

## DEVELOPMENT OF SMALL-SCALE FARMING IN NORTH SULAWESI IN PANDEMIC COVID-19 SITUATION

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### Abstract

*The Covid-19 pandemic period has spread across almost all countries in the world has resulted a significant negative impact on various socio-economic aspects, including on large-scale and small-scale livestock business activities. This paper aims to present a study of challenges in developing small-scale farms carried out at grassroots level communities affected by the Covid-19 pandemic in North Sulawesi Indonesia. The method used in this study was a meta-analysis pattern approach. The cases of covid-19 infection in this area began to emerge early on March of this year, where data until early May 2020 showed a number of people who were confirmed positive Covid-19 had reached 45 people. The government as an authority holder in North Sulawesi Province does not apply yet a lockdown. This temporary policy gives farmers the opportunity to move and continue developing their livestock activities in order to support the fulfillment of livestock products in local market, while on the other hand, feed row material tended to increase in the market. The recommendation to keep a physical distance did not significantly affect the activities to the small-scale animal farms because in general the workers were family who were the same people in a household.*

**Key words:** Livestock, small-scale, Covid-19 pandemic.

### INTRODUCTION

No one knows exactly when this pandemic will end. The visible effect is that many companies have reduced their workforce significantly, affecting their purchasing power for their important needs.

After increasing the cases of new corona virus (2019-nCov) various countries or regions applied lockdowns or other similar policy were applied indicating by a high social activity restriction and therefore that many parties in the community in the location have been experienced a difficulty in obtaining certain raw material especially the foodstuffs because they have been absorbed by panic buyers. This phenomenon had appeared in North Sulawesi in the beginning of the pandemic effect raised in this region.

Economic performance which a ratio between income and purchasing power become less balanced. On the other hand, the path of importing animal food is also experiencing

obstacles due to restrictions on transportation to and from exporting countries, which can cause an imbalance between food availability and consumer needs.

These factors can drag the volume of food into scarcity which if not addressed properly early will in the future experience a food crisis in the region.

The struggle of farmers until know who run small-scale livestock in North Sulawesi province lead their own business still exist in this situation. This effort is an important matter that can help in sustaining food availability for the community.

Small-scale livestock that are generally raised are livestock genetic diversity (Hoffmann, 2010). Small scale animal husbandry can be sporadically found in various villages scattered in several districts in North Sulawesi.

Small scale livestock business is very vulnerable to losses due to limited capital funds. They are very dependent on price fluctuations in the market. Small-scale animal

husbandry activity is important to support the availability of food, and it is also useful to support the farmer's economy.

## MATERIALS AND METHODS

The method used in this study was a meta-analysis pattern approach which several sources information concerning the condition and the policies of authorities in connection with the labor, economic growth, and animal feed alternative application, had been used to support the discussion of this paper. The official discussions, reports, including the scientific paper were used to get the concerned information.

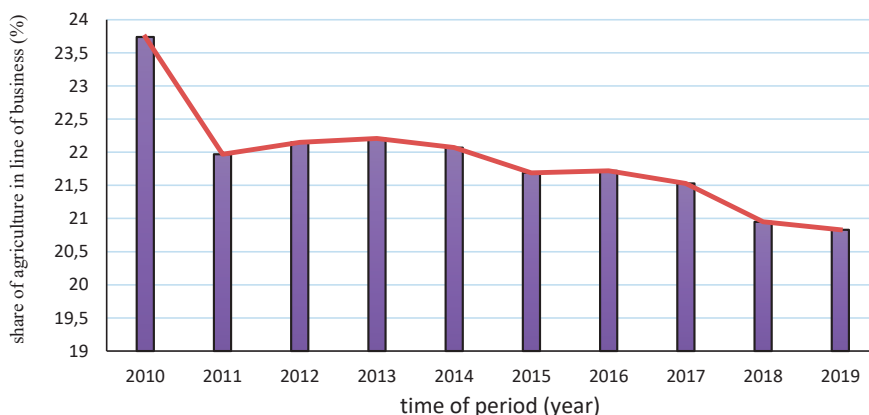
## RESULTS AND DISCUSSIONS

Data on the economic structure in the area of North Sulawesi Province in August 2019 showed that among 1.13 million of population workers then 28.52% (the most) had a main employment in agriculture compared to other fields. This situation changed in the early pandemic Covid-19 period in this area where this number decreased to 21.13% in the first quarter (BPS, 2020). Pratomo (2020) reported

that there was an increase for livestock commodities in North Sulawesi in 2019 consisting of: beef production reaching 3,552.66 tons, equivalent to 102.92% of the 2019 regional medium-term program target; pork production, as many as 25,661.01 tons in 2019. That amount is equivalent to 130.42% of the target of 19,675.75 tons. Whereas the production of local chicken meat in this region in 2019 produced 2,703.62 tons above the target.

The graph in Figure 1 shows that there are still wide-open opportunities to increase agricultural output leading to an increase in agricultural participation rates including livestock production in 2020. A parameter could be a participation rates of agriculture in line of business in North Sulawesi in spite of the pandemic of Covid-19 moment.

The unprecedented physical distancing inclines practical efforts in working livestock everywhere including. According to Bahri dan Tiesnamurti (2012) at least it is necessary to foster small-scale farm management for communities that rely on the potential of local natural resources to manage the agriculture farming.



Source: BPS (processed)

Figure 1. Share of agriculture in line of business in North Sulawesi

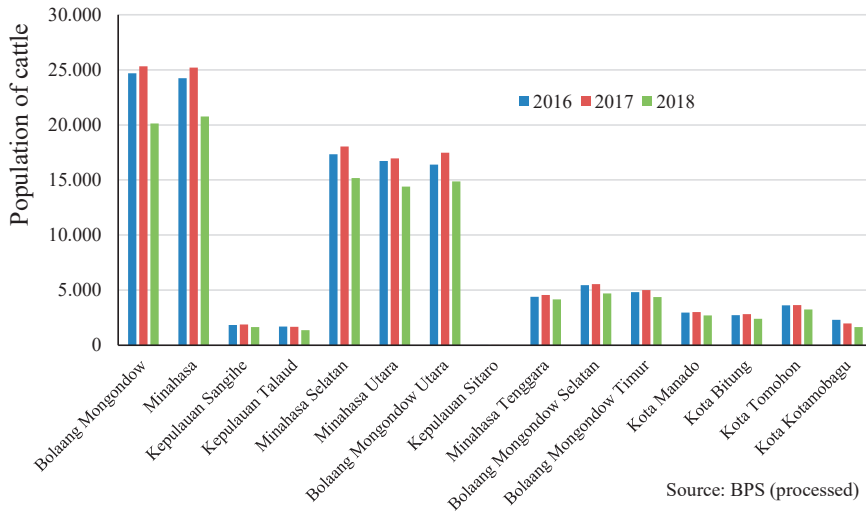


Figure 2. Population of cattle in the areas of North Sulawesi

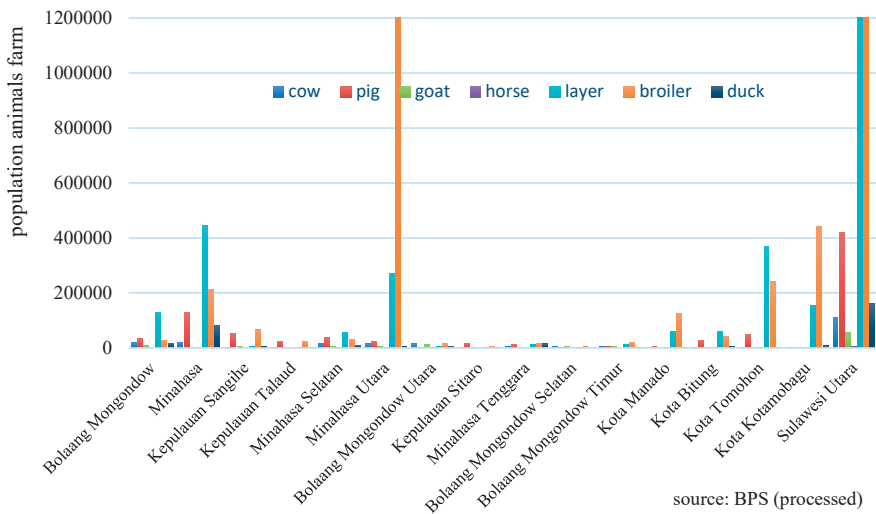


Figure 3. The growth of animal farm population in areas of North Sulawesi in 2018

The Covid-19 pandemic issue has had a major impact on health and the global economy. In Indonesia, as has happened in other countries, this impact has been very visible since March 2020. The number of UMKM (small business, and medium credit) scattered in Indonesia existed by several domain including, agriculture, animal husbandry, forestry, fisheries have been affected by the pandemic.

An example that occurred in April 2020 as reported by Detik-Finance (2020) is that some farmers have stated directly that they experienced the 'blow' effect of the Covid-19 pandemic in the form of a drop in the selling price of their livestock production to half of the usual price.

The livestock sector has an influence especially on large scale farms as a consequence of labor

and the transportation path for animal feed ingredients. Besides social restrictions or physical distancing greatly affected the activities and performance of employees in large livestock companies. This was to prevent more cases of new corona virus infection. This condition was a challenge but also an opportunity for small scale farms in areas such as North Sulawesi.



Figure 4. Ongole Crossbreed (PO) cattle foraged under a coconut plantation (Photo taken by: Laurentius J.M. Rumokoy)



Figure 5. Piglets in a small-scale farm in North Sulawesi (Photo taken by: Laurentius J.M. Rumokoy)

The development of livestock population was directly related to several elements such as livestock production which are supported by the potential of natural resources and the large market demand for consumption of beef cattle products (Otoluwa et al., 2016). Data from BPS concerning cattle farm in North Sulawesi is

shown in Figure 2, there were some areas in 2018 which had a population of cattle above 10,000, as well as in Bolaang Mongondow, Minahasa, South Minahasa, North Minahasa, and North Bolaang Mongondow. These figures are accumulative figures derived from small-scale cattle ranches that were scattered in each district areas.



Figure 6. Local breed chicken in an extensive farm (Photo taken by: Laurentius J.M. Rumokoy)

The cattle farms in North Sulawesi in general are small-scale (Rumokoy and Toar, 2015). Multiple functions of this farm are: farming labor, transporting agricultural products in some areas, and as livestock producing meat for human consumption. According to Rembang (2017).

The local beef cattle in North Sulawesi plays an important role as a provider of employment, absorbing family labor, livestock labor, transportation equipment, savings, hobbies, determining social status, and as beef cattle, and it could change forage for livestock feed or by-products of agriculture into value-added products. Local natural resources, especially insects that are easily obtained in the environment in various tropical regions, can be used both for feed formulation (Toar et al., 2019), and also as a promotion of livestock immunity (Rumokoy et al., 2017)

The supporting factor for a development of local beef cattle is the increasing market demand for beef, availability of large workforce, and also an existence of government

policies (Kariyasa, 2015). Various natural resources as mentioned by Toar et al. (2018), Toar et al. (2017) and Manangkot et al. (2014) available in the North Sulawesi region, are very supportive in the development of small-scale livestock, because by utilizing them, there is no need to depend on industrial feed which is relatively difficult to find during a pandemic. Proper health control of livestock will be able to sustain the development of small-scale animal husbandry businesses because of the way they are raised is susceptible to infection by disease agents (Rumokoy and Toar, 2014). In line with the effort in infrastructure development and farmer corporations is to accelerate the improvement of food production and export as well as improving the welfare of farmers. The potential of economy growth of North Sulawesi in the first quarter of 2020 grew 4.27%. Production side, growth was driven by most of the business fields, with the highest growth achieved by the Information and Communication Business Field which grew by 19.33% (BPS, 2020).

## CONCLUSIONS

The development of small-scale farms can be realized well if it is supported by the availability of a well-trained workforce. The sustainable management of local natural resources in the context of developing small-scale farms can be a good example in an effort to improve the people's economy while caring for the environment.

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