Summary of Terminal Evaluation Result

<table>
<tr><td colspan="3">1. Outline of the Project</td></tr>
<tr><td colspan="2">Country: Republic of Bolivia</td><td>Project Title: Project for the Improvement of Technical Extension for Small-Scale Livestock Farmers</td></tr>
<tr><td colspan="2">Issue/Sector: Technical Extension of Livestock Farming</td><td>Cooperation Scheme: Technical cooperation project</td></tr>
<tr><td colspan="2">Division in Charge: JICA Bolivia Office</td><td>Total Cost (at the time of evaluation): 246,000 thousand yen</td></tr>
<tr><td rowspan="3">Period of Cooperation</td><td rowspan="3">(R/D): 1 Oct, 2004
Period of Cooperation: 4 years
(4 Dec, 2004 – 3 Dec, 2008)</td><td>Partner Country’s Implementing Organization:
C/P Organization: Centro Nacional de Mejoramiento de Ganado Bovino (CNMGB)</td></tr>
<tr><td>Supporting Organization in Japan:
Ministry of Agriculture, Forestry and Fisheries</td></tr>
<tr><td>Related Cooperation Projects: “Livestock Breeding Improvement Project” and “Beef Cattle Improvement Project"</td></tr>
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1-1 Background of the Project

In Bolivia, “Livestock Breeding Improvement Project” and “Beef Cattle Improvement Project" have been carried out and various livestock farming techniques have been transferred. However, small-scale livestock farmers, who are struggling to make a living by livestock farming, have not been able to adopt such techniques and knowledge that have not been modified for small-scale farming operations.

Moreover, in Bolivia, the scope of technical guidance is limited because the technical extension activities are separately conducted by a livestock farming association and a NGO that are not specialists for technical extension. Technical extension is not properly conducted in the country because the skill level of the extension staff of such organizations is low and their instructions lack consistency. As a result, technical problems such as a high mortality rate of calves and inappropriate sanitary measures still remain today. Lack of information is another key factor in holding the level of the farmers’ skills in various areas below average. Since these problems have a great impact on the milk production quantity (= income) of small-scale livestock farmers, there is a need to adjust techniques to small-scale farming operations and to successfully transfer the adjusted techniques to farmers in an easy-to-understand way.

Against this background, *Centro Nacional de Mejoramiento de Ganado Bovino (CNMGB)* (National Livestock Improvement Center), holding a responsibility of improving the productivity and competitiveness of Bolivian livestock farming through the increase of milk and meat production, played a central role in modifying farming techniques and enhancing the abilities and organization of technical extension personnel. This four-year project was launched in December 2004 at the request of CNMGB for a project to establish a technical extension model that can be utilized in other regions.

1-2 Project Overview

(1) Overall Goal

The productivity of small-scale livestock farmers in the region of Yapacaní is improved.

(2) Project Purpose

A technical extension model for small-scale livestock farmers is established in Yapacaní, Ichiro.

(3) Outputs

1) A framework for technical extension is established.
2) Useful techniques [management of animal feeding, reproduction, health and grassland] for productivity improvement of small-scale livestock farmers are developed.
3) Extension staff and technical specialists who can conduct appropriate extension activities are developed.
4) Model groups learn and maintain appropriate techniques.

(4) Inputs (at the time of evaluation)

Japanese side:

Long-term Experts	4	Equipment	13,382 thousand yen
Short-term Experts	2	Local cost	25,553 thousand yen
Trainees received	8		

Bolivian side:

Counterparts	13 Secretary 1, Driver 1
Land and Facilities	CNMGB Head Office, Yapacaní Extension Office, *Centro Experimental Agroperuario en la Unidad Académica de Yapacaní de UAGRAM)* (Agriculture and Stock Raising Experiment Station of Yapacaní Campus of UAGRAM University)
Local Cost	3,774 thousand yen (Until December 12, 2007)

2. Evaluation Team

Members of Evaluation Team	(1) Leader: Toshiyuki Ezuka (Resident Representative, JICA Bolivia Office) (2) Livestock Farming Techniques/ Extension: Yoshiro Tozawa (National Livestock Breeding Center) (3) Project Management: Hiromi Nai (Staff, JICA Bolivia Office) (4) Analysis Evaluation: Demis Andrade (Local consultant)	
Period of Evaluation	21 Jun, 2008 – 2 Jul, 2008	Type of Evaluation: Terminal Evaluation

3. Results of Evaluation

3-1 Project Performance

The overall progress level of the project purpose to develop a extension model for small-scale livestock farmers was able to say satisfactory, as its indicators were almost acomplished at the time of the evaluation. Considering the fact that the basic technical framework and personnel for the model were put in place, the project purpose is considered to have been accomplished at a satisfactory level. If the rate of the farmers who "continuously utilize the improved techniques" had been raised as aimed at in an unaccomplished indicator, the project purpose would have been accomplished at a higher level. The result of this indicator improved from 11% in December 2006 (at the time of mid-term evaluation) to 46% at present (approx. 4.2 times higher). However, disparities among model groups caused by a lack of infrastructures and basic services (especially backward in the Model Farmers 4 and 5) affected the entire result. The overall achievement level of the expected outputs was also satisfactory level at the time of evaluation. The level of achievement of framework establishment is considered high.

5 Model groups have formed as the plan and the Model Farmers that play central role in the group have achieved 60.7%(target level:50%) increment of lactation yield and 31% increment of fecundity rate (target level:20%) Also 11 core extension staff (target number:9) and 127 technical extension staff have formed.

3-2 Summary of Evaluation Results

(1) Relevance: Very high

1) Consistency with the Bolivian policies

Ministerio de Desarrollo Rural, Agropecuario y Medio Ambiente (Ministry of Rural Development, Livestock and Environment) having declared a policy to promote production development for small-scale livestock farmers as part of its sector development plan, is trying to change and improve production patterns in the agriculture, stock farming and food production sectors through the two programs of CRIAR (PASA) and EMPODERAR (PAR). Recognizing the importance of technical extension, it is also planning to found *Instituto Nacional de Innovación Agroforestal (INIAF)* (National Institute of Agricultural, Livestock and Forestry Innovation), which will conduct investigative research, technical transfer and technical guidance.

Under the current situation where there is no extension effective system, supportive actions for

productivity improvement of small-scale livestock farmers are considered to consistent with such policies of the government.

2) Consistency with JICA policies

JICA aimed at accelerating economic growth through the improvement of a preferential production chain in a "production chain/community development program". This project was to construct a structure to increase milk production in the region of Yapacaní, and did contribute to the milk production increase in the region. Therefore, the implementation of this project is considered to be consistent with the policies of JICA Bolivia.

3) Consistency with the needs of the beneficiaries

In addition to agriculture, dairy farming widely prevails among producers in the target area of the project, either as a major income source or for captive consumption. However, the transfer of applied techniques is greatly needed because the productivity is low. In this context, the attempt to disseminate a series of techniques suitable for the region met the needs of the local producers.

4) Selection of the target area and beneficiaries

In the target area, productivity is low both in the full-time dairy farming sector and in the part-time dairy farming sector (dual-purpose breed for milk and beef), and the support to livestock farming development is not sufficiently provided. The area of *Honorable Alcaldía Municipal de Yapacaní (HAMY)* (Yapacaní Municipal Government) has jurisdiction over is a domestic settlement suffering from rapid soil deterioration, characteristic of slash-and-burn shifting cultivation. Therefore, the local farmers have no choice but to use the land as extensive pasture and the productivity stays low. From this viewpoint, conducting extension activities in this area was an appropriate decision.

(2) Effectiveness: Average

The effectiveness of the project was affected by external factors.

1) Prospect of the accomplishment of the project purpose

When constructing a extension model based on groups of livestock farmers with model farmers at the core, development of extension staff and extension promoters and extension of improved techniques, all the indicators but one were accomplished. As the unaccomplished indicator is also expected to be accomplished, there is a high possibility that this model will be brought to completion.

2) External factors that hindered the project

- Discharge of extension staff for some political reason or for the convenience of the organizations (HAMY and FSCPAPIY) hindered nurturing of extension staff. As a result, the Project had to form the extension staff again.

(3) Efficiency: Average

1) Cost-effectiveness

Regarding the development of model farmers, development and extension of improved techniques and nurturing of extension staff, the ratio of the project's operating expense and investment to the total budget was low. As for model farmers, the ratios of the costs borne by the project and beneficiaries stayed at an acceptable level, 62% by the project and 38% by the model farmers.

Production investment in farmers increased productivity although the ratio to the total cost borne by the Japan side was as low as 15%. Considering that the average cost required for the workshop provided for the purpose of wide extension and on-site training of the *Grupos de Transferencia de Technología (GTT)* (Technical Transfer Group) was only Bs. 3.00 (approx. 45 yen) and Bs. 3.50 (approx. 53 yen) per beneficiary, respectively, it is noteworthy that the new and simple extension scheme established by the project significantly increased the effectiveness of the operating expenses.

2) Quality and quantity of inputs

As a whole, the investments in project operation and development of model farmers were appropriate both in terms of quality and quantity. There was a small qualitative problem about the investment that motorbikes were purchased only based on a financial decision but with no consideration of stocks of motorbike parts. This problem increases the maintenance and repair cost at present.

3) Project operation

During the first half of the project implementation period, the project did not make much progress due to lack of coordination between experts and their counterparts, language gap and other external factors.

The situation improved from the third year as the political and social circumstances changed and weekly meetings were held. However, there were still some problems such as different understandings between the field staff and the accounting personnel, as mentioned in above 2). Although CNMGB provided proper technical supports in the training of extension staff and promoters, it was also tied up with its other various primary duties and responsibilities.

4) External factors that hindered the project

- During the initial stage of the project, HAMY and *Federación Sindical de Colonizadores Productores Agropecuarios Provincia Ichilo - Yapacaní (FSCPAPIY)*(Yapacaní Immigrant Farmers' Association) requested the project to supply fund to beneficiaries. Such extreme political and social environment affected the smooth implementation and operation of the project.
- Flood damages in 2007 and 2008 delayed the development of the Model Farmer 5 and technical transfer to model groups.

(4) Impact: Large

1) Prospect of the accomplishment of the overall goal

Although the overall goal is likely to be accomplished over time after the project closure mainly for about 2,000 − 3,000 families of small-scale livestock farmers, there will be no concrete (qualitative) impact achieved in a short time. The uncertain external factors that might have a negative impact on the accomplishment of the overall goal include the followings.

- Lack of production support infrastructures (such as roads and basic services)
- Beneficiaries' defiance toward technical renovation and development
- Inappropriate livestock farming extension policy adopted by INIAF
- Establishment of an inappropriate sustainability development strategy
- Increased purchase of high producing dairy cattle without proper feeding conditions

2) Impact on small-scale livestock farmers

As the milk production dramatically improved, there was a positive economic impact on the small-scale livestock farmers in the model groups. The techniques disseminated by the project had a short-term impact by improving productivity and achieving cost effectiveness for the livestock farmers. For example, the daily milk production of the Model Farmer No.1 has increased from 90L/day to 225L/day at the time of evaluation and the daily milk production of the Model Farmer No.2 has increased from 1.8L/day/cow to 3.3L/day/cow. Moreover, the milk price rise that started in October 2007 contributed to the increase of income from milk sales.

3) Impact on organizations

The infrastructure development carried out by the project, such as the introduction of high quality cattle, segmentalization of pastures, installation of wells and construction of roads in farms, which will be useful for establishing livestock extension study in the future, had a positive impact on the *Centro Experimental Agroperuario en la Unidad Académica de Yapacaní de UAGRAM (CEA-UNAYA)* (Agriculture and Stock Raising Experiment Station of Yapacaní Campus of UAGRAM University) of consolidating its foundations as an education and research institute. The impact will be further increased if *Centro Experimental Agropecuario de UNAYA (CETA)* (Stock Raising Techniques Extension Center) is reinforced as a center of livestock raising techniques development in the region.

4) Possible negative impact

The project had no big negative impact.

(5) Sustainability: Average

1) Organizations and policies

After a new organization structure and responsibilities of operation and administration departments were determined according to the recommendations of the mid-term evaluation, a technical committee consisting of local organizations was formed mainly to develop sustainability strategies of the project. The committee has expressed the intention to secure continuity for extension staff of the project.

CEA-UNAYA is in the process of being established as an operation and management center for the project as its operation is now linked to the project.

In order to address "extension" as its regular activities, CNMGB has submitted new rules to the board of directors of the university. However, the rules have not been approved due to the delay of internal procedures. The activities and standards of CNMGB will not be officially defined before they get approval of the board of directors. Therefore, the activities of CNMGB may be interfered with by the politicians (directors) who have administrative authority in UAGRAM and want to have control over and take advantage of CNMGB.

2) Finance

The local organizations concerned have assured that they will continue to finance at least the 9 extension staff who have been trained by now. However, their statement is not reliable as such organizations did not make payments of "activity support expense" during the project implementation period. Although there is no clear strategy for the management of project investment, operating expenses and assets, the temporary technical committee is supposed to have a responsibility for fund raising and management to the organizations concerned including HAMY, *Asociación de Productores de Leche (ASOPLE*)(Yapacaní Milk Producers' Association), UNAYA and *Asociación de Ganaderos de Yapacaní (AGAYAP)* (Yapacaní Livestock Farming Association).

3) Techniques

A series of techniques have been established and modified in the project to generate synergistic effects among local producers. There is also a plan to reinforce CEA-UNAYA as a technical specialist training center in order to complement the model extension activities. CNMGB keeps high-level skills and is able to address technical needs of the local livestock farmers. They will still be able to address such needs without Japanese experts.

Examination was given to all extension staff about extension methods, ethics of extension personnel, raising, feeding, health and breeding of dairy cattle. The average score was 82.9 out of 100 points. It has become clear that the extension staff has acquired most of the knowledge required for the extension. They only need a little more knowledge about extension methods.

3-3 Factors Promoting Better Sustainability and Impact

(1) Factors concerning to planning

Nothing particular

(2) Factors concerning to the implementation process

From a technical point of view, the first half of the project can be characterized as the stage of adjustment of a series of extension techniques, adaptation of detailed extension techniques and individual technical guidance. On the other hand, during the latter half, technical transfer and extension were carried out based on workshops and technical group guidance (in the GTT method and the extension method based on producer groups around model farmers = PTT). As a result, the number of beneficiaries dramatically increased and is still increasing. As the rate of small-scale farmers adopting the GTT or PTT method is also increasing, there is a positive change in their attitude toward the project. The extension organizations involved in the project did not appreciate the project and demanded too much in the first half of the project period, but now keeps a high level of awareness and a low level of demands.

3-4 Factors inhibiting better sustainability and impact

(1) Factors concerning to planning

- Lack of a language skill of extension promoters and inappropriate staffing in the project site in the first half of the project period
- Lack of consideration at the time of project initiation about organizational and financial measures to be taken after the project closure

(2) Factors concerning to the implementation process

In the initial phase of the project, local farmers had misguided expectation that the project would distribute fund to them, due to irresponsible rumors spread by a political group. Other factors inhibiting smooth communication include insufficient knowledge about the sites of the experts and counterparts

stationed at CNMGB and unstable employment status of the extension staff. Thanks to the change of government, communication improved through weekly project meetings that started in the latter half of the project period, and, in the technical aspect, workshops and group technical guidance, the number of farmers who accept the project is now continuously increasing. However, as for the bearing of activity support expense for extension staff, there were some cases where the promise with the project (to increase the cost amount borne by the local organization by 25% each year) was not carried out. The degree of technical transfer to the model group farmers with model farmers at the center differ among model groups. Reasons for a low degree of technical transfer stays include the low motivation of model farmers who do not conduct dairy farming full-time, some family problems and low leadership ability.

3-5 Conclusion

During the first two years, the progress of the project tended to delayed due to social and political interference and lack of coordination within the project. However, the project purpose and outputs have been mostly accomplished by the time of this evaluation. This project should be closed as originally planned because it has been confirmed that the disseminated techniques can be maintained without Japanese experts. However, persons and organizations involved in the extension need to be reinforced with the support of Japanese experts before the project closure so that they can maintain the model established by the project. All the activities conducted in the project implementation processes achieved a satisfactory level of result. Sustainability of the project depends on the actions taken by the organizations involved and efforts made by the technical committee by the end of the project closure in December this year. Sustainability of the project depends on the actions taken by the organizations concerned and efforts made by the technical committee made by the time of the project closure in December this year. More specifically, the challenges are to reinforce CEA-UNAYA and to expand the extension of simple techniques selected by the project. The level of implementation and expected functions varied among model farmers, who were the basis of the extension, because such farmers were selected among those at different levels.

3-6 Recommendation

(1) Actions to be taken before the project closure

Regularly assemble the technical committee to consider how to continue the following activities after the project closure.

1) Appoint persons in charge of extension of the methods employed by the project in order to maintain the present situation where technical specialists and extension staff act in unison.
2) Draw up and approve rules and regulations of a extension committee that will consist of local organizations to conduct extension after the project closure.
3) Select directors of the extension committee among participating organizations in a fair manner and form a board of directors.
4) Position the extension committee at a higher level than the existing extension organizations. Stipulate stable activities of the extension staff in the organization rules.
5) Stipulate that any change of rules and regulations need advance approval of the project or the extension committee.

Moreover, carry out the remaining task of creating audio-visual materials that can be used as a basic manual for small-scale producers and collect up experiences of technical cooperation, training and investment provided by the project to the model farmers.

(2) Actions to be taken after the project closure

- Develop techniques for small-scale farmers, reinforce the extension committee and hold regular meetings to ensure sustainability.
- When selecting model farmers, the team of promoters should adopt classification of farmers by milk production quantity to increase the effect.
- MDRAyMA should regularly follow up extension activities in close coordination with the local organizations.
- Support organizing farmers through technical transfer activities so that they will have access to agricultural loan and revolving fund and the input components will be enhanced.

3-7 Lessons Learned

In a country with extremely weak organizations like Bolivia, detailed research of politics and local organizations is required during the investigation phase of the project planning. Activities and inputs for reinforcement of organizations also need to be included in the plan. Project implementation strategies should include actions to raise the beneficiaries' awareness of the importance to acquire techniques and knowledge rather than commodities and funds and to change their attitude.

Moreover, it is also important for experts and counterparts to be stationed at the project site for the purpose of proper coordination and management of those involved in the project.