

## **Pieces of Peace in Cattle Integration in Oil Palm Plantation in Aceh - Indonesia**

SAIFUDDIN YUNUS<sup>1\*</sup>, SUADI ZAINAL<sup>2</sup> AND FADLI AJALIL<sup>3</sup>

<sup>1\*</sup>*Sociology Department Malikussaleh University, Aceh Indonesia.*

<sup>2</sup>*Sociology Department Malikussaleh University, Aceh Indonesia.*

<sup>3</sup>*Agribusiness Department, Malikussaleh University, Aceh Indonesia.*

<sup>1\*</sup> *saifuddinyunus@unimal.ac.id*

### **Abstract.**

Cattle integration in oil palm plantation has been a common practice among farmers today. The system has been assumed can increase farmer income; it either implemented intensively or extensively. However, planting oil palm has been criticized due to causing ecological crisis and social conflict. But Aceh Government and its local government has provided aids to support farmers in cultivating oil palm plantation. The purpose is to recover their economy that has been decreased due to Aceh protracted conflict. But some farmers have integrated cattle in their oil palm area. Therefore, this study aims to analyze the impact of the integrated system on the peace aspect. The study was conducted in the regency of East Aceh by qualitative approach. The result shows that the integration of cattle in oil palm plantation has a positive impact on creating positive peace. The system has enhanced the cooperation between the cattle breeders and the oil palm farmers, and they have mutual assistance and benefits. In addition, farmers have much time to participate in social activities.

**Keywords.** Integration System, Oil Palm, Cattle and Peace.

Received: 21 July 2019

Accepted: 25 August 2019

## INTRODUCTION

Planting oil palm to improve some people and academics have criticized the economy of the community because it has caused ecological damage and social conflict. However, after signing a peace agreement between Aceh Free Movement and Government of Indonesia in 2005, Aceh Government has made it as golden crops to recover economy of Acehnese for keeping the peace and wished it is a way to build positive peace in Aceh. Hence, local governments in Aceh have provided an abundance of financial and other resources for expansion and investment in oil palm (Eye on Aceh, 2007). Aceh government and its local governments have held a program to help the people in the village, especially those who have been the victims of the conflict. For this purpose, the government has provided agricultural aids to the conflict victims in a rural area; oil palm plantations and cattle rearing. The program's goal is to recover the Acehnese economy which has been damaged by prolonged conflict. However, the plans have been implemented separately, whereas the integration of both commodities has been considered as a potential thing to increase farmers economy (Handaka et al. 2009; Bangun 2010). In line with this, the central government of Indonesia has encouraged the integration of both sectors as an attempt to accelerate the process of achieving beef self-sufficiency which will then be able to decrease the high dependency of Indonesia towards the imported beef. According to the Director General of Foreign Trade, Bachrul Chairi (2014), the beef self-sufficiency can be accelerated through the concept of integrated crops and livestock production system. Among many crops, oil palm and rubber plantations are the possible crops to be combined with stock breeding.

Realizing the potential, Plantation Agency of East Aceh Government has begun to implement integrated cocoa plantation with goat breeding to empower the economy of the people in the area since 2014. Then, in 2015, they would expand the same program; to integrate cattle in oil palm plantation. However, their proposal was rejected by the Budgetary Team of the Government of East Aceh Regency. Later in 2016, the idea was proposed again to be implemented in 2017. But on the other side, the integration of oil palm and cattle breeding has been practiced by the local farmers without the government's guidance and supervision. Most of the farmers integrated their cattle into the area of oil palm plantation by traditional way. They utilize the hay and palm frond for the feed of the bulls. The cattle's manure has not been yet processed by using technology (Saifuddin et al., 2016).

It is irrefutable that the integration of the crops and cattle breeding has a positive impact on raising farmer's economy even though the integration system has done extensively. It is also undeniable that every economic action has had implications on the socio-cultural life of people, either a positive impact or negative impact, likewise the integrating cattle in oil palm plantations. Many academicians and researchers have paid more attention to the economic effects and social implications of the integrated system, but they have less focus on social impact, mainly in peace contexts.

Hence, this study aims to investigate the social impact of the integrated cattle in oil palm plantations that may contribute to building positive peace in Aceh. The study reveals that the integrated system has positive

implications on creating positive unity among rural communities, between farmers, cattle breeders, and owners of oil palm plantations. They have cooperation and mutual assistance, and also have mutual benefits. In addition, farmers have much time to participate in social activities in their villages.

This study was conducted in East Aceh based on qualitative approach. The data were collected through in-depth interviews, focus group discussions, and non-participant observation. Key informants included government officials, oil palm farmers, and cattle breeders as Aceh conflict victims. The study starts with a literature review on oil palm and the potential of Cattle Integration. The next looks at the impacts of cattle integration in oil palm on social life to highlight some pieces of peace. At the end is conclusions, by arguing that the integration system has encouraged farmers building positive peace through pieces of peace culture, such as cooperation and mutual assistance.

## **LITERATURE REVIEW**

### *Oil Palm and the Potential of Cattle Integration*

Oil palm constitutes a primary commodity for non - oil and gas export. Indonesia is one of the largest producers and exporters for oil palm, followed by Malaysia and Papua New Guinea (National Portal of Republic Indonesia 2010). However, Oil Palm Business has impacted not only on the economy, but also on society, and the environment. Erwin et al. (2009) asserted that oil palm plantation harms social life includes impacts on food security and changes of traditional farming land into plantation area. Meanwhile, it has implications on the environment include changes in landscape and land use, water pollution, soil erosion, and chemical contamination.

Furthermore, clearing of palm land has also been considered to be contributing to social conflicts. In Indonesia, there are 500 cases of social conflict in the sector of oil palm plantation due to dispute on land rights, a disagreement on labor, disharmony within the partnership, criminalization of the villagers, and high-level political scandal (Green Peace, 2010). Despite the negative impacts, oil palm plantation also has positive effects on the community. Some benefits are increasing rate of employment, raising people's income, and more opportunities for the people to start an informal business such as service trades and small stores (Effendi, 1996).

To gain more advantages from oil palm plantations, farmers have integrated their livestock in the oil palm area. The development of an integrated system of oil palm and cattle production is an attempt to utilize one commodity to support the growth and development of other products to achieve mutual interaction (mutual symbiosis). The oil palm industry provides a potential source of feed for the cattle breeding. Meanwhile, the livestock's waste in the form of manure and the remaining foods can become organic fertilizers, useful for the palm plantation (Lismawati, 2016).

Many researchers have reported that the integration of livestock into the oil palm plantation give a positive effect on the growth of the animal (Dwiyanto and Rusastra 2013). Crops' waste can be utilized as the

feeds for the livestock (Diwyanto et al., 2004; Diwyanto and Priyanti, 2008; Mathius 2008; Bamualim 2012; Sirnawati and Hanifah, 2013). Oil palm is known as one of the commodities which do not only produce fresh fruit bunches (TBS) to be processed into CPO but also produces by-product such as fronds which are used mainly as the livestock's feed. The land of the oil palm plantation is also producing hay which is also one kind of livestock feeds. Through the integrated oil palm-cattle farming system as a model of economic empowerment, the prosperity of the people can be attained as the income increases. Findings of one of the research conducted in this area suggest that this integrated pattern triggers the enhancement of the farmers' income and leads to the sustainable growth of the economy in the area (Handaka et al., 2009).

Oil palm plantation has a vast potential to be a provision of the source of the feed for cattle due to its numerous by-products such as fronds, leaves, and other wastes. The by-products have the potential to provide feeds for 1-3 cattle/Ha of oil palm planted area (Manti et al. 2004). Besides, the utilization of cattle as a mean of transportation to carry yields can also increase the farmers' income up to 50% higher than their average wage (Diwyanto et al., 2004).

In addition, according to Novra (2012, 2013), the integration between oil palm and cattle breeding offer several advantages. There are; a) the utilization of oil palm crops' waste, especially the fronds as a source of livestock's feed; b) as a provision of organic fertilizers in the form of manures to suffice the demand of fertilizer for the growth of the oil palm plants; c) the utilization of the area and the building for the development of productive activities; d) providing job opportunity for the people around the area of integrated oil palm plantation. Aligned with this, Handaka et al. (2009) outlined the benefits of this integrated farming system: 1) diversification of the resources utilization, 2) a decrease on business risk, 4) labour utilization efficiency, 4) use of production input efficiency, 5) a decrease of chemical energy dependency, 6) eco-friendly production system, 7) production enhancement and 8) sustainable income of farm households. Thus, according to Gabdo and Ismail (2013), a high income of the farmers who practice the integrated oil palm-cattle production system shows a great potential of the system to increase the oil palm farmers' prosperity. For example, the integration system has been practiced in Bengkulu that shows farmers' income increases around 1.81 times greater, compared to non-integrated oil palm plantation system. This result derived from the assumption that every household has 3 ha plantation area within 3 cattle minimum (Gunawan et al., 2004).

## **MATERIALS AND METHODS**

This study used a qualitative approach; the informants consisted of the farmers as Aceh conflict victims who have received aids of oil palm plantation and raise cattle in the regency of East Aceh, and the officials of East Aceh Government, especially who work in the Plantation and Animal Husbandry Service. The data were collected by in-depth interview, non-participant-observation, focus group discussion, and study of documents. Then, the data were analyzed through data reduction, data display, and drawing conclusion.

## RESULTS AND DISCUSSION

### *The Impacts of Cattle Integration in Oil Palm on Pieces of Peace*

Many studies have shown that the integration between cattle breeding and oil palm plantation has given positive impacts on the development of farmers' economy. However, this article focuses its elaboration exclusively on the social implications of the practice of integrating oil palm plantation with cattle breeding, for both the positive and negative sides.

One of the positive impacts that are directly felt by the farmers is that they have more free time to do other activities and being more involved in the social interaction within the community which usually takes place in the coffee shop or other areas. Within the Acehese society, social communication between colleagues and friends mostly occur in coffee shops. Discussions take place while drinking coffee which has been a favourite tradition of the Acehese until today. One of the informants stated that:

“The integration system applied to cattle breeding, and oil palm plantation is aligned with the culture of the Acehese people. When the palm trees have already grown, and the livestock can be unleashed, the owners can save more time and can sit in a coffee shop to get involved in social interaction. They would only wait for the oil palm to be yield every fifteen days. Shortage of feed is no longer an issue since they are provided by the hay grown in the oil palm planted area as well as the by-product of the palm trees such as the fronds. Therefore, it is quite suitable to integrate cattle breeding with the oil palm plantation. Besides, it is also in line with the Acehese social lives in which people spend much time in the coffee shop to get socialized.” (Interview with Khairullah, Head of Plantation Division, Plantation and Animal husbandry Service, The Government of East Aceh Regency, 5 July 2017).

According to farmers, generally, there is no adverse effect identified in the practice of the integrated production system. The disputes among communities caused by livestock eat the people's plants while in the plantation area can be solved by Village Law (Qanun Gampong) or by providing compensation. However, some farmers who feel disadvantaged by this problem might make a report to a local police agency if the resolution on a village level is felt insufficient or unjust. Meanwhile, there are little negative impacts of the integration of cattle in the oil palm plantation; the distraction of the traffic on the street if the livestock is often released to the village's streets which interrupt the traffic. Moreover, the manure of the cattle is scattered along the street (Interview with farmers, 6 July 2017).

Social conflict that has occurred was not due to the integrated crops and cattle breeding practice, but more of the unjust sharing system of the livestock donated by the government. However, this dispute can be resolved by giving an understanding to the people that the donated livestock is not an individual's or group's property. The livestock belongs to the local community which will be utilized alternately through the process of reproduction

(Interview with Basaruddin, field officer of Plantation and Animal Husbandry Service, The government of East Aceh Regency, 6 July 2017)

Moreover, the donated livestock management is also done through mawah or profit sharing system of 50:50 to encourage the sense of responsibility of the people involved in the administration as they will get half of the profit. The government expects that there will be zero adverse effects of the practice towards the community's social life (Interview with farmers and officials of Plantation Division, The Plantation and Animal Husbandry Service, the Government of East Aceh Regency, 5 July 2017).

To avoid the negative impacts on the social life of the community, the government, since 2015, has required every group who receive the aids to have an endorsement from the local extension agency. Furthermore, during the survey, the candidate of the aid recipients is required to present the head and the members of the group at least 2/3 (two third). When the aid is given, the head and the members of the group should be present to ensure that everyone is aware of the subsidies provided by the government. It is considered necessary to avoid conflict which can emerge due to the lack of knowledge or involvement (Interview with Mahdi, Head of Animal Husbandry Division, Plantation and Animal Husbandry Service, The Government of East Aceh Regency, 5 July 2017).

However, according to Kahirullah, there are more effective group formation mechanisms to supervise the success of the groups and reduce social jealousy among communities. These mechanisms include the process where each village is formed as one group as the core group which consists of several groups being adjusted to the needs of the community. Thus each business group gets supervision from the core group.

In the field of livestock, according to a farmer (Mahdi), the mechanisms of group formation, in addition to following the regulations, also include the establishment of core groups and plasma groups to ensure the sustainability of the cattle grant that has been granted to certain villagers. In this case, the core group as the first beneficiaries who will reproduce the cattle will be monitored by the plasma group who will receive rolling assistance from the core group.

Based on the explanation above, it can be concluded that the integration of oil palm plantation and cattle breeding does not cause social conflict within the community. Conflict occurs because of jealousy due to the accumulation of aid from the government to the same person. On the other hand, people feel a more positive impact on practice. In addition to a lot of spare time for social activities, the cooperation between the owner of the palm with the owner of the cow is also established, because some communities have only cattle but not palm area, thus, they need to cooperate with oil palm planters to be able to release the cow into the palm area. In this case, Saifuddin et al. (2016) stated that palm farmers who do not have livestock and breeders who do not have palm plantation work together to benefit both parties mutually. The owner of the cows does not need to think about a place to release their cows, whereas oil palm owners do not need to think about clearing the grass in their palm

plantations, so the integration program is indeed very profitable. This statement is as same as an informant (cattle rancher) said "I release ten cows in the oil palm plantation. The owner of an oil palm does not need to clean the area again, as the cattle have eaten it, I also clean while keeping the cow, and I am benefited since I do not need to find animal's feed from a location far from where I live."

Based on the explanation above, it can be understood the integration of oil palm and cattle has a positive impact on the farmers' social life. By the integration system, the cooperation has growth among them, and they can assist each other in earning. Then, they have much time to participate in social activities in their villages. So, social conflict can be reduced in the community although the potential conflict still exists, such as disturbed public traffic when cattle are rearing into oil palm or when animals eat community crops. They have conflict resolution if the dispute arises, the community adheres to the popular village customary regulations. Thus, the study argues that such the integration system reveals different facts from the social impacts of oil palm development that elaborated by Erwin et al., (2009) and Green Peace (2010).

The absence of negative impacts on social life from the integration system is due to the pattern of cattle grazing in the area of oil palm which is still done extensively, and it has not seen an adverse impact on the growth of palm due to pests and land compaction. Additionally, the integration model is considered to be following the geographical and socio-cultural conditions of the community. Finally, the study argues that the integration model has contributed to building some pieces of real peace among protracted conflict victims.

## **CONCLUSION**

The integration system of oil palm and cattle practiced by farmers in East Aceh regency has not only had a positive impact on economic improvement. In addition, they also feel the benefits of time efficiency in raising livestock in the plantation area. Thus, they can participate in social activities in the community, and interact with other people in the coffee shop. The fact is aligned with the culture of Acehnese. Moreover, the integration system has encouraged cooperation among farmers, between the owners of oil palm plantation and the owners of the cattle. Meanwhile, the negative impact, such as social conflict has not yet emerged. Given the fact, this study reveals that the integration system is in line with Philippine government's policy to promote oil palm cultivation in his country, stated: "the oil palm tree as the tree of peace (Villanueva, 2011).

Based on the conclusion, it is expected to the Government of East Aceh Regency should be able to give serious attention to the farmers in the practice of integrating cattle into the oil palm area. Hence, the positive impact of the integration system can be increased, and the potential of social conflicts can be minimized by the positive effects on economic and social aspects that felt by the farmers. In the end, the study concludes that the integration model of livestock and plantation, especially cattle and oil palm, is very potential to improve people's welfare. This model can be used to encourage the farmers as protracted conflict victims in building sustainable positive peace in Aceh.

## ACKNOWLEDGMENTS

Our gratitude to the Ministry of Research, Technology and Higher Education of Indonesia who funded this research, and thanks also to the Research and Devotion Institute of Malikussaleh University for facilitating this research. Lastly, we say thanks very much to all informants in East Aceh who gave us valuable information till this research conducted well.

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