

Bridging Income Gaps: Empowering Small Ruminant Farmers

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ABSTRACT

Income distribution is a crucial factor in economic analysis, providing insights into financial well-being and inequality within populations. This study explores monthly income distribution among low-income small ruminant farmers and presents an analysis of income brackets. Entrepreneurship is key to success in small ruminant farming, aiding farmers in identifying opportunities and creating value. Despite its benefits, barriers to entrepreneurial practices exist, necessitating interventions like training. This research employs a cross-sectional validation study in Terengganu, Malaysia, involving 613 small ruminant farmers. The majority (73.1%) earn less than RM 2,000.00 per month, showcasing income disparities. Addressing these disparities requires a multi-dimensional approach, involving microfinance, cooperative models, capacity building, and value chain development. Collaborative efforts among stakeholders can empower low-income small ruminant farmers, enhance financial inclusion, and promote sustainable agricultural growth. Governments must tailor regulations to the requirements of farmers in order to promote sustainable and inclusive growth. By following these techniques, low-income small ruminant farmers' financial prospects and lives can be enhanced, contributing to equitable economic growth.

Keywords: entrepreneurial, agricultural, low income farmers, economic development, household income.

INTRODUCTION

Income distribution is a critical aspect of economic analysis, as it provides insights into the financial well-being and inequality within a population. Understanding the patterns and characteristics of income distribution is crucial for policymakers, researchers, and stakeholders aiming to address income disparities and promote equitable economic growth. This research examines the monthly income distribution among a sample population and presents an analysis of the frequency and percentage of income.

Entrepreneurship has been identified as an essential factor in the success of small ruminant farming ([1], [2]). This is because entrepreneurship can help small ruminant farmers to identify opportunities, innovate and create value ([3], [4]).

Small ruminant farmers who possess entrepreneurial skills are better equipped to deal with the various challenges they face, including climate change [4] and access to finance [5].

Furthermore, entrepreneurship has been shown to be positively correlated with the performance of small and medium-sized enterprise [6]. Small ruminant farmers who have a higher entrepreneurial orientation are likely to perform better.

A study conducted by [7] in Ghana found that smallholder farmers who perceived themselves to be entrepreneurial had a higher income than those who did not. Furthermore, entrepreneurship can help small ruminant farmers to access markets and improve their market position [8]. Entrepreneurship has been shown to be an effective of improving market access for small ruminant farmers in developing countries [9].

entrepreneurship have been found that promote to enhance an innovation to the small ruminant.

However, despite the potential benefits of entrepreneurship, small ruminant farmers may face barriers to adopting entrepreneurial practices, including a lack of knowledge and skills [10]. Therefore, there is a need for interventions that promote entrepreneurship among small ruminant farmers, such as entrepreneurship training [11]. These interventions can help to improve the livelihoods of small ruminant farmers and contribute to poverty reduction and food security [12].

LITERATURE REVIEW

It is critical to improve farmers' knowledge and abilities in order to empower them. Farmer field schools and extension services may teach farmers about better agricultural techniques, animal health management, and environmentally friendly practises [13]. Furthermore, digital tools, such as smartphone applications and farmer helplines, can make information on market pricing, weather predictions, and best practises more accessible [14].

For small ruminant farmers to earn reasonable pricing for their products, significant market links must be established. Encouragement of farmer cooperatives or groups can improve their collective bargaining power [15]. Furthermore, assisting farmers with value-added activities such as processing milk into dairy goods or wool into textiles might generate new revenue streams [16]. Farmers can get access to higher-value markets by collaborating with processors and market aggregators.

Beside that, The integration of Information and Communication Technologies (ICTs) can bridge knowledge gaps among small ruminant farmers, particularly in remote areas. Mobile-based applications, farmer helplines, and digital platforms facilitate real-time information exchange, access to market prices, and advisory services, enhancing farmers' decision-making capabilities. Furthermore, the total number of low-income small farmers exists around the state as stated in recent studies in which smaller farmers have been to be part of the culture of life and important within the agricultural and livestock systems ([17], [18]).

The statement has also proved that small-scale farmers has brought a change in a rapidly developing country, the change that has occurred is that they say that small scale farming can help farmers to generate income and be able to provide healthy resources ([19], [20], [21], [22], [23], [24], [25], [26]). This statement is worthy of use because goat and sheep farming is an additional source of income, a flexible financial source for a milestone against many uncertainties in business agriculture.

Empowering low-income small ruminant farmers requires a multi-dimensional approach that addresses financial constraints, enhances access to resources, fosters knowledge transfer, and strengthens market linkages. By implementing strategies such as microfinance programs, cooperative models, capacity building initiatives, and value chain development, barriers can be broken, leading to the flourishing of low-income small ruminant farmers.

METHODOLOGY

This cross-sectional validation study was performed in Terengganu, Malaysia from March to May 2021. The inclusion criteria were the small ruminant livestock farmers that have to participate in the study. Participants were selected during the session. The sampling of this study is based on random purposes because of the information collected from a particular place only purposefully. In addition, it is also selected to know the regulation of certain elements.

All participants agree to complete the questionnaires. Informed assent and consent were obtained from

participants. The study was conducted with approval from Head Officer (JPVNT). Data collection methods were based on anonymous questionnaires completed by the participants, and also among the illiterate people. This study uses samples selected from age 18 and above during the event. Study respondents were determined from previous studies that had been researched by previous researchers on low income small ruminant farmers. The survey respondents for this study consisted of (N = 613) respondents and only (N = 63) study respondents were involved in the pilot study conducted. Sample sizes were selected based on rules in determining sample sizes indicating that sample sizes greater than 30 and less than 500 were appropriate for most researchers.

The researchers explain that the BALM questionnaire used in this study is quantitative and developed as organized based on various suicides theories. These instruments had already gone through several processes of content validity, such as determining the definition of its content component items component and subject matter on experts from the related research field as suggested by [26]. The questionnaire was constructed in Bahasa and The total number of items can be produced as many as 40 items and divided into three parts namely, Part A (Respondent Profile) and Part B (Animal Background) and part C. (Livestock Management System).

This survey was using dichotomus scales with the respondents expressing their consent to the statement of inventory in the self-determination questionnaire. In addition, other scales were used to measure aspects of knowledge that the respondents would choose ‘yes’ or ‘no’. It is important to note that, the questionnaire presented to the participants was in Malay language. This is due to the fact that the respondents to this survey are those who understand the Malay language. Therefore as a result, it will make it more feasible for them to comply with the questionnaire questions. The present study’s respondents were selected by non-probability, convenience sampling. This method is selected due to the fact that each case in the population does not have the known probabilities to be included in the sample, and sample representation may be compromised ([27], [28]).

RESULTS

Descriptive data

The descriptive data was used to get know the total of farmers that have a low income. This is help the researcher to trace and track the reason behind this low income issues in the small ruminan farming. This research is truly preserved by 613 respondent of the small ruminant farmers. The results of the frequency analysis and the percentage of respondents according to their average monthly income. The income of respondents who are less than RM 1,000.00 is 190 people (31.0%), RM 1000.00 to RM 2,000.00 is 258 people (42.1%), RM 2,001.00 to RM 3,000.00 is 110 people (17.9%), RM 3,001.00, to RM 4,000.00 is 20 people (3.3%), RM 4,001.00- to RM 5,000.00 is 17 people (2.8%) and so on, more than RM 5,000,00 is 18 people leading the percentage to (2.9%). Based on this estimate, monthly income on the line of RM 1,000.00 to RM 2,000.00 dominates with a large amount



Figure 1: Pie chart for the total income small ruminant farmers

Table 1: Total Income Small Ruminant Farmers

Total Income	Frequency(<i>f</i>)	Percentage (%)
< RM2,000.00	448	73.1
RM 2,001.00 – RM4,000.00	130	21.2
>RM4,001.00	35	5.7
Total	613	100

The analysis of the income distribution among the low-income small ruminant farmers revealed the following results, <RM 2,000.00: Out of the total sample, 448 farmers (73.1%) reported an income below RM 2,000.00. This group represents the majority of the respondents and highlights the prevalence of low income among the farmers. RM 2,001.00 – RM 4,000.00: A total of 130 farmers (21.2%) reported an income ranging between RM 2,001.00 and RM 4,000.00. While a relatively smaller proportion, this income range indicates a modest level of income for some farmers. RM 4,001.00: Only 35 farmers (5.7%) reported an income exceeding RM 4,001.00. This group represents a minority, demonstrating the challenges faced by farmers in achieving higher levels of income. These findings reflect the income disparities and financial constraints experienced by low-income small ruminant farmers in the study area.

The disparity in income among low-income small ruminant farmers demonstrates the obstacles they confront in achieving economic liberation. The majority of farmers make less than RM 2,000.00 per month, which limits their capacity to invest in better agricultural practises, get quality inputs, and expand their businesses. Financial constraints limit their ability to adopt new technology, increase productivity, and improve their standard of living.

Several measures may be done to break down these barriers and empower low-income small ruminant producers. Microfinance and providing programmes geared to small farmers' unique requirements can offer funding for investments in infrastructure, livestock breeds, and inputs. The earnings of farmers and lives have been demonstrated to benefit from these programmes [29]. Microfinance programmes enable farmers to make strategic investments in their agricultural operations by boosting financial inclusion and reducing dependency on informal sources of financing.

Farmers may pool resources, utilise common infrastructure, and decrease costs through collaborative agricultural projects and resource-sharing platforms. Cooperative arrangements have been shown to improve smallholder farmers' market access and bargaining power [30]. Resource-sharing platforms enhance the efficient utilisation of limited resources and economies of scale by encouraging farmer collaboration, eventually contributing to higher profitability and revenue production.

Farmers' knowledge and abilities in adopting improved practises, managing resources efficiently, and obtaining market information may be improved through farmer training programmes, extension services, and the use of Information and Communication Technologies (ICTs).

Farmer Field Schools (FFS) and extension services are excellent venues for hands-on learning and information transfer ([31]. ICTs, such as mobile-based applications and farmer helplines, can assist farmers overcome geographical constraints and deliver real-time information ([32], [33]). These interventions enable farmers to make more educated decisions, use sustainable agricultural practises, and have access to important market information, all of which improve their income prospects.

Strengthening market relations and integrating value chains can give farmers with improved market access,

fair pricing, and possibilities for value addition, enhancing their earning potential. Partnerships with processors, market aggregators, and local cooperatives can help small ruminant farmers increase their negotiating power and obtain a larger piece of the value chain [34]. Value-added activities, such as converting milk into dairy products or wool into textiles, can result in higher-value goods and boost farmer income [35].

The revenue distribution among low-income small ruminant producers stresses the need for targeted interventions and measures to help them become economically self-sufficient. Microfinance and credit programmes, collaborative farming efforts, farmer training programmes, and market connections are all important components in enabling small ruminant farmers to overcome financial constraints and increase their income ([36], [37], [38]). Following these efforts, policymakers and stakeholders can help low-income small ruminant producers' economic well-being and long-term growth.

CONCLUSIONS

The income distribution among low-income small ruminant producers emphasises the importance of specific interventions and tactics to economically empower them. The majority of farmers make less than RM 2,000.00 per month, indicating the financial limits they face while investing in their farming businesses and improving their lifestyles. However, numerous techniques may be adopted to tear down obstacles and empower these farmers to thrive.

RECOMMENDATION

Based on the research and discussion of income distribution among low-income small ruminant farmers, as well as the empowerment techniques addressed, the following suggestions are made: Policy Assistance: Governments should create and execute programmes that are tailored to the requirements of low-income small ruminant producers. These policies should address concerns such as loan availability, market integration, and extension services. Furthermore, policy frameworks should encourage inclusive and sustainable agricultural growth, with an emphasis on enhancing small-scale farmers income and lives. Efforts should be made to improve financial inclusion for low-income small ruminant farmers.

Implementing these guidelines can help to empower low-income small ruminant producers, allowing them to overcome obstacles and create sustainable and lucrative lives. To create good change and promote inclusive agricultural development, collaborative efforts and partnerships across government agencies, development organisations, research institutions, and farming communities themselves are required.

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