

## A DEVELOPMENT STRATEGY OF SMALL-SCALE GOATS FARM IN PANDEMIC COVID-19

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### Abstract

*Small-scale goat farm with local breeds which are often referred to 'kambing kacang' in Minahasa area of North Sulawesi Province, which is generally one of the livestock species that are farmed by people in rural areas. Simple maintenance patterns with relatively small maintenance costs become a reason why this type of livestock is selected by the community to maintain this type of livestock. The purpose of this article is to present a scientific study concerning strategies to develop local goat farms that are generally small scale. The method used in this was a field study and combination of quantitative and qualitative approach using various data from scientific references. The use of local feed for local goat production and online marketing is an option that can help to develop this farm during the Covid-19 pandemic.*

**Key words:** covid-19, goat production, Minahasa region

### INTRODUCTION

Farmers' goats almost characterized by local breeds which locally called 'kambing kacang'. This type of animal in the North Sulawesi areas is generally become one of livestock that are found in rural areas, even can also be found in certain locations in suburbs of the cities. The local goats are farmed privately by households in small quantities.

The livestock of goat in North Sulawesi Province are generally classified as small-scale farms that are handled extensively. Although in terms of numbers are classified as a small quantity, but this type of farm is officially categorized as a livestock. Definition of a livestock in Indonesia was regulated in Act (PP) 2016 No. 4, article 1, section 2. This regulation states that: livestock (*'ternak'*) are animals which its products are intended to produce food, industrial raw materials, services, and/or its by-products related to agriculture.

Local goat products are mainly for meat products. In order these animals are able to produce meat in good level quantitatively and qualitatively, it need a development strategy in

accordance with the natural, socio-economic conditions of the people and the country in the situation of Covid-19 pandemic. These animals are able to "conjure" forage and plants or other material found all regency and cities in North Sulawesi area that are not used by other livestock animals into meat products. This ability is positively relied upon by farmers with limited capital to be a side activity in sustaining their economy. While a part of the farmer did not aware many potential resources naturel could be applied in their farm (Toar et al., 2019)

The existence of local goat livestock and natural resources that are spread in all regencies and cities in North Sulawesi, suggests a development of local goat livestock has great potential to support food security in the region at the current pandemic.

### MATERIALS AND METHODS

The combination of quantitative and qualitative approach using various data from scientific references as well as field observation. Survey on extensive goat farms figure was carried out in the field of five regions by evaluating the

condition of goat house and the availability of naturally forages around the farms. Values made from 0 to 100 and divided into 5 grade.

## RESULTS AND DISCUSSIONS

We found that the farmer realized an extensive goat livestock activity as a side livelihood to support household source of revenue. The livestock were handled in small quantity by household. This meat product of local goats attracted people as a local culinary destination (Saeroji, 2017), therefore this type of livestock has a great opportunity to be developed into an important business object, or at least as a source of animal protein for general consumption (Figure 1).



Figure 1. A small-scale of extensive livestock of goat (*kambing kacang*) in Minahasa region

The strategy in developing small scale goat farms in the North Sulawesi region during the pandemic period needs to be based on several foundations as follows: In general, this type of animal husbandry needs to be developed because it can help to fulfill animal protein sources for local communities, which synergize

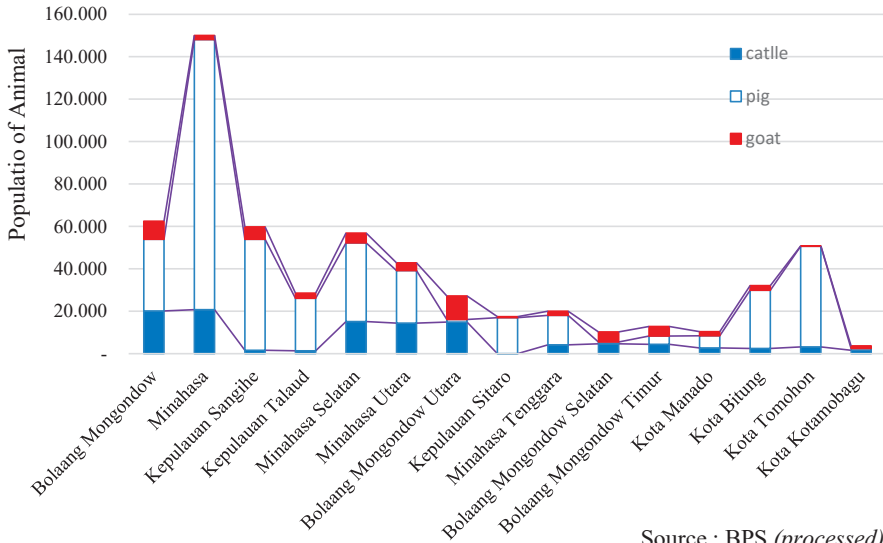
with efforts to accomplish national food which is oriented towards a sustainable packaging (FAO, 2014).

Another common problem which is the basis of this development is if the situation of the number of people confirmed to be positive of Covid-19 continues still increase, it will certainly have a negative impact on the productive activities of the people which are directly correlated with the economic situation.

In this point, it is needed to be anticipated to the future times where there will be a decline in food production and in food distribution. Under these conditions small-scale farms carried out by families will help in supporting local food availability, consequently business from household will be able to develop because it automatically helps maintain or improve the economy of farmers. In this situation new farmer could be formed from the people who experienced layoffs, or lost their daily job. In point of view of natural resources, local goat farming is one of the important types of livestock in the area of North Sulawesi because various of this animal products will support the local food availability. Figure 2 shows a comparison of the number of goats compared to cattle and pigs in North Sulawesi areas in the year of 2018. Although the population of goats does not dominate but goat livestock products contributed to consumers in this area.

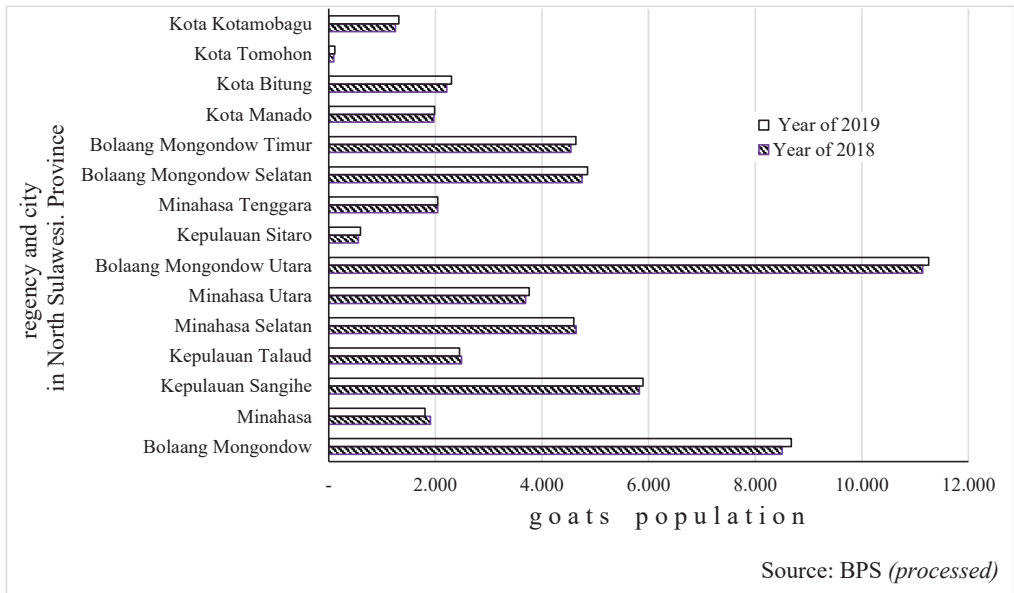
At that time the number of pigs dominated the three types of mammals, but the figure shows that small scale of local goat livestock existed in all regency and cities in North Sulawesi.

### Population in 2018



Source : BPS (processed)

Figure 2. The comparison of population of cattle, pig and goat in North Sulawesi regions in 2018



Source: BPS (processed)

Figure 3. The growth of goat farm population in North Sulawesi in 2018 and 2019

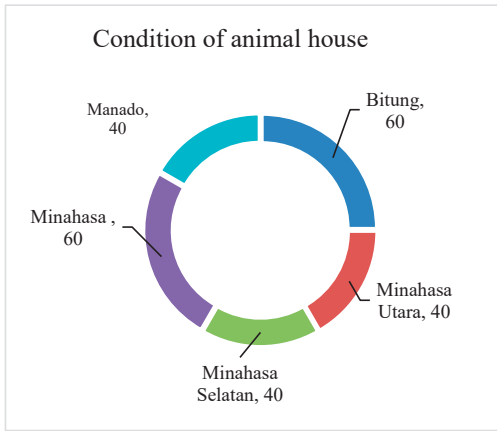


Figure 4. Condition of animal house in extensive livestock of goats observed in some places

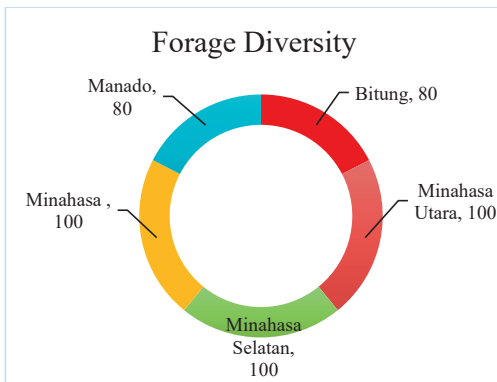


Figure 5. The availability of forage around the location of livestock in some areas

The development of the number of goats in North Sulawesi is shown in Figure 2. The number tended to increase in almost all regions from 2018 to 2019, excepted in the area of South Minahasa, Talaud Islands and Minahasa which experienced a slight decline.

The Figure 3 indicate that the people of North Sulawesi in general already have experience in conducting goat breeding as a local food source, although the amount varies by location. To anticipate the handling of food availability decreasing as a result of this co-pandemic19, the development of goat livestock needs to be taken into account, moreover this product can be consumed by people with diverse socio-cultural including religious backgrounds.

In reality, goat meat is favored by the majority of the population of Indonesia, especially in

North Sulawesi, which in terms of culinary goat meat dishes is considered as a special food that is served at various public thanksgiving events, thus this livestock meat product is easily marketed in this area.

North Sulawesi region has a variety of forages as goats feed. These plants grow easily at various temperatures and humidity in this area (Rumokoy and Toar, 2014). Concentrate feed can be made from agricultural by-products such as bran, cassava, ground corn, table salt and calcium (Distanpangan, 2018). The ability of these animals to convert various food sources to produce meat and milk (Darcan and Silanikove, 2018), by consuming grasses, legumes, and seeds (Rahman et al., 2014)

The ability of local goats to produce meat by consumption various types of plants, even though it is classified as a mediocre quality plant, it is a concern to be developed in difficult situation that happened in this Covid-19 pandemic.

On the other hands this type of goat is generally categorized as an animal that is quite easy to maintain because physiologically it is able to adapt to an environmental condition, including in the dry season (González-Pech et al., 2015; Raducuta et al., 2015).

The development strategy will be pursued by taking into account important steps to achieve the objectives in the context of developing small scale goat farming during the Covid-19 pandemic in the all regions. If there is a PSSB (large-scale social restrictions) to be applied, it should still provide space for internal household activities in conducting livestock activities so that they can produce food as one of the basic needs of the community in general. On the other hand, social solidarity action needs to be continued for people who experience limited sources of funding to get their basic needs, including for small-scale community farmers who are very affected by this pandemic.

Development activities must refer to government policies and remain oriented to the applicable laws and regulations so that a business undertaken by a community is legal and remains respectful at a dimensions of community life and the public interest. This includes, among others, controlling so that livestock do not interfere with the plant

cultivation around goat farms, even in small numbers.

Formulate health protocol standards set by the government related to carrying out agricultural activities including private livestock activities from households to minimize the risk of transmitting the new Corona virus. A tradition handling in a livestock existed various health problems (Rumokoy and Toar, 2014), keep providing technical assistance and small loans in the context of the integrated farming system development (Reynold, 2002).

Technical guidance is still deemed necessary by goat breeders which can be achieved by strengthening the reproduction of goats (Monintja et al., 2016) simultaneously both online and directly in the field assistance concerning:

## CONCLUSIONS

Pandemic Covid-19 demands various efforts to provide sufficient food for humans. To anticipate the decline in food supply and distribution in areas including North Sulawesi, various efforts need to be made, especially those that can support the community's economy. This can be achieved by developing local goat farms.

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