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**Food security among the Orang Rimba in Jambi:
transformation processes among contemporary Indonesian
hunter-gatherers**

Wardani, E.M.

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A WARSI staff teaches Orang Rimba kids to write, 2015

VI Conclusion: Adapting to New Conditions

It was in March 2013, in my second year of fieldwork, that I returned to Jambi once again. Due to bad weather, the plane landed late at the Sultan Thaha Airport after 45 minutes of circling above Jambi, waiting for the weather to clear. After landing I could not leave the airport as soon as I would have liked, but instead I had to make a stopover in a small *Rumah Makan Padang* restaurant at the airport, before heading to my boarding house in suburban Jambi City.

However, the waiting and overpriced foods were worth it. As I ate, I heard the conversations of the people who were seated at the tables around me. I heard some people talking in Javanese, others spoke in the Jambi Malay, and some were chatting in Minangkabau. This made it an entirely different day for me compared with what I had experienced during my previous fieldwork days in 2006-2007, when Malay Jambi dominated all communications in the places I visited.

Most of the visitors in the restaurant had modern gadgets, typical of modern Indonesian society, in their hands. Some of them were busy talking on the latest cellphones, and others were talking to each other. I recall that most of the conversations were about business. A woman in front of my table talked about her logging business to a man who wore what seemed to be an expensive watch. I heard their discussion not only because the restaurant was small but also because she spoke loudly, which is typical of Malay people in this area. She explained to the man that she had just bought a new big and strong bulldozer to clear the forest, which, she insisted, had the ability to do everything faster and cleaner if the man wanted to have an effective outcome for his new business. Based on what transpired, the man seemed to be an investor wanting to invest his money to establish a new plantation in Jambi. At another table, not far from where I sat, various people discussed how best to spend a windfall of money that a Javanese man had just inherited from his parents. He intended to spend the money on a plantation as well, and was looking for a partner who could establish a partnership with him to set up a new business. The rest of the customers were discussing ordinary issues of daily life, but it was clear from their appearance that most of them were visitors/newcomers from other provinces, looking for good fortune in Jambi.

The conversation that transpired at the small restaurant is now typical, and reflects the fact that Jambi is a booming province in Indonesia. This area has attracted a lot of

attention with respect to further development. The consequence is that Jambi has become very attractive to many outsiders who are interested in establishing both large- and small-scale oil palm and rubber enterprises. The trend is understandable given the good economic performance of Jambi in recent years.

Plantations and forestry operations made the largest contribution to economic growth in the agricultural sector of Jambi Province. Rubber and oil palm plantations dominated this sub-sector, posting growth of 7.9% in 2014. This number is higher than the national average, which was 5.11% in the same year. This is not to mention the labor absorption rate of 49.4% of the total labor force in the province.⁶⁴

The high growth in the number of rubber and oil palm plantations in Jambi is expected to continue. Based on figures from Statistics Indonesia (BPS) in 2009, the total area of rubber fields in Jambi was about 650,623 hectares. This had increased with 17.8% over five years. Meanwhile, the number of rubber farmers in 2009 was 251,796 people. This increased by 1.2% to reach 254,813 people in 2014. At the same time, the total area of oil palm plantations increased by 20.2% from 493,737 hectares in 2009 to 593,433 hectares in 2014; while the number of oil palm farmers increased by 9% in the same period, from 172,133 people to 187,756 people (BPS 2015).

Most of the farmers are smallholders with a total land entitlement of less than 25 hectares. This is typical of the rubber and oil palm plantation areas throughout Indonesia (see Barlow and Muharminto 1982: 86 in Dove 1996). In the case of Jambi, based on my observations during the fieldwork, most of the farmers are transmigrants, with some participation from the Orang Melayu but hardly any from the 'native and customary societies', *masyarakat adat*, such as the Orang Rimba, the Talang Mamak, and the Batin Sembilan. It is then little wonder that Jambi Province has become "the promised land" for many investors, both large and small.

Returning to the conversation at the airport restaurant, as I listened to the logging business talk, my mind went back to the Terab group where I had lived for over five months in 2012. What was still fresh in my mind was the vast land that had been cleared by HTI companies and Malay farmers and transmigrants with their small-scale land clearings. They had cleared the forest and replaced it with *anak para* (rubber seedlings) in the area that used to be home to the Orang Rimba.

That reminded of the time when I had to walk on slippery, water-logged roads after days of heavy rain, which is the norm for the Terab group due to the deplorable infrastructure in the area, which is largely attributable to conversion processes for commercial plantations.

While on a visit to Pauh and trapped on a muddy road, the Orang Rimba told me a story about the land conversion in the area we had just passed by. They remembered witnessing the vast rainforest being converted into plantations in a very short time, without ever being told when the process would start. Later, they told me that the condition was

⁶⁴ A statement by an expert from Jambi Provincial Governor's staff (2015).

changing so fast, almost after everything had been lost including the most precious thing in their lives: the forest. I could detect some serious bitterness as they told me the story, and they were upset about having been left out of the logging activities. Today, the rainforest has made way for plantations, as far as the eye can see, and heavy forest clearing machines are ubiquitous. The sound of chainsaws and bulldozers is the new rhythm of daily life in Terab, while trucks full of oil palm fruits and heavily loaded with logs, travel back and forth many times a day.

I asked them the same question I had asked them repeatedly during my first fieldwork, as to whether they were happy with the change in their lives as a result of the arrival of modern things such as money, motorcycles, cellphones, and other modern tools. Their response was both curt and emphatic, and it was that if they could turn back time, they would not allow other parties to take away their forests at any cost. But they were powerless to do anything when big companies equipped with “sacred” letters from high authorities in Jakarta (*rajo godong*, in the local term of Orang Rimba) arrived to notify them that what they had considered their home was to be razed and replaced by plantations.

The business conversations in a small restaurant at the airport reflect the situation of many forest dwellers throughout Indonesia. I have to agree with Dove (1996), who suggests that forest degradation in many parts of Indonesia is not caused by the decisions of the forest dwellers themselves; rather it begins in places away from the forests, in cities like Banjarmasin, Samarinda, Pontianak, Jambi (in the case of the Orang Rimba), and especially in Jakarta, through government interventions and policies, which aim to promote rapid economic growth through investment at national and provincial levels. Not to mention the business interests in the form of oil palm and rubber plantations, as well as the mining industry, all of which are now a part of daily life in Jambi. Forest dwellers, such as the Orang Rimba, have limited capacity and opportunity to absorb and take advantage of the development process and they have no power to participate in decision-making processes.

This chapter reflects on the results of the previous three chapters. A comparative analysis is presented to draw the general pattern of the transformation process of the Orang Rimba represented by the three groups. The differences and similarities among the three groups are presented in the form of a descriptive analysis. While the backbone of the analysis focuses on the food security, this chapter intends to use the food security lens as an entry point to the larger transformation process that the Orang Rimba experience. This final chapter is divided into three main parts. The first part presents the comparative findings on food production, food consumption and food security in the three groups against the backdrop of their demographic, environmental and livelihoods situations. The second part discusses the findings in light of the broader perspective of food and livelihood security among hunter-gatherers. The third part presents the general conclusions.

6.1 Comparison of the three groups

Landscapes and settlements

Access to land is an important factor that contributes to efforts toward achieving food security and in a larger context to achieve sustainable livelihoods (Lovendahl et al. 2004). In general, as is common practice in Indonesia, customary societies (*masyarakat adat*) occupy their ancestral lands which they cultivate and use. However, such considerations are often in contravention with existing laws and government regulations. According to the government, an individual is considered to have right to land if he/she has permission to manage and use it, or a land title that proves ownership from the government. However, such provisions are not applicable to customary societies (Wijaya 2015).

In the case of the Orang Rimba, there are differences in the access to land between those who are living inside the national park and those who live outside the park. The Air Hitam group for instance has access to a large piece of land that goes as far as the untapped forests within the Bukit Duabelas National Park. In contrast, the Sako Tulang group is more settled in rubber plantations at the border of protected areas and the settlements of other ethnic groups. The Terab group is the most mobile group, and has been roaming around in a large area covered with oil palm plantations.

The differences in access to land also lead to a variation in the types of housing for the Orang Rimba in the three groups. As discussed in the previous chapters, the Sako Tulang group has a preference for living in *rumah ditano* that are close to their rubber fields. This also symbolizes more stable and permanent housing, situated in between the forested areas and the settlements of other ethnic groups. Since the Terab group lives more mobile than the other two groups, the *sesudongan* with a plastic roof is the common type of housing for them. This also reflects the practical reason for their mobility as they live in the oil palm plantations. The Air Hitam group lives in three types of Orang Rimba housing (*sesudongan*, *rumah ditano*, and *rumah godong*), with the addition of the permanent type of house provided by the government in the resettlement project. However, based on my observations, the most commonly used types of houses by the Air Hitam group are *sesundungan* and *rumah ditano*.

Demographic composition

Based on the data collected during the fieldwork and supplemented by the data from WARS, the total population of the three groups studied is nearly 950 people, and consists of more than 200 households. This means that, overall as well as within each of the three groups, the average household size is four to five people. The number of children per household ranges from two to five. It is typical in an Orang Rimba household that once the members of the family get married, they start living separately from the nuclear family. Because of this, new households are relatively small.

Table 32. Number of people in the three groups studied, 2010 – 2014

No	Group	Number of households	Number of people	Average per household
1	Sako Tulang	26	124	4.7
2	Terab	75	339	4.5
3	Air Hitam	105	483	4.6
Total		206	946	4.5

As mentioned in Chapter I, particularly in Section 1.5 on the Research Methods, the concept of household by the Orang Rimba consists of a husband, the wife (or wives), and their children. Households with more than one wife are limited to those with relatively favorable financial conditions, such as those of the *tumenggung*. Occasionally, additional dependent family members such as a widowed grandparent or other close relatives with unfortunate conditions are part of the household as well. However, I only found one or two households in Terab and Air Hitam which included more than two generations, and none in Sako Tulang. In the case of Sako Tulang, several widows stayed alone with the children with no intention to stay with the extended family. They preferred to continue to manage their rubber plantation on their own, especially with the local middlemen among the group, which gave them easy access to sell their produce. This is the reason why they prefer to stay unmarried and refuse to move back with the parents after the passing of the husbands.

Sources of livelihood

The sources of livelihood of the three groups can be categorized into cash crop farming, subsistence farming, hunting, fishing and gathering, and providing labor to other people. The relevance of these activities for each group is summarized in Table 32.

Table 33. Sources of livelihood in the three groups

	Sako Tulang	Terab	Air Hitam
Cash-crop farming (rubber and oil palm)	✓	✓	✓
Subsistence farming (cassava)	✓	✓	✓
Acting as middlemen in cash crop trade	✓		
Hunting		✓	✓
Fishing	✓	✓	✓
Collecting seasonal fruits	✓	✓	✓
NTFP collection and trade (rattan, dragon blood, honey, resin)	✓	✓	✓
Labor on Orang Rimba rubber fields	✓		
Salaries from the plantation companies to certain people		✓	
Intermittent providing labor to the plantation companies		✓	

From the variation in livelihoods between the groups, it is clear that the Sako Tulang group depends more on cash crop farming system, particularly on rubber and oil palm related work, including farming, being laborers and middlemen. In Terab, people tend to rely on a combination of hunting and gathering and the plantation companies. The Air Hitam group limits their sources of livelihood to hunting and gathering of forest products, and to a lesser extent to rubber growing.

Interaction with the outside world

As mentioned in several parts of the previous chapters, the direct and indirect interventions of the government have played a major role in changing the Orang Rimba’s modes of livelihood. Among the most important of these were the resettlement projects for the Orang Rimba in Air Hitam (2015), the proposed *desa adat* (customary village) in Terab (2015), and the opening of the road from S.P.A. to Sako Tulang (2014). According to the Orang Rimba, these programs were misplaced or at least difficult to follow, since the Orang Rimba’s traditions forbid them to live under such conditions, like living in a permanent house or being a fulltime farmer. The advent of logging operations, in combination with the implementation of the transmigration projects from the 1980s onwards, brought various influences for the Orang Rimba, both as regards interethnic tensions and worsening deforestation. With regard to the government’s policies on transmigration, the influx of migrants into the areas that the Orang Rimba used to call their ancestral home has substantially reduced their home territories. In addition, the arrival of these migrants has induced changes in the Orang Rimba’s ways of life. While they have by and large been able to preserve some of the norms and taboos they inherited from their ancestors, the increased interaction with other ethnic groups, the induced accommodation and the assimilation that were necessary for living in a new environment, have made changes in livelihoods and lifestyles unavoidable. There are however variations in the interactions between each group and outside actors (Table 33). The Sako Tulang group interacts most intensively with neighboring ethnic groups, mostly in relation to cash crop farming activities such as selling produce, buying inputs, and other business transactions related to finance (borrowing and lending). In Terab, people tend to interact most intensively with the plantation companies since they are living in the plantations that officially belong to these companies. In Air Hitam, local government offices such as those of education, public health and social affairs play a significant role. In all three groups, WARSI has a significant influence by providing basic education and health services, and by assisting in negotiations with local governments related to the development process.

Table 34. Matrix of outside actors/influencers of the Orang Rimba		
Sako Tulang	Terab	Air Hitam
Neighboring ethnic groups: the Malay and the transmigrants	Plantation companies: rubber and oil palm	NGO: WARSI
NGO: WARSI	NGO: WARSI	Neighboring ethnic groups: the Malay and the transmigrants
	Neighboring ethnic groups: the Malay and the transmigrants	Local governments: education office, public health office, and social affairs office.

6.2 Food security among the Orang Rimba: a comparative analysis

As mentioned in Chapter I, in order to shed light on the Orang Rimba's food security status, two complementary approaches are used. First, dietary patterns can be discerned based on the analysis of daily food records. Second, qualitative, ethnographic data provide insight in the four food security indicators: availability, accessibility, vulnerability and sustainability. This section provides a comparative analysis based on these two complementary approaches.

Dietary patterns

The Orang Rimba studied in this research are represented by six households drawn from three groups. The first comparative finding on dietary patterns in three groups gauge the types and numbers of potential meals consumed in the groups studied. The Sako Tulang and Air Hitam groups both consume more than 90% of all potential meals, while the Terab group more frequently skips meals. From Figure 52 it is evident that the most regularly consumed meals are breakfast for the Sako Tulang and dinner for the Terab and the Air Hitam groups.

Based on the food records, it is evident that the results from the Sako Tulang group differ from those of the households from the other two groups. For people in Sako Tulang, breakfast is the most important meal which is never skipped, while in Terab and Air Hitam, it is dinner that is (almost) never missed and has the highest frequency. From Figure 52 we can also learn that overall, dinner is the most important 'eating ritual' in all three groups, reflected by a frequency of more than 95% up to 100% meals consumed.

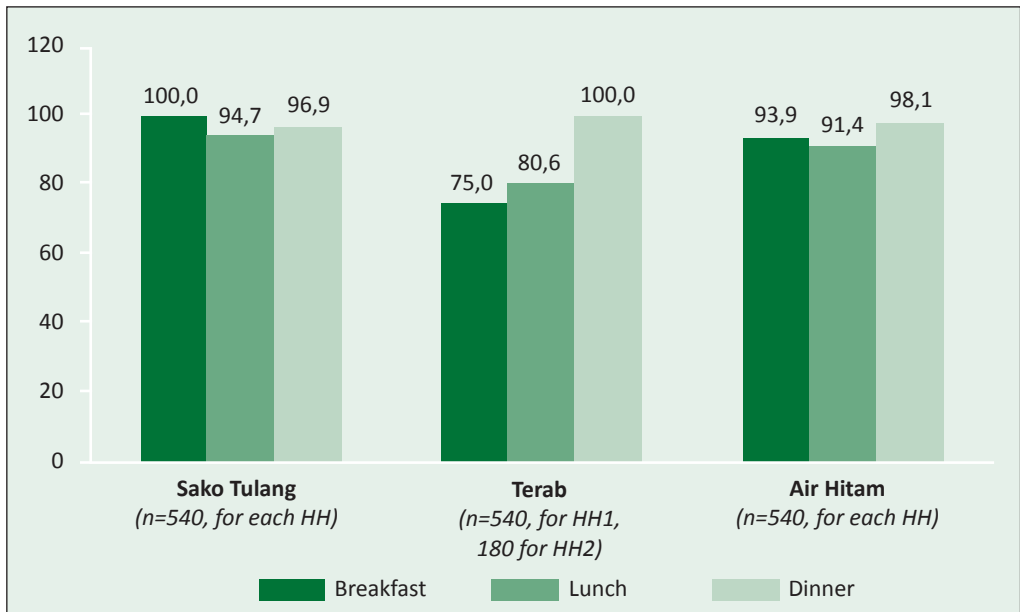


Figure 52. Types and numbers of (potential) meals consumed by the households

The composition of each meal during breakfast, lunch, and dinner can be found in Figures 53-55. It is clear that during all of these meals, carbohydrates and animal protein form the most important components, while the consumption of fruits and vegetables is very minimal for the three groups.

The comparison of the composition of the breakfasts in the three groups shows that carbohydrates and animal protein are the most important components. Carbohydrates contribute more than 90% of the intake for the Sako Tulang group and the Air Hitam group. The Terab group eat fewer carbs at breakfast compared to the other two groups, which consists of less than 80% of their intake. The animal protein is another important component for the three groups at breakfast that contributes less than 50% for the Terab group and more than 70% for the other two groups.

The same pattern continues for lunch. Both carbohydrates and animal protein are important elements that contribute more than 90% and more than 70% for the three groups.

The same applies for dinner. Carbohydrates contribute more than 90% for the dinner intake, in which almost 100% of the Terab group eat carbohydrates, while the three groups eat more than 60% animal protein for their dinner intake.

From the three figures, we can conclude that the diet of the Orang Rimba contains more carbohydrates and animal protein than fruits and vegetables. As mentioned in Chapter I, for this reason further analysis of the fruit and vegetable components was omitted.

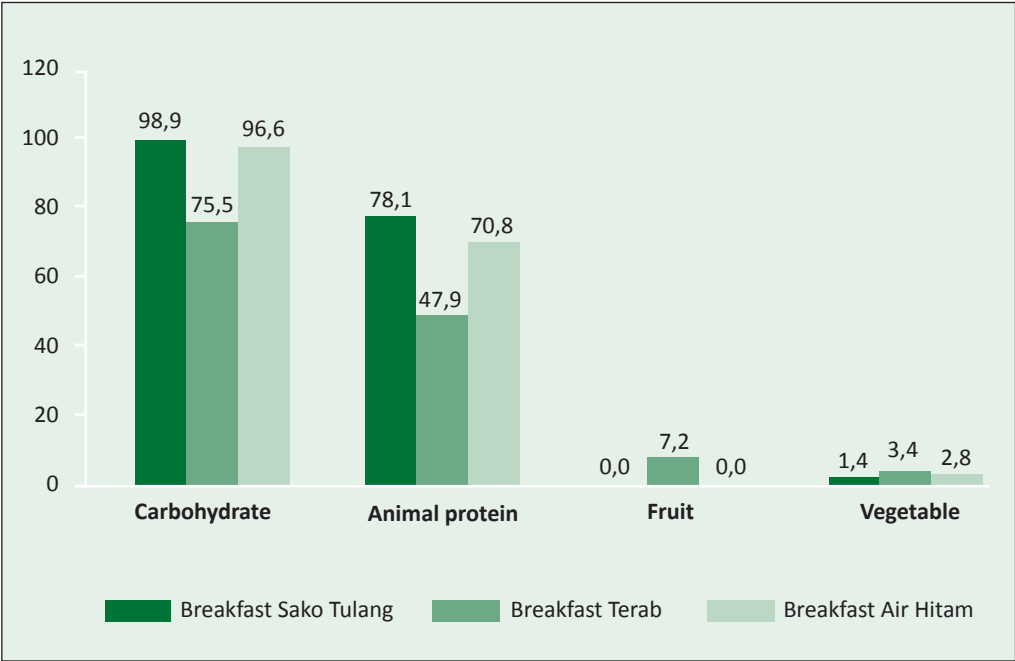


Figure 53. Comparison of composition of breakfast in three groups

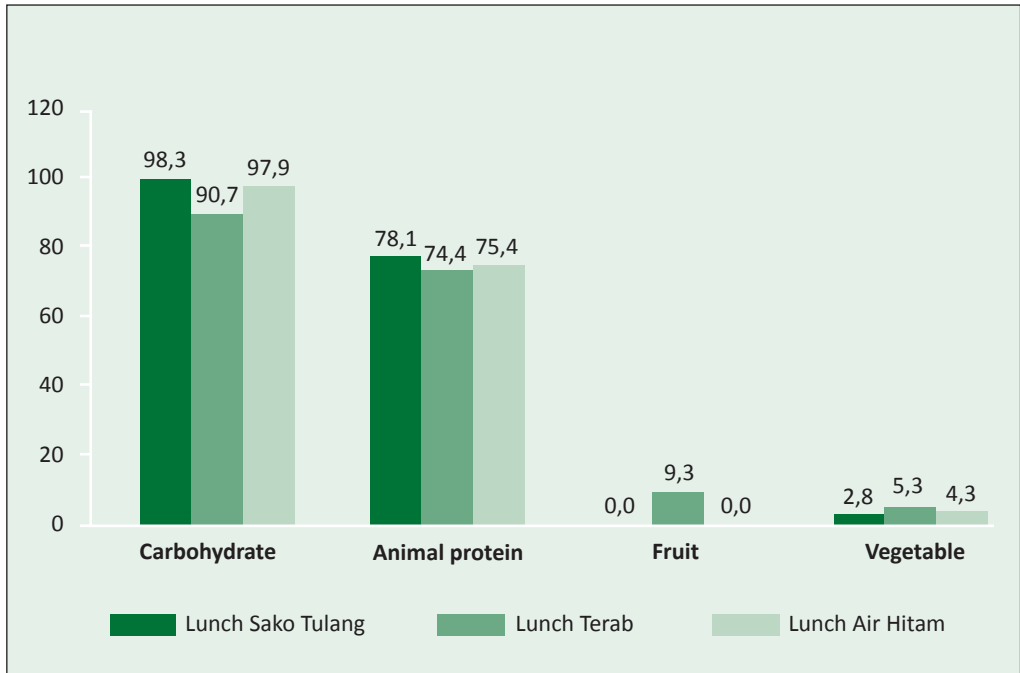


Figure 54. Comparison of composition of lunch in three groups

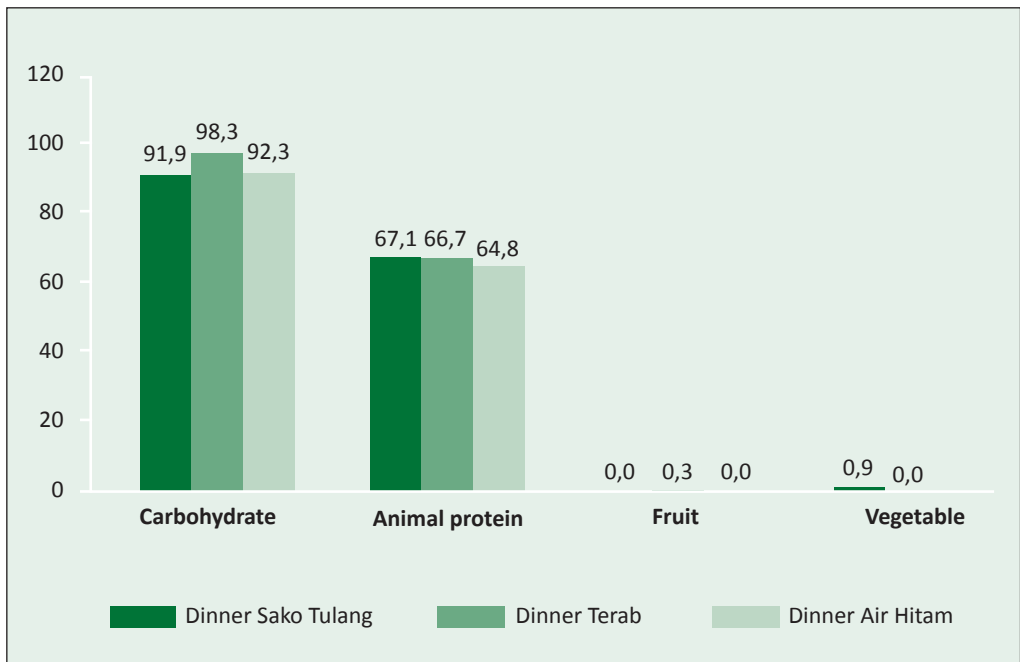


Figure 55. Comparison of composition of dinner in three groups

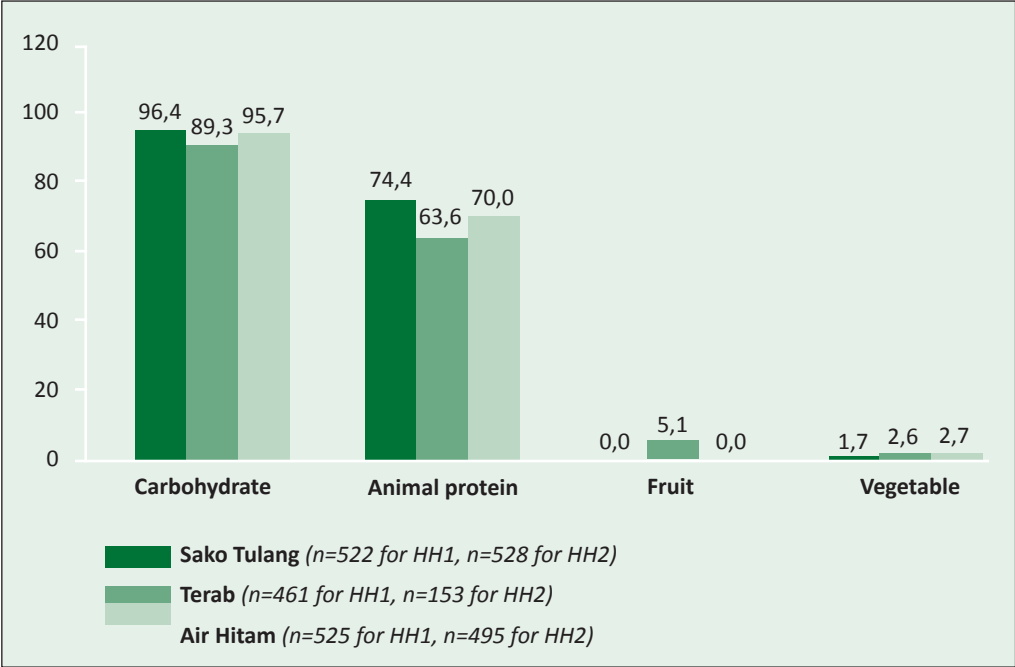


Figure 56. Presence of different food groups in all meals consumed by the households

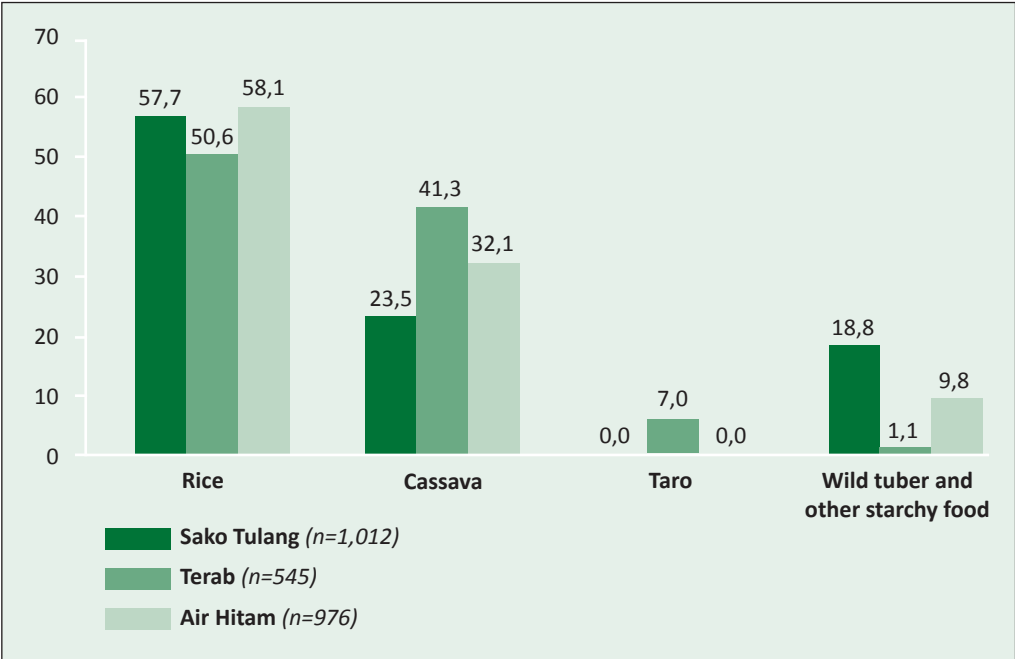


Figure 57. Types of carbohydrate of all meals with carbohydrates consumed by the households

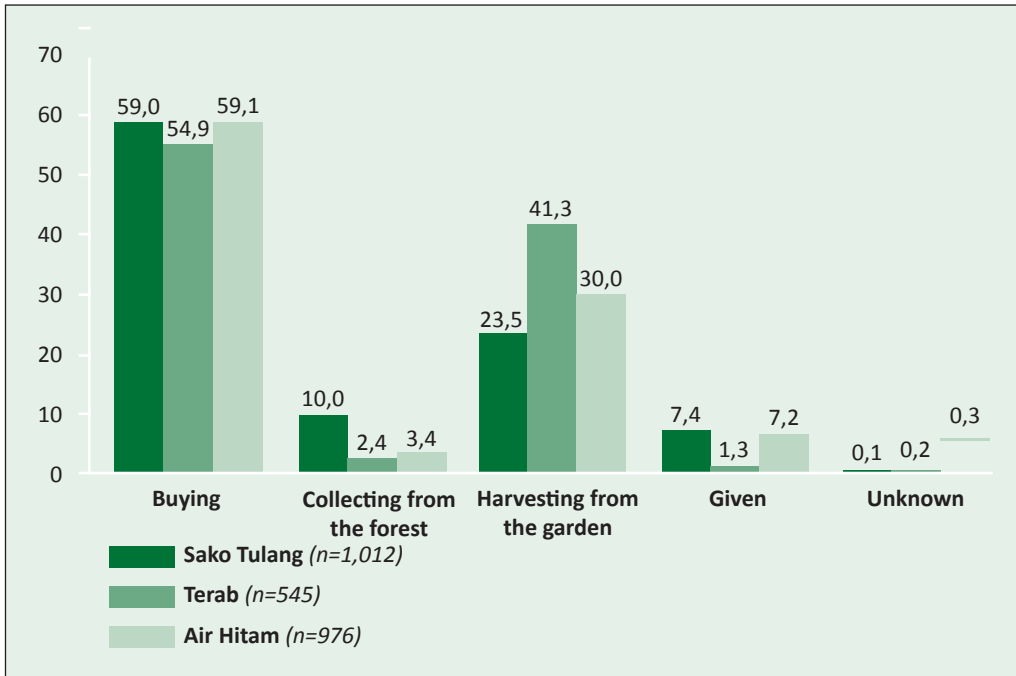


Figure 58. Origin of carbohydrates of all meals with carbohydrates consumed by the households

As Figure 57 shows, rice is the main type of carbohydrate consumed by the three groups, followed by cassava. Rice has become the number one choice for the Orang Rimba, and is eaten in more than half of all the meals in each location, while cassava is the second choice. Other types of carbohydrate consumed are taro and wild tubers.

From Figure 57, it is evident that the Terab group and the Air Hitam group place more or less equal importance on rice and cassava, while the Sako Tulang group eat less cassava compared to the other two groups. During field observations it was clear that the Sako Tulang group enjoyed both rice and less cassava during the months of September to December 2013, while in the months of June to August 2013 rice was consumed more frequently. This was because during September to December 2013, the SK group had less fruitful results from their rubber field so that they had to combine their staple (rice and small amount of cassava). But during June to August 2013, they were able to buy more rice due to better harvests from their rubber plantation. In addition, they were also more successful during hunting trips during that time (June to August 2013). In the Sako Tulang group, rice is consumed with other condiments, including salt and sugar.

Rice has become the dominant staple consumed by the Orang Rimba and, since they do not cultivate it themselves, it is acquired by buying from the market. Across the three groups, between 55-60% of the staple food is obtained by buying, while roughly one quarter of the staple food is harvested from their own gardens near the settlement, while

a small percentage of the staple food is obtained through a combination of collecting it from the forest and by receiving it from other Orang Rimba.

With regard to animal protein, the analysis shows that fish from the rivers and swamps is the most commonly consumed animal protein for the Sako Tulang and the Air Hitam groups, amounting to between over 50% and nearly 60% respectively, while it was only 11% in Terab. The high consumption of fish both in the dry as well as in the wet season indicates the importance of fish as provider of animal protein.

In the Terab group, on the other hand, lizards alone contribute relatively much (over 16%) to protein intake, while a variety of mammals (dominated by wild pigs) account for less than 20% of the animal protein in the meals. The importance of wild pig in Terab can be explained by the fact that nowadays the Terab group lives in oil palm plantations, where wild pigs do rather well because of the availability of fallen oil palm fruits.

A limited number of meals contained meat from a combination of more than one category and comprises the combination of fish and water turtle, fish and snake, fish and frog, and fish and wild pig, as well as other mammals such as long nose deer and antelope.

Table 35. Types of animal protein of all meals containing meat consumed in the three groups

Type of animal protein	Sako Tulang (n= 781)	Terab (n= 403)	Air Hitam (n= 714)
Fish	58.8	11.4	51.5
Wild pig	13.6	13.9	14.3
Freshwater turtle	7.3	4.5	14.1
Hedgehog	5.0	8.2	4.8
Snake	4.7	10.9	6.6
Deer	3.8	0.0	4.2
Mouse deer	0.8	0.0	1.7
Bird	0.3	4.0	1.1
Frog	0.3	6.5	0.0
Lizard	0.0	16.6	0.0
Squirrel	0.0	11.2	0.0
Rat	0.0	5.2	0.0
Primate	0.0	6.0	0.0
Combination	4.2	0.2	1.7
Unknown	1.3	1.5	0.0

With regard to the mammals in general, the domination of mammal consumption only occurred in the months of September to December in the Terab and Air Hitam groups, when it was rainy season and mammals were to be found in abundance.

The low consumption of mammals especially in the Air Hitam group (inside the forest) and the Sako Tulang group (outside the forest), was because of the fact that both groups were engaged less in hunting and more in other activities in the rubber fields. This is especially true for the younger generation. There is a tendency for the younger generation not to

follow their parents in that tradition and become active hunters. Another reason is that rubber fields instead of relatively intact forests now dominate the areas in which the Orang Rimba live. The decrease in the natural forest has contributed to the decline in the biodiversity. This means that the variety of mammals in the area has also decreased. For example, my key informants in Air Hitam informed me that before the 1980s, there were still many elephants and tigers inside and around the Bukit Duabelas forest. However, since the 1980s, they have rarely seen tigers, and elephants have completely left the area because of the conversion of the forests. These two mammals are classified as ‘sacred’ (*bedewo*), the consumption of which is considered taboo.

Table 35 reflects the edible mammals consumed by the Orang Rimba in each group studied. The variation, however, does not reflect the actual consumption of all animals by the Orang Rimba in the three groups during the fieldwork. Instead, the list indicates which animals are considered to be edible. Interestingly, the three groups have different views on which animals are edible. For instance, the Air Hitam group considers primates and rats as taboo animals, while the Terab group considers those animals as edible. Despite these taboos, overall, the Air Hitam group, who live inside the national park, listed the highest variation in terms of edible animals, while the Terab group (who live in oil palm plantations) listed the lowest variation.

Table 36. List of edible mammals

Local Name	Bahasa Indonesia	English	Species	Sako Tulang	Terab	Air Hitam
Large Size						
Rusa	Rusa Jawa	Deer	<i>Cervus timorensis</i>		✓	✓
Kijang	Kijang	Antelope	<i>Muntiacus muntjak</i>			✓
Bebi	Babi hutan	Wild pig	<i>Sus scrofa</i>	✓	✓	✓
Nangui	Babi putih	Bearded pig	<i>Sus barbatus</i>			
Beruang	Beruang	Bear	<i>Helarctos malayanus</i>	✓		✓
Small Size						
Kancil	Kancil	Mouse deer	<i>Tragulus javanicus</i>		✓	✓
Napu	Napu	Long nose mouse deer/ greater mouse deer	<i>Tragulus napu</i>			✓
Musang	Musang	Civet	<i>Paradoxorus hermaphroditus</i>	✓	✓	✓
Landak	Landak	Hedgehog	<i>Hystrix brachyura</i>	✓	✓	✓
Trenggiling	Trenggiling	Armadillo	<i>Manis javanica</i>	✓	✓	✓
Tenggeling Bulan	Tengalung	Oriental civet	<i>Viverra zibetha</i>	✓		✓
Kubung	Kubung	A variety of flying lemur	<i>Cynocephalus variegatus</i>	✓		✓
Kukang	Kukang	Slow loris	<i>Nycticebus coucang</i>	✓	✓	✓

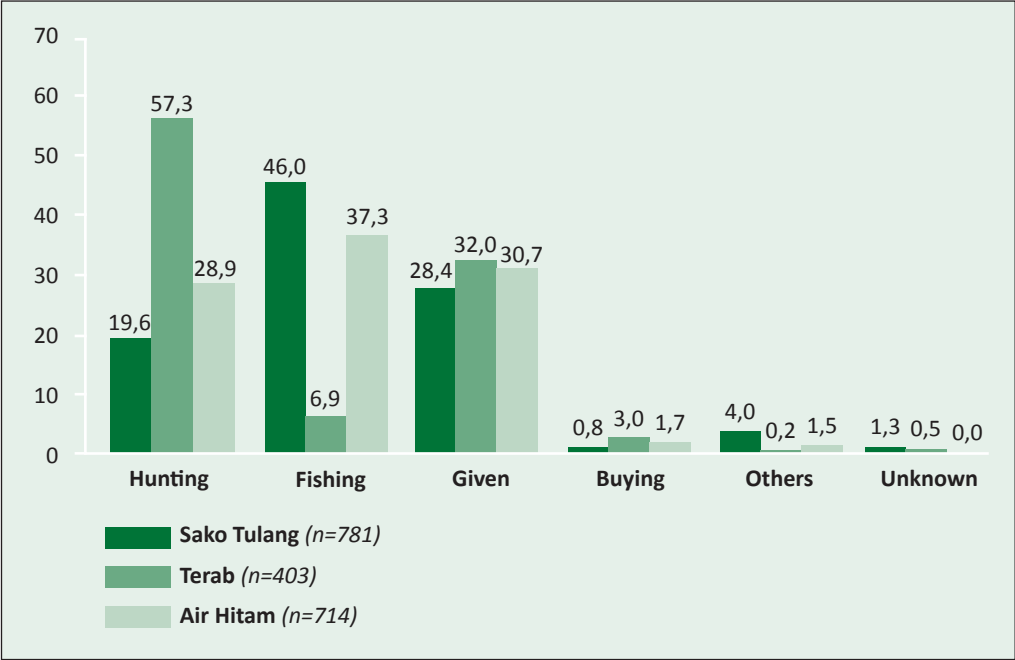


Figure 59. Origin of animal protein in all meals with animal protein consumed by the households

With respect to the sources of animal protein, most meat or fish is obtained by hunting and fishing by the people themselves. Importantly, however, the meat and fish that is obtained as a share “given” by group members, consistently amounts to roughly 30% of all animal protein across the groups. Only a relatively small portion is bought. Other important sources of animal protein worth mentioning include “the others”, which consists of various combinations of donated food and fishing, fishing and hunting, and hunting and buying.

Ethnographic findings on food security

The mainstream standards for measuring food security status are based on indicators such as food availability and supply, food access, vulnerability, and sustainability (e.g. Maxwell 1996). I will here discuss these indicators in light of the combined insights emanating from the ethnographic data and food intake records. In addition, this section takes into account threats to food security, including the threats to livelihood security and access to food.

Availability

The discussion on availability focuses on the supply side of food. It can be understood in terms of the combination of ways in which Orang Rimba households acquire food, namely through: 1) their own production through hunting, fishing, gathering or subsistence farming; 2) shares received from others; 3) buying it with money earned from cash crop production (rubber, oil palm fruits), salaries from plantation companies, labor on other people’s land, and collection and trade of NTFPs. However, the relative importance of

each of these varies among the three groups and also fluctuates over time, in line with seasonality and market trends.

For forest-based groups, like the Air Hitam group, the forest constitutes an important source of food, particularly in the rainy season, when wildlife, wild fruits, honey and other forest products are in abundant supply. In contrast, the months towards the onset of the dry season and during the long dry season are the most challenging and difficult in terms of availability. This is when the *remayo* season comes into the picture. During that period, the planting season has just begun, implying that sufficient time must pass before they can harvest the crops. Besides, the dry season is often associated with high infestation of their agricultural produce by pests, such as insects.

The Orang Rimba households and groups staying in the secondary forest and in the plantation areas are involved in cash crop production. By growing rubber and oil palm, they generate cash income, which allows them to buy food products on the market. The Sako Tulang group exemplifies this situation. For them, the onset of the harvesting season is an exciting time. This is on condition that the households do not experience poor harvests. A good harvesting season enables the households to obtain income to buy rice, spices, cigarettes, sugar, coffee, tea, noodles, as well as other foodstuffs to supplement their forest-based diet. Conversely, when the harvest is poor, or when rubber trees and oil palm have not yet reached maturity, lack of income means they are unable to buy enough foodstuffs.

Accessibility

Accessibility is associated with the right to food, the right to produce, to purchase, to exchange and to receive food. It has long been an established fact that food availability alone is not sufficient for a community to attain food security. The access they have to food that is available is as important if not more so. Sub-indicators of food access that can be used include control over land and household income (Roth 2013 and Sharma 1992). In the traditional setting, food access is not very distinct from food supply. This is evident in the case of the Air Hitam group, who still depend much on what the forests can provide for them. They have access to food by gathering, hunting, or sharing with relatives when they fall short of food supplies.

However, hunting, fishing, gathering and cultivation require a lot of land as well as flexibility of access. An important sub-indicator for food accessibility is access to land. Field evidence suggests that the Air Hitam group who lives inside the Bukit Duabelas National Park and the Sako Tulang group who lives outside the park, but still in the secondary forest areas, have easier access to land. As a consequence, their access to food is relatively better compared to the Terab group, who live in the plantation areas belonging to corporations. In this deforested area, the Terab group has the daunting task of entirely adjusting their livelihood, and the group members have to struggle to acquire their daily food. Besides, the limited access to land makes it difficult for them to lead the nomadic and wandering way of life they are accustomed to.

Moreover, in this new setting, monetary income has become a prerequisite for access to food. Money has been widely used by the Orang Rimba since the beginning of the transmigration era in Jambi in the 1980s, and has replaced the traditional barter system.

The increasing importance of money as a means to access food and the associated increase in cash crop production has also resulted in growing disparity in income between groups and among households. For the Terab group as a whole, it is hard to make ends meet, as they have limited income sources compared to the other two groups. However, within the most cash-crop dependent group, the Sako Tulang group, significant differences in income exist among households as well, and therefore in access to food.

Vulnerability

Both availability of and access to food are affected by various risks that increase vulnerability (FAO 2016). Generally speaking, these include risks such as crop failure, natural or other disasters, crises and shocks (such as price volatility, market failures, and political and social instability) (Chapter I). In the case of the Orang Rimba, specific risk factors include: various pressures to forests, seasonal changes, *melangun*, price volatility of rubber, oil palm and NTFPs.

Deforestation, coupled with insecure access to (forest) land, is the main contributor to vulnerability. The documented history of national policies on transmigration, the encouragement of the logging industry, and the promotion of cash crops as the engine of development, have together resulted in deforestation. This has much reduced the Orang Rimba's ability to obtain food by hunting, fishing, gathering, and cultivation. That said, many Orang Rimba have succeeded in adapting to the new, albeit hard, situation by producing rubber and buying rice. In their case, new vulnerabilities arise from changes in market prices of both rubber (supply side) and rice (demand side).

Seasonality is another factor of importance and as explained in Chapter 1, seasons play a major role in Orang Rimba lives, regardless of their livelihood strategies. During the wet season, food is plentiful, but in the dry season, households face scanty supply of food, whether it is obtained from the forest or bought from the market.

In general, it can be stated that those who are still living inside the forest (the Air Hitam group) are more resilient to seasonal changes than those living outside the forest. The Air Hitam group switch from relying on hunting during the wet season, to fishing and collecting turtles and tortoises in dry river beds during the dry season. For the Terab group, constraints in having fields of their own to grow their own food crops makes them heavily dependent on hunting. Unfortunately, the number of wild pigs caught during the dry season plummets, which is contrary to the condition in the wet season. The Sako Tulang group's dependency on rubber during the dry season increases their vulnerability because of unstable prices.

Even though I did not quantify the amounts of food consumed, my field observations suggest that Orang Rimba eat smaller portions during hardship periods, notably in the dry season. Moreover, the quality of the food they eat declines since the majority of the food consumed consists of carbohydrates, and limited amounts of animal protein. The dry season also causes vulnerability in terms of health, and is associated with the spread of diseases such as tuberculosis, flu, and fever. Children are in the most vulnerable position and prone to several diseases.

The culturally important practice of *melangun* increases vulnerability. It involves collective control of diet and may last for days, weeks, or even months, when necessary. Those who

do not have rubber trees as a safety valve, such as the Terab group, face a precarious food security situation.

To supplement decreasing economic resources as the forests decreased, the Orang Rimba have had to make often culturally costly adjustments and adaptations. This has included attempts to lead sedentary lives, cultivating cash crops as well as engaging in trade with other ethnic groups through intermediaries. To some extent this has reduced some forms of vulnerability. Many Orang Rimba can now buy rice and other basic necessities from the market. That said, with the increasing importance of the market several problems may threaten the food security of the Orang Rimba. These include the fact that they now have to earn an income to buy rice, which is not easy given their limited knowledge, in addition to the discrimination by the majority which translates into poor payments for their products and labor, and vulnerability to rising prices of products.

Sustainability

Sustainability is discernible from the degree to which the group has access to sufficient quantity and quality of food in the long term. This also means that the magnitude and frequency of food shortages, and the coping strategies in place, serve as good indicators of the extent to which the sustainability of the group's food security is ensured. The following strategies will be discussed here: food storage, food sharing, reducing food consumption and reliance on external assistance.

While the Orang Rimba do not generally store food for extended periods, they do preserve meat obtained from hunting through *salaue*, a traditional method that makes it possible keep the meat for several days. It involves smoking, slow cooking for several days, and fermenting. The Orang Rimba use this technique not only to store meat so that they can consume it for several days, but also to enjoy the different taste of the smoky meat. However, food sharing is a much more important strategy to ensure sustainability of food access over time. As the data on food sources show, sharing is most important with regards to meat, around 30% of which is obtained from receiving a share across the three groups. Hunting is considered to be a social exercise and is done both individually and in small groups. In both cases, hunting proceeds are shared with others, including members outside the group, if the quantity allows. I once observed how my key informant in Sako Tulang had a very big catch, which he shared with his mother who stays in a different group. It took him about one hour by motorbike to get there. While meat from hunting expeditions is subject to wide reciprocal distribution and based on my observation it is seen as "social storage", staple food is not widely shared. With the exception of cassava, other staples, notably rice, are considered as 'private' food.

Sharing food, and meat in particular, is done in return, as expected. Households or heads of households that flout the customary rule will be considered ravenous; consequently, the individual and household will receive sanctions that often culminate in estrangement/ ostracization. The married women, not the men (or husbands), execute the distribution of food within the group. Additionally, the married women perform the task to ensure equality of the food rations among members of their group. The Orang Rimba manage their food distribution by prioritizing those who are in a dire need such as children and pregnant women.

If households nonetheless face food shortages, for example as a result of unsuccessful

hunting expeditions, which is often the case during *remayo*, they both reduce the quantity of food they eat as well the components of meals. The findings from the fieldwork indicate a situation whereby the Orang Rimba eat rice which they mix with salt, sugar or minced tubers (notably cassava), which are obtained from the gardens surrounding their compound. This eating pattern is common during periods of food shortages, which often occur during the dry season, during periods of *melangun*, and during land preparation and planting.

However, food shortfalls that are caused by a prolonged dry season or specific event within the group (such as *melangun*) often induce the Orang Rimba to seek help from other ethnic groups, mostly via their *waris/jenang*, and recently via their middlemen. In addition, the Orang Rimba have been receiving various benefits from government and non-government relief programs.

Summary

The food security status of the three groups studied has been discussed by looking at the following factors: food availability, food access, vulnerability, and sustainability. Table 36 provides a comparative summary of the differences and similarities between the groups.

In terms of food availability, there are some similarities and differences among the three groups. The Sako Tulang and Terab groups rely on cash income to buy food supply. In the case of Sako Tulang, most income is derived from their plantation farming activities, especially from rubber and to a lesser extent oil palm. The Terab group relies more on the plantation companies to generate income in the form of monthly salaries and intermittent income for their labor services. The Air Hitam group's dependency on cash income is relatively small since they obtain much of their food supply by hunting, fishing and gathering. Moreover, all three groups face seasonal variations in food availability and access. In short, the Orang Rimba's food security varies from good in the wet season to precarious in the dry season. In the wet season, foodstuffs are in plentiful supply, but in the dry season, households face scarcity of all foodstuffs, ranging from products they gather from forests, wildlife they hunt, and rice they buy from markets. Although the frequency in which meals are consumed is quite normal, especially during the dry season, the risk of households either suffering grave food shortages or just eating barely enough to survive increases. During the fieldwork, occasionally I witnessed people eating a combination of rice and salt. I also witnessed children eating oil palm fruits when they did not have enough food in one of my fieldworks. Among the three groups, food sharing is a common mechanism to cope with such scarcity and fluctuations.

There are two sub-indicators or key areas for food access, which are control over land and household income. The three groups have differentiated access to land. The Sako Tulang group lives mostly in secondary forest areas where they manage their plantation, the Terab group lives in plantation areas belonging to the companies, and the Air Hitam group lives inside the national park. These differences in control over land are reflected in each group's income stability. The Sako Tulang group has the most stable income compared to the other two groups, while the Terab group has the least stable income. The Air Hitam group's sources of income are most diverse.

Table 37. Comparative indicators of food security in the three groups				
Indicator of food security	Key Area	Sako Tulang	Terab	Air Hitam
Availability	Food supply	Cash income from farming: rubber and oil palm + NTFP	Cash income from the company +NTFP	Hunting and fishing + NTFP
		Buying	Buying	Gathering
		Hunting and fishing	Hunting and fishing	Sharing
		Sharing	Sharing	Buying Cash income from farming: rubber
Access	Control over land	Living in secondary forest areas, limited hunting area	Living in plantation areas, limited hunting area	Living inside the national park, vast hunting area
	Household income	Stable	Very unstable	Relatively stable
Vulnerability	Various pressures to forests	Major encroachment from other ethnic groups	No forest at all	Lesser encroachment from other ethnic groups
	Melangun traditions	Short period, maximum 3 months	Frequent and long periods	12-24 months on average, per melangun period
	Price volatility of NTFPs and cash crops	Very exposed	Exposed	Fairly exposed
	Seasonal changes	Fairly influenced	Least influenced	Highly influenced
	Health condition	Least health problems	Highest health problems	Moderate health problems
Sustainability	Food shortage	No	Yes	No
	Hunger incident	None	Costing 15 lives in 2015	None
	Food sharing	Within the group	External parties	Within the group
	Dependency on external assistance	Least dependent	Highly dependent	Moderately dependent

Another common feature across the three groups is their vulnerability in monetary transactions, whether it is in selling their cash crops or NTFPs, or buying food and other products. Having limited information on market prices, and acting mostly through intermediaries, they are prone to manipulation and exploitation. This is exemplified by the role of the *jenang*, who negotiates on behalf of the Orang Rimba in trade and other issues, but often does so to his own advantage. Especially families with a greater number of dependents easily become indebted to the *jenang*, which creates structural dependency. These asymmetrical relations continue to form an obstacle to the Orang Rimba's food and livelihood security.

6.3 The Orang Rimba revisited

It was 64 years after Van Dongen (in 1906) that a Polish anthropologist – Janusz Kamocki – conducted fieldwork among the Orang Rimba who lived along the Medak River in Banyuasin Regency, South Sumatra. Kamocki's research on the Orang Rimba was conducted during 1970-1971. However, his ethnographic research faced major obstacles, the most important of which was finding camps where the Orang Rimba lived. He only succeeded in meeting a few camps, the so-called *Kampung Kubu*,⁶⁵ in the Medak River area. Consequently, he decided to collect information about the Orang Rimba from officials of the Ministry of Social Affairs in South Sumatra and travelled around Medak River to conduct the research. The article Janusz Kamocki wrote about his findings, published in 1979, provided a glimpse of the material culture of the Orang Rimba who lived along the Medak River.

There is little doubt that between the 1900s and 1970s research on the Orang Rimba was scant and limited to, among others, publications by Van Dongen in 1906 and Visser in 1939.⁶⁶ Another publication that mentioned the Orang Rimba during that period was a publication entitled "A Special List of the Tribes of Primitive Hunters and Food Gatherers", which was a Bulletin of the International Committee on *Urgent Anthropology and Ethnological Research* in 1958. The findings of the publication predicted that the Orang Rimba had no future, and would become extinct, largely as a consequence of the development process. Moreover, the publication went on to state that the Orang Rimba would have no option but to change their nomadic way of life and become farmers (Kamocki 1979: 91).

After Kamocki's work, Oyvind Sandbukt, a Norwegian anthropologist conducted extensive research among the Orang Rimba, also in the 1970s. Sandbukt's research, which involved nine months of fieldwork in the Air Hitam area, Jambi Province is credited for being the

⁶⁵ *Kampung Kubu* was a term used by the Ministry of Social Affairs adopted by the past Dutch administration for resettlement areas provided for the so-called *Kubu Jinak*. The Dutch administration used the term *Kubu Jinak* for those who could cooperate and were willing to make contact with other societies. The term used for the Orang Rimba who live inside the forest and avoid any contact was *Kubu Liar*. Those two terms are no longer appropriate to use.

⁶⁶ Both publications by Van Dongen and Visser are in Dutch.

first to conduct ethnographic research among the Orang Rimba. Sandbukt's findings on the Orang Rimba, which were published in 1988⁶⁷, are especially relevant for my dissertation. Except for Persoon's publications in 1989 and 2000, there has been limited research on the livelihood of the Orang Rimba after Sandbukt's research findings.⁶⁸

What is important to note, is that half a century after European scholars predicted the 'extinction' of the Orang Rimba, the community still survives. In September 2015, Persoon offered an alternative view on the changing futures of the Orang Rimba.⁶⁹ He reflected on the many projections by past Dutch colonial administrators, Indonesian civil servants, anthropologists, missionaries, and development workers on the future of the Orang Rimba. Most of these predicted that the Orang Rimba would become extinct or assimilate into mainstream populations due to the rapid development process in Jambi Province. However, as Persoon demonstrated:

[...] the Orang Rimba surprisingly have not disappeared and they have not completely assimilated into the dominant Malay society and other in-migrant societies from Java either. On the contrary, they have adapted to new conditions in a large variety of ways. They have taken up new sources of livelihood that were always considered beyond possible options for the Orang Rimba. They themselves did not want to become farmers and outsiders always thought that the Orang Rimba were not capable of making that transition. But present-day livelihoods include cultivation of oil palm and rubber trees. They also use their rubber gardens as a protection fence (*hompongon*) against intruders of their land. Some of the Orang Rimba have also become middlemen. One of them, *Tumenggung T*, is a very successful example. The Orang Rimba have retained their identity and even developed a sense of pride in being so much different from the 'ordinary village people'. External support of some government officials and an NGO promoting indigenous peoples' rights are of great help in this respect; even though some of the support programs seem to be underpinned by the desire to compensate for the forest lands without much attention on the actual loss of irreplaceable livelihood and existence. (Persoon 2015)

The worst-case scenario and pessimistic view, which is evident in past predictions about the future of the Orang Rimba, is understandable considering the limited understanding there was at that time about livelihoods of hunter-gatherers. Many scholars and practitioners (past and present) consider the Orang Rimba as passive actors and victims of multifaceted external pressure and forces, including the development process. The botched prediction of the "extinction" of the Orang Rimba and pessimistic scenario has

⁶⁷ See Sandbukt, Öyvind. 1988. "Resource Constraints and Relations of Appropriation among Tropical Foragers: the Case of Sumatran Kubu" in *Research in Economic Anthropology* 10, pp. 117–156

⁶⁸ Current scholars such as Elkholy (1998), Soetomo (1995), Weintre (2003) Sager (2008), Prasetyo (2011, 2015) devote attention to issues such as tradition, custom, belief system, identity, and other cultural aspects of the Orang Rimba.

⁶⁹ In the 11th Conference on Hunting and Gathering Societies, Persoon gave a presentation on the paper entitled "The changing futures of the Orang Rimba (Jambi, Indonesia), unpublished, Vienna, 7-11 September 2015. Conference on Hunting and Gathering Societies is a contemporary platform for scholars who are interested in hunter-gatherer-related issues. Up to its 11th event, the scholars who attend the conference mostly came from Europe, the USA, and only few from Asia, particularly from Southeast Asia.

not only been proved wrong for the Orang Rimba, but also for other hunter-gatherers, like the Agta (Minter 2010).

My research underscores the fact that the Orang Rimba always come up with ways to survive and “protect” their identity as the Orang Rimba (Forest People) and preserve their way of life. The Orang Rimba have the ability to build their own resilience mechanisms as a response to changes that affect their lives and livelihood. As the development processes have picked up pace, they impacted lives of the Orang Rimba, largely as a consequence of forest degradation. In response, the Orang Rimba have used internal and external tactics and strategies to adjust and adopt their livelihood and way of life in line with conditions that such a context necessitated.

More importantly, the Orang Rimba are active actors who participate in various development processes. The most vivid example is their participation in commercial logging, but they are also active as commercial NTFPs traders, and they are involved in commercial hunting and agriculture activities (oil palm and rubber) as described in Chapters III-V. Such decisions became inevitable due to the involvement of key companies as well as the interaction with other ethnic groups such as the Orang Melayu and the transmigrants. Consequently, a mutually beneficial (although asymmetrical) relationship emerged, principally out of economic interest. Such activities continue to this day, albeit on varying degrees.

Another example of the Orang Rimba’s participation in development processes is their pragmatic acceptance of programs that attempt to resettle them, even though such programs are detrimental to their culture. According to the Orang Rimba’s culture, it is prohibited to have a permanent house with walls. Another cultural restriction with respect to settlement is that the Orang Rimba have to preserve a wandering lifestyle of *melangun*. According to the Orang Rimba, *melangun* is a core aspect of being Orang Rimba. It would certainly be interesting in the future to look more closely at to what extent the various groups of Orang Rimba, living in different conditions, continue to practice *melangun* and to see how the transition towards increased production of cash crops, like rubber and palm oil, impacts this tradition. .

The question then is: why have the Orang Rimba accepted resettlement programs implemented by the Indonesian government since the 1960s? As Tsing (1993) writes in relation to the Meratus people (South Kalimantan) through her storyteller Uma Adang, the Orang Rimba would never say “no” to any governmental project. As the Meratus people were receptive to the governmental development programs, so are the Orang Rimba. It does not matter if, subsequently, they do not use the facilities such projects offer to them, and in fact end up selling the houses provided by the government, and in many cases use such houses as transit shelters rather than places of residence, or just simply abandon them.

Generally speaking, Orang Rimba have great respect for the country’s leaders (such as Sultan in the Sultanate era, and government officials in recent days). Their *seloka adat* or customary law states that “*Halom sekato Rajo, Rumah sekato Tungganai*”, meaning that externally the Orang Rimba will follow the rules of their *Rajo* (government), while for

internal purposes they have their own autonomy, and consider leaders of their groups to be their representatives.

The Orang Rimba do not have an aggressive stance when faced with external pressures, including the pressures on their livelihoods. Their culture is more reactive or defensive, always compromising and avoiding conflicts with others. It is because of this culture that other ethnic groups label the Orang Rimba as “*kubu*”, literally “hiding” or “protecting” themselves from others. This conflict-avoiding strategy has also been noted for the Agta (Minter 2010).

6.4 Food security among contemporary hunter-gatherers

At the 11th Conference on Hunting and Gathering Societies (CHAGS) conducted in Vienna, Austria in September 2015, food security was a major issue. In the panel on food security, scholars portrayed a shift in the trend of food consumption among hunter-gatherers all around the world. They argued that there is a significant decline in the dependency of hunter-gatherers on traditional food. Hunting and gathering modes of production to meet year-long food consumption for hunter-gatherers are still applicable, but the transition to the market-based food has become discernible in recent years. The evidence from the Inuit in the Arctic (Wenzel 2015), the Eskimo in North America (Collings 2015), the Australian Indigenous Societies (Weichart 2015), the BaAka in Central Africa (Remis and Robinson 2015), and my own presentation on the Orang Rimba in Indonesia (2015), clearly attest to that trend.

The shift in food consumption trends among hunter-gatherers is largely attributable to changes in environmental conditions. Most hunter-gatherers have, to some extent, made a transition towards agriculture to supplement their subsistence (Griffin 2018). Specifically, Wenzel (2015) argues that the shift in food consumption among hunter-gatherers is induced by the decline in traditional ecological knowledge and skills related to land use, minimal resources to access traditional food, environmental changes, and the loss of desire to consume traditional food.

Collings presented interesting examples related to the decline in health as well as increasing health disparities caused by rapid socio-economic and environmental changes among the Eskimo. Hunter-gatherers tend to leave their traditional foods and depend on imported foodstuffs which make traditional sharing networks superfluous, hence increasingly forgotten. In other words, hunter-gatherers not only become more dependent on modern and market-based foodstuffs, but also become more individualistic as they abandon their traditional knowledge and culture.

Weichart presented another case in which contemporary hunter-gatherers were increasingly relying on other sources of food than their traditional and natural resource-based sources. She showed that the shift in food consumption behavior of Australian indigenous peoples from traditional sources to market-based systems has led to a decline in their health status, hence rising food insecurity. Sedentary livelihoods do not augur well for the traditional food habits of hunter-gatherers, forcing them to consume low quality food in an era of abundant food supplies. This situation is worsening

because besides indigenous peoples having limited education and a different social status compared with their new neighbors, they generally have low incomes, all of which hamper their access to food.

Long before current scholars and anthropologists began to argue about the shift in food behavior among hunter-gatherers living in tropical rainforests, Headland raised the issue as early as 1987 in an article entitled 'The Wild Yam Question' which offered an alternative hypothesis on how hunter-gatherers have not only been dependent on natural resources provided by rainforests through hunting and gathering, but also on their neighboring farmers. His findings were based on the Agta in the Philippines, which showed that hunter-gatherers have long fulfilled their daily food consumption by establishing relationships with their farmer neighbors, who provide them with agricultural commodities to supplement their hunting and gathering outcomes. To that end, the Agta diet not only comprises traditional foodstuffs from the forest, but also agriculture products from their non-Agta neighbors. This is because if the Agta had to rely only on traditional foodstuffs from the rainforest, they would not have sufficient supplies for a full year of consumption due to the limitation of wild yams. That is why the Agta have established a symbiotic relationship with their non-Agta farming neighbors, with whom they exchange their forest products and animal protein in return for starchy foods. Another way of putting this is that the Agta have adapted the strategy of having long-term relationships with non-Agta neighbors to supplement insufficient forest foodstuffs (Headland 1987). This idea is very relevant to the present situation of the contemporary Orang Rimba.

On the surface, the Orang Rimba appear to have enough food to meet their basic requirements on an everyday basis. Moreover, wild forest foods continue to form a significant part of daily diets, although the extent of their contribution varies between the three groups. Overall, therefore, the Orang Rimba do not fit the above-noted trend of hunter-gatherers who almost completely abandon their traditional diets. Neither do they follow the tendency of previously subsistence-oriented societies who shift to diets in which imported, high-energy, but nutrition-low food is overrepresented (Haddad et al. 2015; WHO 2017; Albert et al. 2020).

However, a deeper look reveals that staple food, meat, and fish dominate the diet. Staples form the steadiest meal component. Particularly noteworthy is the increasing importance of rice as the main staple in all three groups. It remains to be seen if rice, which is purchased on the market, is going to outrank or even replace home-grown and foraged staples over time. If it does, this is cause for concern because white rice is of lower nutritional value than root crops. Presently, wild tubers are mostly consumed as famine or emergency food during times of crisis or hardship, as is also the case among the Agta (Minter 2010; Hagen et al. 2017).

The diet is also relatively rich in animal foods. The regular consumption of wild meat and fish may ensure sufficient intake of important nutrients. Animal foods are rich in highly bio-available iron, zinc, and vitamin B12, as well as protein and fat (Vinceti et al. 2013). However, vegetables and fruits are rarely part of regular meals. This may also signal a problem, because vegetables, mushrooms, and legumes make important nutritional contributions to dietary quality (Rowland et al. 2016). Leafy vegetables, fruits, nuts, and

other plant foods are important for intake of vitamin A, iron, folate, niacin, and calcium. Lack of some micronutrients in the diet can cause significant health-related problems (Vinceti et al. 2013).

It is important to note however, that this study only takes into account what has been consumed during meals. Thus, the consumption of (wild) fruits, nuts, and vegetables in between meals was not recorded, which potentially leads to a downward distortion of the presence of these food items.

Individual Orang Rimba points of view vary on defining food security. At first, it is difficult to get an answer on what food security is. For the Orang Rimba, their understanding of food security simply means the ability of the household to provide enough food for their family, day after day, without getting worried about having nothing to eat. In other words, it can be said that for the Orang Rimba food security is the condition whereby the household has sufficient food supplies to last them at least several days. This reduces the fears that foodstuffs may soon run out.

The second understanding of food security among the Orang Rimba is inextricably intertwined with a compliance with cultural norms. They see that the rapid pace of development that has occurred around them over the years has largely had negative effects on their lives. Despite slight improvements, the rapid development has left them with little terrain to roam around and search for wild food crops and to hunt wild animals. The encroachment on their source of livelihood (the forest) by modernization and development has resulted in a scarcity of animals for them to hunt and other wild food for them to gather from the forest.

Thirdly, for the Orang Rimba, food security cannot be separated from the poverty they face on a daily basis. Based on in-depth interviews, the Orang Rimba experience abject poverty. The rich natural resources of the forest they own and the expanse of their terrain no longer provide them with sufficient means to attain food security. On the contrary, they consider nature to have lost its importance as far as ensuring their sustenance is concerned. Their environment does not provide sufficient food for them. Forest land has decreased significantly due to land conversion. Wild animals have become more scarce, poor harvests have become a frequent and common problem (in the case of rubber and the fruits of the oil palms). Nature is no longer perceived as friendly, and, according to them, its decline is responsible for their current state of food insecurity. Together, these factors have not only aggravated food insecurity, but have immersed them into a vicious cycle of poverty. These qualitative, emic conceptions of what forest loss means for food security confirm the growing body of quantitative evidence of the detrimental impacts of forest loss on forest-dependent peoples' food security (Ickowitz et al. 2016; Galway et al. 2018).

As I pointed out in the introductory chapter, there is a close relationship between food and livelihood security. When livelihood security is threatened, it reduces the food security status and vice versa. The rapid pace of development that has occurred around the Orang Rimba over the years has largely had negative effects on their livelihoods. Despite slight – I would argue, cosmetic – improvements in their lives, the rapid pace of development has

left them with little terrain to roam around and has reduced wildlife abundance, meaning that hunting has been more onerous and takes longer to be productive. This is more so during prolonged dry seasons. The Orang Rimba's forays into cash crop farming have not produced substantial gains. The decimation of rainforests, largely by outside parties, is an affront to their lives in general, and their level of food security in particular.

Maxwell (1996) argues that despite the availability of abundant food, some people may suffer from hunger because they do not have sufficient access to it. Moreover, food availability and accessibility are prone to various failures in production, trade, price, income, political, and social risks. A sustainable food security system must be strong enough to absorb various risks, including, but not limited to, periods when domestic production declines. Amartya Sen (in Lassa 2005) shares Maxwell and Slater's (2003) viewpoint on food security by contending that hunger and food shortages for certain individuals or communities are often caused by a lack of access to food, rather than food availability. Abundant food supply/production, he argues, cannot itself improve food security for individuals without the right of access to food at the household level (Chapter I).

Indeed, food availability is not sufficient for hunter-gatherer people to attain food security. The access they have to food that is available is as important if not more so. Three sub-indicators of food access are used: activities to acquire food, control over land, and household income. The Orang Rimba eke out a living from a combination of livelihood strategies, namely cultivating their fields, hunting, fishing, gathering forest products, and offering services (labor) to other people. Nowadays, the rubber field is the mainstay of the economy for those living inside, surrounding or outside the forest. Cash crops are considered assets, while annual crops (small amounts of tubers, fruits, and vegetables) fulfill day-to-day subsistence needs.

In this sense, Dove's thesis (1996) on the Kantu Dayak in West Kalimantan is in line with my findings, based on the most recent socio-economic context. Dove's findings are not only pertinent for the case of Indonesia's rubber smallholders, but also give an alternative view of how Indonesia's forest-dwellers have adopted tactics and strategies to survive. Dove stresses that in order to survive, the Kantu use the dual economy to fulfill their subsistence needs and, at the same time, they produce perennial cash crops to fulfill their secondary needs. Both subsistence food crops and perennial crops contribute equally to the livelihood of the Kantu. In addition, Dove also states that by combining the two systems, the Kantu have achieved flexibility and resiliency to both market risk and environmental risk. The rubber system is the Kantu's strategy for coping with the environmental risk, while subsistence cultivation helps the Kantu to alleviate market risk. Dove suggests that if there are market failures or environmental failures, the sources of failure do not come from the internal situation; rather they are the result of external institutional factors. It is more "their lack of political capital that makes them incapable of defending themselves" (Dove 1996: 53).

6.5 General conclusion

This dissertation unveils a number of findings on the Orang Rimba's food security. First, it demonstrates that the Orang Rimba can still be considered hunter-gatherers as defined by Kelly (2013). Despite their dependency on rubber and oil palm plantations as a source of livelihood, their way of life and identity as hunter-gatherers remain strong. This is evident from the continued importance of forest-based livelihoods, mobility, as well as a strong sharing ethic.

Second, however, this way of life is under great pressure. The decline and degradation of forest areas are the most visible challenges and threats to the way of life and livelihood of the Orang Rimba. It is no longer possible to maintain traditional forest management practices that were based on deep-rooted values intended to keep an ecological balance between the forest dwellers and the environment. This undoubtedly affects the extent to which a mobile lifestyle and the associated livelihoods can be maintained. Moving from one location to another works well in an expansive and abundant environment, but may generate food security problems in today's situation.

The increasingly limited and confined areas force the Orang Rimba to find alternative sources of livelihood, which makes them active actors in these processes of change rather than timid victims. The three groups of the Orang Rimba studied respond to their changing environment by taking up plantation farming, while maintaining the *melangun* tradition, and combining traditional and commercial modes of production to fulfill their daily needs. This is in line with observations on food security patterns observed among other contemporary hunter-gatherers, who are similarly forced to combine methods to acquire food. Consequently, the dependency on cash income and the market system is increasing (Collings 2015, Remis and Robinson 2015, Weichart 2015, and Wenzel 2015).

Third, therefore, the analysis on both daily food intake and ethnographic findings reveals the fact that the Orang Rimba in general face *food insecurity*. Their important asset, which is the natural forest, is no longer large enough to cater for their food needs all year round. Food gathering and hunting activities no longer bring sufficient foodstuffs as swathes of natural forests are signed away by the government to both private and state-owned rubber and oil palm plantations, timber logging concessions, infrastructure development (Trans Sumatra Highway and its web of connecting road networks), and settlements for transmigrants, thanks to national government economic-growth-at-any-cost oriented development policies.

Fourth, food sharing is an important social strategy to cope with food insecurity during food shortages, especially in the dry season. Regardless of the changing livelihood situation, each of the three Orang Rimba groups still maintains their food sharing practices. The importance of food sharing moreover serves as a strong strategy to achieve adequate food supply, which echoes earlier observations on the importance of reciprocal food sharing in egalitarian societies (Woodburn 1982; Kaplan and Hill 1985 in Hunt 2000). Fifth, my study reveals considerable differences among the Orang Rimba. The mixed livelihoods created by the three groups of Orang Rimba under study result in varying

degrees of resiliency. Those who live inside the protected forest (the Air Hitam group) fare better than those who have become entirely dependent on plantation land over which they have no control, like the Terab group, who are least food secure. The Sako Tulang group, who live on the forest margins, have succeeded in transforming themselves into successful rubber farmers and some even in middlemen in the trade.

This is not to say that the process is easy. The key message here is that by participating in rubber trading, the Orang Rimba have registered success in adopting roles that have generated economic benefits not only for their households, but also for their respective groups. They have also contributed to the dynamic meaning of *waris* among the Orang Rimba.

The success stories of these actors are widely understood by other Orang Rimba groups. They perceive the new situation in both negative and positive ways. An interview conducted with another *tumenggung* in Air Hitam during my 2013 fieldwork reflects the complexity of social and cultural changes in the current situation:

“Look at what has happened to us, the native people. We are now faced with all the outsiders. The constant interactions (original word: *berhubungan*, connected) with them in many cases turns out to bring better incomes, especially in the trading of rubber and non-timber forest products. However, in terms of ecology (the original word used was *lingkungan*, which means environment) and health, the interaction (*hubungan*, connection) can create worse situations. The loss of our forests is clearly visible and the pressure on the forest has also worsened in recent days. Our forest is decreasing right now. In the past, the outsiders could only reach the Pematang Kabau area. Meanwhile, in the Air Hitam area, there were no outsiders. Unfortunately, now, they can freely come and go into our forest. Some of them have settled around us. For us, it is difficult, especially if we want to conduct our *melangun* ritual after the passing of our members. That applies to our smaller roaming territories as well. Sometimes they also compete with us while hunting wild animals since it is worth the money. Slowly but surely, we have to be ready to face the extinction of the forest and the existence of oil palm and rubber plantations. Moreover, we have difficulties finding our traditional food, which forces us to eat their food. In the past, we were not familiar with ‘strange’ food like cakes, instant food and beverages, snacks, and other ‘modern’ food. We only knew natural food from the forest such as cassava, fruit, fish, and meat. The stranger the food we consume, the more diseases we get. I know that we can’t depend on the forest forever, but the forest is still our most valuable treasure. The forest is our identity, our culture, and it is the place where our former family members are buried. If we lose the forest, how can we still be called the Orang Rimba?”

In addition to demonstrating the strong link between the forest and Orang Rimba identity, this narrative also demonstrates that the establishment of the Bukit Duabelas National Park, in which the Air Hitam group lives, has not ensured that the forest is effectively protected from encroachment. While this study does find that the Air Hitam group’s diet is still relatively diverse in terms of the presence of forest foods because, among the three groups, they live in the most intact forest, that forest is still under threat. The *tumenggung*’s statement thereby echoes the experiences of the Agta living in the

northeastern Philippines, whose livelihoods continue to be threatened by ongoing forest degradation and forced displacement by tourism development, despite the establishment of the Northern Sierra Madre Natural Park in 1997 (Minter 2010; Hagen and Minter 2020). Finally, the way Orang Rimba perceive food security differs from that held by the mainstream majority, which explains why programs initiated to improve food security have so far compounded the situation rather than provided long-term solutions. For the Orang Rimba, food security not only concerns the condition of a household, enabling it to meet its need for food in terms of quality and quantity, but food production and consumption also need to be in line with cultural customs. Food security is inextricably linked to cultural security and social solidarity.

These findings lead me to make the following observations regarding the past and future of food security interventions among the Orang Rimba. Achieving the goal of being free from hunger is a basic human right, including for hunter-gatherers in Indonesia like the Orang Rimba. However, the bitter reality is that efforts to achieve economic development and welfare for these groups are a low priority for the Indonesian government, which is focused on, among other things, promoting modern capital-intensive industries. As reflected in the development priorities of the government since the 1970s to date, the industry sector becomes the backbone of the economy in Indonesia. Meanwhile hunter-gatherers receive least attention from the government due to their small population numbers and the general remoteness of their locations. As the case of the Terab group eloquently testifies, rapid development of plantation industries, which has been the cornerstone of regional development, has been achieved at the expense of the lives and livelihoods of hunter-gatherer people.

Government assistance has been ineffective as it focuses on acculturation through resettlement and lifestyle changes, and thereby tends to aggravate rather than improve things. When addressing food security problems of ‘fragile’ communities, it is advisable to seek the participation of their cultural leaders to come up with solutions that are comprehensible to the community concerned and rooted in their specific perspectives of food security. Experience tells us that imposed solutions will fail in the long term. The resettlement programs, food assistance, and capacity building projects implemented by the government did not solve the problems and instead induced a host of new, more complex problems.

The programs introduced by the Indonesian government to redress the food security problems facing the Orang Rimba therefore need an overhaul in terms of their form, substance, and orientation. These programs must take forms that are culturally acceptable, preceded by communication with their representatives, and implemented, monitored and evaluated, not in terms of how they succeed in terms of removing obstacles posed by development efforts (to owners of forest concessions, oil palm and rubber plantations), but to enable the Orang Rimba to lead lives that are culturally meaningful, hence sustainable. This is in line with the findings of Maxwell (1996), showing that food security must be understood in terms of the rationality and logic of the persons or social units involved. This can be translated into providing room for the cultural aspect

of food security. Better communication of the goals, objectives, and livelihood impact of such programs will improve their success rate. Government institutions and other organizations should also reconsider their perception of the Orang Rimba as remote, marginal, primitive, and far from civilization.

The government should review its aid programs to the Orang Rimba and examine whether the programs are really aimed at the right target. There must be a re-evaluation of whether aid programs, such as food assistance during food shortages (as in the recent case involving the Terab group), providing new and uniform houses in permanent settlements, offering cattle, and even handing out cash aid have been targeted properly.

There is no evidence of organized state involvement, either at the regional or national level, which would help food-insecure households cope in lean times, as occurs on a regular basis with other poor, urban Indonesian households. Perhaps the activities of the regional and national governments can be structured to intervene in upcountry areas where the Orang Rimba live by investing in foodstuffs diversification efforts, food preparation improvement exercises, establishment of granaries, and other relevant measures to strengthen local food security and resilience in general and during the dry season in particular. That would go a long way to shaking off the allegation of an urban bias in the area of food security.

Despite the designation of the Bukit Duabelas area as a national park, the government seems committed to pulling the Orang Rimba and other communities away from their ancestral livelihoods to become active participants in social and economic development in a much wider context. Community resettlement centers can be seen as an effort by the government to confine the Orang Rimba to certain locations. This enables them to have easy access to public services such as health care, education, sanitation, and other aspects of 'drivers of development'. These reserves may be seen as a way to clear the remaining forest areas and open them up to unfettered commercial activities, which would not be possible with the Orang Rimba wandering from one location to another. It must be stressed here that most policies that affect the Orang Rimba do not seek their active participation in the design and implementation of such policies. The government seems to have forgotten that the Orang Rimba's habitat is the forest. Instead, several programs seem to be underpinned by the desire to compensate the Orang Rimba for the loss of their forest, when actually it is irreplaceable in terms of their livelihood and existence.

As most tropical hunter-gatherers primarily depend on the forests, there is a significant correlation between forests and food security (Arnoldi et al. 2011, Rowland et al. 2016). Rowland et al. (2016) further express that there is a relation between healthy forests and healthy diets for forest-dependent people. Unfortunately, forests have been degraded over time, potentially leading to long-term negative impacts on nutrition for forest-dependent people (Ickowitz et al. 2016; Galway et al. 2018). The Orang Rimba, like other contemporary hunter-gatherers, face high vulnerabilities in food insecurity (Headland 1987, 1991; Dounias and Froment 2006) as result of forest degradation.

In the end, what the Orang Rimba really need is secure access to land to enable them to maintain their livelihoods. In this sense, the existence of the Bukit Duabelas National Park could be the right answer. But the park should not be tailored towards making the Orang Rimba inhabitants of a “museum”, while instead it must provide an answer to the current crucial problem of providing right of access to land and halting continuous encroachment. There is no single development model that can serve as a ‘one size fits all’ remedy for the Orang Rimba. The most crucial challenge is how to guard the remaining forest in the park against contemporary pressures, both from the Orang Rimba themselves and other ethnic groups, as well as from the big corporations. If the Orang Rimba want to change and become farmers living a sedentary lifestyle, by adopting new ways of earning a living, such a choice should be left to them rather than being imposed from outside. The nation state and its various levels of government have the onus to guarantee the right of the Orang Rimba to make their own choices, whether or not they want to remain as hunter-gatherers or become farmers. Just like other hunter-gatherers, the Orang Rimba are opportunistic in terms of foraging for livelihoods, a process that largely depends on and is influenced by their fight for a better living.

I would like to argue that the “ambiguity” of the Orang Rimba in the present situation is a strategy to adapt to various changes in their lives: livelihoods, geographical landscape, forest degradation, as well as other social and cultural changes. The Orang Rimba are surviving thanks to their flexibility. Moreover, in the discussion of food security, my research shows that it is not beneficial to the Orang Rimba to be “pure” hunter-gatherers, since this will worsen their food security situation.

Better off or not, the transformation process towards becoming farmers or maintaining their identity as hunter-gatherers should be in the Orang Rimba’s own hands. This includes the choice and decision to stay or get out of the forests (Levang et al. 2005), as they are capable of choosing and deciding their own fate, rather than following the recommendations from outsiders. The task of the government and other parties is to support the choices and decisions made by the Orang Rimba.