

ORIGINAL ARTICLE

Identification of Contributing Factors of Household Food Insecurity Among Indigenous People (*Orang Asli*) in Peninsular Malaysia Under Cash Economy: A Qualitative Approach

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ABSTRACT

Introduction: The *Orang Asli* (OA) were recognised as a marginalised group with their disadvantageous living conditions exposing them to household food insecurity. This qualitative study was conducted to explore the potential contributing factors linked with the difficulties experienced by OA households of Peninsular Malaysia in purchasing enough food under a cash-based economy. **Materials and methods:** This qualitative study (case study design) involved 61 mothers of three main OA ethnic groups (Senoi, Proto-Malay, and Negrito) from three purposively selected districts across Pahang, Perak, and Kelantan states in Peninsular Malaysia. Semi-structured in-depth interviews were conducted with the aid of controlled interview protocol to gather their opinions pertaining to their hardship in purchasing food from markets. Thematic analysis was performed manually during data analysis. **Results:** The findings revealed the varying influence of the following factors on household food insecurity: sociodemographic factors (low pay and impermanent job, care for small children, lack of transport, and large-sized households), economic factors (the high price of petrol, non-food necessities and transport fares) and geographical factors (lack of grocery shops within walking distance, inconsistent operating hours of nearby grocery shops, higher prices at nearby grocery shops, nearby grocery shops not fulfilling demand and dissatisfactory road conditions). **Conclusion:** It was concluded that local authorities should acknowledge the perceived contributing factors towards household food insecurity among the OA to understand more comprehensively the needs of the affected communities from their own point of view so that effective strategies can be planned in order to ultimately reduce their burden.

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INTRODUCTION

Food security exists 'when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life' (1). In contrast to systematic national representative research from developed countries (2,3), research in this area in Malaysia has only tended to target specific high-risk groups, such as low income households (47.2% to 100.0%), university students (22.0 to 70.0%), the elderly (6.9% to 27.7%), as well as indigenous (*Orang Asli* - OA) communities (81.2 to 88.0%) (4). Therefore, the prevalence was, understandably, high.

The focus of this research was the indigenous peoples of Peninsular Malaysia, which are known as the *Orang Asli* (OA), a minority group in Malaysia (5). Under guidance from Department of *Orang Asli* Development (JAKOA), the OA now enjoy several improvements to their communities that include the provision of infrastructure and facilities such as water and electricity, educational assistance, and socioeconomic development (6). In spite of such assistance, the OA of Peninsular Malaysia have been identified as being vulnerable to household food insecurity (7-9). Based on such a high prevalence of household food insecurity, it is widely recognised that this issue should be studied thoroughly, particularly with the goal of identifying potential risk factors which may lead to household food insecurity. Improving understanding of the nutritional issue is vital as the particular issue may contribute to health risks in the affected groups, including inadequate dietary intake, overweight and obesity, and elevated levels of cholesterol, plasma glucose, or LDL

cholesterol (4).

When exploring household food security issues among the OA, several distinctive factors must be considered. Unlike the practice of the general population which basically obtains food through purchasing, indigenous peoples of the world depend on both traditional food-seeking behaviour and purchasing activities to obtain food (10). In this regard, the challenges of indigenous peoples in searching for enough food under traditional food systems had been identified and reported, but the adaptability of indigenous peoples towards food purchasing activities remains relatively unknown (11). Additionally, due to their unique dietary needs and traditional practices, the study focused on understanding household food security issues among the OA should specifically examine their particular needs. Furthermore, environmental factors also warrant attention, as the preferred residential areas of the OA are often located near natural environments. In such settings, access to market food may be obstructed by natural barriers. Consequently, the household food security knowledge derived from quantitative approaches used for the general population may not be applicable to the OA. All this information would make a valuable contribution to the literature on household food security issues among OA.

In this context, due to the absence of indicators that can capture living and environmental aspects among the OA particularly in Malaysia, a qualitative approach was employed to gather the perspectives of the OA themselves and to gain a deeper understanding of their challenges in obtaining food from markets. Enhancing the understanding of the challenges faced by the OA in obtaining food from the market, whether as their primary or supplementary food source, is essential for policymakers. This knowledge will aid in formulating targeted and effective policies to address and alleviate their food security issues.

MATERIALS AND METHODS

The current article was prepared according to the Standards for Reporting Qualitative Research of Equator Network. The present study adopted a qualitative research approach by applying the case study research design. Interpretivism paradigm was applied as the study focused on the multifaceted dimensions of how food insecurity intertwines with the lived experiences of OA. A selection of OA villages was made using a purposeful sampling method. This study involved the administrative regions of all three separate ethnic groups, namely Senoi-majority, Proto-Malay-majority, and Negrito-majority. The categorisation of regions was carried out to facilitate the selection process, ensuring that the sample recruitment included all three main ethnic groups of the OA. Communication was established with the JAKOA administration, which helped identify suitable

districts and villages for the current study. Priority in the selection of districts was given to highly populated areas, while emphasis was placed on villages that faced socioeconomic disadvantages and were accessible by car. Then, from each administrative region, one district with a high number of food recipients was selected. All of the villagers with their names on the name list for food assistance were invited to participate in the study. In this case, food recipients were used as an indicator to identify poor households.

The informants were OA women from hardcore low-income families, aged between 20 to 49 and with at least a child. The OA women were deemed suitable informants for cultural reasons, as in the OA community, women are responsible for food preparation for families (12). As such, their sensitivity to and awareness about the occurrence of food insecurity within families in their communities were expected to be higher when compared to other family members (13). The selected households must be engaged in food purchasing activities, specifically buying food items (whether fresh or processed) from food outlets, with transactions conducted using physical currency. The reason for selecting hardcore poor OA households [(households with an income below MYR 520 [USD 124.33] per month or MYR 130 [USD 31.08] per capita)] as the target group in this study was evidence from previous studies that families with a lower income are more vulnerable to developing household food insecurity (14). The final sample size depended on the concept of saturation (15). A total of 61 informants were recruited, with 15 from Gua Musang, Kelantan, and 15 from Rompin, Pahang, while 21 were from Gerik, Perak. Recruitment was stopped when no new information was obtained after several rounds of interviews.

Data collection was conducted by applying the semi-structured interview technique between April and December 2016. The interviews were conducted in Malay by a researcher who had received training in workshops or courses on qualitative research. The researcher was also exposed to qualitative methods during the pre-test of the questionnaire, which required the researcher to improve their interviewing skills. Translators were employed among local communities during the interviews to assist the informants that were less able to communicate in the national Malay language. The translators who were recommended by the local leaders were assessed for their ability to converse in Malay before being recruited. They were mostly students. The interview sessions were audio-recorded after obtaining permission from the informants and two interview sessions were conducted for each informant in order to build up a rapport (16). During the first session, information on demographic and socioeconomic status, food-seeking activities, nutritional knowledge and food preparation methods were assessed (beyond the objectives of this article). The second session involved

questions regarding factors associated with food-seeking activities and coping strategies practised during household food insecurity.

A questionnaire divided into two parts was used during the data collection. The first part of the questionnaire concerned demographic and socioeconomic status. The second part of the questionnaire involved the interview protocol. Based on the scope of this article, the questions from the interview protocol used during the interview with informants were:

- (a) Are you facing any problem in obtaining enough food for family members?
- (b) (If yes) Can you elaborate on the problem(s) in brief, by providing suitable example(s)?

In order to increase the trustworthiness of the information obtained, help from the heads of the villagers (Tok Batin) was sought in order to explain to the informants the purpose of the data collection in order to reduce their suspicion. Translators were hired to help in the smooth running of the interview process. This also helped to relieve the stress of the informants when facing any problems during their interviews. At the same time, it also served to reduce any response bias due to misinterpretation. Most importantly, different types of triangulations were performed to increase the quality of the information obtained (17). Data and environmental triangulations were performed as the data collection was conducted by involving three ethnic groups (Senoi, Malay-Proto, and Negrito) from three different locations (Gua Musang, Rompin, and Gerik) (18).

In addition, permission was also obtained from the JAKOA headquarter and the respective JAKOA district offices. The informants were required to sign written consent forms. The informants were also allowed to withdraw from the study at any time, without any penalty and all information obtained from the informants remained confidential.

The demographic and socioeconomic characteristics of the informants were analysed using IBM SPSS Statistics version 22.0 (SPSS Inc., Chicago, IL, USA). The qualitative information pertaining to contributing factors to household food insecurity among OAs in a cash economy was analysed using thematic analysis (19). Firstly, the interview audio was transcribed verbatim. After the transcriptions of the interviews were made available, repeated reading was performed to the researchers to become familiar with the breadth of the data and the process of taking notes and marking the ideas for coding was conducted simultaneously. The coding process followed manually through identifying important phrases or concepts in the transcripts. using highlighters or coloured pens to mark key points. The key points were labelled by writing a short labels (codes) beside them. The codes identified were then matched up with the data extracts from individual transcripts

that were found to demonstrate the characteristic of the code. Each code that was identified, together with the relevant data extracts, was stored in a separate computer file. Next, the identified codes were reviewed and sorted into potential themes based on their patterns or commonalities. Relevant coded data extracts were then collated within the identified themes.

Ethical Clearance

Ethical clearance for conducting this study was obtained from the Ethics Committee for Research Involving Human Subjects (JKEUPM) of Universiti Putra Malaysia [Reference no: UPM/TNCPI/RMC/1.4.18.1(JKEUPM)/F2].

RESULTS

The demographic characteristics of the informants are shown in Table I. This study recruited 61 informants (aged 20 to 49 years old) from three districts, namely Gua Musang, Kelantan state (Senoi-dominant), Rompin, Pahang state (Proto-Malay-dominant), and Gerik, Perak state (Negrito-dominant). Their median monthly household income, monthly income per capita, and monthly expenses were at RM 200 (50.0 – 750.0), RM 41.7 (8.3 – 250.0), and RM 100 (20.0 – 250.0), respectively.

Table I: Sociodemographic characteristics of the informants

Variable	Count (n)	Percentage (%)	Median (range)
Age (years)			32 (20 – 49)
20s	26	42.6	
30s	22	36.1	
40s	13	21.3	
Ethnicity (Sub-ethnicity)			
Senoi (Temiar)	20	32.8	
Proto-Malay (Temuan)	20	32.8	
Negrito (Jahai)	21	34.4	
Religion			
Islam	27	44.3	
Christianity	8	13.1	
Animism	26	42.6	
Marital Status			
Married	57	93.4	
Widowed	4	6.6	
Number of Children			3 (1 – 13)
≤ 3	32	52.5	
4 - 7	19	31.1	
≥ 8	10	16.4	
Education Level of Informants (years)			1.5 (0 – 11.0)
No formal education	25	41.0	
Primary school	21	34.4	
Secondary school	15	24.6	
Education Level of Spouses			2.5 (0 – 11.0)
No formal education	24	39.3	

CONTINUE

Table 1: Sociodemographic characteristics of the informants. (CONT.)

Variable	Count (n)	Percentage (%)	Median (range)
Education Level of Informants (years)			1.5 (0 – 11.0)
Primary school	21	34.4	
Secondary school	15	24.6	
Education Level of Spouses			2.5 (0 – 11.0)
No formal education	24	39.3	
Primary school	26	42.6	
Secondary school	10	16.4	
Do not know	1	1.6	
Occupation of Informants			
Skilled Agricultural, Forestry, and Fishery Workers	12	19.7	
Plant and Machine-operators and Assembly Workers	1	1.6	
Housewife	48	78.7	
Occupation of Spouses			
Skilled Agricultural, Forestry, and Fishery Workers	52	85.2	
Craft and Related Trades Workers	1	1.6	
Plant and Machine operators and Assembly Workers	3	4.9	
Elementary Occupations	1	1.6	
Others ^a	4	6.5	
Monthly household income (MYR)			200.0 (50.0 – 750.0)
Hardcore poor (≤ 520)	60	98.4	
Poor (> 520 and ≤ 830)	1	1.6	
Household income per capita (MYR)			41.7 (8.3 – 250.0)
Hardcore poor (≤ 130)	58	95.1	
Poor (> RM 130 and ≤ 210)	2	3.3	
Normal (> 210)	1	1.6	
Expenses on food and beverages (MYR)			100.0 (20.0 – 250.0)
0 – 99.99	8	13.1	
100.00 – 199.99	45	73.8	
200.00 or more	8	13.1	
Median (range)			
Percentage of expenses for food based on total income (%)			50.0 (16.7 – 100.0)

^a Divorced or deceased

The contributing factors to household food insecurity under a cash economy among the OA were divided into three main themes, namely demographic and socioeconomic characteristics, economic factors and environmental factors. Five sub-themes were identified under demographic and socioeconomic characteristics: low pay and temporary jobs (n = 57); care for small children (n = 36); not owning any transport (n = 13); and large household size (n = 4). For instance:

Informant 8 (low pay and temporary jobs):
“Oh... inconsistent income. If he managed to get a

hundred ringgit in that particular month, he would give me fifty and the other fifty was for himself and to buy the petrol needed for his food searching activities. For the coming month, I am not sure about it still because of our searching condition. Absolutely not consistent, sometimes, my husband managed to get thirty Ringgit a day.”

Informant 9 (Large household size, n=):

“When we gathered together to eat, the children included, there were always family members who did not get enough food. Some had enough, while some did not. For those who did not have enough, they needed to consume whatever food was available wisely. It is an unfavourable condition, due to the inconsistent income that we manage to earn from our work as gold miners.”

Informant 11 (no transport):

“I do not travel to the shop. I really do not go. I cannot go. Do not have a motorcycle. Do not have a car. (Wish to) walk also cannot, I am not able to do it because it takes a long distance travelling. Very difficult to access (to food)... as it is very hard to go outside (the village) to buy food.”

Informant 42 (Care for small children)

“When my kid was still small, I did not go to work. I did (work) when my kid reached two or three years. Only then could I work.”

Four sub-themes, which included high food price (n = 55), high non-food daily necessities (n = 31), high petrol price (n = 26), and high transport fares (n = 7) were categorised under economic factors. The responses containing economic factors are:

Informant 8 (High food price):

“I feel it is expensive, absolutely expensive. Not enough, one hundred is also not enough to buy things. When I travel outside to make a purchase, with fifty Ringgit, I only manage to buy rice... rice or something like chicken... chicken. The fifty ringgit has nothing left from it. Previously, I think, we were still capable of (buying), but now I think that all the prices have gone up already.”

Informant 52 (High price of non-food necessities):

“It is also expensive. Kitchen essentials like rice and gas are the most important things that we need to take care of. The gas is the one that is considered expensive. The gas is really expensive.”

Informant 33 (High petrol price):

“The price is high. If we want to buy petrol in this remote area, they no longer use the liter as the measuring unit. They fill up mineral water bottles with the petrol. A full mineral water bottle costs four ringgit. Four ringgit fifty cents. It is the cost of about one and a half liters. If at the station, one liter at about... three (ringgit)... It is considered expensive; the price is different.”

Informant 36 (High transport fee):

"To go to and fro from Town A, the fare for a single person is twenty five. If I go with my husband, going to and fro needs fifty Ringgit. If he puts us down at the junction there, then he only counts twenty; if he takes us until the house here, he requests twenty five ringgit, totalling up to fifty ringgit."

Five sub-themes were grouped under environmental factors such as no grocery shop within walking distance (n = 32), inconsistent operating hours of the nearby grocery shops (n = 26), nearby grocery shops not being able to fulfil demands (n = 22), higher food prices in a remote area (n = 19), and unsatisfactory road conditions (n = 15) are:

Informant 32 (No grocery shop within walking distance):

"(The shop is) quite far away. If want to go there on foot, it takes two hours. I once walked there, cannot remember what year it was. I was pregnant with my first child. I walked there, along the way I cried because the shop was really too far away. From that moment on, I learned that going to the shop would require a long distance walk and it is an exhausting task."

Informant 9 (Inconsistent operating hours of the nearby grocery shop):

"The second problem is related to the shop here. Sometimes, the grocery shop in the village does not have fixed operating hours. Sometimes the shop is open, sometimes it is not. Therefore, we need to travel to Town C and Town D when the rice storage at home is depleted. We feel that it is a burden for us to travel far in order to buy important things such as sugar and rice."

Informant 48 (Nearby grocery shops could not fulfil demand):

"Sometimes the things (daily necessities) are available, sometimes they are not... If we cannot find the things here, then we would move to other shops to find them. Things that are not available... are food like chicken and fish. Sometimes the wet food is not available. Dry food like sardines and chicken curry paste are always available. Yes, the canned food. But not easy to find (wet food)."

Informant 35 (Higher prices in remote areas):

"Mostly through purchase. If we have an amount of money, we shall travel to town; if we possess only a small amount of money, we shall purchase at nearby shops. The price is different. The prices at the town are acceptable. If we make a purchase in the village, the owner would add several ringgits to the original price to increase his gain. For chicken here, if we buy at the nearby shop, it costs more. One kilo he sells for about nine Ringgit. In town, the price is at seven Ringgit..."

Informant 1 (Unsatisfactory road conditions):

"Cannot go to find food at all. Require us to walk, and as

the soil is wet and soft, it is very difficult to travel outside of the village. The entrepreneurs too cannot travel here; I also cannot go out."

DISCUSSION

Overall, results revealed that the poverty among the OA was perceived as a major concern which required attention. While it is true that the OA of this study are considered part of a disadvantage group, it is also the case that over recent years their standard of living has improved tremendously. The commitment of the Malaysian government to eradicate the poverty rate in Malaysia is widely seen as responsible for the sharp decline in the national poverty rate from 49.3% in the year 1979 to only one per cent in 2014 (6). Despite this achievement, the income gap between the OA and other major ethnic groups (MYR 6,141) in Malaysia was still huge (5).

As expected, involving in low paid jobs, care for little children, no transportation, and household size that linked with unstable financial status was recognised as the contributing factors to household food insecurity among the OA. Findings regarding the interaction between household income and household food insecurity were found to be consistent with the previous findings (20-23). Low paid jobs have limited the purchasing power of households, meaning that the demands of household members for food often go unfulfilled. In addition, without the participation of OA women in economic activities with the increased expenses associated with new-born babies, the burden of maintaining healthy household finances is put solely on the shoulders of their partners (24). A larger household size, on the other hand, affects the distribution of food to each of the household members. The household members from larger households receive a smaller quantity of food (23).

Transportation was considered particularly important to the inhabitants of the villages did not have any food outlets within walking distance (25). In addition, the condition became worse if the villagers had no access to public transport as more food money had to be spent on the transport fare. This indicated that not only physical access to food but not owning a means of transportation also depleted economic access towards food (26).

Consistent with the findings of this study, the influence of high food and non-food prices on household food insecurity was reported in literature (27). Inflation is recognised as a global phenomenon (28) from which Malaysia is certainly not shielded (29). Because of such increases in food and non-food prices, citizens have been forced to make substitutions and adjustments in their spending since a large portion of the population spends most of their income on food, especially among the poor. Increases in food prices have a huge potential to increase the poverty rate for the people that were

already poor, meaning the greater likelihood of more episodes of hunger and malnutrition (30).

Another price hike factor identified as affecting those at risk of food insecurity was hikes in the price of petrol. The Malaysian government decided to determine retail fuel prices through a managed float system by removing the previous fuel subsidy stage by stage between the years 2008 to 2015 (31). This decision was followed by a mounting upsurge in the price of fuel in the market (31). In addition, the hike in the price of fuel undoubtedly triggered inflation on consumer products (31). As most of the OA was living in remote areas, the use of transportation, especially motorcycles, was essential. Therefore, the extra money spent on fuel due to the hike in the petrol price meant a depletion in their already limited money. These findings were consistent with Kirkpatrick and Tarasuk (32).

The environmental factors, namely having low access to a nearby food store, higher food prices in remote areas, and low quality of the roads were, for the OA respondents of this study, crucial determinants in receiving enough and healthy food. This finding was supported by Mabli (33) and Sadler et al (34). Even where food outlets were present, most of them were operated by small scale entrepreneurs who often did not stock the desired food and daily necessities. Higher food prices in remote areas exerts an added financial burden on the OA. Higher prices in remote areas are usually the result of added transportation costs (connected with the increased fuel cost mentioned above), severe climate, small local markets, inefficiencies, lack of competition, other structural problems (35). Naturally, this practice exerts an added financial burden on the OA. Moreover, low quality of the roads obstructed the flow of food into the area, which in turn increased the difficulty of food access and further increased the food prices in such areas and reduced the purchasing power of the local households (36).

Observations revealed that the contributing factors to household food insecurity in the cash economy for the OA closely mirrored those of the general population. However, a closer examination highlighted some disparities. For instance, the OA face a greater socioeconomic burden, evidenced by a significant income gap compared to the general population (5). This income disparity intensifies economic pressures due to higher food and non-food expenses. Additionally, the larger household size among the OA leads to increased expenses to meet the growing demands of household members. Environmentally, the OA face unique challenges in accessing food, which are less common among the general population due to the unavailability of certain foods and the closure of nearby grocery shops.

This study had several limitations. Firstly, the informants in this study were all women. Involvement

of male informants would be expected to enrich the information gathered, especially on the issues related to socioeconomic status. Secondly, the locations of this study were villages that could be reached by private car. This indicated that the vulnerable villages at the remote area that could only be accessed by specific transportation were excluded. This specific group should not be neglected, as living away from any food outlets, the OA might face other challenges not experienced by the informants of this study.

CONCLUSION

In summary, the OA are certainly a vulnerable group in terms of food insecurity. The findings indicate that not all of the OA were capable of adapting well to the cash economy as might be expected. The present study provided information that helps to improve the understanding of food insecurity among the OA and can act as a reference for committed local authorities and non-governmental organisations in their formulation of counter-strategies that may offer relief to the OA from the burden of food insecurity. A targeted policy should be introduced to improve the standard of living, particularly the socioeconomic status of the OA. As a short-term solution, food aid should continue to support needy households in combating malnutrition. Additionally, subsidies and training should be provided to existing entrepreneurs to help them control food prices. Additionally, community empowerment should be strengthened by implementing literacy programs. Qualified OA individuals could also be provided with opportunities in vocational training or entrepreneurial skills related to agro-tourism to enhance their socioeconomic status.

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