Positive Deviance Approach: Local Community-Based Solution (A Case Study of Peranakan Etawa Goat Farm)

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Abstract. The study aimed to analyze the potentials of Positive Deviance (PD) approach in addressing the problems of Peranakan Etawa (PE) goat farm. By using a qualitative approach, this research was conducted in the Kaligesing Sub-district, Purworejo Regency, Central Java. Data were obtained through in-depth interviews and observation. Participants were determined purposively, which include elements of smallholder farmers and the other stakeholders such as extension worker and the staffs of Agency of Agriculture Livestock Marine and Fisheries of Purworejo Regency. The results showed that the PD approach has a possibility to be applied in driving behavioral change that leads to the livestock management as agribusiness practices. It is powered by a situation where the livestock problem was not solely in the form of technical barriers. The existence of PD and the support of local leaders such as village heads as well as the commitment of small farmers themselves are necessary in order to successfully imply the agribusiness practices.

Keywords: community, local, Peranakan Etawa (PE), positive deviance

1. Introduction

Peranakan Etawa (PE) goat has been developed in Central Java, especially in Kaligesing Subdistrict, Purworejo. Agriculture Counselling of Livestock Marine and Fishery Program of Purworejo Regency in 2013 mentioned that the main problem of goat farms is the low application of technology, including: (1) maintaining the aspect of genetic resources, (2) unbalance ration both in quantity and quality (3) poor health care management.

To increase the farms productivity, extension and training programs are necessary media in introducing and training farmers on various technologies. However, these efforts are considered insufficient because the tendency of the farmers to use the technology are considerably below the standard. In understanding the smallholder farmer behavior related to the livestock production system, including the application of technology, it is important to focus the program with the smallholder farmers as the subject. It is relevant to understand the problems of farming and searching for a solution
from their point of view, because they have more understanding on the farms daily routines. According to adoption theory by Rogers [1] about the behavior change process through the stages of the adoption of an innovation, it can be said that innovation is usually the product being introduced from outside into the social system. The innovation considered by an agent of change, usually the people outside of the community, is seen as a solution for overcoming community issues. In the process of adopting the innovation, the stage of 'awareness' of an innovation can reflect the condition of the presence of the innovation becomes a major issue, and the need for innovation by potential users will be the next issue. In the later stages of the adoption process, it is expected that prospective users take the decision to adopt innovation if it is relevant to their needs.

However, when the changing efforts through the encouragement of external agents have barriers, changing strategy through internal encouragement can become a potential alternative. One example of the local capacity utilization in social change proposed by Hamid and John is through environmental education model based on local wisdom. Social change driven by grassroots community emphasizes on the capacity of local community participation [2]. One of the strategies which is relevant to the current problem is the approach of Positive Deviance (PD) approach. PD approach is based on a belief that in every community there are individuals or groups of specific behaviors and unusual strategies which have a better solution to a problem than other members of the community or organization [3][4][5]. These 'innovators' are the key approach to behavior or practice change desired [4]. PD approach [15] enables community to find and share farming practices originated from local potential, even thought there is some weakness such as there are very few individuals who have potential for that practices, so more effort is needed to motivate the community. PD approach can be applied in many outcomes, communities, and/or services [6].

Based on the description of the problems, this research aimed to discover the potential application of the PD approach as an attempt of solutions to the problems of PE goat farms based on local resources in order to create the change of small holder farmers’ behavior towards better farming practices.

2. Methodology

This study was conducted from August 2015 until December 2016 at Kaligesing, Purworejo, Central Java (7°45'34.1"S 110°06'46.5"E). Ettawah Grade (Peranakan Etawa, PE) goat are commonly reared in this area due to its optimum environmental conditions and the abundant feed sources.

This study employed the PD approach by Pascale, Sternin & Sternin [5] which can be applied in the following contexts: (1) the problem is not solely related to technical problems and requires changes in behavior and/or social change; (2) the problem is relatively difficult to control and other solutions are not running; (3) the positive deviants supposedly exist in the community; (4) there are support and commitment of local leaders to solve problems. Basic method used in the study was descriptive and conducted with a qualitative approach [7]. The phenomenon concerned in this study was the practice of smallholder farmers in general and the unusual practice but positive from individuals or groups of farmers with regard to PE goats farming practices.

In this study, data sources were informants, activity, place and object. Participants in this study were set by using purposive technique [8]. The participants in this study consisted of smallholder farmers and other stakeholders, which were the extension officers and relevant institutions. Data were collected through individual and group interviews and observation. Development of the validity and reliability of data was performed by triangulation techniques of sources and methods. The process of data analysis used interactive process analytical braid models, with the following steps: data collection, complete records, data reduction, and data presentation [9]. It is done repeatedly by arranging the data reduction, data display, drawing conclusions and verification.
3. Result and Discussion
The present study involved the following participants: three representatives from government institution, four extension agents and sixteen farmers. To determine whether the PD approach has opportunities to be applied in the context of PE goat farming, the problem that is generally faced by smallholder farmers were identified. One of the common problems in PE goat farming is limited forage availability during the dry season which is not sufficient for livestock. It is not surprising for smallholder farmers to sell off their goat in dry season including returning of their ‘gaduhan’ (gaduhan is a pattern of keeping livestock owned by another party, through profit sharing system). To solve this problem, feed fermentation technology had been introduced by the extension officials as agents of change. However, in practice, smallholder farmers generally ignored the fermentation technology for a variety of considerations. Some of the causes included limited equipment of forage raw materials thrasher, limited human resources and their assumption that fermented feed have low palatability.

According to the acquired information, the obstacles were for example the lack of awareness and goodwill from the smallholder farmers to make PE goat farming as a main job. Farming management in general was still subsistence and relatively traditional. The majority of smallholder farmers have less understanding regarding the proper agribusiness practices. The sustainable agribusiness practices would involve maintaining the quality and availability of the kids to meet the market needs. In order to solve these problems, this study promoted the potential of PD approach which can be explained in the following points:

The problem is not solely related to technical problems and requires changes in behavior and/or social change

Based on the criteria of how the PD approach can be applied, the problem of the PE goat farming is not merely a problem of a technical nature (technical barriers). In this case, the technical solutions are already available, but the smallholder farmers have not applied the available innovation and technology to improve the farming system. The improvement of livestock productivity requires changes of the smallholder farmers behavior, in the willingness to apply the technical and non-technical advances. The technical problems can be considered as already solved. The remaining non-technical problems including farmers mindset and behavior which tend to ignore the principle agribusinesses farming practices. Non-technical solutions such as social institution which support smallholder farmers’ awareness and understanding towards the utilization of better farming technology application are needed. An ongoing assistance in behavior change process, including smallholder farmers’ access of information and knowledge, is a strategic key to increase a good PE farming practices. The nature of farmers who are very creative, innovative and have entrepreneurial spirit are internal factors are prerequisite for PE goat farming [13].

Resources in a broad sense are not only in the form of human resources, the occupation of knowledge, and culture are assets for community in a competitive way. Pierre Bourdieu identifies four forms of capital, namely the cultural, human, economic and social capital [10]. In terms of Bourdieu's concept, cultural capital has properties that are more similar to the concept of knowledge. Thus, one can say knowledge is capital, in addition to human, economic and social capital [10]. In relation to the opinion of Bourdieu, PD is an asset to the community as the resource and dissemination of knowledge for a good PE goat farming practice.

The problem is relatively difficult to control and other solutions are not running

In order to find solutions to the problems and look at the phenomenon of the existence of PDs, the form of PD inquiry applications as the PD application dichotomy as found by Bullen [11] were applied. However, researchers conducted Focus Group Discussion (FGD) in order to confirm the result of observation and individual interview to further identify PDs.

Farming practices performed by the PDs were considered able to overcome the majority of smallholder farmers’ problems. The practices of PD which different from the community are in the following aspects: (1) increasing the palatability of fermented feed by feeding the goat with
combination of forage and fermented feed even in abundant forage season; (2) modifying the dry feed material thrasher to save the cost of procurement of equipment; (3) implementing a good recording consistently; (4) maintaining the kids quality by setting the limit frequency of mating period, particularly for superior male (Table 1).

| Livestock cultivation aspects | General smallholder farmers | Positive deviants |
|------------------------------|-----------------------------|-------------------|
| Recording                    | Less implementing of a good recording system | Implementing a good recording system |
| Feed management              | Less attention for feed management | High attention for feed management by using variation of feed |
| Reproductive management      | Often does not care and low accessibility to the origins of the stud | Pay attention to the origins of the stud, consider the male mating capacity |
| Livestock orientation        | Less attention for PE goat farming agribusiness | • Oriented to PE goat farming agribusiness  
• Pay attention to resources sharing |

Source: The result of interview, observation and FGD

In contrast to PD, the majority of smallholder farmers have obstacles to implementation good farming practices for following reasons: (1) less application of feeding with fermented feed; (2) less ownership of thrasher and raw materials for feed fermentation; (3) less implementation of recording system; (4) less attention to the maximum frequency of the use of males for mating; (5) less attention for applying of sustainability PE goat farming.

Formation of farmer group or farmer cooperative has a benefit in providing more efficient production requirements to be accessed by farmers. Some of the applicable function: keeping the good male stock ownership to the farmers group as shareable good male source, provides loan to the farmers to prevent selling off the goat, and gives resources and transportation of fermented feed production. To keep the superior male in order to support sustainability of PE goat quality, the ownership strategy by the cooperatives as a capital provider is a strategic to prevent farmers selling kid or good male goat. However, such a planning and long-term solution requires carefully for sustainable PE goat farming system.

The positive deviants supposedly exist in the community

In this community there are farmers who applied a variety of PE goat farming practices which different from the other smallholder farmers. The practices of this farmer reflected the phenomenon referred by Pascale, Sternin & Sternin [5] as 'successful exceptions' (ie positive deviants) '. The PD apply the PE goat farming practices which is seen as problem solving of community’s issues. Based on this phenomenon, the are an opportunity for the PD approach to initiate the change in PE goat farming behavior in Kaligesing.

Some of the 'deviations' farming practices by PD has been explained previously. Related to the existence of PD who can become local agents of change, PD practices is relatively not well known by the community members and even by government agents (extension workers). In addition, through interviews, local community leaders support to find solutions to farmers’s problems together. To follow up the phenomenon of PD, smallholder farmer members of the community, village community leaders also agreed to make changes and find solutions through the utilization of existing resources in the community.
There are support and commitment of local leaders to solve problems
As the initial process of the PD, the participants agreed to make direct observations in order to see 'good practice' of goat farming which they had not yet applied. In addition, they would also conduct discussions in forums that they formed as a medium to learn and gain new insights. The PD approach has a chance to be applied and could be followed up by an agent of change who commits to assist smallholder farmers in finding solutions of the problems and implement solutions. However, if this strategy is applied, the different point is needed for the extension workers or researchers. They need to open their minds for the outliers, and eliminate the culture of skepticism about something that is not inevitable, 'that it is' [5]. In this case, the behavior and the strategy undertaken by PD are proven to provide solutions for the community problems which need to be explored through an open mind.

The PD approach has opportunity to be applied in the PE goat farmer community in Kaligesing. The PD approach allows a community or organization to identify and strengthen their practices and behavior, to measure the results and share the success of its strategy of 'innovators' with other members of the community or the organization. PD approach can be applied as a strategy of behavior and social change through the identification of solutions that already exist in the system [5]. This approach could be an alternative strategy in the development of communication and social change, where a community discovers, reflects and reinforces the existing knowledge in a process that leads to sustainability and transformation [3]. Community involvement is very important to find a 'variation' existing in the community and to adapt the practices and strategies [5].

As an unusual approach [12], PD is different from the traditional change effort that is usually top-down, where the source of changes is from outside and based on their 'flaws/weaknesses' (deficit based) [5]. In the PD approach, the initiative of change in which the community identifies solutions has been already available and strengthens them, based on available resources (asset-based). The agents of change may play a role in facilitating this process. Facilitating local initiatives in searching for solutions to solve problems is also be entrances to recognize and apply the existing endogenous innovation in society and fosters local innovation in the future. Endogenous innovation system is a new initiative of the local community innovation process in coping with the problem [13].

In its application, the PD approach has four stages (4D's steps), which become the basis of its application [5] including: (1) defining the problem and the expected results; (2) determining the 'general' practice (behavior) in the community; (3) finding 'unusual' behaviors and strategies through the searching and observation; (4) designing initiatives based on the findings. However, practically, not all of these stages are always applied in the PD approach practice [11], but generally there two norms of PD approach application, namely PD program and PD inquiry. PD program involves the whole stage of PD approach starts from identify positive deviants and their behavior through the implementation of a program to disseminate the behavior to others. PD inquiry only uses the first stage, namely identification of PD and their behavior but it does not use the information to compile the design or implementation of the program.

As mentioned by Berggren & Wray [11], PD approach cannot be applied to all situations. There is a limitation of this approach, where PD is not always able to overcome the problems that require a long-term strategy. PD is also highly context in detail and cannot be transferred to other communities. However, an understanding that each community is unique, provides an opportunity for this approach as a strategy chosen by the agents of change.

The individual innovators (PD) 'stray beyond the normal', because their behaviors are not similar to other community members; and they are 'positive' as finding effective ways to address the problem when almost the majority of the community members do not have it [3]. In the perspective of PD, individual difference is seen as a community resource [5]. Through the individual differences that have positive nuance, the members of the community are expected to see and learn from other members on their own, so they will move towards a change in the desired direction.
4. Conclusion
There are still problems occur in PE goat smallholder farmers in Kaligesing such as: (1) maintaining the aspect of genetic resources, (2) unbalance ration both in quantity and quality, and (3) poor health care management. Technical solutions has already exist, however the lack of these technologies application are reflecting the need of social aspects in community behavior. Social aspects problems such as raising awareness and maintaining the application of a good farming practice are still remain. On the other side, PD as well as their practices supposedly exist, but they are relatively unknown by the community.

The fulfillment of conditions such as technical barriers, support of local leaders and smallholder farmers commitment to make a PD approach have a chance to be applied in the farm problem-solving strategy through optimizing the use of existing resources in the community. PD can be a ‘starting point’ in organizing local communities along with the optimization of the existing resources and improve PE goat farming productivity. The PD approach can be applied in the context of the following: (1) the problem is not solely related to technical problems and requires changes in behavior and or social change; (2) the problem is relatively difficult to control and other solutions are not running; (3) the positive deviants supposedly exist in the community; (4) there are support and commitment of local leaders to solve problems.

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