

# Empowerment for Duck Farmer Group in Tuutu Villages West Tondano District Minahasa Regency North Sulawesi Province, Indonesia

*by Lidya Kalangi 7*

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BOGOR AGRICULTURAL UNIVERSITY



THE FOURTH INTERNATIONAL SEMINAR ON ANIMAL INDUSTRY

**“Harmonizing Livestock Industry Development,  
Animal Welfare, Environmental and Human Health”**

August, 28-30 2018  
IPB International Convention Center, Bogor-Indonesia

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### **SUBTHEME: ANIMAL AGRIBUSINESS, SOCIAL ECONOMICS AND POLICY IN ANIMAL PRODUCTION**

## Empowerment for Duck Farmer Groups in Tuutu Villages West Tondano District Minahasa Regency North Sulawesi Province, Indonesia

Lidya Siulce Kalangi, Stanly Oktavianus Bryneer Lombogia, & Sony Arthur Ely Moningkey

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### Abstract

The main program of duck farmer groups in the Village Tuutu Tondano Western District of Minahasa Regency is the development of duck and food crops (paddy and corn). Types of duck are many maintained that duck MA (Mojosari-Alabio). Duck egg production is low, due to system maintenance moving to follow changes in the existing paddy harvest time around the lake Tondano. The problem of group members is that they have no understanding <sup>11</sup> knowledge about intensive maintenance system and integrated with food crops. The purpose of this study is to know the benefits of raising ducks and identify development problems faced by farmers. This research is conducted by using survey method, and location is determined purposively, that is farmer have paddy field integrated with duck. Respondents were 32 people determined census and the data were analyzed descriptively. The results showed that the group of farmers of duck breeder not use feed according to feed formulation, only follow suggestion or instruction based on experience of other group. Duck breeding system is partly semi-intensive with <sup>6</sup> the number of ducks that are still lacking and have not calculated the profit-loss. Based on the results of this study can be concluded that through empowerment of farmers groups have produced quality feed, can apply hatching technology well, and can increase the egg production.

*Keywords:* empowerment, farmer groups, duck

### Introduction

The West Tondano district is located in Minahasa Regency inhabited by a number of communities. The livelihoods of the residents in West Tondano district vary such as the Civil Servant (ASN), private or entrepreneurs, laborers, farmers or even unemployed. Tuutu Village is a part of West Tondano district, Minahasa Regency of North Sulawesi Province, with the second largest urban area reaching 3,158 km<sup>2</sup>, and livestock farmers' livelihoods reach 41% (Minahasa BPS, 2017).

Duck farms developed by farmers breeders, because it is easy to breed and not susceptible to disease (Supriyadi, 2009). Duck breeding experience in Tuutu villages West Tondano district has been going on for generations, because it is supported by the location of residence in the surrounding area of Lake Tondano.

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Farmers who are members of a group of farmers generally reside around the inlet of Lake Tondano. Duck breeding business (Manila ducklings/Muscovy ducks, Javanese ducks, Mojosari ducks, Alabio ducks) run by the farmers come from within their own region (bought in the market, and some are from Java). The current problem cope by the farmers is the traditional cage/housing system because of the shifting cultivation following the changes of weather and of rice harvesting time around Lake Tondano. This is due to lack of understanding of intensive farming systems and lack of knowledge about food making or processing by members of the breeder group.

Feed is the key to success of a poultry farm business, especially ducks. The cost of feed is the largest component of total maintenance cost (Noviyanto et al, 2016; Sinaga et al, 2013). Members of the duck breeder group have tried from traditional feed such as snails from the lake (*biak / renga*: popular for Minahasa people) and corn, to concentrate bought from Poultri shop but not last long because according to duck breeder the concentrate is too expensive. This keeps breeders using traditional feed and or bringing the ducks feed around the land that have finished harvesting the rice.

The problem of group members is lack of understanding and knowledge of maintenance intensive systems coupled with integrated food crops. The purpose of this study is to know the benefits of raising ducks and identify cultivation problems faced by farmers.

### **Materi and Methods**

The research was conducted by using survey method, and the location was determined by purposive that has the largest population of duck livestock. The 32 respondents were determined by census that all group members were actively involved in the activities of several groups of duck breeders in Tuutu village. Data were collected based on interviews using questionnaires and analyzed descriptively.

Empowering of duck breeder groups in Tuutu Village, West Tondano district to overcome some problems, had been done with 2 (two) methods that are counseling and training. Counseling was done to change the behavior of group members in a better direction. After counseling the group members were given training. The training was the practice of applying feed management such as mixing rations demonstration and how to calculate the profit of duck breeding business intensively.

### **Results and Discussion**

#### *The Benefits of Duck Farming for Duck Farmers in Tuutu Village, West Tondano District*

Farmers who are members of the Tougela farmer group in Tuutu 100% run duck breeding business as a source of basic income. In other words, duck breeding has been able to meet the daily needs by selling eggs and ducks, so ducks become the focus of business. While members of other groups (Masawa-Sawangan group, Esa Toroan Waya group and Toubeké group), besides as farmers also work as laborers, builders, drivers and motorcycle taxis.

Duck farming is believed providing great benefits for farmers in Tuutu Village. When feeding difficulties occurred (snails in the lake were reduced), farmers immediately sold all ducks. Only 20% of farmers prepared the sale of ducks to buy

DOD. The 30% of farmers used the sale of ducks to renovate / build houses, another 50% for children's education, other business capital, and consumptive purposes.

#### *Source and Type of Duck Feed in Tuutu Village, West Tondano District*

The availability of feed in the form of waste such as water hyacinth and snails found in the lake, rice bran waste in rice fields is a potential for the development of ducks in Tuutu Village, West Tondano District. In addition, maize and concentrate are also additional feed for duck farmers whose acquisition must be purchased. Snails as a protein source and rice bran as an energy source are considered sufficient to meet the nutrients of feed for ducks. In accordance with Nugraeni et al. (2014) that feed given to duck must at least meet the two elements of feed sources, ie energy and protein sources.

In 2010, one of the head of farmers group had a report on the test results of 3 samples of feed ingredients (leaves of water hyacinth, shell and snail meat), however it has not been applied for feeding to ducks until now. Currently, the farmers provide snails feed in the form of raw materials without being processed and never give hyacinth in duck ration, so when there is a virus attacking snails, ducks that feed the snail's will be affected by decreased egg productivity, poisoning even to death.

#### *Mixing Rations Application*

Duck breeder farmers feed the ducks based on advice or guidance by other group's experience, without noticing the feed formulation. Duck breeders in Tuutu have long used concentrate for 0-2 weeks old ducks. However, they did not know if the concentrate is a mixture of some feed ingredients, so sometimes the concentrate is still mixed up with corn or rice bran. In addition, they did not understand how much protein and energy ducks need. Concentrate use is limited only to starter duck cattle because of the price is relatively expensive. Through counseling, breeders can find out that they can also mix concentrate feed from the ingredients around them such as corn, rice bran and fish flour. Fish flour is used instead of snails which are rarely found in certain periods of time.

According to Her<sup>4</sup>nto (2013), the farmer group's active efforts to improve their knowledge-based, skills and attitudes through the learning process are characterized by various learning activities such as attending counseling sessions, discussion groups, agricultural training and agricultural demonstrations. In this research, demonstration of feed mixing did not use the snail flour because until the day of demonstration, the number of snails in the lake was very minimal, so the preparation of ration for starter duck period was derived from 40% of corn, 30% of fine bran and 30% of fish flour. The ration can meet the nutritional needs of starter duck because it contains  $\pm 20.24\%$  protein. The amount of feed used by farmers in Tuutu Village, West Tondano district for 100 DOQs for 2 weeks is 60 kg concentrate. If the price of concentrate feed is Rp 10 000, - / kg then the cost required to buy the feed is Rp 600 000, -. While the cost of feed if mixed by the breeder is only Rp 234 000, -. The cost of course would be cheaper if using snails, and utilize corn and rice bran from self-production.

#### *Identification of Problems of Duck Breeding Business Development*

Duck breeders understand that ducks are very resistant to disease attacks so ducks cage/house is not important to note. Similarly for vaccinations, vitamin and

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treatment are never performed. Some of the issues that can be identified on duck breeding include:

*The Quality of Human Resources.* Farmer education will determine the success of livestock business. Education was one of the factors that could improve productivity, since it could improve the managerial capacity of farmers. Education level is important in determining farmers' capacity in under- information on duck production or other aspects. Data on education level of duck breeder group members in Tuutu village are 62% senior high school, 23% junior high school and 15% for elementary school. The low quality of human resources will affect the productivity of livestock business, so that human resources are an important element in the development of livestock.

*The Capital.* The maintenance of ducks is not always in the same location, although the land is available. This is because the time of feeding follows the weather and rice harvesting system of farmers around Tondano lake. Paddy harvest waste from rice fields become the choice for the group of masawa-sawangan by placing or accompanying ducks to the place of completion of rice harvest to look for animal feed. Ducks are brought or driven to paddy field (belonging to other people) between villages, sub-districts and even between districts, if the weather and snail catch/prawn in Tondano lake have problems. Adult duck (> 3 months) is released freely into post harvest fields), while ducklings (<3 months) are stuck in cage with plastic sheeting without roof. This is done by farmers because of lack of capital to buy finished feed (concentrate). While for the group of breeders Tougela will still survive to give snails to duck livestock because to put ducks from fields to fields desperately need extra time.

*Coaching / mentoring.* Based on interviews, it has found that there was no coaching sessions from the relevant agencies regarding the quality of breed used, proper maintenance procedures, feed quality and appropriate feeding methods, and good business systems and financial analysis. Nevertheless, there was one group that got the 1st winner of business management of duck breeder group in North Sulawesi Province level. According to Dolinska & D'Aquino (2016), farmers' group learning and innovation can empower engaging farmers as agents of change in agricultural practice.

*Hatching technology.* The application of hatching technology using hatching machine has not been fully implemented by farmers because 25% of them still believe that incubated ducks as a better grower. Besides the electricity requires a cost, it also takes extra time for hatching with the machine. This is in line with the thoughts of Indraningsih (2011) and Akudugu et al. (2012), that there is a tendency of farmers to reduce production costs, in other words, the economic motive becoming a consideration of farmers in adopting a technology.

*Innovation.* Farmers who receive innovation through counseling did not immediately apply it if they have not seen the changes that occurred. They will apply innovation

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if they have seen a change in the group leader that can benefit the duck breeding business. They did not like the possible risks that can harm their business. There was one chairman who is always be a pioneer of the implementation of innovation. Innovation power in overcoming or treating dairy cattle or poisoning allegedly due to feed is also still low, so the breeder will sell all his livestock if he saw ducks breeders / ot 32 groups experiencing death. It is about the acceptance of innovation as proposed by Rogers (2003) that the innovation decision process is a mental process since a person first starts to recognize an innovation, shapes attitudes toward that innovation, takes the decision to 37 pt or reject, implement new ideas, and make confirmations of the decision. This process consists of a series of individual choices and actions over time or a system of evaluation of new ideas and decides to practice innovation or reject them.

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### Conclusions

Based on the research results it can be concluded that through empowerment of breeders groups have produced a quality and economical feed and can apply hatching technology. There are 5 problems identified that can hinder the development of duck, that are low quality of human resources, lack of capital, lack of coaching from related agency, lack of application of hatching technology, and lack of innovation.

### Acknowledgement

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