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ANALYSIS OF THE IMPACT OF THE AFRICAN SWINER FEVER (ASF) VIRUS ON INCOME AND INTEREST IN PIG PRODUCTION IN NAGEKEO DISTRICT

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ABSTRACT :

This study aims to analyze the impact of the African Swine Fever (ASF) virus on household income and the interest of pig farmers in Nagekeo Regency. The research method used in this study is a qualitative one.The data analysis used qualitative descriptive analysis. Survey results show the increase in ASF is particularly concerning for pig farmers. The number of pig deaths per day ranges from 10 to 20 pigs.Losses experienced by pig farmers are estimated at around 10,000,000 rupiah per day per pig farmer. Pig farmers experiencing significant economic losses, uncertainty about the recovery of their businesses, difficulties in recovering capital, and the need for sufficient capital to start a business.Pig farmers generally have an interest in raising pigs, but their knowledge of ASF is limited, potentially increasing the risk of disease spread. Pig farmers have not been able to restart their livestock farming businesses because the virus outbreak has not been resolved. The conclusion of this study is that pig farming communities in Nagekeo Regency with around 5 pigs in the period before ASF generated a good income of up to 10,000,000 per year. Negative impacts on pig farmers who were partially affected and affected by ASF from 2020-2025 ASF disrupted the economy so that they could not meet basic needs and decreased the level of their business scale. Farmers have not resumed their businesses due to capital constraints and are still traumatized by the ASF outbreak they experienced.

Keywords*:* African Swiner Fever (ASF);Pig farming; Income;interest

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INTRODUCTIONS

Development in strengthening economic resilience for quality and equitable growth through an economic resource management agenda including the fulfillment of food and agricultural needs.Management of economic resourcesto increase income and meet community food and nutritional needs. Healthy and intelligent people are influenced by dietary patterns that meet community nutritional adequacy standards.Efforts to increase protein consumption, especially animal protein, by increasing livestock production in the form of meat, milk and eggs.Animal protein producers, through increasing livestock populations to produce animal-derived protein.Efforts to increase livestock population and production include pig farming. Pigs are a livestock commodity that has the potential to be developed. Pigs have prolific characteristics (can produce twice a year, have many children in one birth) and good ration efficiency.Pig farming to produce pork also plays an important role in providing animal protein for the community(Djegho et al., 2021).

Nagekeo is one of the areas producing pig livestock.Pigs as a source of animal protein, the Nagekeo community raises pigs to fulfill the needs of traditional ceremonies, economic value for consumption and sale but also has value in religious and social life.Pig farming is not only a source of protein, but pig farming is also cultivated as a source of income through the sale of livestock which can be used to pay for school fees, medical treatment and savings for farmers(Beltrán-Alcrudo et al., 2017).There are many obstacles and challenges faced by pig farmers in the pig farming business, one of which is the threat of infectious diseases such as African Swine Fever (ASF).

African Swine Fever (ASF) is a highly contagious viral disease of pigs, causing various internal organ hemorrhages and is accompanied by a very high mortality rate.ASF is a highly contagious hemorrhagic disease of pigs and all age groups of pigs are equally susceptible to ASF(Pedersen et al., 2019).The ASF virus is a large virus containing double-stranded DNA that forms a genome about 190 kbp long.The ASF (African Swine Fever) virus is in the genus Asfivirus of the Asfaviridae family (Palgunadi et al., 2022).Transmission of the ASF (African Swine Fever) virus in wild or domestic pigs occurs through direct or indirect contact.The ASF (African Swine Fever) virus can be transmitted through direct contact with infected animals and contaminated animal products.Pigs infected with ASF have clinical signs that appear redness (hemorrhage) in the ear area, stomach and legs, fever, decreased appetite, if there are more than two pigs in the pen, the pigs are usually seen gathered together, incoordination, increased pulse and respiratory rate, erythrema (around the ears and body), diarrhea (sometimes accompanied by blood), vomiting, coughing and shortness of breath, leukopenia and thrombocytopenia (in 48-72 hours), abortion in pregnant pigs(Feka et al., 2023).

ASF causes significant losses because it threatens food security and

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global trade, as the pig sector plays a key role as a source of animal protein. The large number of livestock deaths, even leading to deaths in a single pen, will significantly impact the population structure and the income of pig farmers.The economic recovery of livestock farmers will also be slower due to the lack of an ASF vaccine. An ASF outbreak will undoubtedly have a significant impact on livestock farmers' incomes "(Gallardo et al., 2019)"

The conditions of the pig farming community in Nagekeo district, most of whom raise pigs semi-intensively with low biosecurity practices, also provide an opportunity for the entry of the ASF disease outbreak.Pig farmers largely suffered economic losses due to the deaths of their pigs. Pigs, which were often the family's hope for savings, were suddenly lost.The low level of understanding about this disease and how to prevent it has contributed to the increasingly widespread spread of this disease and has caused many pig deaths.

MATERIALS AND METHODS

This research was conducted in Nagekeo Regency. The type of data used in this study was qualitative data. Data collection was conducted by interviewing the community who raise pigs, a total of 150 pig farmers were selected as informants. This study used a non-probability sampling technique. This technique is carried out by taking samples based on criteria determined by the researcher. By using qualitative descriptive analysis

RESULTS AND DISCUSSION

Based on interview results, pig farming in Nagekeo Regency has been carried out for a long time from generation to generation.The production factors used by pig farmers to develop their businesses include a pig farming system using pens.The pig pen system at SumberTernak Farm already meets good pen standards, namely having a wall base made of brick, ventilation made of wire, a zinc roof, a floor made of cement and has a slope and there is a drainage channel at the back of the pen (Hurek et al., 2021);Noorrahman et al., 2023).The construction of the cages on this farm is built according to proper cage rules.The location of the cage on the farm is strategic because it is far from residential areas and has a large water capacity. The cage is located on dry land and is notflooded, the cage is far from residential areas.

Pig farming is a potential business to be developed, especially in Nagekeo Regency.By raising pigs, the community can improve the economy, finance education and use the pigs for traditional events.Pig farming has long been known among the Nagekeo people because this livestock business plays an important role in fulfilling the need for pork in traditional events(Deze & Pello, 2022).Pigs were raised for only a few years, then sold, given to relatives for family gatherings, church events, and traditional ceremonies. Raising pigs before ASF infection could meet the community's needs, generating an annual income of approximately ten million.

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The ASF virus that hit Nagekeo Regency has significantly impacted the local economy. Pig farmers in Nagekeo Regency experienced the spread of ASF in early 2020, resulting in detrimental economic impacts that could last until 2025.The results of the interview data show that the increase in the ASF virus is very worrying for people who raise pigs.The number of pig deaths ranges from 10-20 per day per pig farmer.The losses experienced by pig farmers are estimated at around 10,000,000 per day per pig farmer.Farmers who have pig farming businesses experience quite a lot of economic losses, uncertainty in the recovery of the business run by pig farmers where they experience difficulties in recovering capital and to start a business they must have sufficient capital.Apart from that, there is also the social stigma that arises from pigs infected with ASF in the community, which is considered a source of the spread of the virus, especially as the first people to be affected by the ASF virus outbreak.The results of interviews with farmers were quite disappointed and stressed when their pigs were infected with the ASF virus. Various efforts had been made, both by maximizing biosecurity such as cleaning the pens, spraying with disinfectants, and some even used a mixture of chemicals to prevent ASF, but the pigs were still infected with ASF. There were even those who mixed traditional medicines from natural ingredients, but the pigs still died.Prevention and control of ASF cannot be done with vaccination or antiviral drugs because they are not yet commercially available. For countries that are still declared ASF free, several precautions that can be taken include increasing strict quarantine and biosecurity, limiting pig traffic and reducing the population of sick and exposed pigs(Sendow et al., 2020).

Efforts often made by the community to prevent ASF outbreaks include using traditional medicine, but some of these efforts have not been successful and pigs have died and become infected with the ASF virus.Deaths in one pen will certainly significantly affect the population structure and impact the income of pig farmers, and the recovery of the pig farmer's economy will also grow more slowly (G. Sipayung et al., 2022). The death of the entire pig population in Nagekeo Regency has had a significant impact on the local economy. This loss is not only material but also results in the loss of alternative livelihoods to support economic well-being.

The impact of the ASF virus on pigs has significantly impacted economic growth, as they are unable to meet basic household needs, including healthcare, education, and food costs.Pig farming has been proven to help the family economy and can generate additional income (Sedana & Finayanti, 2017). Pig farming serves as savings and for customary purposes, as savings aim to prepare for children's education costs in the future.Pigs will also be used in traditional activities such as dowries at weddings and as a source of meat to meet animal protein needs.

Pig farmers are generally interested in raising pigs, but their knowledge of ASF is limited, potentially

increasing the risk of disease spread. Pig farmers have not been able to restart their farms because the virus outbreak remains unresolved.The ASF virus remains uncontrolled, preventing people from restarting their pig farming businesses. Farmers have been unable to resume operations due to capital constraints and the trauma of the ASF outbreak (sipayung 2022).

CONCLUSION

Pig farming communities in Nagekeo Regency with a livestock of around 5 pigs in the period before ASF generated a good income of up to 10,000,000 per year. Negative Impact on pig farmers who were partially affected and affected by ASF from 2020-2025 ASF disrupted the economy so that they could not meet basic needs and decreased the scale of their businesses. The death of the entire pig population of Nagekeo Regency has had a significant impact on the local community's economy. This loss is not only material, but also resulted in the loss of alternative livelihoods in supporting economic welfare. Farmers who ASF with a mortality rate of 100% have also resumed their businesses because this pig farming business is considered profitable and feasible to continue. The reasons for farmers who have not continued their businesses are hampered by capital and are still traumatized by the ASF outbreak they have experienced.

REFERENCES

Beltrán-Alcrudo, D., Arias, M., Gallardo, C., Kramer, S., & Penrith, M. L. (2017). African swine fever: detection and diagnosis. In *Food and Agriculture Organization of the United Nations, Rome* (Issue June).

Deze, R. L., & Pello, T. (2022). Peranan Ternak Babi Pada Upacara Adat Bere TereDalam Sudut Pandang Adat Budaya Bajawa. *Jurnal Pertanian Unggul*, *1*, 1–5.

Djegho, Y., Kune, P., & Kihe, J. N. (2021). Efek Kelamin Terhadap Perfoma Lahir Anak Babi Induk Peranakan Duroc (Effect of sex on birth performace of piglets from duroc crossbred sows). *Jurnal Nukleus Peternakan*, *8*(2), 118–123.https://doi.org/10.35508/nukleus.v8i2.5389

G. Sipayung, L. Cyrilla, & S. Sinaga. (2022). Dampak African Swine Fever terhadap Aspek Finansial Peternakan Babi di Kabupaten Toba Sumatera Utara. *Jurnal Ilmu Produksi Dan Teknologi Hasil Peternakan*, *10*(3), 157–162. https://doi.org/10.29244/jipthp.10.3.157-162

Gallardo, C., Fernández-Pinero, J., & Arias, M. (2019). African swine fever (ASF) diagnosis, an essential tool in the epidemiological investigation. *Virus Research*, *271*(July).https://doi.org/10.1016/j.virusres.2019.197676

Hurek, Desmon, Rihi, Diana, Moi, Marsiniani, Kale, Nadya, & Simarmata, Y. (2021). Sistem Pemeliharaan Ternak Babi di Desa Tapenpah. In *Jurnal Veteriner Nusantara* (Vol. 6, Issue 1).

Noorrahman, N. F., Imanuel, R., Anjalani, R., & Steffani, A. (2023). Kajian Studi Sistem Pemeliharaan Ternak Babi Yang Terdampak Asian Swine Fever (ASF) di Kota Palangka Raya. *VITEK : Bidang Kedokteran Hewan*, *13*(2), 101–108.https://doi.org/10.30742/jv.v13i2.269

Palgunadi, N. M. D. K. R., Marlina, P. A., Eka Purwanti, N. L. P., & Sinarwati, N. K. (2022). Pelatihan Intensif Produk Dendeng Babi Asap Sebagai Pengembangan Potensi Desa Panji, Buleleng, Bali. *JATIMAS : Jurnal Pertanian Dan Pengabdian Masyarakat*, *2*(2), 129-136.https://doi.org/10.30737/jatimas.v2i2.3446

Pedersen, M., Asprusten, T. T., Godang, K., Leegaard, T. M., Osnes, L. T., Skovlund, E., Tjade, T., Øie, M. G., & Wyller, V. B. B. (2019). Predictors of chronic fatigue in adolescents six months after acute Epstein-Barr virus infection: A prospective cohort study. *Brain, Behavior, and Immunity*, *75*, 94–100.https://doi.org/10.1016/j.bbi.2018.09.023

Sedana, G., & Finayanti, K. M. (2017). Peranan Perempuan Dalam Usaha Ternak Babi Di Desa Bondalem, Kecamatan Tejakula, Kabupaten Buleleng. *DwijenAGRO*, *7*(1), 24–31.http://43.243.142.146/index.php/dwijenagro/article/view/627%0Ahttp://43.243.142.146/index.php/dwijenagro/article/download/627/571

Sendow, I., Ratnawati, A., Dharmayanti, N., & Saepulloh, M. (2020). African Swine Fever : Penyakit Emerging yang Mengancam Peternakan Babi di Dunia (African Swine Fever : An Emerging Disease Threatening Pig Farms in The World). *WartaZOA Vol.*, *30*(1), 15–24.

Wolfhardus Vinansius Feka, Kune, S. J., Taena, E. T., & Simamora, T. (2023). Penguatan Minat Petani Perternak Setelah Pandemi African Swine Fever (Asf) Pada Usaha Ternak Babi Di Dusun Kusi, Desa Oesena, Kecamatan Miomaffo Timur. *Jurnal Umum Pengabdian Masyarakat*, *2*(3), 66–73. https://doi.org/10.58290/jupemas.v2i3.171