

The Beef Cattle Improvement Project



Project Sites Trinidad, Montero

1. Background of Project

In Bolivia, approximately 6 million heads of beef cattle, mostly indigenous breeds, are being raised. The productivity of these cattle had been low due to a crude breeding method, and improvements have yet to be attained. It is important for Bolivia, whose caloric intake per person is at the lowest level among the Latin American countries, to progress the productivity of beef cattle in order to improve their nutritional status.

Under these circumstances, the Government of Bolivia presented the following as urgent issues for the nation to accomplish: 1) ameliorate productivity through improvement of beef cattle, and 2) stabilize and further enhance the income of livestock farmers. Bolivia requested a project-type technical cooperation from Japan that aims for a well-planned introduction and improvement of high quality beef cattle and the increase of productivity by improving comprehensive feeding techniques.

2. Project Overview

(1) Period of Cooperation

1 July 1996 – 30 June 2001

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Main site: Breeding Improvement Center of Gabriel Rene Moreno Autonomous University

Sub site: Breeding Improvement Sub-Center of Beni Technical University

(4) Narrative Summary

1) Overall Goal

The progress of productivity in beef cattle, the rise in income and the security of Bolivian farmers will be accomplished through the genetic improvement of beef cattle.

2) Project Purpose

Through the enforcement of a planned introduction of superior Nelore, and related execute system, all feeding techniques for beef cattle, which include breeding, reproduction, and feed production, will be improved.

3) Outputs

- a) Beef productivity is improved through systematized genetic improvement in the direct station testing of beef cattle.

- b) Genetic improvement in beef cattle is accelerated by an AI (artificial insemination) and ET (embryo transfer) technology transfer.
- c) Quarantine for introducing the animals is established in line with the sanitary technology transfer and by arranging the facilities.
- d) An annual grazing system is introduced by intensifying the use of electric fences.
- e) By acquiring grazing technology fit for grassland establishment and maintenance, the productivity of the forage crop and grass is improved.
- f) Because of the transfer of hay and roughage reservation techniques, the alimentary condition of the cattle is improved.
- g) The manuals of transferred technology for each field are accomplished.
- h) With the advanced technology, counterparts will be able to train technicians working with the beef industry.

4) Inputs

Japanese Side

Long-term experts	11
Short-term experts	22
Trainees received	21
Equipment	235 million yen
Local cost	78 million yen

Bolivian Side

Counterparts	22
Local cost	2.23 million U.S. dollars (approx. 275 million yen)

3. Members of Evaluation Team

Team Leader:

Tadashi MATSUKAWA, Shirakawa Institute of Animal Genetics, Japan Livestock Technology Association

Feeding Management and Forage Production:

Hiroshi TAKEMOTO, Director, National Livestock Breeding Center, Tokachi Station, Ministry of Agriculture, Forestry and Fisheries (MAFF)

Policy and Cooperation:

Yuichi NAKAMURA, Chief of Project Cooperation Section, Technical Cooperation Division, Institutional Affairs Department, and General Food Policy Bureau, MAFF

Evaluation and Cooperation:

Hidetaka FUNO, Deputy Director, Division of Livestock and Horticulture, Department of Agricultural

Development Cooperation, JICA

Operation and Management:

Noriharu MASUGI, Division of Livestock and Horticulture, Department of Agricultural Development Cooperation, JICA

4. Period of Evaluation

9 January 2001 – 19 January 2001

5. Results of Evaluation

(1) Relevance

It was appropriate for the project to have presented the bull performance testing method since there had been very few effective performance evaluation systems for breeding stock in Bolivia. Furthermore, they had developed organizations that operated the testing. These facts prove the relevance of this project.

(2) Effectiveness

In terms of genetic improvement Nelore was chosen as the type of breed that would be improved, as it was considered to be adequate to the local breeding circumstances. As a result, 726 grams of daily weight gain were recorded on average at the direct station testing of weanlings on pasture for 280 days. The results were highly appropriate because Nelore is commonly known as a slow-growing breed.

In areas of reproductive health and feeding management, they produced remarkable outcomes, such as technical manuals that contributed to establishing and extending the technology transfers to their counterpart. Thus, the technology in these areas are recognized as being well-transferred according to plan.

On the other hand, a part of the examination of pasture and forage crops has yet to be completed. However, it has been assumed that the objectives are also being accomplished.

(3) Efficiency

Bull performance testing was performed efficiently and in cooperation with large-scale livestock farmers, who loaned their best calves to the project. However, it might have been better if low-cost feeding management was transferred to the small and medium-sized farmers, as they comprise the majority of Bolivia's livestock industry.

Although the local cost, which was the responsibility of the Bolivian side, was occasionally handled in an inefficient manner, the operation was put forward steadily in the areas of reproductive health, feeding management, and forage crop production.

(4) Impact

The genetic improvement of beef cattle will have a large impact if bull performance testing is established. For feeding and management areas, techniques such as placing low-cost simple fences and providing supplemental roughage are extended and established, which some large-scale farmers have already applied. Some large-scale farmers are also taking advantage of the transferred techniques of efficient hay production adjustments.

(5) Sustainability

The counterparts understand the significance and method of bull performance testing for the genetic improvement of beef cattle, assuring the testing operation to make good progress.

It has been considered that the technologies for feed-



Embryo transferred calf and its mother

ing management will further progress with the development of a system that will accumulate data for technological improvement and develop applied technologies based on the data. It will be made possible by establishing cooperation with other existing institutions.

Pasture and forage crop production is expected to be sustainable while continuous systems and techniques for production have been established.

In addition, the beef cattle improvement center was integrated with the Livestock Artificial Insemination Center (CIABO), and operated as the National Livestock Improvement Center currently in order to sustain itself financially and strengthen the managing function.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Participatory planning should be conducted with counterparts on the project formulation stage. Also, it is essential to conduct monitoring and evaluation regularly using the Plan of Operation and PDM.

(2) Recommendations

In order to improve accuracy and establish technologies, the bull performance testing should be performed at least two more times after the termination of this project.

Since this project could not transfer technologies to small and medium size farmers as it did to large-scale farmers, they are expected to be extended by the further efforts of the counterparts. So as to enhance sustainability, advice concerning organizational matters such as financial structures, as well as technical advice is needed.

7. Follow-up Situation

A follow-up expert has been dispatched as a "Beef cattle improvement advisor" from July 2001 for a period of two years. The expert would be performing the collective direct station testing and giving advice on the management of the Center that had been integrated with CIABO in July 2001. The aim is to increase the sustainability of the Project.