

Country Name	The Beef Cattle Development Project Utilizing Local Resources in the Eastern Part of Indonesia
Republic of Indonesia	

I. Project Outline

Background	West Nusa Tenggara Province (hereinafter referred to as “NTB”), located in the eastern part of Indonesia, is the one of the less developed provinces in Indonesia: the provincial GDP per capita of 450 USD which was the 5th least provincial GDP per capita among 34 provinces in the country and the poverty ratio of 24.5% which was the 6 highest poverty ratio in the country (BPS ¹ Data and Information of Poverty 2004). On the other hand, available lands for farming were limited in the province due to the sloping lands. Under those situations, the provincial government of NTB promoted beef cattle production for local farmers to increase their income. However, 23.6% of the beef cattle farmers (107,000 farmers) had small scale production with 3.8 cattle in average. In addition, useful production methodologies for the local farmers in the province were not established. Therefore, it was necessary to develop effective beef cattle production methodologies including support system for farmers, locally appropriate production technologies as well as extension system in the province.												
Objectives of the Project	Through establishment of beef cattle production model for Lombok Island and Sumbawa Island (the Lombok model ² and the Sumbawa model ³), establishment of dissemination system of the models, and establishment of supporting system for improving the models, the project aimed at increasing income of farmers in the pilot project, thereby increasing the number and income of beef cattle farmers in West Nusa Tenggara Province. The following project objectives were set forth.												
	<ol style="list-style-type: none"> Overall Goal: Number and income of beef cattle farmers increase in West Nusa Tenggara Province. Project Purpose: Income of farmers in the pilot project increases through beef cattle production in West Nusa Tenggara Province. 												
Activities of the project	<ol style="list-style-type: none"> Project site: West Nusa Tenggara Province Main activities: 1) Development of beef cattle production technology in Artificial Insemination Installation Banyumulek (BIBD/BPLPKH Banumulek) and Animal Hospital and Laboratory Veterinary Installation Banyumulek (BRSHLV), 2) Technical development and proof activities for the selected 4 model farmer groups at farms of Banumulek and Serading, 3) Training of Trainers (TOT) for gaining beef cattle production knowledge and skills of the technical officers, extension workers in 4 regencies and leaders of the model farmer groups as the trainers of farmers, 4) Dissemination and group formulation assistance activities for the selected 40 pilot farmer groups in the 4 regencies Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Indonesian Side</td> </tr> <tr> <td>1) Experts: 15 persons</td> <td>1) Staff allocated: 15 persons</td> </tr> <tr> <td>2) Trainees received: 28 persons</td> <td>2) Land and facilities: Office spaces, training facilities, laboratory spaces, etc.</td> </tr> <tr> <td>3) Equipment: Frozen semen storages, chopper machines, PCs, motorbikes, vehicles</td> <td>3) Local cost: IDR. 1,075 million</td> </tr> </table> 					Japanese Side	Indonesian Side	1) Experts: 15 persons	1) Staff allocated: 15 persons	2) Trainees received: 28 persons	2) Land and facilities: Office spaces, training facilities, laboratory spaces, etc.	3) Equipment: Frozen semen storages, chopper machines, PCs, motorbikes, vehicles	3) Local cost: IDR. 1,075 million
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Ex-Ante Evaluation	2005	Project Period	November, 2006 to November, 2011	Project Cost	(Ex-ante) 400 million yen (Actual) 485 million yen								
Implementing Agency	- Directorate General of Livestock and Animal Health Services, Ministry of Agriculture (DGLAHS, MoA), - Provincial Livestock Services, Government of West Nusa Tenggara Province (NTB Province)												
Cooperation Agency in Japan	Ministry of Agriculture, Forestry & Fisheries												

II. Result of the Evaluation

<Issues to be considered and constraints at the ex-post evaluation>

[Achievement of the Project Purpose]

- In the latest PDM Ver.2, there is no direct causal link between the Project Purpose and its verifiable indicator. While the Project Purpose is “increase in income of the pilot farmers”, the verifiable indicator for the Project Purpose is “increase in the number of beef cattle raised by the pilot farmers”, though it is witnessed that the latter usually leads to the former. Nevertheless, for the consistency between the terminal evaluation and ex-post evaluation, the achievement of the Project Purpose should be verified by the verifiable indicator set in the PDM Ver.2 as the Terminal Evaluation.

[Achievement of Overall Goal]

- Baseline of the indicator was changed from 2006 to 2011 after the terminal evaluation. This revised indicator is applied at the ex-post evaluation.
- Achievement of the Overall Goal is based on data and information for four regencies that were the targeted areas of the project and data for NTB are shown as reference. It is because of difficulty to verify contribution of the project to changes in “the income of beef cattle farmers in NTB” due to the 4 target regencies out of total 9 regencies in NTB and external factors largely affecting the income of beef cattle farmers in NTB other than the project contribution. In addition, livelihoods of most farmers in NTB relying on not only beef cattle farming but also production of rice and other agricultural products constrained against verification of contribution of the project to increases in income of farmers in NTB.

1 Relevance

<Consistency with Development Policy of Indonesian Government at the time of ex-ante evaluation and the project completion>

The project was consistent with the Indonesia’s development policy of rural development in the eastern part of Indonesia and

¹ Central Bureau of Statistics (Badan Pusat Statistik)² The Lombok Model is stall barn-based intensive beef cattle raising method which promotes compost production for organizational strengthening.³ The Sumbawa Model is grazing-based extensive beef cattle raising method which promotes the one year one birth and the calf loss mitigation measure through nutrition improvement.

establishment of beneficial livestock farming structure making maximum use of local livestock species” set forth in the policy documents including the Mid-term National Development Plan (2004-2009) and National Livestock Development Plan (2005-2009).

<Consistency with Development Needs of Indonesia at the time of ex-ante evaluation and the project completion>

The project met the development needs of Indonesia to increase small scale farmers’ income through expansion of beef cattle production in quantity and quality in the areas of NTB with difficulty in double cropping.

<Consistency with Japan’s ODA Policy for Indonesia at the time of ex-ante evaluation>

The project was consistent with one of the priority areas of the Japan’s Country Assistance Program for the Republic of Indonesia (2005-2009) to support development in agricultural and fishing communities.

<Evaluation Results> In the light above, the relevance of this project is high.

2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the time of project completion>

The Project Purpose was achieved by the project completion. Through the project activities, the total number of the beef cattle of pilot farmers groups increased from 2,776 in September 2008 to 4,623⁴ in March 2011, which made an 80% increase among 4 regencies.

<Continuation Status of the Project Effects at the time of ex-post evaluation>

After the project completion, all the pilot farmers groups, which were 10 groups each formed in the 4 target regencies, have continued the acquired techniques of the Lombok model or the Sumbawa model. The number of farmers joining the farmers groups has also been increasing. The new farmers could obtain knowledge from the other farmers or farmers groups as well as from the staff of the provincial and regency livestock offices who have already learned the Lombok and Sumbawa models from the project. In other words, through effective share and care between the government staffs of the institution of livestock and veterinary service and the farmers, transfer of the technology and dissemination of information to other members and stakeholders have been promoted. The number of beef cattle raised in the pilot farmers groups interviewed in the four regencies has increased from 352 in 2011 to 1,137 in 2015 (estimation), then the average number of beef cattle raised by the interviewed farmers in the pilot farmers groups is expected to reach more than doubled in 2015 compared to 2011. This is mainly because of (a) profitability of the beef cattle business, (b) the availability of accessible financial credit for beef cattle farmers groups, and (c) the continuity of government policies such as the West Nusa Tenggara Province Land of Million Cattle Program (NTB-BSS) aiming at to the increase in the number of beef cattle in NTB up to 1 million heads, which was achieved in the end of 2014. In Sumbawa Regency, in particular, the increase in the number of beef cattle raised by group farmers is outstanding: from 50 in 2011 to 600 in 2015. The farmers obtained more knowledge about management and production, as well as good feeding, which increased their awareness in looking after beef cattle. Their better management resulted in higher income from the beef cattle production.

<Status of Achievement of the Overall Goal at the time of ex-post evaluation>

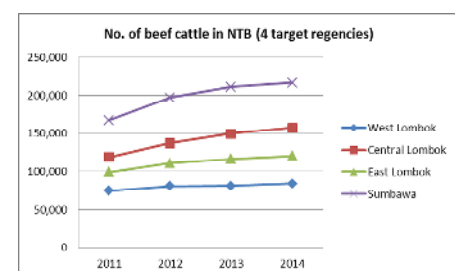
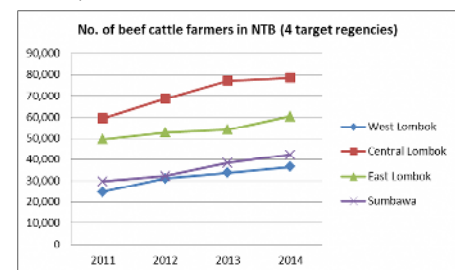
The Overall Goal has been achieved as all the indicators of the increase in the number of beef cattle farmers in NTB and beef cattle in the target 4 regencies as well as income from sales of beef cattle in the 4 target regencies were met. While the number of beef cattle has been fluctuating year by year in the entire province of NTB despite the upward trends, it has steadily grown in the 4 target regencies. These achievements are partly attributed to the activities of the project such as: (a) dissemination of beef cattle raising technologies to the new members of the farmers groups partly through the group-based technology transfer activities promoted by the project and (b) the increase in the number of beef cattle raised by each farmer through trainings of the improved feeding management developed by the project. In addition, other external factors such as the government policies including the NTB-BSS aiming at the increase in the number of beef cattle in NTB to 1 million, the increase in sales price of beef cattle in NTB due to high demand for beef cattle seeds (calf heifers) from other provinces to NTB, the increase in the number of beef cattle sold by farmers due to high demand of meat from both NTB and Java Island, and high quality of the beef cattle, also contributed to the achievement of the Overall Goal. On the other hand, there are gaps in the achievement level of the Overall Goal among the 4 target regencies because different environments and situations in islands of Lombok and Sumbawa, different approaches and activities by the Regency Livestock Service Offices as well as different types of beef cattle by regency and farmer.

<Other Positive and Negative Impacts>

The project has brought about several positive changes in NTB and other provinces. The first one is the technical transfer from NTB and its former project counterpart staff to livestock officers from other provinces several times through technical trainings using the training module and materials developed by the project despite deficiency in concrete mechanism to disseminate the beef cattle raising technique introduced by the project in the context of decentralization and the limited commitment by the Central Government to the project activities. Secondly, more than half of the farmers interviewed by the survey team of ex-post evaluation could reduce the cost of purchase of chemical fertilizer used for their own agricultural activities by using fertilizer produced by compost. Thirdly, as the farmers were able to acknowledge the marketing price and to strengthen the groups, they were able to negotiate the price with middleman by comparing with the information from other farmers and livestock market. Negative impact on natural and social environment and any other positive and negative impact by the project were not observed.

<Evaluation Results>

The project achieved the Project Purpose and the Overall Goal. Also the project brought about the positive impacts of dissemination of beef cattle raising technologies to other provinces and the improvement of the beef cattle farming management and marketing of the farmers in NTB. Therefore, effectiveness/impact of the project is high.



⁴ This figure was calculated based on subtracting 360 (which is the number of the beef cattle provided by the project and the other program to the pilot farmers groups) from 4,983 (which is the total number of the beef cattle of pilot farmers groups).

Achievement of project purpose and overall goal

Aim	Indicators	Results																								
(Project Purpose) Income of farmers in the pilot project increases through beef cattle production in West Nusa Tenggara.	(Indicator 1) The number of beef cattle raised in the pilot farmers groups increase compared to the number of cattle at the start of the pilot project.	<p><u>Achievement: Achieved (Continued)</u> (Terminal Evaluation)</p> <ul style="list-style-type: none"> The total number of the beef cattle of pilot farmers groups increased from 2,776 in September 2008 to 4,983 in March 2011, which made an 80% increase among 4 regencies. <p>(Ex-post Evaluation)</p> <ul style="list-style-type: none"> The average number of beef cattle raised by the interviewed farmers in the pilot farmers groups in 4 regencies is estimated to reach more than doubled in 2015 compared to 2011. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Total Number of Beef Cattle* / Farmer</th> <th style="text-align: center;">2011</th> <th style="text-align: center;">2015 (Est.)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Beef Cattle</td> <td style="text-align: center;">352</td> <td style="text-align: center;">1,137</td> </tr> <tr> <td style="text-align: center;">Farmer</td> <td style="text-align: center;">140</td> <td style="text-align: center;">195</td> </tr> <tr> <td style="text-align: center;">Average No. of Beef Cattle/Farmer</td> <td style="text-align: center;">2.5</td> <td style="text-align: center;">5.8</td> </tr> </tbody> </table> <p>*Number of beef cattle is the figure confirmed in the interview with one group farmer in respective regency due to non-availability of data on total number of beef cattle owned by all the pilot farmers.</p>	Total Number of Beef Cattle* / Farmer	2011	2015 (Est.)	Beef Cattle	352	1,137	Farmer	140	195	Average No. of Beef Cattle/Farmer	2.5	5.8												
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(Overall goal) Number and income of beef cattle farmers increase in West Nusa Tenggara.	(Indicator 1) Beef cattle farmers in NTB increase 10% compared to 2011	<p><u>Achievement: Achieved.</u> (Ex-post Evaluation)</p> <ul style="list-style-type: none"> The number of beef cattle farmers in the 4 target regencies increased by 12% in 2012, 24% in 2013, and 33% in 2014 respectively compared to 2011. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Number of beef cattle farmers in NTB</th> <th style="text-align: center;">2011</th> <th style="text-align: center;">2012</th> <th style="text-align: center;">2013</th> <th style="text-align: center;">2014</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Total in the 4 target regencies</td> <td style="text-align: center;">163,586</td> <td style="text-align: center;">184,842</td> <td style="text-align: center;">203,452</td> <td style="text-align: center;">217,567</td> </tr> <tr> <td style="text-align: center;">Growth (compared to 2011)</td> <td style="text-align: center;">-</td> <td style="text-align: center;">12%</td> <td style="text-align: center;">24%</td> <td style="text-align: center;">33%</td> </tr> </tbody> </table>	Number of beef cattle farmers in NTB	2011	2012	2013	2014	Total in the 4 target regencies	163,586	184,842	203,452	217,567	Growth (compared to 2011)	-	12%	24%	33%									
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(Indicator 2) Income of beef cattle farmers in NTB increase 20% compared to 2011	<p><u>Achievement: Mostly Achieved.</u> (Ex-post Evaluation)</p> <ul style="list-style-type: none"> Income of beef cattle farmers in the target 4 regencies of NTB increased from 2011 to 2014 by more than 20%. The inflation rate of Indonesia from 2011 to 2015 was 34.28%. <p>[Average income from sales of beef cattle and its growth in the 4 target regencies]</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2" style="text-align: center;">Income from sales of beef cattle (Million Rupiah)</th> <th rowspan="2" style="text-align: center;">Change (%)</th> </tr> <tr> <th style="text-align: center;">2011</th> <th style="text-align: center;">2014</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">West Lombok</td> <td style="text-align: center;">3.5</td> <td style="text-align: center;">5</td> <td style="text-align: center;">42.9%</td> </tr> <tr> <td style="text-align: center;">Central Lombok</td> <td style="text-align: center;">4</td> <td style="text-align: center;">8.5</td> <td style="text-align: center;">112.5%</td> </tr> <tr> <td style="text-align: center;">East Lombok</td> <td style="text-align: center;">5.5</td> <td style="text-align: center;">11.5</td> <td style="text-align: center;">109.1%</td> </tr> <tr> <td style="text-align: center;">Sumbawa</td> <td style="text-align: center;">15</td> <td style="text-align: center;">25</td> <td style="text-align: center;">66.7%</td> </tr> </tbody> </table> <p>Note: The above income indicates average sales revenue of beef cattle and compost by one group farmer in respective regency due to non-availability of data on average incomes of all the group farmers.</p>		Income from sales of beef cattle (Million Rupiah)		Change (%)	2011	2014	West Lombok	3.5	5	42.9%	Central Lombok	4	8.5	112.5%	East Lombok	5.5	11.5	109.1%	Sumbawa	15	25	66.7%			
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Source : Terminal Evaluation Report, Project Terminal Report, Interviews with pilot farmers in each regency, National Agricultural Census 2013, Annual report of NTB province

3 Efficiency

Although the project period was as planned (ratio against the plan: 100%), the project cost exceeded the plan (ratio against the plan: 122%) due to insufficient budget secured by the provincial government for beef cattle development. Therefore, efficiency of the project is fair.

4 Sustainability

<Policy Aspects>

The NTB governor announced that the NTB-BSS composed of the main three activities supporting beef cattle raising: (a) supporting installation of facilities such as cattle shed, (b) training to farmers, and (c) provision of cows, would continue from 2013 until 2019. The central government also supports the program by expanding pasture about 100 ha every year. In addition, the central government has started its beef self-sufficiency program nationwide since 2014 which also contributes to promotion of beef cattle production based on the experiences in NTB.

<Institutional Aspects>

There has been no change in institutional responsibilities. The NTB Provincial Livestock Office is responsible for sustaining its activities of the Sumbawa Model and the Lombok Model and the Regency Livestock Service Offices are engaged in supporting activities for farmers on the ground. BIBD/BPLPKH Banyumulek and BPTHMT Serading have been functioning to deliver various trainings on beef cattle production. They have deployed the sufficient numbers of staff to carry out their responsibilities for promotion of beef cattle production. In the NTB Provincial Livestock Office, for example, 758 of technicians in the field of veterinarian, inseminator, pregnancy check and others are deployed in 2015 compared to 739 of such technicians deployed in 2011. In 2013, the Special Unit for Feeding and Utilization Center was newly established at the compound of Banyumulek by the Provincial Government for providing safe feeding development and for delivering training on the Lombok Model to the farmers. It is necessary to transfer knowledge of the staff of regency offices, who were involved in the project activities as “the Field Officers”, to other staff of regency offices in order to increase monitoring activities for the group farmers. For the extension system, there have been around 1,000 extension officers working in NTB province and there have been complementary extension activities conducted by farmers groups. At the time of ex-post evaluation, it was also observed that the equipment provided by the project has been utilized and managed properly by all the organizations.

<Technical Aspects>

The guides and manuals on beef cattle production developed by the project have been utilized by all the organizations and farmers groups. The staff members of the Regency Livestock Service Office, BIBD/BPLPKH Banyumulek and BPTHMT Serading trained by the project have been sustaining necessary skills and knowledge about the beef cattle production and have been engaged in support for beef cattle production in accordance with the guides and manuals as well as through various trainings in the field of Artificial Insemination, pregnancy, control and treatment for reproduction disorder, animal health, beef cattle management, feed production, regulatory slaughtering and others which have been already given to approximately 1,000 participants including technical officers and farmers. The farmers groups supported by the project have been aware of benefits of working as groups. Additionally they have been sustaining their skills and knowledge for beef cattle production through not only trainings and consultation opportunities provided by the provincial and regency governments but also technical disseminating activities among farmers groups. There are concerns about formulation and implementation of trainings meeting farmers’ needs in future because of some issues such as lack of reporting and monitoring activities by provincial and regency livestock offices.

<Financial Aspects>

The budget for promotion of improved beef cattle production technique allocated by the NTB Provincial Livestock Office (increased to 38.33 billion rupiahs in 2014 compared 23.38 billion rupiahs in 2011. Also, the budget allocated from NTB Provincial Livestock Office to BIBD/BPLPKH Banyumulek considerably increased from 0.322 billion rupiahs to 1 billion rupiahs for the same period. The budget allocated to BPTHMT Serading of year 2014 (IDR 1.2 billion) also increased from 0.557 billion rupiahs in 2011 to 2.198 billion rupiahs in 2013 but decreased to 1.236 billion rupiahs in 2014. For the Regency Livestock Service Office, the planned budgets for promotion of improved beef cattle production technique of year 2015 in East Lombok and Sumbawa increased compared to the actual budgets of year 2014, while ones in West Lombok and Central Lombok decreased compared to the actual budgets of year 2014. Each regency government needs to coordinate with the provincial government in order to receive sufficient budget for the training. Reporting and monitoring activities by the NTB Provincial Livestock Office and the Regency Livestock Service Office have not continued due to their limited budgets.

Most of farmers have been able to decrease the amount and the utilization of chemical fertilizers due to utilization of the compost, which led to approximately 10% of production cost reduction. Although there is no fund or any financial support available for individual farmers who want to start beef cattle production, farmers groups can access to the NTB-BSS cattle loan program and facility/equipment provision program.

<Evaluation Results>

Some minor problems have been observed in institutional, technical and financial aspects. Therefore, sustainability of the project effects is fair.

5 Summary of the Evaluation

This project has achieved the Project Purpose and the Overall Goal. The number of beef cattle raised by the pilot farmers groups and the number of beef cattle farmers and beef cattle in NTB as well as income from sales of beef cattle of the farmers in the 4 target regencies increased. On the other hand, although the NTB Provincial Livestock Office and Regency Livestock Service Office expanded their budget for promotion of beef cattle production, they have not been necessarily sufficient for their reporting and monitoring activities which would affect the quality of trainings to farmers in the future. As for efficiency, the project cost exceeded the plan due to the additional cost to cover the additional activities for beef cattle development.

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

III. Recommendations & Lessons Learned

Recommendations for NTB Provincial Livestock Office:

Since the number of staff of Agricultural Office in each Regency has not been increased, it is recommended to ensure the budget, to recruit additional staff and to provide technical transfer in order to further strengthen monitoring and reporting network from the local levels for sustainable dissemination of the beef cattle raising technologies introduced by the project, though no serious problem in the current situation has been observed.

Lessons Learned for JICA:

[Clear and logical setting of the Overall Goal and its verifiable indicators]

- Although the Overall Goal of this project was “increases in the number of beef cattle farmers and their income in NTB”, it was difficult to verify direct contribution of the project to changes in the number of beef cattle farmers and their income in NTB since the project had not directly intervened in the extension activities to other regencies in NTB and most farmers produce not only beef cattle but also other agricultural products such as rice. Therefore, this ex-post evaluation needed to focus on changes in the number of beef cattle farmer and their income from sales of beef cattle in the target 4 regencies in order to clearly verify contribution of the project to achievement level of the Overall Goal. At the project planning stage, it is essential to clearly and logically set adequate Overall Goal and its verifiable

indicators in accordance with the planned project component and situation of the target beneficiaries.

[Project design to enhance commitments of each level of governments in order to maximize impacts of projects]

- Since the project activities were focused only in the provinces of NTB, the role and commitment of the central government were not clearly identified and therefore it was less involved during the project period comparing with the local governments. The involvement of the central government could have contributed to maximize impacts of the project through such as dissemination of techniques introduced by the project nationwide. It is highly required to consider the concrete commitment from the central government in such as supporting extension system at the central level as a project component especially when the project is implemented in local areas.



Beef cattle raised in collective cattle shed by the Lombok Model



Compost constructed by using revenue from beef cattle production of the farmer group. The compost is used for agricultural production.