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# Farmer Participation in Maiwa Breeding Center Program In Barru Regency, South Sulawesi

**Ilham Syarif, Syahdar Baba, St. Nurani Sirajuddin**

Faculty of Animal Science, Hasanuddin University
Jalan Perintis Kemerdekaan Km. 10, Makassar 90245, Indonesia

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## Abstract

The Maiwa Breeding Center program was a communiversity program from Hasanuddin University in the form of a Bali cattle nursery. The aim of this program was to preserve Bali cattle germplasm and improve the genetic quality of Bali cattle while increasing farmer income. The participation of farmers in implementing the MBC program was the key to the success of the program. The purpose of this study was to determine the level of farmer participation in the MBC program in Barru District. The number of respondents was 72 people who were randomly selected from 234 MBC partner farmers. Data was collected by enumerators who have been trained using questionnaires. The measured variable was the level of farmer participation during program planning, program implementation, program monitoring and evaluation and utilization of the results of the nursery program. Variables were measured using scores 1 - 4, namely from not participating, low participation, high participation and very high participation. Data analysis uses frequency distribution and continuum value table. The results showed that the participation of farmers in planning and monitoring and evaluation was in the low category. The participation of farmers in the implementation and utilization of results was in the high category. Overall, farmer participation in Bali cattle breeding activities was in the high category.

**Keywords** : Participation, Bali Cattle, Breeding, MBC, Barru.

## INTRODUCTION

National beef consumption tends to increase every year while domestic cattle production tends to stagnate every year. To meet national beef needs, the government imports 160.197 tons of meat in 2017 (BPS, 2017). In terms of the performance of local cattle production, especially Bali cattle, it tends to decline in several decades so far. At present, the birth weight is only around 15 kg, weights 60 kg and the weight of adult males is around 250 - 350 kg (Telupere and Katipana, 2014; Winarso and Basuno, 2013). This is due to the negative selection of Balinese cows where good-performing bulls are anchored and sold for slaughter while small bulls are semi-intensive grazing and marrying females in the field.

To improve the genetic quality and performance of Bali cattle, the nursery business is absolutely necessary so that the cattle produced will increase in performance. Especially for Bali

cattle, nursery centers have been established by the government, namely in the provinces of Bali and Regency of Barru, South Sulawesi. Nurseries in Barru district involve farmers as breeders. The government provides facilities and facilities and infrastructure for nurseries. Livestock registration is carried out periodically every four months. The marriage system is controlled using Artificial Insemination and calves born and have followed nursery procedures given a certificate of seed eligibility (Barru District Agriculture Service, 2017).

The Maiwa Breeding Center (MBC) is a program of the Ministry of Research, Technology and Higher Education at Hasanuddin University which aims to carry out local cattle breeding, especially Bali cattle. One of the programs is to collaborate with Bali cattle farmers in Barru district in conducting breeding. MBC's cattle are kept by breeders to be bred in accordance with cattle breeding cooperation contracts. Farmers are obliged to follow the instructions of good breeding practice from MBC. Livestock products from nursery activities are divided according to the agreement of the cooperation contract. The MBC program is very dependent on farmers as MBC partners in livestock breeding.

The success of breeders based on MBC cattle breeding is very dependent on the breeders. If farmers participate well in nursery activities, the success rate of nurseries will be higher. Good participation according to Cohen and Upphof (1980) is the participation of farmers starting from program planning, implementation, monitoring and evaluation and participation in the utilization of results. Good participation can also increase the sense of ownership of the farmer in the ongoing program (sense of belonging) and is responsible for maintaining sustainability. Participation also causes psychological and physical mobilization (changes in knowledge, attitudes and behaviors) of farmers to run quickly because programs are implemented according to the needs, priorities and conditions of the resources they have (Ife and Tesoriero, 2008; Ngoc Chi et al., 2007). The purpose of this study was to determine the level of farmer participation in cattle breeding activities in Barru Regency.

## MATERIALS AND METHODS

This research was conducted from February to March 2018 in Tanete Riaja, Tanete Rilau and Barru sub-districts which are the locations of MBC cattle breeding in Barru district. The number of respondents was 72 people spread across the three sub-districts. Data collection is done by using questionnaires by enumerators who have been trained. Data collected includes the level of participation of farmers at the time of planning, implementation of activities, monitoring and evaluation and utilization of results. Indicators in planning include involvement in drafting cooperation contracts, willingness to become partners, preparation of partner criteria. Indicators of the implementation of activities include planting grass, preparing cages, maintaining a good system, handling animal health, handling reproduction, recording and preparing a clamp enclosure. Indicators for monitoring and evaluation are reporting to group leaders according to the SOP, reporting any problems and evaluating livestock development. Indicators of utilization of results include increased ability to raise cattle, safety of livestock and increased farmer income.

Each research indicator was assessed by farmers using a liker scale ranging from very high, high, lacking and very lacking. Data were analyzed using descriptive statistics in the form of frequency distribution tables and continuum value tables from the value of farmer participation.

## RESULTS AND DISCUSSION

### Farmer Characteristics

The age of the farmer is in the productive category, which is 47.19 years. The youngest age is in the age group of 22 years and the oldest is 88 years old. There are 8 breeders (11.11%) who are more than 60 years old or in the category of no longer productive. The average business experience of farmers is 11.05 years. This means that farmers have experience in raising Bali cattle for a long time. The experience of breeding can be an advantage because it already has adequate knowledge, but it can also be an obstacle to technology adoption because farmers are resistant to new technologies (Mardikanto, 2009). The number of family members is 3-4 people per family head. Family members in people's livestock businesses are usually involved in cattle production business activities (Amalo, *et al*., 2012). The average scale of the farmer's business is 4.15, as is the case with the scale of business of cattle farmers in Indonesia in general. The education level of MBC partner farmers is generally in the low category (SD and SMP), which is 70.9%. Only a small percentage of those with secondary and high education is 29.1%.

Table 1. Characteristics of MBC Partner Respondents in Barru District

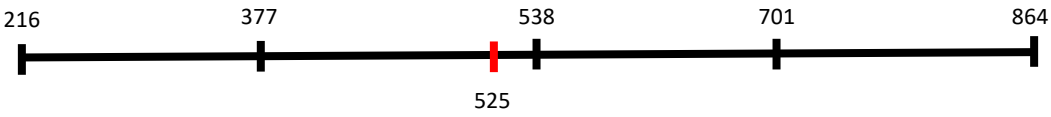
| Variabel | Rata-rata | SD |
|---|---|---|
| Age (Year) | 47,19 | 11.66 |
| Farmer Experience (Year) | 11,05 | 2,32 |
| Family number (people) | 3.24 | 1.33 |
| Scale enterprises (head) | 4.15 | 1,9 |
| Education (%) | | |
| No formal Education | 9,8 | |
| Elementary | 41,7 | |
| Yunior High School | 19,4 | |
| Senior High School | 22,2 | |
| University | 6,9 | |

### Level of Participation in Planning

The level of farmer participation in planning consists of 3 indicators, namely participation in the preparation of cooperation contracts, participation in the preparation of partner eligibility criteria and participation in the feasibility assessment as partners. Based on Table 2, it is known that at the time of contract preparation and determination of breed eligibility criteria, partner involvement was in the high category, but when determining the suitability of selected farmers with the criteria compiled, farmer participation was in the low category. Partner breeders are involved in the preparation of cooperation contracts where farmers participate in discussions and participate in approving contracts that are prepared through Focus Group Discussion (FGD) with MBC. Likewise in determining the eligibility criteria for farmers, partner farmers also discuss basic criteria so that they can be involved as MBC partners. But in terms of assessing the feasibility of partners who will be involved, partners are not involved. The MBC together with the Barru District Agriculture Office determined whether a farmer deserves to be involved as an MBC partner.

Based on the continuum value of farmer participation in planning activities, the participation rate of MBC partners at the time of planning is in the low category with a total score of 525 (Figure 1). This means, overall, the level of participation of farmers in planning MBC partnerships in nursery businesses is in the low category. Not all partner farmers, participate in planning activities. Partner farmers who are involved in general are only group leaders and core administrators while farmers who are not the core management of livestock farmer groups only receive socialization from group administrators and extension agents.

Participation in planning greatly determines the success of a program. When participation is carried out at the beginning of the program, the benefits that will be obtained are an increase in the sense of ownership of the farmer in the program and the suitability of the program with the client's needs from a program (Ali, et al., 2010; Anggraeni, 2009). In the implementation of MBC activities, the participation of farmers in the selection of partner breeders should be increased and not only applies to group leaders and core administrators but also other farmers who will be selected as partners so that activities can run well.




Information:
Range 216 – 377 = Very low
Range 377 – 538 = Low
Range 539 – 701 = High
Range 702 – 864= Very high
Value 525 was level of participation in MBC planning

Figure 1. Continuous value of farmer participation rates at the time of planning MBC activities.

**Level of Participation in the Implementation**

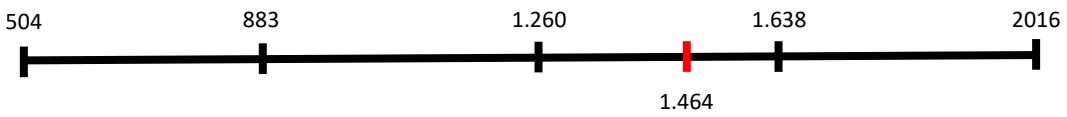
The level of farmer participation in the implementation of the activity consists of 7 indicators, namely participation in superior grass planting, preparation of cages, intensive livestock raising, handling animal health, handling reproduction, recording livestock and providing clamp enclosures. Based on Table 2, it is known that during the implementation of the activity, most farmers (83%) planted superior grass, which is elephant grass. As a farmer (17%) do not plant elephant grass, because the source of feed in the form of grazing owned still meets the needs of their livestock. In terms of providing housing, most farmers (76.4%) have enclosures and are still able to accommodate MBC cattle. Only 23.6% of farmers make new cages specifically for MBC cattle.

Intensive livestock maintenance has been carried out by most MBC partner farmers (98.6%). The high intensity of assistance from the MBC expert team and the technical team from the Barru Agriculture Office caused farmers to be able to raise livestock intensively. Animal health management, reproduction and recording is the MBC service package to partner farmers. Every partner farmer is provided with basic knowledge about early detection of sick cows, pregnancy detection and how to record. Thus, the farmer, together with the technical staff of the agricultural service, has routinely handled health care and handled reproduction in the form of natural mating
40 B well.

Contract preparation and determination of breed eligibility criteria, partner involvement are in the high category, but when determining the suitability of selected farmers with the criteria compiled, farmer participation is in the low category. Partner breeders are involved in the preparation of cooperation contracts where farmers participate in discussions and participate in approving contracts that are prepared through Focus Group Discussion (FGD) with MBC. Likewise in determining the eligibility criteria for farmers, partner farmers also discuss basic criteria so that they can be involved as MBC partners. But in terms of assessing the feasibility of partners who will be involved, partners are not involved. The MBC together with the Barru District Agriculture Office determined whether a farmer deserves to be involved as an MBC partner.

Based on the continuum value it is known that the level of farmer participation in the implementation of nursery activities is in the high category with a total score of 1,464 (Figure 2). This means, overall, the level of farmer participation in implementing MBC activities in the nursery business is in the high category. Most breeders have been involved and carried out cooperation contracts and carried out cattle raising properly based on assistance from a team of experts and technical teams from the Barru District Agriculture Service. The following is the continuum value of the level of participation in the implementation of MBC activities.

The high participation in the implementation of activities shows that farmers feel the benefits of carrying out activities. Atari, et al. (2009) stated that farmers who felt the benefits of an environmentally friendly agricultural program both economic benefits and environmental benefits would have high motivation in carrying out activities. In MBC's activities, breeders who maintain Bali cattle are also the same as cows that have been kept so far, only genetic improvement has occurred so that farmers feel greatly benefited (Duraippah et al., 2005).




Information:
Range 504 – 883 = Very low
Range 884 – 1.260 = low
Range 1.261 – 1.638 = High
Range 1.639 – 2.016 = Very High
Value 1.464 was level of participation in implementation

Figure 2. Continuum value of farmer participation rate at the time of implementation MBC activities

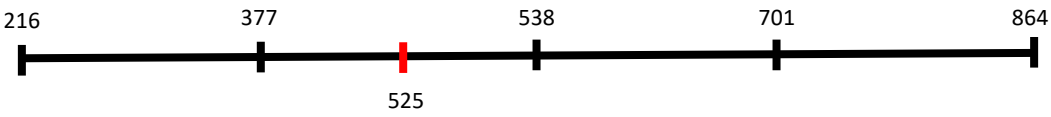
**Level of Participation in Activity Monitoring and Evaluation**

The level of participation of farmers in monitoring and evaluation (monev) consists of 3 indicators, namely reporting to the group leader, reporting when there are problems faced by farmers and evaluating livestock development. Based on Table 2, it is known that participation in Monev activities has not gone well. Reporting to the head of a livestock farmer group has not been fully implemented by partner farmers actively. There are 58.3% of farmers who do not actively report to the group leader. Group leaders who must actively contact group members to report the development of MBC livestock raised by partners. Likewise in reporting when there problems with livestock or livestock raising, there are 54.2% of farmers who do not do so. In terms

of evaluating the development of livestock it is also in the low category where there are 57% of farmers who have not yet evaluated their livestock as evidenced by not recording livestock development in the prepared record book.

Based on the continuum value of farmer participation in the activity monitoring and evaluation, the participation rate of MBC partners is in the low category with a total score of 494 (Figure 3). This means that, overall, the level of participation of farmers in monitoring and evaluation of MBC activities in the nursery business is in the low category. Not all partner farmers, participate in planning activities. Partner farmers who are involved in general are only group leaders and core administrators while farmers who are not core managers are only waiting for initiatives from the Agricultural Service technical officers or group administrators.

The involvement of farmers in evaluating programs implemented provides benefits for the right or not the goals and objectives of program implementation (Goff and Dolly, 2008; Cardoso et al., 2010). In the MBC program, farmers should actively be involved in monitoring and evaluating livestock development and reporting it so that livestock development can be monitored well.




Information:
Range 216 – 377 = Very low
Range 377 – 538 = Low
Range 539 – 701 = High
Range 702 – 864= Very high
Value 494 was level of participation in monitoring and evaluation

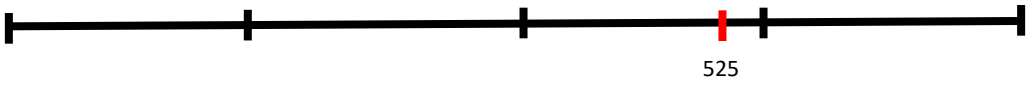
Figure 3. Continuous value of the level of farmer participation in monitoring and evaluation MBC activities.

**Level of Participation in Utilizing the results of activities**

The level of farmer participation in utilizing the results of the activity consisted of 3 indicators: farmers were able to raise livestock better than before partnering with MBC, security in livestock farming due to intensive assistance from MBC experts and technical staff from Barru District Agricultural Service and increased income earned. Based on Table 2 it is known that the participation of farmers in the utilization of the results of cattle breeding activities is in the high category where almost all farmers in all indicators measured are in the high category. This means that the MBC partnership activities in cattle breeding with farmers in Barru district have enjoyed results.

Based on the continuum value of farmer participation in the utilization of the results of activities, the participation rate of MBC partners is in the high category with a total score of 685 (Figure 4). This means, overall, the level of participation of farmers in the utilization of nursery products is in the high category. Nearly all farmers (87.5%) have enjoyed the results of cow breeding through a partnership program with MBC. The following is the continuum value of
42 r participation in utilizing the results:

216 377 538 701 864




Information:
Range 216 – 377 = very low
Range 377 – 538 = low
Range 539 – 701 = High
Range 702 – 864= Very High
Value 685 Level of Participation in Utilizing the results of activities

Figure 4. Continuous value of the level of farmer participation in utilization the result of MBC's partnership

Table 2. Level of participation in planning, implementation, monitoring and evaluation utilization of results in MBC activities in Barru

| **Participation in Planning** | **Frekuensi (skor)** | | | | **Total Skor** |
|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | |
| Prepare the contract | 1 (1) | 27 (54) | 38 (114) | 6 (24) | 193 |
| Farmer Criteria | 8 (8) | 23 (46) | 39 (117) | 2 (8) | 179 |
| Knowing the criteria | 23 (23) | 28 (56) | 10 (30) | 11 (44) | 153 |
| **Total Participation in Planning** | | | | | **525** |
| **Participation in Implementation** | | | | | |
| Planting grass | 1 (1) | 11 (22) | 37 (111) | 23 (92) | 226 |
| Prepare the cages | 6 (6) | 49 (98) | 15 (45) | 2 (8) | 157 |
| Intensive keeping | 1 (1) | 0 (0) | 54 (162) | 17 (68) | 231 |
| Animal health | 0 (0) | 0 (0) | 64 (192) | 8 (32) | 224 |
| Reproduction | 0 (0) | 0 (0) | 63 (189) | 9 (36) | 225 |
| Recording | 0 (0) | 4 (8) | 65 (195) | 3 (12) | 215 |
| Clasps | 0 (0) | 35 (70) | 32 (96) | 5 (20) | 186 |
| **Total participation in implementation** | | | | | **1.464** |
| **Level of Participation in Monev** | | | | | |
| Report to Group leader | 14 (14) | 28 (56) | 29 (87) | 1 (4) | 161 |
| Report when a problem occurs | 10 (10) | 29 (58) | 30 (90) | 3 (12) | 170 |
| Evaluation of livestock development | 15 (15) | 26 (52) | 28 (84) | 3 (12) | 163 |
| **Total participation in monitoring and evaluation** | | | | | **494** |
| **Level of Participation in Utilizing Results** | | | | | |
| Better Farming | 0 (0) | 6 (12) | 46 (138) | 20 (80) | 230 |
| Safe breeding | 0 (0) | 9 (18) | 50 (150) | 13 (52) | 220 |
| Increasing income | 0 (0) | 4 (8) | 45 (135) | 23 (92) | 235 |
| **Total Participation in the utilization of results** | | | | | **685** |

## CONCLUSION

The level of participation of farmers in the planning and monitoring and evaluation activities of MBC activities is in the low category. Not all MBC partner farmers actively participate in both participation indicators. Only breeders become group leaders and core managers who actively participate. As with the level of participation in the implementation and utilization of results, MBC partner farmers actively participate in both farmers who are the heads and core administrators of farmer groups and group members.

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