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A Case Study on Food Security Awareness and Home Gardening Practices among Rural Households Kampung Dato Kamaruddin Bidor Perak

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ABSTRACT

Food insecurity continues to impact rural populations in Malaysia, particularly in areas like Kampung Dato Kamaruddin, Bidor, Perak, where households face limited access to affordable and nutritious food. As a coping strategy, home gardening is gaining attention for its potential to improve household food availability and reduce reliance on external food systems. This study employs a qualitative single-case study design to investigate how awareness of food security influences the adoption of home gardening practices among rural families. Data were gathered through purposive sampling, semi-structured interviews, and non-participant observations with adult individuals responsible for food- related decisions. Thematic analysis revealed key themes surrounding motivations, perceived barriers, and social influences affecting gardening behavior. Despite widespread awareness of food security issues, actual engagement in home gardening is often hindered by constraints such as inadequate land access, lack of gardening skills, water scarcity, and initial investment costs. Moreover, social dynamics including community encouragement and traditional practices play a significant role in shaping household decisions. Findings suggest that personal capability, encompassing confidence and practical knowledge, is a more decisive factor than awareness alone in influencing action. The study underscores the need for localized support mechanisms such as hands-on training and grassroots initiatives to bridge the gap between awareness and sustained gardening practice. These insights contribute to policy discussions on enhancing rural food self-reliance through community-driven, sustainable interventions.

Keywords:

Food insecurity; home gardening; rural Malaysia

1. Introduction

This study focuses on Kampung Dato Kamaruddin, a rural village in Bidor, Perak, to understand how people there view food security and how they use home gardening to support their food needs. Many families in the village rely on growing their own food using traditional methods, but they now face growing challenges due to rising food costs, limited resources, and a lack of modern farming knowledge [1].

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Home gardening is seen as a practical solution, but its success depends on how aware and motivated people are, as well as their economic situation [2,3]. In other countries, factors like income level, family size, access to training, and readiness to act have all been shown to influence gardening and food-related decisions [4,5]. However, there is still not much research about how Malaysian rural households see food security or what influences their gardening practices.

This study aims to fill that gap by exploring what the villagers know about food security, what pushes them to garden, and how their knowledge shapes their choices. The findings could help create betterlow-cost support programs for rural communities and offer ideas to improve food resilience and self-reliance.

2. Literature Review

This chapter looks at past research related to food security and home gardening, especially in rural settings. It starts by explaining what food security means in the context of rural life and goes on to discuss how people's awareness and views about food security influence how they deal with food challenges. The chapter also explores the role of home gardening in helping families access food, what motivates people to start or maintain gardens, and the common obstacles they face. It ends by showing how understanding food security can lead to action, supported by real examples from both Malaysia and other countries. These discussions give a solid background for the case study in Kampung Dato Kamaruddin, Bidor, Perak.

2.1 Food Security in Rural Areas

Food security involves more than just having enough food. It also includes whether people can afford it, use it properly, and whether the supply is stable over time [6]. In rural places, these factors are often affected by things like the weather, income instability, and social inequalities [7,8]. For example, group farming in Ethiopia helped small-scale farmers become more resilient [7]. On the other hand, the COVID-19 pandemic highlighted how fragile food systems were in countries like the DRC and Ethiopia [8,9]. Having different sources of income also helped some households manage climate-related challenges better [10,11].

2.2 Understanding and Awareness of Food Security

How much people know and how they feel about food security can shape how they respond when facing food shortages. In Uganda, a study showed that nearly 69% of rural farmers considered food insecurity a real [12]. In Ethiopia, personal experiences with changing weather also influenced how people viewed food risks [13]. Education level, family size, and having more than one income source played a role in shaping people's awareness [14]. However, common tools used to measure food insecurity, like HFIAS, may not fully capture the emotional stress that comes with it [12]. There's also a lack of long-term studies tracking how awareness changes over time [15], and current models often overlook emotional responses to food insecurity [16].

2.3 The Role of Home Gardening

Home gardening has been proven to help improve diets and reduce reliance on store-bought food [17]. In Kenya, gardens helped women get more nutrients in their diets [18], while in Nigeria, crops like yellow cassava helped fight vitamin A deficiency [19]. Some creative solutions like using greywater for irrigation in South Africa [20] and community gardening in the Philippines [21] show how adaptable gardening can be. The Sustainable Livelihoods Framework is often used to explain how gardening supports communities by improving natural resources, social ties, and skills [22]

2.4 What Drives or Hinders Gardening

People start gardens for different reasons some do it to save money, others for health, or because of support from friends or family [23,24]. In Kampung Dato Kamaruddin, many grow their own food to cut down costs and avoid harmful chemicals in market produce. But they also face real problems like limited space [25], lack of knowledge [24], and no awareness of food security issues. Starting a garden also takes time, money, and effort, which not everyone has. Many researchers, like Jayasinghe *et al.*, [23], say more long-term studies are needed to really understand how people stick with gardening over time.

2.5 From Awareness to Action

Knowing about food insecurity doesn't always lead to action. According to Frost and Murtagh [26], having the ability to act is more important than just being aware this is explained using the COM-B model. In Uganda, [27] noted that even though many people were worried about food, they couldn't do much due to limited tools and labor. The Theory of Planned Behavior helps explain why people don't always follow through with their intentions [28]. Community norms, recent hardships, and mental shortcuts also affect decisions [29-31].

2.6 Lessons from Case Studies

Local studies like the one in Kampung Dato Kamaruddin help us understand real-world barriers to home gardening, such as space shortages, tool access, and lack of skills. Similar challenges have been reported in the UK [26], Uganda [27], and China [32]. Learning from others and seeing what neighbours do also plays a role, though this hasn't been studied much in Southeast Asia. More long-term research is needed to see whether people keep gardening over time [33]. Rural areas have their own set of challenges, and it's important that any solution fits their unique context [28,32].

3. Methodology

This study adopts a qualitative approach to understand how awareness of food security influences home gardening practices among rural households in Kampung Dato Kamaruddin, Bidor, Perak. Since the aim is to explore the thoughts, experiences, and everyday realities of people within their natural environment, qualitative research is the most appropriate method. As noted by Patton [34], qualitative inquiry is especially useful for examining complex social issues in depth, particularly in settings shaped by cultural and community factors.

The research uses a single-case study design to allow for a focused and detailed investigation within a specific location. According to Yin [35], a case study is suitable when a study is limited by time and place, and when the goal is to understand a particular situation in depth. Kampung Dato Kamaruddin was chosen as the study site because of its rural nature and the increasing importance

of home gardening in response to food-related challenges. By concentrating on just one village, the study can gain a deeper understanding of the lived experiences and motivations of families who use gardening to supplement their food supply.

To collect data, the study will use several qualitative methods: semi-structured interviews, purposive sampling, and non-participant observation. Semi-structured interviews will allow participants to speak freely about their personal experiences, views, and challenges related to home gardening and food security. This method also gives the researcher the flexibility to explore unexpected themes as they emerge during conversations, as supported by Corbin and Strauss [36]. Participants will be selected through purposive sampling, meaning they will be chosen based on their experience or involvement in home gardening or food-related decisions in the household, as recommended by Stake [37]. Observations will be carried out without direct involvement, allowing the researcher to gather insights about the actual gardening environment and behaviors, which helps strengthen the overall understanding of participants' experiences.

The research process will begin with the development of interview guides and research questions, followed by the recruitment of participants from the village. During interviews, participants will be encouraged to reflect on their understanding of food security, what motivates them to start or maintain a garden, and what difficulties they face in the process. Field visits will give the researcher an opportunity to observe the condition of the gardens, the tools used, and how gardening fits into their daily routines. These observations will serve as additional evidence to support the findings from the interviews.

Once all the interviews are completed, they will be transcribed and analyzed using thematic analysis. This involves carefully reading the transcripts to identify common patterns, themes, and ideas shared by participants. As explained by Creswell [38], this method helps organize and interpret data in a way that brings out key insights. Themes will be built around recurring experiences, such as reasons for gardening, how food insecurity has affected household decisions, and the barriers participants face. Throughout this process, the researcher will maintain a reflexive approach, meaning they will remain aware of their own assumptions and ensure that the findings are grounded in what participants have actually shared.

To ensure the study's findings are trustworthy, several strategies will be used. Triangulation will be applied by comparing data from interviews, observations, and relevant documents to see if they support one another, as suggested by Merriam and Tisdell. [39]. Member checking will involve sharing summaries of the interviews with participants to confirm that their views were accurately captured. The researcher will also keep an audit trail and a reflexive journal throughout the study, helping to document how decisions were made and to show transparency in the research process [40]. These steps will help strengthen the dependability and credibility of the study.

Ethical considerations are also a key part of this research. Approval will be obtained from the Universiti Pertahanan Nasional Malaysia (UPNM) Research Ethics Committee before any fieldwork begins. Participants will be given clear information about the purpose of the study and their rights, including their right to withdraw at any time without any consequences. Their privacy will be protected by using pseudonyms in all written reports. Since food insecurity can be a sensitive topic, the researcher will handle such discussions with care and empathy, ensuring that participants feel respected and safe throughout the process.

In conclusion, this chapter has outlined the qualitative research design and explained why a single-case study was chosen to guide the investigation. It has described the methods for data collection and analysis and detailed the steps that will be taken to ensure the findings are credible and ethically sound. Through this approach, the study aims to gain meaningful insights into how rural families understand and respond to food security challenges through the practice of home gardening.

4. Results and Discussion

The findings of this study show that rural households in Kampung Dato Kamaruddin have a strong understanding of food security, which they associate with having a sufficient, safe, and stable supply of food for their families. Respondents highlighted its importance for health and stability, particularly during crises such as floods and the COVID-19 Movement Control Order (MCO). However, they also noted barriers such as rising food prices, weather disruptions, and transport difficulties, reflecting the vulnerability of rural communities to economic and environmental challenges [41-43].

Home gardening emerged as a major strategy used by households to address these barriers. Motivations for gardening included saving money, reducing dependence on markets, ensuring access to pesticide-free food, and pursuing personal interest. The benefits were evident in reduced household food costs, greater availability of fresh produce, and opportunities to share surplus with neighbours, which not only improved food security but also strengthened social ties. These findings align with earlier research showing that home gardens contribute to food resilience and community well-being [17,44]. Nonetheless, gardening was not without challenges. Respondents reported problems such as pest infestations, poor soil quality, and unpredictable weather, which limited yields. They also expressed a need for greater external support in the form of seeds, tools, and training, underscoring the importance of agricultural extension services in sustaining home gardening practices [2,45].

Awareness of food security played a significant role in shaping gardening practices. Respondents reported that their knowledge of the importance of food security motivated them to start or continue gardening as a way of preparing for uncertain times and reducing dependency on external markets. Beyond household benefits, gardening also created opportunities for building community relationships, such as sharing seeds and participating in joint gardening activities, echoing earlier studies on the social value of gardening in both urban and rural settings [46]. Moreover, respondents believed that gardening has educational value, especially for children, as it teaches self- reliance and sustainable practices. This perspective supports the idea of integrating gardening into school programmes to foster lifelong awareness and skills [21].

Overall, the findings suggest that while food security awareness is strong among rural households, awareness alone is not enough to ensure consistent gardening practices. Structural challenges such as affordability of inputs, technical knowledge, and environmental factors continue to hinder sustained gardening. To address these gaps, external support from government and community-led initiatives is essential. This reinforces existing literature that highlights the need for enabling resources and support systems to translate awareness into long-term, sustainable food production [26].

5. Conclusions

This study found that rural households in Kampung Dato Kamaruddin have a clear understanding of food security, seeing it as essential for family health and stability during difficult times. However, even though awareness is high, households continue to face challenges such as rising food prices, poor soil, pest attacks, and limited access to resources [41-43]. Home gardening was identified as a key coping strategy, motivated by the need to save money, access chemical-free food, and reduce dependency on markets. While households gained benefits such as steady food supply and opportunities to share with neighbours, success was limited by environmental and resource-related barriers. The findings highlight that awareness alone is not enough to ensure gardening practices.

Instead, confidence, skills, and access to tools and land are more decisive factors that influence action[26,27].

The significance of these findings is that they support previous studies which show that home gardening can improve resilience and dietary quality [17,44], but they also stress that sustained gardening requires external support. Community and school-based programmes can strengthen knowledge sharing, social ties, and long-term food security awareness, creating a stronger foundation for rural self-reliance [21,24].

Despite these insights, the study has several limitations. It was conducted in only one village with a small sample of seven participants, which makes it difficult to generalise the results to all rural communities. The research also focused on short-term interviews and observations, without measuring food outputs or examining how practices change across seasons. This limits the ability to fully understand the long-term impact of home gardening a common issue in cross-sectional food security research [32,33].

For future research, it is suggested that more villages be studied to allow for comparison across different regions in Malaysia. Mixed-method approaches combining surveys with interviews could provide both statistical evidence and deeper insights. Long-term studies should also be carried out to track whether households continue gardening over time [23,24]. In addition, testing specific interventions, such as free seed distribution or agricultural training, would help evaluate which support systems are most effective([2,45]. Exploring social factors like gender roles, youth involvement, and community leadership could also provide a more complete picture of what shapes food security practices in rural areas [14,33].

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