

Regional Analysis and Etawa Breed Goat Farm Development Strategy in Wonosari Subdistrict Malang Regency

Riski Andayu Wijayanti*, Siti Azizah**, Kuswati***

*Masters Program in Animal Science, Interest in Livestock Agribusiness, Faculty of Animal Husbandry Brawijaya University, Malang, Indonesia
Email: riskiandayu80@gmail.com

** Masters Program in Animal Science, Interest in Livestock Agribusiness, Faculty of Animal Husbandry Brawijaya University, Malang, Indonesia
Email: siti.azizah@ub.ac.id

*** Masters Program in Animal Science, Interest in Livestock Production, Faculty of Animal Husbandry Brawijaya University, Malang, Indonesia
Email: kuswati_indicus@ub.ac.id

Abstract:

Research has been undergone from May to October 2024. Research has done in Wonosari, Malang. This research has done to analyse PE goat farm development profile and to find suitable PE goat farm development strategy in Wonosari, Malang. The research informants are head of Animal Husbandry and Animal Health Department Malang regency, Wonosari subdistrict head, village heads of Bangelan, Wonosari, Kebobang, Plaosan, Sumberdem, Sumbertempur, Plandi, Kluwut, Ternak Karya Mulya group leader, Ternak Karya Mulya members, cattlemen from Bangelan, Wonosari, Kebobang, Plaosan, Sumberdem, Sumbertempur, Plandi and Kluwut villages. Research samples are 87 cattlemen. Data analysis is using Location Quotient (LQ) analysis, localization and specialization analysis, Basic Service Ration (BSR) analysis, Regional Multiplier (RM) analysis and Strengths, Weakness, Opportunities and Threats (SWOT) analysis. Research resulted from LQ analysis is there are 4 village bases, they are; Bangelan, Wonosari, Sumberdem and Sumbertempur which have better PE goats' ownership level compared to the whole ownership level in Wonosari subdistrict. They have potency to be PE goat farm central. Based on localization analysis there are two villages which are being PE goat farm localizations, they are Bangelan and Sumberdem villages. Based on specialization analysis Bangelan village is being the PE goat specialized village. Meanwhile BSR analysis is resulting four villages on Wonosari subdistrict, they are; Bangelan, Wonosari, Sumberdem and Sumbertempur which has multiplier effect to the other four villages, which are; Kebobang, Kluwut, Plaosan and Plandi. Then based on RM analysis on Wonosari subdistrict, it has multiplier effect to goat farm businesses to the village bases which are Bangelan, Wonosari, Sumberdem and Sumbertermpur. The regional potency to develop PE goat farm business on Wonosari subdistrict has higher chance compared to the existing threat factors. The alternative strategy which could be recommended to regional potency on developing PE goat business on Wonosari subdistrict Malang regency is Strength Opportunities which is superior comparative strategy which is meant to get profit, which is the result between outside opportunity with the power that cattlemen from Suruh subdistrict has using these strategies; a) Improving the PE goat quality by developing the cages, breeding the goats and having high quality broodstocks, b) Making use of the land for green feeds and also improving cooperations with farm counsellors, groups, vets and related agencies, c) Making use of transportation and information and technology mediums to continuously improving farm quality and sales also hiring families to improve people's economy. The Government is expected to continuously giving support, whether in a form of mediums and motivations towards PE goat farm which could be done by giving fund cash or non-cash, counselling related to overcome diseases which infect PE goat cattle so that PE goat cattle business keeps developing.

Keywords – Territoriality, Development Strategy, PE Goat.

I. INTRODUCTION

Goat farm business in Indonesia has been long giving big contribution to village people economic welfare whether on small or big scales. This farm subsector has tradition value and has been being traditional livelihood source for many Indonesian families, especially those who live in the village (Pulina, Sendra, Lavín, Theodoridis, Morin, Capote, dan Caja, 2018). Goat farm business in Indonesia nowadays is one of farm businesses which are being developed after cow farm. Goat farm business in Indonesia is said to widespread in every territory in Indonesia including East Java province (Mashudie, Mujayin and Maulita, 2021).

Etawa Bred (PE) Goat is one of the superior breeds as meat and dairy goat. This cattle is easy to maintain and has fast reproduction which makes a fast production, both in cattle sales and dairy produces. Those superior points indicate dairy goat farm has big potency and bright prospect to be developed (Nuhaeli, Hidayat, and Soediartha, 2014). Aside to that, PE goat has distinct feature as it has higher sale price compared to local goat because it has bigger body and produces dairy products where goat dairies have higher price than cow dairies. This is also being an attractive point to the businessmen to run PE goat business with a hope to gain as big profits (Rasyid, 2020).

Mayulu and Daru (2020) explain that the carrying capacity of PE goat farm is not only being influenced by the human resources, but also the land resources and the cultivated plant commodities which could be used as animal feeds. According to Maemunah, Sufyadi, and Hadiyah (2017) the success of goat business farm relies on three main concepts, they are; feeds availability, broodstocks' good quality and nice management. Those principals could support one another for the farm business success. It is explained further goat PE farm business preparation includes some

points which are sufficient feeds, proper and safe pen making, superior broodstocks sorting, health management and cattle reproduction management.

Karnadi (2022) mentioned goat population in Indonesia is around 19.23 million. The number arose 2.89% compared to the previous number in 2020, 18.69 million which is also being the most number in the last decade. According to BPS (2023) the goat population on East Java in 2022 is 3.897.185, in 2021 the goat cattle is 3.763.061, this number arose compared to 2020 which is 3.645.822 and in 2019 which is 3.524.899. These facts mean goat farm is being factored by the people from year to year. With territorial analysis, an accurate mapping related to PE goat farm population distribution could be done in Wonosari subdistrict. This information is important to identify areas which high cattle number and also areas which need special attention in developing the farm. Information from territorial analysis would help to form continuous and highly competitive PE goat development strategy.

Furthermore, according to BPS data (2023) mentioned that Malang regency is on the 3rd rank regency which has the most goat cattle population in East Java. In 2022, Malang regency is noted to have 299.773 goat population. The number arose from the previous year which is 290.378. Based on animal husbandry and animal health service of Malang government regency data on 2nd quarterly 2023 it is known that Wonosari subdistrict is on the 3rd rank to have the most goat cattle in Malang regency with the number 24.560, when in Malang Raca regency on the 2nd trimester 2023 the goat cattle number is 292.487.

Wonosari subdistrict is one from some which has potency of PE goat farm development, territoriality analysis in Wonosari subdistrict in important to be done to understand the actual condition of PE goat farm in it's each area. This case would help to identify the characteristic differences, challenges and potency which exist in each area. Even though PE goat farm has already

been an important part of the local people economy, constraints and challenges which are being faced by the cattlemen are still existing.

II. METHOD

The basic method which is used in the research is survey method. The acquired data is analyzed using descriptive analysis. The research informants are head of animal husbandry and animal health department Malang regency, Wonosari subdistrict head, village heads of Bangelan, Wonosari, Kebobang, Plaosan, Sumberdem, Sumbertempur, Plandi, Kluwut, Ternak Karya Mulya group leader, Ternak Karya Mulya members, cattlemen from Bangelan, Wonosari, Kebobang, Plaosan, Sumberdem, Sumbertempur, Plandi and Kluwut villages. Research samples are 87 cattlemen. In order to aim the goal of this research it is necessary to have secondary data with document method. The secondary data includes goat cattle population on each village data and all kinds of PE goat cattle population on each village data. The secondary data which is used on this research is obtained from animal husbandry and animal health service of Malang regency government. In order to aim the goal of this research which is related to forming alternative strategy policy on developing superior farm business in Wonosari subdistrict it is necessary to use primary data which is acquired using questionnaire. Data analysis is using Local Quotient (LQ) analysis, localization and specialization analysis, Basic Service Ratio (BSR) analysis, Regional Multiplier (RM) analysis and Strength, Weakness, Opportunities and Threats analysis (SWOT).

III. RESULT AND DISCUSS

A. PE Goat Farm in Wonosari Subdistrict Malang Regency Potency Development

1. Local Quotient (LQ) Analysis

LQ value shows Wonosari subdistrict has 8 villages which are being PE goat farm territory centre. These villages are Bangelan, Wonosari, Sumberdem, Sumbertempur, Kebobang,

Kluwut, Plaosan dan Plandi. From these 8 villages there are four villages which have $LQ > 1$ value which are Bangelan, Wonosari, Sumberdem dan Sumbertempur villages. This fact signs that these four villages are having relatively more PE goat population compared to the other villages. $LQ > 1$ value describes that the PE goat ownership in these villages is better than the whole PE goat ownership in Wonosari subdistrict. Meanwhile there are four villages which have $LQ < 1$ value, they are; Kebobang, Kluwut, Plaosan and Plandi villages. This means the four villages have relatively low PE goat population compared to the other villages. The $LQ < 1$ value describes the PE goat farm potency includes non-basis potency. These areas are not having good farm potency since they need supply from other areas on Wonosari subdistrict.

Thus, it could be stated that Wonosari subdistrict has four potential villages which could be developed as PE goat farm centre, if it's being reviewed from the PE goat population number. Four out of eight villages which have $LQ > 1$ value are being cattle development areas by the local government. The resident number of Wonosari subdistrict from these villages are quite a lot and being farmer in majority which is also having ruminant cattle including PE goat.

According to Government Regulation Number 6 about Cattlemen Empowerment Chapter 1 Clause 1 (2013), farm business is cattle farm business activity to produce foods, industrial raw materials and other resident interests continuously in a certain place. Mulyadi, Pakuncoro and Hidayat (2021) explain farm is a business activity to improve biotic factor in a form of cattle by increasing cattle production which aim is to fulfil human necessities. Improving the cattle productivity, the cattlemen need to applying *sapta usaha ternak* (seven cattle efforts) which are broodstock, feed, pen, reproduction, diseases handling, after-harvest process and marketing.

According to Amam and Harsita (2019), the success of farm business is very influenced by good farm management.

Farm business development needs to consider local resource optimization and area development strategy policy. Government should map farm development of the areas to allow the focused approach to be done to certain commodity which play an important part and has market demand potency in the future (Djuwendah, Hapsari, Renaldy, and Saidah, 2013). Amam and Rusdiana (2021) explain this strategy is in line with the need of government giving attention to global farm product development and food price because these factors are very influencing economy growth. An integrated farm development is very important for social-economy advancement (Mayulu and Daru, 2020). Aside to that matter, government's part on supporting continuous farm development by technology innovation and counselling program are very important.

The success of cattle cultivation depends on some main preparations including feed availability, pen, human resource and effective management. These preparations should support one another to ensure farm business success. (Dumont, Fortun-Lamothe, Jouven, Thomas and Tichit, 2013). Similarly, PE goat farm business development in basis areas is being supported by cattlemen human resource both quantity and quality, natural resource and cattle management. As well as in basis areas on Wonosari subdistrict Malang regency on Bangelan, Wonosari, Sumberdem dan Sumbertempur villages which are having cattlemen human resource, natural resource and sufficient cattle management.

2. Localization and Specialization Analysis

The research result found that localization analysis (α) resulted on Wonosari subdistrict that there are two villages which are being PE goat farm localization with $\alpha > 0.1$ value, they

are; Bangelan and Sumberdem villages. Meanwhile the other six villages are not PE goat farm localization due to their $\alpha < 0.1$ value, they are Wonosari, Sumbertempur, Kebobang, Kluwut, Plaosan and Plandi villages.

In the other hand, based on specialization analysis resulted value (β) it is found that there is one village on Wonosari subdistrict which is specialized PE goat farm with $\beta > 0.1$ value which is Bangelan village. The other seven villages are not known as goat farm specialized with $\beta < 0.1$ value, they are Wonosari, Sumberdem, Sumbertempur, Kebobang, Kluwut, Plaosan and Plandi villages.

Farm business development in Malang regency especially Wonosari subdistrict is showing positive indication where in last years the goat farm population number improving yearly. There are some goat cattle breeds which are in business in Wonosari subdistrict but only two goat breeds which mostly dominate goat farm business in Wonosari subdistrict. These two goat breeds are PE goat and Jawarandu. The other breed which is being developed is kacang breed. These two breeds are being in the residents' business because they have bigger posture compared to the other goat breeds that they could produce more meat and dairy.

PE goat farm could be one of the main economy pillars for Wonosari subdistrict residents. By understanding the Wonosari subdistrict territorial condition in depth, it could find potencies which are not being fully used to improve cattlemen and residents' income and wealth. According to Ranggana and Nasrudin (2021), based on some main factors of territory classifications, there are generally four territory shapes which are mainly being used in territorial economy analysis, they are homogen territory which is characteristics that differ one territory to other territories, nodal territory is an area or location which has functional relation or

interdependence between centre with area behind, planning territory which is a territory that shows coherence or unity of economical decisions which could visualize on how economical factors interact and support each other in a certain area and administrative territory is a geographical area which is being determined or limited by government's administrative limitation or political interests.

The fundamental aspect which is used to develop a territory which is based on a commodity is seen from concentration degree of the commodity spread on the mentioned territory. It could be reviewed using localization and specialization analysis. Localization analysis (α) is an analysis which gives visualization whether or not economy sectors or economy activities are being localized in a certain territory or spreading to some territories, whereas specialization analysis (β) is an analysis which shows whether or not a territory is being specialized to a certain commodity or not specializing at all (Mamondol, 2014). Localization and specialization analysis strengthen identification towards a sector basis territory.

Bangelan and Sumberdem villages are two villages in Wonosari subdistrict which is being PE goat farm localization. Meanwhile, PE goat farm specialization is in Bangelan village. These happen due to natural resource, human resource or PE goat farm management has been sufficient. Bangelan village is surrounded by coffee plantation of PTPN XII which could be used by nearby cattlemen for cattle feed with joint agreement. The cattlemen are allowed to take legumes from the PTPN XII coffee plantation and bartering it by giving fertilizer for the coffee plants taken from the farm waste. In the other villages most cattlemen have their own plantation area for the cattle feed source. Green feed which is usually given to PE goat are jackfruit leaf, cassava leaf, napier grass, waru leaf, sengon leaf, kaliandra leaf, angšana leaf, talok leaf,

ketul sapi leaf, corn leaf and peanut leaf. There is a small cattlemen group which uses concentrate as additional feed. Other kind of feeds such as sengon leaf, jackfruit leaf and dampul plant are just being intermittent feeds if there is by chance, they are available on their land. There are cattlemen who are using grass for feed because their land which is being used to produce the main feed, legumes, is not enough to fulfil the goat cattle feed need. Aside to that, the existence of cattle group in Bangelan and Wonosari villages is being a place for the cattlemen to share knowledge about PE goat cattle breeding, the other villages are not having cattle group yet. Cattle group in Bangelan village is active in having routine activities however cattle group in Wonosari village is not.

3. Basic Service Ratio (BSR) and Regional Multiplier (RM) Analysis

The research result gets $BSR > 1$ means the PE goat farm business on basis villages has multiplier effect to PE goat farm business on non bases villages. Four villages in Wonosari subdistrict which are Bangelan, Wonosari, Sumberdem and Sumbertempur are having multiplier effect to the other four villages which are Kebobang, Kluwut, Plaosan and Plandi. Meanwhile $RM > 1$ value means PE goat farm business in Wonosari subdistrict has multiplier effect towards goat farm businesses on basis villages which are Bangelan, Wonosari, Sumberdem and Sumbertempur villages.

As the theory mentioned Susanto et al. (2017) stated that to analyse an area development has close relation with regional cycle review which is using Regional Multiplier (RM). This analysis emphasizes on regional economy inter-sector relationship directly and indirectly. This simple multiplier analysis uses basic regional economy review which differs between basis section and non-basis sector. The economy base model analysis

Factor		
Opportunities (O) 1) Wide land for feed and pen 2) Improving economy growth 3) Information Technology growth such as handphone and internet 4) Open-wide goat market segments 5) Ability to process farm waste to compost fertilizer 6) High goat price 7) Very high goat dairy price 8) Family manpower 9) Low PE goat supply on the market 10) Supporting government policy	SO Strategies 1) Improving PE goat quality by developing pen, breeding goat and having good quality broodstocks to result goats with good price and numerous goat 2) Making use the land for green feeds and improving cooperation with counsellors, vet, cattle group and related instances 3) Making use of transportation medium and information technology to continuously improve farm quality and sales also having family manpower to improve residents' economy level	WO Strategies 1) Making use of information technology development to improve cattlemen's expertise and experience and also to improve sales target achievement 2) Making use of market open-wide market segments to reach sales target 3) Processing farm waste to be compost fertilizer to improve green feed growth
Threats (T) 1) Feed availability decrease on dry season 2) Competition with other cattle kinds 3) Pricey goat dairy products 4) New comers' appearances 5) Quite expensive PE goat daily cost 6) Too expensive PE goat price for the cattlemen 7) Goat dairy product machine processor absence 8) Competition with Cow dairy product	ST Strategies 1) Growing green feeds on available nearby lands 2) Improving goat and goat's dairy product quality 3) Improving cooperation with counsellors, vet and related instances to process goat dairy product	WT Strategies 1) Cooperating between cattlemen to anticipate competition 2) Making use of available medium to improve cattle quality 3) Improving cattlemen's knowledge, skills and expertise using human resource training

The internal factors which are being regional strength for PE goat farm business development in Wonosari subdistrict sorted by highest rating are PE goat is having good quality to be developed, continuous PE goat pen development, available land for PE goat pen, available land as green feed resource, available sufficient transportation, good goat breeding process, PE goat broodstock availability which is resulted from cattlemen, cattle counsellors availability, independent cattle group availability, medicine availability, vet availability, good management and high market demand.

In the other hand, the external factors which are being chance to develop PE goat farm business in Wonosari subdistrict sorted by highest rating are feed and pen lands are still spacious, better economy growth, open-wide goat market segments, technology information development such as handphone and internet, goat waste which could be processes to compost fertilizer, high goat price, high goat dairy price, family manpower, low supply of PE goat in the market and supporting government policy.

Alternative strategies which could be recommended to regional potency to develop PE goat farm business in Wonosari subdistrict

Malang regency is SO (Strength Opportunities) strategy which is superior comparative strategies meant to pull profits which is meet between chances outside and strength owned by cattlemen from Wonosari subdistrict, they are:

1. Improving PE goat quality by developing pen, breeding goat and having good quality broodstocks to result goats with good price and numerous goat.
2. Making use the land for green feeds and improving cooperation with counsellors, vet, cattle group and related instances.
3. Making use of transportation medium and information technology to continuously improve farm quality and sales also having family manpower to improve residents' economy level.

IV. CONCLUSIONS

Based on research result about Regional Analysis and Etawa Breed Goat Farm Development Strategy in Wonosari Subdistrict Malang Regency it could be concluded that:

1. PE goat farm development potency in Wonosari subdistrict Malang regency obtained which are LQ analysis result there are four basis villages Bangelan, Wonosari, Sumberdem and Sumbertempur which means PE goat ownership level on these villages is relatively better than PE goat ownership level on the whole Wonosari subdistrict and has potency to be developed as PE goat farm centre. Based on localization analysis there are two villages which are PE goat cattle localization which are Bangelan and Sumberdem villages. Based on specialization analysis there is one village which is PE goat cattle specialized Bangelan village. Meanwhile BSR analysis result gets four villages in Wonosari subdistrict which are Bangelan, Wonosari, Sumberdem and Sumbertempur villages which have multiplier effect to the other four villages which are Keboband, Kluwut, Plaosan and Plandi and based on RM analysis result in Wonosari subdistrict has multiplier effect towards goat farm businesses in bases villages which are Bangelan,

Wonosari, Sumberdem and Sumbertempur villages.

2. Alternative PE goat farm development strategy in Wonosari subdistrict Malang regency resulted SWOT analysis is seen it's total relative x rating from each internal factor there is total relative x strength rating (strength) 2,652. Whereas the weakness is total 0,147. It could be concluded that regional potency to develop PE goat farm business in Wonosari subdistrict has higher strengths than weaknesses. While it could be seen from the total relative x rating from each external factor there is total relative x rating opportunities (opportunities) with total 2,036. When the threats have total 0,482. It could be concluded that regional potency to develop PE goat farm business in Wonosari subdistrict has higher opportunities than the existing threats. Alternative strategies which could be recommended to regional potency for PE goat farm business development in Wonosari subdistrict Malang regency is SO (Strength Opportunities) strategy which is superior comparative strategy meant to pull profits which is the meet between opportunities from the outside with the strength from the inside which belongs to cattlemen from Wonosari subdistrict with these strategies: a) Improving PE goat quality by developing pen, breeding goat and having good quality broodstocks to result goats with good price and numerous goat, b) Making use the land for green feeds and improving cooperation with counsellors, vet, cattle group and related instances, c) Making use of transportation medium and information technology to continuously improve farm quality and sales also having family manpower to improve residents' economy level.

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