					
2000/2001	2,400	1,800	1,800	2,100	10,500
2010/2011	2,981	2,275	2,281	1,122	13,124
Growth rate	124.2%	126.4%	126.7%	53.4%	125%

Source: JICA-provided materials/ Statistical Information on Nepalese Agriculture 2010/2011

3) Indicator 3: Nepalese government allocate program budgets to promote replicating this system.

According to the results of questionnaires and interviews with DOA and DADO, a budget to extent the agricultural service delivery system (ADC, T/D farms) has not been formed. Interviews merely confirmed that Sindhupalchowk district plans to request funding to run a T/D farm, but there are no prospects for the formation of budgets in other districts. It is important that the effects of agriculture extension services be widely recognized by DOA and RDA and that efforts be made on the policy and institution side—the foundation for extension—so that budgets can be formed and executed to

promote extension of this system to other areas. This Project held 3 workshops to share the Project's output, including reports on activities of ADCs and T/D farms, and the output are recognized to some extent by Project stakeholders, but strategies and methods for institutionalizing the system and extending it to other areas have not been clarified.

In the 6 months prior to the Project's completion, a DADO in one of the Project's target districts administered a T/D farm using its own budget, and this was expected to be extended to other districts on the basis of results in target districts. Moreover, a T/D farm internalization committee was set up so that DOA could run the farm as part normal operations, and preparations moved ahead, with Project counterparts submitting Norms¹⁵ on the administration of T/D farms to the DOA Agricultural Extension Directorate. However, after the Project's completion, there were discrepancies between the understanding of the counterparts who had prepared the Norms to clarify the T/D farm's management and the authorizing DOA Agricultural Extension Directorate. The Directorate would only authorize the Norm on T/D farm operations with a limited timeframe, so that it read "DADO will run the T/D farm as part of normal operations during the Project period." As such, there were no decisions on the management system or budget provisions after the Project was completed, and T/D farms in the target districts were not run after the Project and were not extended.

The introduction of the 2 approaches of ADC and T/D farms to the existing extension system and the training of human resources able to carry out extension services was an important output of this Project, but as of the ex-post evaluation, only about half of the 35 ADC who had supported the Project were continuing their activities. The other half did not continue their activities because 1) ADC were not based on Nepal's related laws, and there were no systems or laws supporting DADO's continuation and extension of the systems, 2) ADC members already belong to other organizations, such as agricultural unions, so there is not a great need to continue ADCs, and 3) the ADC established in the latter half of the Project had not been strengthened enough so that the farmers could continue activities on their own. 45 T/D farms were established, but the effectiveness of the Norm was limited, and as a result activities at the T/D farms had not been continued as of the ex-post evaluation. Training whose implementation is required (training needed for promotion), the establishment of training center facilities, and efforts to update manuals had greater priority, and the priority of farm management and human skill training was relatively low, with no budget provided for it. Training on farm management and human skills for DADO officials and JT/JTA has not been continued. The training curriculum was used as part of other training programs, but it is not used as a tool for running ADC and T/D farms in an integrated manner.

Given this, although overall goal was somewhat achieved for its target indicator 1, the achievement

¹⁵ In this instance, "Norm" refers to those underlying provisions justifying the implementation process and budget execution for carrying out agricultural extension activities (Project stakeholder).

indicator 2 was lower than the plan because the improved agricultural productivity was limited to farmers able to access the Project and did not extend to other districts. Indicator 3 was also lower than the plan because budgets to run T/D farms and ADCs were not provided. Therefore, the overall goal was partially not achieved.

3.2.2.2 Other Impact

- Formation of Agriculture Forestry and Environment Committee (AFEC)/Village Agriculture Development Committee (VADC)

The establishment of AFEC/VAD under the leadership of the DADO director in the Makwanpur district and with support from an NGO is noted as a high-priority effort in the Nepalese government's Local Self-Governance Regulation 1999. There are plans to establish a committee in all of the 43 VDC in this district, and 23 committees have already been formed with support from NGOs. The difference with ADCs is that 1) this organization is recognized by the Local Self-Governance Regulation 1999 (ADC is not an organization prescribed in related legislation), 2) people involved in forestry and the environment, not just agriculture, are members and the scope of activities is broad, and 3) gender balance and balance between ethnic minorities is considered when selecting representatives and coordinating the needs of a diverse group is one of the objectives. Accordingly, farmer organizations are being strengthened and efforts made to provide support based on farmers' needs at all of the VDC in this district. ADC guidelines and experiences in setting up ADC are utilized in establishing AFEC/VADC.

- Synergistic effect with other donors

Support for the input (agricultural materials) needed for the vinyl cultivation techniques introduced in this Project in Rasuwa district has been continued after the Project ended by other donors and NGOs. This project has synergistic effects with other supporting organizations in that other donors and NGO provide support with the input needed to continue utilizing the vinyl cultivation techniques learned through the Project's support and to improve agricultural activities.

<Factors that Impeded Achievement of the Overall Goal>

- Factors impeding extension of ADC (factors impeding the new formation and extension of ADCs by DADO)

Agricultural groups continue to be organized under the policies of the Nepalese government, such as the National Agricultural Extension Strategy, but ADC are not organizations based on Nepalese laws and regulations, and there were no Nepalese government strategies or plans that would encourage DADO's new establishment of ADC.

The indicators for the Project objective were achieved. Efforts to continue the approaches introduced in the Project (T/D farms and ADC) and to extend the approaches to other areas were limited, but improvements in the agricultural activities of farmers with access to Project activities and gains in agricultural productivity are recognized, and the benefits to farmers through the strengthening of ADC are high. This project has somewhat achieved its objectives. Therefore, its effectiveness is fair.

3.3 Efficiency (Rating: ③)

3.3.1 Inputs

Inputs	Plan	Actual Performance
(1) Experts	Long-Term in 3 positions Short-Term as required	4 for Long-Term in 3 positions (Chief Advisor, Agricultural Extension, Project Coordinator/ Agricultural Training) 24 for Short-Term in 5 positions (Agriculture General, Chief Advisor/ Agricultural Extension, Farm Management, Capacity Development of Agriculture Association, Extension Strategy)
(2) Trainees received	Fields of training: Undecided	Total of 16 persons Fields of training: Agricultural Training and Extension, Agricultural Extension, Agricultural Extension Planning and Management Course, Rural Development for Small Scale Farmers through the Agriculture Cooperatives Activities
(3) Third-Country Training Programs	Fields of training: Undecided	Total of 86 persons Fields of training: Agricultural Extension, Human skills ¹⁶
(4) Equipment	Decided through discussion with the Nepalese side	78,571.76 US dollars
Total Project Cost	Total 390,000,000 yen	Total 368,000,000 yen
Total Local Cost	Provision of local operation cost	<u>Total 35,000,000 yen¹⁷</u> (21,108,000NPRs)

¹⁶ Human skills includes facilitation skills, presentation skills and team building skills for organization strengthening and capacity development

¹⁷ From the terminal evaluation report

3.3.1.1 Elements of Inputs

According to the review of the mid-term evaluation study report and the results of interviews with people involved in the Project, a lack of communication among the Project team members in the first 2 years of the Project meant that the Project's detailed activity plans were not sufficiently shared with counterparts, and Project activities were not carried out as planned. Experts with good communication skills and knowledge of Nepal were sent in the second half of the Project, at which point the Project content was shared with the implementing organizations and the activities conducted smoothly. Ultimately, the output and indicators for the Project objective were achieved. The number of extension workers was decreased in the 2005 organizational reforms, and the agricultural extension offices at which JT/JTA had been stationed were disbanded and consolidated with ASC. As a result, the overall number of agricultural centers decreased, which made it difficult for farmers to access JT/JTA, but it did not have a particularly significant impact in implementing Project activities.

3.3.1.2 Project Cost

The Project input was in line with the plan, and the project cost was lower than planned (94%).

3.3.1.3 Period of Cooperation

The cooperation period was as planned, and ended in 5 years.

Given the above, the inputs were appropriate for producing outputs and achieving the project objectives, and both project cost and period of cooperation were within the plan, therefore efficiency of the project is high.

3.4 Sustainability (Rating: ①)

3.4.1 Related Policy towards the Project

The Nepalese government's Three-Year Plan (October 2009 - 2012/2013) set goals to improve standards of living for the Nepalese, reduce poverty and achieve the Millennium Development Goals, and identifies agriculture as an important sector, stating that "by giving greater priority to the development of sectors that generate employment, the economic growth rate will sustainably contribute to the reduction of poverty." Moreover, the National Agriculture Policy, established in 2004, points to the importance of promoting farmers' groups to efficiently extend agriculture and strengthening human resource training to extend agriculture. The National Agriculture Extension Strategy (2007) states the goals of agricultural extension are to energize front-line extension workers and continually update their knowledge and skills, pointing to the encouragement of farmers' groups as one strategy. Given this, the Nepalese government will likely continue measures and systems that prioritize the continued reinforcement of the agricultural extension system and strengthening of

extension workers' skills. However, the steps required to ensure the sustainability of the management of the T/D farms and ADC introduced in this Project have not been taken. The output of agricultural extension achieved in Project activities are acknowledged by Project participants, such as DOA and DADO, but ADC is not an organization in line with Nepal's related laws and a decision over DADO's management of T/D farms after the Project's completion was not made during the Project period. As such, they were not incorporated in policies and institutions as implementing organizations, and sustainability is low. There are several factors behind this failure to address policy and institutional aspects. First, Project activities did not include approaches at the policy level, such as efforts to incorporate ADC and T/D farms at the policy and institutional level. Second, Project activities were not carried out as planned in the first half of the Project, so in the second half the focus was on implementing activities and achieving the indicators, which meant that was limited time to carry out activities ensuring sustainability. Third, strategies and methods aimed at institutionalizing the output and extending it to other areas were not clarified.

3.4.2 Institutional and Operational Aspects of the Implementing Agency

DADO responsible for agricultural development at the district level and the ASC under DADO to which the JT/JTA carrying out extension activities together with the farmers belong played a role as institutions extending agricultural technology to farmers during the Project's implementation. There has been no change in their responsibilities or structures as an organization, and the organizational system has been sustained. Organizational diagrams for DADO and ASC are shown in Figure 3 below.

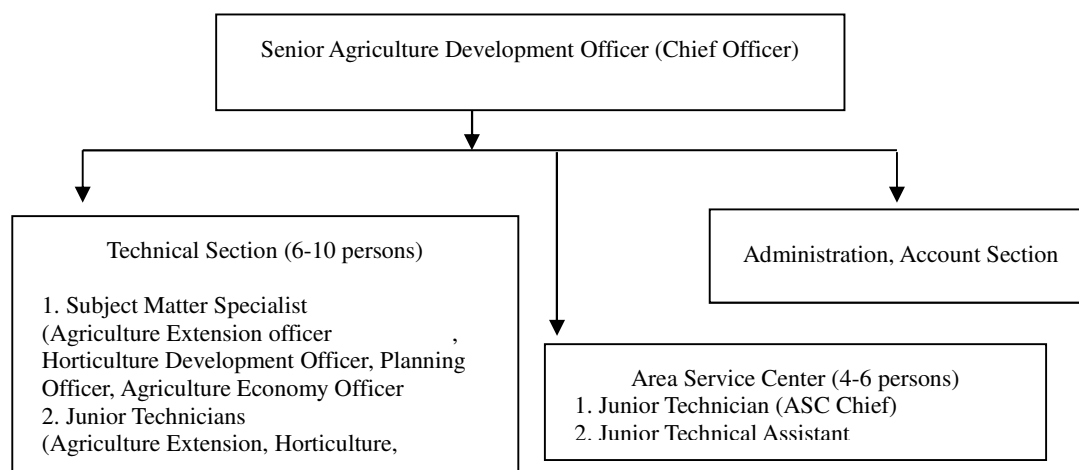


Figure3: DADO Organogram

Since Nepalese regulations do not require the reimbursement of expenses for travel within the JT/JTA's VDC for the itinerant programs necessary for the formation of new ADC and their

extension, the JT/JTA use their own bikes and pay for petrol themselves. Accordingly, a system for compensation and travel expenses for itinerant programs has not been established. Moreover, both the mid-term evaluation and the terminal evaluation pointed to the need to develop mechanisms to raise incentive, such as employee evaluations based on performance and opportunities for training and further studies, and although performance evaluations are carried out, evaluation results are not used for purposes other than promotions, and MOAC does not have decision-making authority over extension worker systems, including incentives. This requires coordination with the Ministry of Finance and related government agencies and ministries, so no particular steps have been taken. Given this, a system support JT/JTAs' itinerant activities needed for the establishment of new ADC and their extension has not been established.

Regarding the continuation and extension of T/D farms, the validity of the Norms on the management of T/D farms was limited to the Project period, and there is no system for their management and extension after the Project's completion.

As regards the implementation of training to strengthen the capacity of JT/JTA and DADO officers needed to extend ADC and T/D farms, DOA, which is responsible for training DADO officers, trained instructors for farm management training and human skill training. In addition, RATC (Regional Agriculture Training Centre), responsible for training JT/JTA, trained instructors for farm management training. DOA provided farm management training as part of other donors' programs, and instructors were also utilized. Nevertheless, farm management training and human skill training are carried out when the necessary budget provisions and support for training programs are available. Therefore, there are remaining issues with the independent implementation of training by the implementing organizations.

3.4.3 Technical Aspects of the Implementing Agency

The DADO officers and JT/JTA engaged in the Project activities acquired the technology and knowhow needed for the continuation of the agricultural service delivery system and its extension to other areas through Project activities to form and strengthen ADC and support the administration of T/D farms. 18 out of the 86 JT/JTAs assigned to the target districts at the time of the mid-term evaluation and the terminal evaluation, were still active in target districts as of the ex-post evaluation (including JT/JTA who had moved to another target district). 72 of the 90 JT/JTA working in target districts as of the ex-post evaluation had been appointed after the Project's completion. Even after the Project, farmers remained satisfied with the support provided based on cooperative relationships with related organizations such as ADC and DADO that had been built during the Project implementation period, and confidence in the DADO officers and JT/JTA whose skills had been reinforced in Project activities had increased. However, farmers pointed to a lack of agricultural

technique and insufficient knowledge among the JT/JTA newly appointed after the Project, indicating that the knowhow acquired by DADO officers and JT/JTA through Project activities had not become a storehouse of institutional knowledge for DADO. Mechanisms were not developed to use knowledge in an organized manner so that the capacity acquired in training could be used in instructing newly appointed JT/JTA.

Although training institutions train instructors, the farm management training and human skill training so essential to the sustainability and extension of the agricultural service delivery system has lower priority than mandatory training, the establishment of a training center and manual updates. Moreover, farm management training and human skill training is not implemented as an independent training program. It continues to be implemented as part of other programs, but it is not implemented as a training tool used in an integrated manner with ADC and T/D farms. Moreover, T/D farms have not continued, and there are no opportunities for practical training, so DADO officers and JT/JTA have limited opportunities to learn and reinforce their farm management knowledge and skills in organizational reinforcement. Accordingly, the technical sustainability needed to maintain and expand on the Project output is low.

3.4.4 Financial Aspects of the Implementing Agency

The budget for agricultural extension activities is recorded and executed as one of the budget items for DADO's "agricultural extension program." Although the budget needed for this Project's activities are included in the "agricultural extension program," ACD support is not listed as a separate budget item, so budget provisions are not guaranteed. Moreover, it is not clearly stipulated that DADO is the organization responsible for running T/D farms and not included in its normal operations, so a budget is not provided. In interviews with DADO, it was confirmed that only Sindhupalchowk district plans to include the administration of T/D farms in next fiscal year's budget, but the other 4 districts do not seem to be taking any such initiative. Interviews with the DOA Agricultural Training Directorate indicated that high priority is given to budget provisions for training related to personnel promotion, the establishment of a training center, and updates to training materials, and that there were no prospects for a budget to carry out farm management training and human skill training as Nepal's own program. Accordingly, there are grave concerns over the financial sustainability needed to sustain and expand on the Project's output.

3.4.5 Continuity of Effectiveness/ Impacts

As noted above, the ADC that continued to be run by farmers as of the ex-post evaluation have a high likelihood of continuing going forward since the farmers themselves recognize the effectiveness of ADC and they are run primarily by members with support from related organizations. Moreover, agricultural training provided through ADC during the Project period led to improvements in agricultural production among farmers able to access the Project, as well as gains in agricultural

productivity, and the techniques and skills learned in the Project were still being utilized in farm management as of the ex-post evaluation. However, lacking policies on extension to other areas, a system and a budget, T/D farm activities have not been continued, meaning that JT/JTA do not have opportunities to acquire and improve their agricultural techniques in a practical setting. Moreover, there is no prospect that the implementing organizations will take a leading role in carrying out farm management training and human skill training for DADO officers and JT/JTA. Given these factors, the effect of farmers' own activities, such as higher agricultural productivity and the continuation of ADC activities, have been sustained, but there are issues with the sustainability of T/D farm activities and training implementation, and the sustainability of their effect is limited.

Given the above, major problems have been observed in the policy background, structural aspects, technical aspects and financial aspects of the executing agency. Therefore, sustainability of the project effects is low.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This Project was implemented with the aim of improving Nepal's agricultural extension service by introducing new extension systems, such as ADC and T/D farms and working to strengthen the capacity of the JT/JTA and DADO officers responsible for agricultural extension so that these systems could be executed smoothly. This Project was consistent with Nepal's development policy, development needs and Japan's aid policy. Therefore, relevance was high. The Project input were provided according to plan, and completed during the Project period, so efficiency was also high. The output and Project objective had been generally achieved when the Project was completed. However, the approaches introduced by the Project were not continued after the Project and efforts to extend and expand them in other areas have been limited overall, with the exception of some areas. Accordingly, the effectiveness and impact were fair. The Project output is being continued at the level of individual farmers, as indicated by improvements in agricultural extension services. Farmers' activities and agricultural productivity even after the Project attributable to the approaches introduced as well as extension activities, were carried out by farmers' groups themselves. However at the level of the implementing agency, the approaches introduced by the Project were not incorporated in the agency, there were no specific implementation strategies, and no budget provisions were taken. Thus, sustainability is low. In light of the above, this project is evaluated to be partially satisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

4.2.1.1 Recommendations for DOA and RDA

1) Clarifying role of T/D farms in agricultural extension activities and consider possibility of using T/D farms

During the Project period, the T/D farm internalization committee examined the effectiveness of T/D farms and submitted Norms to govern DADO's management of T/D farms, but the Norm was approved with a validity limited to the Project period, so that T/D farms were not continued after the Project was completed. Interviews conducted in the ex-post evaluation confirmed that project participants at the district level such as DADO and related organizations at the central level (MOAC, DOA, RDA) believe that the T/D farms contributed to improvements in JT/JTAs' agricultural technique and the development of trusting relationships with farmers, and improvements in agricultural extension services. DOA and RDA should consider the ways in which T/D farms could be utilized in conjunction with ADC and training as part of Nepal's extension activities, taking into account discussions with the T/D farm internalization committee.

2) Implementing farm management and human skill training to JT/JTA through RATC

The farm management training and human skill training developed by the Project provide the knowledge and skills that are indispensable in enhancing farm management knowledge and forming farmers' groups. However, currently farm management training and human skill training are not being carried out. As with examples in which farm management training has been incorporated in other donors' programs (UNDP's MEDEP¹⁸), DOA should distribute the training module prepared by the Project to the individual RATC and donors, and encourage RATC to include farm management training and human skill training in the training programs they administer.

3) Utilizing initiatives in Makwanpur district

The AFEC/VADC organized in Makwanpur district, were organized based on the "Local Self Governance Regulation 1999", and the committees take into account balance between genders and ethnic minorities so that they are essentially a higher level of ADC. The VDC allocated 15% of their budgets to agriculture from 2063 in the Nepalese calendar (2006/2007 in the western calendar), and is required to allocate more than 15% from 2012/2013. The VDC also show interest in utilizing budgets through the committees. The AFEC/VADC in this district are formed based on Nepal's related laws, are officially recognized by the Nepalese government, and will also receive financial support from VDC, so they will likely be a highly sustainable organization. Accordingly, RDA and DOA should consider what role AFEC/VADC will have in Nepal's extension activities, and consider effective extension activities that could be carried out through these organizations.

¹⁸ Micro-Enterprises Development Programme

4.2.1.2 Recommendations to DADO in 5 target districts

(Dhading, Rasuwa, Makwanpur, Nuwakot, and Sindhupalchowk districts)

1) Providing JT/JTA with opportunities for practical training through T/D farms

T/D farms played an important role as a place in which extension workers, who have extremely limited opportunities for training, to learn agricultural technology in a practical setting, but they were not continued after the Project was over. During the Project period, almost all JT/JTA acquired agricultural technology at T/D farms, but the JT/JTA appointed after the Project was over had no opportunity to learn practical agricultural technology, and lacked technology at a level at which they could guide farmers. DADO ran T/D farms with their own budget for about 6 months prior to the Project's completion. DADO should consider resuming the T/D farm initiative to utilize this experience and provide a place for practical training. Sindhupalchowk districts plans to include T/D farm management in its budget for the next fiscal year. DADO in the other 4 districts should also secure budgets for the administration of T/D farms in the next fiscal year budget and make preparations to resume this initiative. When doing so, tools for agricultural extension prepared in the project such as the video introducing T/D farms, the Norm prepared by the T/D farm internalization committee, and transfer knowhow could be utilized.

2) Utilizing E/M farmers' extension activities

E/M farmers' technology and knowledge was strengthened through Project support, such as training of E/M farmers and on-site observation. Even now, E/M farmers contribute to agricultural extension by giving advice to the farmers they visit and visiting neighboring farmers on their own to transfer agricultural technology. E/M farmers play a very important role as they are able to carry out agricultural extension activities on a continuous basis, unlike extension workers who are transferred every 2 to 3 years. Since interviews showed that they are extremely motivated to help other farmers, DADO should continue to proactively utilize E/M farmers as training instructors and places to send other farmers for on-site visits. Moreover, 35 farmers were chosen to be E/M farmers and improved their capacity in the Project, but this is a low figure compared to the number of farmers in the ADC (one per 430-1,300 households), and thus an increase in the number of E/M farmers should be considered.

4.2.2 Recommendations to JICA

None in particular

4.3 Lessons Learned

1) Ensuring that new concepts are well established and sustainable

3 ex-ante surveys were carried out in this Project, but Nepal's specific strategies and approaches were not clarified, and after the Project began, new concepts such as ADC and T/D farms were

introduced on the Japan side's recommendation. However, continuity after the Project had ended was low due to weak efforts to institutionalize these approaches. When new extension systems and methods are introduced, the project should confirm that the systems and methods are consistent with the partner country's laws and regulations, clarify the organization responsible for implementation and the management system, and provide support for the institutionalization of the foundational budget provisions. It is also important to put together clear output for the project's foundation, and attempt to incorporate this output in the policy and institutional framework.

2) Improving existing systems for extension of Project output

The ADC and T/D farms that were one output of the Project's were not extended after the Project was completed because a system and incentive mechanisms for the itinerant activities of JT/JTA responsible for extension activities had not been developed. The mid-term evaluation and terminal evaluation also pointed to the importance of considering a system to appropriately evaluate extension workers' activities and reflect this in promotion and positions, provide appropriate benefits and travel costs, and improve extension workers' incentives. However, no specific measures have been considered, and the Project also took no steps to address this. It is important to form projects with a medium- to long-term perspective so that prior to the project's implementation, the sustainability of project output and the possibility of extending them to other regions within the existing framework is confirmed with the implementing organization, improvements to the existing framework are included as one of the project components as necessary. If this is not possible, activities that can be sustained and extended within the existing framework should be carried out.

3) Promoting ties between farmers and related organizations

By organizing ADC, this Project made it possible for farmers' groups to access related organizations (DADO, VDC, NGOs, etc.) on their own and obtain resources and input. Specifically, farmers' groups were not only the recipients of extension programs run by related organizations and donors, but requested the support they needed through ADCs. There were also cases of farmers carrying out programs on their own. Interviews with ADC revealed other output by farmers' groups, such as "we asked DADO for cooperation, and as a result we receive technical support from DADO even after the Project's completion" and "ADC requested allocation of 15% of the VDC's budget, allocated for agriculture, and we received this funding." In countries such as Nepal in which agricultural extension is being expanded through support for farmers' groups, one effective strategy is to give farmers' groups support for independent activities so that they can obtain the resources and input they need for extension by proactively appealing to related organizations.

At the same time, as important as initiatives led by farmers are, support such as technology and financial resources from public organizations is an important element, and thus establishing the systems and policies underlying ongoing support are crucial.