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PREFACE

On behalf of Faculty of Animal Science, Universitas Gadjah Mada, I am pleased to present you the 7th International Seminar on Tropical Animal Production (ISTAP) which is held on September 12-14, 2017 at Auditorium Drh. R. Soepardjo, Faculty of Animal Science UGM, Yogyakarta. Under the main theme “Contribution of Livestock Production on Food Sovereignty in Tropical Countries”, we expect that information and ideas on animal production systems in the tropics and its related problems will be shared among participants, thus we can elaborate an integrated approach in developing sustainable tropical animal production. I believe, this can be achieved since more than 200 animal scientists, researchers, students, and producers from more than 10 countries join this seminar.

In this moment, I have to address my great thanks to all people who have contributed for the success of this seminar. First, to all participants, thank you for your contributions, time, and efforts in participating in all sessions in this seminar. We also would like to extend our gratitude to the reviewers and editors for dedicate their expertise and precious time in reviewing and editing the papers. I deeply appreciate the hard work of all members of the Steering Committee, Organizing Committee, and students of Faculty of Animal Science UGM for making this seminar achieved a great success!

I hope all of you enjoy the seminar and Jogja as well!

Dr. Cuk Tri Noviandi

Editor in Chief
REPORT FROM ORGANIZING COMMITTEE

Dear all scientists, delegates, participants, ladies and gentlemen,

Praise to The Almighty for His Merciful and Beneficent to gather us in this memorable moment of scientists and delegates from all over the world who are interested in Tropical Animal Production field can meet up together.

On behalf of the Board of Committee, it is my great pleasure and honor to welcome all participants to attend the 7th ISTAP in Yogyakarta, the city where nature, culture and people live in harmony.

As a chair in this seminar, let me report that, today, we have distinguished participants from all over the continents in the world to present their paper with the theme of “Contribution of Livestock Production on Food Sovereignty in Tropical Countries”. There are around 250 scientists, delegates, and graduate students from 11 countries attending the seminar; and more than 170 research papers will be presented during these three days seminar. The great enthusiasm of all participants to share their research-based valuable information and knowledge on livestock production development in tropical areas as well as to contribute on developing human prosperity all over the world is expressed.

The 7th ISTAP programs are rich of scientific programs as well as social and cultural activities. The scientific programs offer six plenary sessions, eight parallel sessions (both oral and poster presentation) each day, and rural field trip. The social and cultural programs of the 7th ISTAP are also important as the scientific programs since the scientists’ interaction, intercultural exchange, friendship and future scientific or research collaboration are also central to this seminar. In the evening, participants will attend a warm invitation from the Dean of Faculty of Animal Science UGM in a Welcome Dinner that will give you the most impressive moment to attend. Rural field trip activity offers a wonderful experience to the rural livelihood surrounded by the spectacular natural landmark, Ancient Volcano in Yogyakarta where many smallholder farmers live in harmony. We will also accompany all participants to experience the ancient civilization by enjoying the beautiful of Prambanan temple. We do hope that participants will take part of these wonderful opportunities.

During the seminar, the 7th ISTAP committee also creates a competitive atmosphere among all participants by granting awards for those who have outstanding paper and poster. Participants are encouraged to share their precious works in research and knowledge dissemination in an attractive way. The awards will be given to the outstanding participants immediately after the last session of parallel presentations where the closing ceremony will also be held on September 13th, 2017 afternoon. I wish all of the participants enjoying activities that we have organized.

Finally, on behalf of 7th ISTAP Committee, let me express the high appreciation and acknowledgement to the Rector of Universitas Gadjah Mada and Dean of Faculty of Animal Science UGM for the advice and suggestion in organizing this international seminar. Recognition should go to the Steering Committee, Scientific Committee, Reviewers and Editorial Boards and All Technical Committee members who have worked extremely hard for the details of important aspects of the seminar programs. 

Terima kasih (Thank you).

Sincerely Yours,

R. Ahmad Romadhoni Surya Putra, Ph.D
Chairman
The Organizing Committee of the 7th ISTAP
WELCOME ADDRESS

Selamat pagi. Good morning, and Assalamu’alaikum Wr. Wb.

The honorable Rector Universitas Gadjah Mada, Invited Speakers, all of delegates, distinguished guests, participants, ladies and gentlemen.

First of all, it is our great pleasure and honor to extend a warm welcome to all of you at The 7th International Seminar on Tropical Animal Production (ISTAP), which be held on September 12 - 14, 2017 at Auditorium Drh. R. Soepratjo, Universitas Gadjah Mada, Yogyakarta, Indonesia. This seminar is proudly organized by Faculty of Animal Science Universitas Gadjah Mada, every 4 years since 1994. But, since last two years (2017) ISTAP has been conducting for every two years in collaboration with the Indonesian Society for Sustainable Tropical Animal Production (ISSTAP). We consider due to the rapid development of science and technology in animal production and also the need for exchange knowledge and experiences among the stakeholders, this scientific event is conducted for every two years.

The contribution of this seminar to the development of national food security is truly significant for introducing of new scientific knowledge and equipment that is much needed in Indonesia to maintain a safe and secure environment and to look at more effective ways to meet and anticipate the future challenges. We can see great enthusiasm of the entire participant to present their latest research finding as well as to share valuable information and knowledge for human prosperity all over the world.

In these 3 days of seminar, we have invited some important distinguished speakers for the plenary session and invited papers relevant to the animal production challenges for sharing their valuable information and knowledge. Other participants from over 11 different countries and from research institute and/or universities can deliver their precious research through oral and poster presentations at concurrent sessions.

At this opportunity, we would like to express our special thank you to the Steering Committee, Scientific Committee, Reviewers and Editorial Boards for their great contribution to make the seminar a great success. Also, we would like to congratulate and deliver high appreciation to the Organizing Committee as the organizer for their great contribution and generous efforts to make the seminar successfully organized. We are really indebted to your valuable time, effort and sacrifice to the success of this seminar.

To all of the participants, I do hope this seminar will enrich you with the new perspective of recent knowledge and of course with new friends for possible future partnership and collaboration in fostering the advancement of animal science. Also, I wish to all of the participants having a great achievement of success and fulfill the expectation as well as enjoying the interaction with all participants. Surely, with all of our hospitality, we have been trying our best to make your brief visit to our country become a wonderful and memorable moments. We are looking forward to meeting you in the future event.

Finally, we wish you all a very pleasant and most enjoyable stay in Yogyakarta, Indonesia, beside you scientific journeys.

Thank you very much for your attention, Terima kasih, Wassalamu’alaikum Wr. Wb.

Yogyakarta, 12 September 2017

Sincerely yours,

Prof. Dr. Ali Agus
Dean Faculty of Animal Science UGM
OPENING REMARKS

Dear Excellencies, Distinguished Delegates, Ladies and Gentlemen,

It gives me great pleasure to extend you all a very warm welcome on behalf of Universitas Gadjah Mada. We highly appreciate your participation in joining the 7th International Seminar on Tropical Animal Production hosted by the Faculty of Animal Science Universitas Gadjah Mada in Yogyakarta from 12-14 September 2017.

The theme of this conference is Contribution of Livestock Production on Food Sovereignty in Tropical Countries. We hope that this seminar will provide a perspective and insight into tropical livestock production systems and sustainable local resources management contribution in food sovereignty, also give a forum in order to exchange information and ideas on livestock production systems in the tropics and its related problems.

Food Sovereignty is a comprehensive concept which involves not only guaranteed access to food, but also to define their own food compatible with local resource potentials which may ensure food appropriateness and sufficiency. In the Livestock Production, Indonesia and other tropical countries have a variety number of livestock genetic resources and animal biodiversity. Those can be potential assets and capital to gain advantages in domestic and global market. However, achieving food sovereignty need a synergy to work together among government, people, farmer, researcher, and academia. These three days seminar denote those synergy among stakeholders in food sovereignty. We believe that challenges to realize the food sovereignty in tropical countries will be discussed; and technical solution as well as recommendation will be provided to solve the existing problems in tropical animal production.

Finally, on behalf of Universitas Gadjah Mada, we would like to congratulate and appreciate to the Faculty of Animal Science, UGM as the organizer for their great efforts to make the seminar successfully organized. To all of participants, I wish all of you have a very fruitful, dynamic and constructive seminar also great discussion and interaction with other scientists participating in the seminar as well as enjoying your time in Yogyakarta.

Thank you

Rector of Universitas Gadjah Mada
Prof. Ir. Panut Mulyono, M.Eng., D.Eng
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Beef Cattle Farmers’ Group Cohesion In Bantul And Sleman Regencies Yogyakarta Special Region

Franisikus Trisakti Haryadi¹, Rini Widiati¹, Tri Anggraeni Kusumastuti¹, Siti Andarwati¹
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ABSTRACT

The study was aimed to analyze the cohesion level of beef cattle farmers’ groups of Bismo in Bantul and Sido Makmur in Sleman Regencies Yogyakarta Special Region. The analysis was based on the components forming group cohesion including farmers’ attractiveness in group goals, group activities, membership of the group, and interpersonal relationship among the members of the group. All the active members of the groups were selected as respondents. Data were gathered by interviewing the respondents directly using questionnaire. Descriptive analysis was used to describe the level of cohesion. The results showed that there was a difference kind of components being the highest score achievement percentage in forming group cohesion between Bismo and Sido Makmur Groups. Bismo group had group activities attraction (95.98%) as the main indicator for its member to commit to the group, while the membership of the group was the main attraction indicator (97.33%) for the member of Sido Makmur to stay in a group. Although the attractions indicator of cohesion including interpersonal and farmers’ group goal were in high score achievement percentage for both of the Groups of Bismo (89.81% and 88.21%) and Sido Makmur (88.98% and 86.67%), but they had not been used optimally yet as the main reference by the farmers’ member of the group to commit to the groups. The conclusions of the research were that there was a high category level of beef cattle farmers’ group cohesion for both Bismo and Sido Makmur groups. The farmers’ group activities and membership of the group was the main attractions indicator of beef cattle farmers’ group cohesion.

Keywords: Attraction, Beef cattle farmers’ group, Cohesion.

INTRODUCTION

In Indonesia, 95% of the total beef cattle population was raised by rural people in an integrated farming system (CBS, 2013). They are keeping their animals in small scale number of ownership as a side farming activities. But, this activity seems to be generating small additional incomes to the farmers in supporting their welfare (Widiati, 2014; Ryschawy et al., 2012; Ntale and Litondo, 2013).

The main strategy to empower the farmers in rural areas is by forming the farmers’ group (Syahyuti, 2011). All of the farmers should be the members of the farmer’s groups to support the attainment of the program’s goals. The Indonesia government has supported the strategy by establishing the policy of the guidance in giving an extension to farmers through the farmers’ institution (The policy of Agricultural Ministry No. 273/kepi.t.160/4/2007).

Most of beef cattle farmers in Yogyakarta Region, especially in Sleman and Bantul Regencies, which are the large population of beef cattle in Yogyakarta Special Region, had organized themselves in formal organization as a farmers’ group. But, the problem is some of
them do not develop the groups as the government expectation, so that it doesn’t support the attainment of beef cattle program’s goals. According to Widiati, et al. (2015), the local institutions recorded of the available farmers group were 423 groups in Sleman and 321 groups in Bantul, but no record of the group whether or not they were still active or inactive.

People come together to form groups not only for fellow feeling, but also for themselves (Ofuoku and Agbamu, 2012). The farmers form the group for their own common benefits. The degree to which members of a group desire to remain in the group is known as cohesion level. The cohesion is central to groups. It is considered vital in group decision-making, goal attainment identity, and member satisfaction (Ofuoku, et al. 2008). Bollen and Hoyle (1990) cited Festinger et al. (1950) that the causes of cohesion (forces acting upon group members) was a type of indicators to measure cohesion level. Interpersonal attraction among members of a group could be viewed as a factor of someone to commit to the groups. The other factors that could be the causes of cohesion are attractiveness to group goals, activities, and status being the member of the group. This paper tried to measure the cohesion level of beef cattle farmers’ groups of Bismo in Bantul and Sido Makmur” in Sleman Regencies of Yogyakarta Special Region.

MATERIALS AND METHODS

The research was a case study carried out in beef cattle farmers’ groups in Bantul and Sleman Regencies of Yogyakarta Special Region including Bismo and Sido Makmur groups respectively. These groups were selected based on the best performance of beef cattle farmers’ group in Bantul and Sleman Regencies assessed by Widiati et al. (2015). Farmers’ group was used as a unit of analysis. All the active members of the groups were selected as the respondents. The data were collected by interviewing the respondent directly using questionnaire.

Variable of cohesion was measured by the indicators focused on the causes of cohesion (forces acting upon group members). Cohesion is regarded as the degree to which members of a group desire to remain in the group, that is, how closely the members interact or the resultant forces acting on the member to remain in the group (Ofuoku and Agbamu, 2012). However, cohesion can also be considered as “attraction to collectivity” as opposed to an attraction to the individuals who make up that grouping (Ofuoku et al., 2008). In this research, the attractions indicator of cohesion included interpersonal among members of a group, membership of the group, group goals, and group activities. Some questions were designed for each attractions indicator. Each question had three alternatives choices which scored by 3 to 1. Level of group cohesion was calculated by percentage of the total score achievement from the maximum score. Maximum score was determined by the multiplication between the total number of questions and the high score for each question (3) and the total number of respondents of the each group. Descriptive analysis was used to explain the level of cohesion.

RESULTS AND DISCUSSION

The member Characteristics of Beef Cattle Farmers’ Groups

Table 1 showed the characteristics of the farmers being the member of the groups. The average age of farmers, both for Bismo and Sido Makmur groups, was still in productive age. It meant that they could be expected having the capability to develop their beef cattle farming for the future. Most of farmers, both for Bismo and Sido Makmur groups, had already completed their duty of education level as the government policy mention regarding
nine years length of formal education. More than 50% of the farmers had already finished Junior High School (Table 1).

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Average age (years)</td>
<td>Bismo Group(^a) 49.35±9.30</td>
</tr>
</tbody>
</table>
| 2   | Formal education (%):
|     | Elementary School                                    | 46.15                      | 12.00                      |
|     | Junior High School                                   | 19.23                      | 24.00                      |
|     | Senior High School                                   | 34.62                      | 56.00                      |
|     | Academy                                               | -                          | 8.00                       |
| 3   | Average number of beef cattle ownership (heads):
|     | Bull                                                  | 0.54±1.33                  | 1.64±1.52                  |
|     | Steer                                                 | 0.15±0.37                  | 0.32±0.63                  |
|     | Cattle                                                | 1.35±1.23                  | 0.72±0.79                  |
|     | Heifer                                                | 0.23±0.43                  | 0.08±0.28                  |
|     | Calves                                                | 0.42±0.64                  | 0.48±0.65                  |
| 4   | Average length experience of beef cattle farming (years) | 20.92±17.98               | 17.64±16.42               |
| 5   | Average length being the beef cattle group member (years) | 6.48±5.55                 | 6.84±3.97                 |

\(^a\): 25 respondents
\(^b\): 26 respondents

Source: Analysis of primary data (2016).

Breeding and fattening are the type of beef cattle farming for both of Bismo and Sido Makmur groups. Based on the number of beef cattle ownership, their beef cattle farming can be categorized as smallholder farmers, which one to two head of cattle ownership per farmer. Although they are categorized as smallholder farmers, but the average length experience of beef cattle farming is long enough, more than 15 years (Table 1).

The farmers had been organized in the farmers’ group, but they had not been relatively so long time yet becoming the member of the groups with the average length of 6.48 years and 6.84 years for Bismo and Sido Makmur groups respectively (Table 1).

**Cohesion Level of Beef Cattle Farmers’ Groups**

Table 2 showed that the cohesion level of beef cattle farmers’ group was in high category, both for Bismo and Sido Makmur groups. Score achievement of cohesion for Bismo group (91.91%) was little bit higher than Sido Makmur group (91.76%) (Table 2). It meant that farmers who were the member of Bismo group had a little bit stronger commitment to their group than farmers who were the member of Sido Makmur group.

Table 2 also showed that there were different kinds of attractions indicator of cohesion which were the highest ranking of score achievement percentage. Group activities attraction indicator was the highest score achievement percentage (95.94%) for Bismo group, while Sido Makmur group had the highest score achievement percentage (97.33%) in membership attraction (Table 2). Most of the member of Bismo group had a good attraction regarding the management activities which were organized by the farmers’ group. It meant...
that most of the member of Bismo group joined voluntary the activities organized by the group. This finding was in accordance with Guntoro (2001) that most of beef cattle farmers, members of the group in Bantul, felt that there was no problem in the performance of their duties and obligations which were arranged by the group. It was also indicated that the farmers’ group ensured facility for their member of the group to get involved in performing some activities organized by the group. Gyau et al. (2012) stated that the easier for farmers to participate, the farmers will rank an initiative higher.

Table 2. Percentage score achievement of cohesion indicators and level of cohesion

<table>
<thead>
<tr>
<th>No.</th>
<th>Attraction Indicators of Cohesion</th>
<th>Bismo Group</th>
<th>Sido Makmur Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>% Score</td>
<td>Ranking</td>
</tr>
<tr>
<td>1.</td>
<td>Interpersonal</td>
<td>89.81</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>Membership</td>
<td>95.30</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>Group goals</td>
<td>88.21</td>
<td>4</td>
</tr>
<tr>
<td>4.</td>
<td>Group activities</td>
<td>95.94</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Level of cohesion</td>
<td>91.91</td>
<td></td>
</tr>
</tbody>
</table>

The different attraction indicator of cohesion was found for Sido Makmur group. Most of the member of the group had a high attraction in membership of beef cattle farmers’ group (97.33%) (Table 2). This finding indicated that the members of Sido Makmur group had a good awareness and voluntary respond that they had invested part of themselves to become a member of the group. They expected that they could get economic benefit after being the member of the group. It was in accordance with Boas and Goldey (2001) that the expectation of getting benefit from the membership of the group was one of the most important factors that motivate farmers to take part in associations.

Table 2 also indicated that attraction of beef cattle farmers’ group goals was the last rank (4th ranking) as the indicator component of cohesion for both Bismo and Sido Makmur groups. It meant that group goals had not been used as the main attractions indicator by most the member of farmers’ groups to commit to the beef cattle farmers’ group. According Guntoro and Sulastri (2000), although the beef cattle farmers’ group had a consensus regarding the group goals, but most of the member said that the original source of the goals mostly came from the government through the field extension workers.

CONCLUSIONS

Based on the results of the study, it could be concluded that there was a high category level of beef cattle farmers’ group cohesion for both Bismo and Sido Makmur groups. Farmers who were the members of the groups had high commitment to their groups.

All of attractions indicator of cohesion had high score achievement percentages. Group activities and membership of the group attractions were the most important indicators for the members of beef cattle farmers’ groups to commit to their groups. The government through their field extension workers was suggested to always improve beef cattle farmers’ attitude towards the group goals, so that the sustainability of farmers’ group dynamic also could be improved.
REFERENCES


CERTIFICATE

This is to certify that

FRANSISKUS TRISAKTI HARYADI

has participated as

ORAL PRESENTER

at the 7th International Seminar on Tropical Animal Production
“Contribution of Livestock Production on Food Sovereignty in Tropical Countries”
Faculty of Animal Science Universitas Gadjah Mada, Yogyakarta-Indonesia
September 12 - 14, 2017

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Faculty of Animal Science
Universitas Gadjah Mada

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