

Implementation of Sustainable Cattle Production System Through Livestock Waste Treatment Technology to Increase the Income of The Ngudi Rejeki Smallholder Group

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The Covid-19 pandemic has had an impact on the economy of smallholder farmers, including the Ngudi Rejeki Smallholder Group (NRSG). The sale value of livestock has decreased because of reduced public interest in buying during the pandemic. On the other hand, the costs incurred by farmers are increasing to buy concentrate/forage feed due to the difficulty in finding forage [1]. The livestock management that is still conventional in feed management (relying on native forage around the farm) and business products that are not diverse (only selling calves) makes the livestock business carried out by the NRSG very affected when disasters occur, both natural and non-natural. The purpose of the program is to develop livestock management and business aspect towards a sustainable livestock production system through the utilization of waste as an organic fertilizer product. This activity is expected to provide the resilience of the NRSG's livestock business. A sustainable livestock production system is one of the business systems implemented and developed based on maximizing the smallholder resources. The NRSG's are in the farming area (rice field and horticulture plantation), so that organic waste (manure, urine, and feed residue) is of high interest to farmers as organic fertilizer for their land. Livestock management through a sustainable production system is possible in groups through product diversification. Moreover, business actors do not only depend on old products, but can also rely on new types of products. If sales of one product decrease, the loss can be covered with other products [2]. With diversification, the NRSG does not only depend on calf sales, but can rely on income from organic fertilizers. Another advantage of this system is the improvement of livestock sanitation systems, thereby preventing the transmission of epidemics that are currently occurring, namely foot mouth disease (FMD) and lumpy skin disease (LSD) [3]. Activities are carried out through discussions and socialization supported by using leaflet as learning media. Furthermore, practice and assistance in the production of organic fertilizers from livestock waste are carried out. NRSG have been able to produce and market organic fertilizer products up to 21.475 tons with an income of IDR 14,144,000. Mentoring will continue to be carried out to improve the quality of organic fertilizer and expanding customers.

Keywords: Covid-19 pandemic; Diversification producto; Livestock; Organic fertilizer;

Running Tittle: Implementation of Sustainable Cattle Production System in Smallholder Group

References:

- [1] Maulana, H., E. Baliarti, I.G.S. Budisatria, and T.S.M. Widi. 2020. **Pola Pemeliharaan Peternak Sapi Potong selama Pandemi COVID-19 di Kelompok Ternak Ngudi Rejeki, Mlati, Sleman, DIY.** Prosiding Simposium Nasional Peternakan. Fakultas Peternakan, Universitas Gadjah Mada, Yogyakarta.

- [2] Kloter, P., and G. Amstrong. 2008. **Prinsip-Prinsip Pemasaran**. Jilid I. Erlangga, Jakarta, Indonesia.
- [3] Sendow, I., N.S. Assadah, A. Ratnawati, N.I. Dharmayanti, and M. Saepulloh. 2021. **Lumpy Skin Disease: Ancaman Penyakit Emerging Bagi Kesehatan Ternak Sapi Di Indonesia**. Indonesian Bulletin of Animal and Veterinary Sciences 31:85. doi:10.14334/wartazoa.v31i2.2739.