



Swidden, Oil Palm, and Food Security in West Kalimantan

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ABSTRACT. Concerns about rising prices of staple foods continue to be voiced by many observers, with the UN food-price index now surpassing even the peaks of the 2008 food crisis, which prompted civil disturbances in Indonesia. Much of the current concerns about rising food prices are not only about food availability—with harvests affected this year by extreme weather—but also about access to food. This paper examines the food security situation in rural West Kalimantan, especially in Sanggau district, looking at three aspects: the traditional agricultural system of the largely Dayak population, the impact of cash cropping for oil palm and rubber, and the effects of the price crash in 2008-2009.

KEYWORDS. Indonesia · food access · staple food · West Kalimantan · palm oil

INTRODUCTION

Concerns about rising prices of staple foods continue to be voiced by many observers, with the UN food-price index now surpassing even the peaks of the 2008 food crisis, which prompted civil disturbances in Indonesia, among other countries (FAO 2010). Prices of crude palm oil, which had reached more than USD 1,200 per metric ton in mid-2008, only to crash later in the year as the world financial crisis took hold, once again climbed above USD 1,200 per metric ton in December 2010 and have since been rising (World Bank 2011). Such prices not only encourage increased plantings of oil palm in many parts of the tropical world, especially Indonesia and Malaysia, but also the expansion of palm-based biodiesel for export, as crude oil prices are again close to USD 100 per barrel.

Much of the current concerns about rising food prices are not only about food availability—with harvests affected this year by extreme weather—but also about access to food. Access has many components, which in the context of West Kalimantan may relate to land availability,

given the competition from oil palm and, to a lesser extent, rubber, as much as distribution problems and high prices of purchased foods, many of which come from Java, including the staple rice (*Pontianak Post* 2011). The Indonesian government has recently embarked on a campaign to encourage the use of partial substitutes for rice, which forms a large component of Indonesian diet, by focusing on indigenous staple foods such as corn, cassava, or yams (*The Jakarta Post* 2010b, 2010a, 2011). However, rice remains the preferred food and the basis of local agriculture. In West Kalimantan, corn and root crops are considered “food for lower class people” (VHRmedia.com 2010).

FOOD SECURITY IN INDONESIA

The government of Indonesia has been attempting since 2003 to improve geographical targeting of the more vulnerable areas of the nation for food- and nutrition-related interventions. The country's Food Security Agency collaborated with the World Food Program to produce the first Food Insecurity Atlas in 2005, covering 265 rural districts in thirty provinces. A second atlas has now been produced, the *Food Security and Vulnerability Atlas* (FSVA), covering 346 rural districts in thirty-two provinces. The FSVA is based on the three common pillars of food security: aggregated food availability, household food access, and individual food utilization (World Food Program 2009, 1-5). Officially issued secondary data covering the period 2004-2007 were analyzed to extract thirteen indicators, which were then collapsed to nine to draw up the Composite Food Security Index. The index includes such variables as self-sufficiency in cereal production (food availability), percent of the population below the poverty line or unemployed, access to road and electricity (related to food), access to improved drinking water, female illiteracy rate, access to health facilities, and proportion of underweight children (related to food utilization). Out of the 346 rural districts examined, one hundred were deemed to have higher vulnerability to chronic food insecurity, based on a composite food security index, with Priority 1 concentrated in Papua, West Papua, and East Nusa Tenggara (NTT); Priority 2 in West Kalimantan; and Priority 3 in Central Kalimantan and Central Sulawesi. Landak (West Kalimantan) is also in the highest-priority group (no. 22), while two other remote districts of West Kalimantan (Kapuas Hulu and Melawi) have barely escaped it (nos. 31 and 32) (World Food Program 2009, 6: 1-4). Most of the rest of West

Kalimantan are mapped out as Priority 2. The results were partly similar to those collected for the Human Development Index (HDI) by province in Indonesia in 2007. The five-worst provinces under that measure were Papua (33), West Nusa Tenggara (32), East Nusa Tenggara (31), West Papua (30), and West Kalimantan (29),¹ but other provinces that had districts in the “top 100” for vulnerability to food security registered much better on the overall HDI (Central Kalimantan, for example, was ranked 7) (Badan Pusat Statistik Provinsi Kalimantan Barat 2009, 422).

FOOD SECURITY IN WEST KALIMANTAN

In June 2009, the Food and Nutrition Security Monitoring System (FNSMS) at the household level was established in Indonesia, and was implemented by the Food Security offices of four provinces: East Java, East Nusa Tenggara, Central Sulawesi, and West Kalimantan. In the first study (Indonesia FNSMS 2009), food security data were collected from mid-June to mid-July 2009 from 250 households (both urban and rural) in five selected districts of West Kalimantan. They included Sanggau, the district with the largest planted areas and production of both oil palm (especially smallholder oil palm) and rubber; and Landak (the poorest district in the province), which had the second largest area of rubber but only modest plantings of oil palm (Badan Pusat Statistik Provinsi Kalimantan Barat 2009, 201, 204). Two measures of access to food via food expenditures were undertaken. The first measure examines monthly expenditure per capita, with Sanggau having the highest proportion of households with poor access to food (14 percent). Under the second measure (the share of total expenditures given to food), 66 percent of Landak households were considered to have poor access. An overall food-consumption score identified Sanggau as the worst province, with 28 percent of households performing poorly on this measure. A score combining access with consumption identified both Landak and Sanggau (with Bengkayang, another district) as having the highest proportion of food-insecure households (16 percent as compared with the 14 percent average for the province).

To identify the food insecure, a range of household characteristics were investigated, including household size, ownership of assets, income source, land and livestock ownership, and joblessness. The results showed a higher proportion of food-insecure households without regular source of income, especially wage laborers (both

agricultural and non-agricultural) and sellers of cash or food crops (Indonesia FNSMS 2009, 4). A much lower proportion was found among employees of government, NGOs, and private companies, and those dependent on remittances or pensions. The latter statement would imply that oil palm smallholders, most of whom are tied to large private plantations, should be able to escape food insecurity. However, as they had to purchase food, low commodity prices and high food costs during the world financial crisis of 2008-2009 left them also in a vulnerable position.

In terms of environmental conditions of life, houses made of nondurable materials were more common in Sanggau district (46 percent), while access to safe water in that district was only 24 percent. Overall, 71 percent of households owned land, although 21 percent had less than half a hectare (Indonesia FNSMS 2009, 4). Among the food-insecure households, 68 percent could only produce staples to cover household needs for seven months.

To express it in another way, food insecurity was mainly a result of limited food access due to irregular source of income as well as limited assets. In May-June 2009, 74 percent of rural households had difficulties in buying food or covering other household expenditures, such as health, education, or cooking oil. Coping strategies included looking for additional work, borrowing food, or purchasing food on credit. Limiting the size of food portions or the number of meals and restricting consumption by adults so children could eat were additional strategies adopted in the most food-stressed households (Indonesia FNSMS 2009, 6).

Government welfare programs existed, such as “Subsidized Rice for the Poor” (RASKIN) and direct cash transfers (BLT). It was suggested that the BLT was better targeted, while the RASKIN program was thinly distributed—meaning, there was too little available to significantly improve the food insecurity of the most affected group. It was suggested that the chronic underlying causes of food insecurity were not really addressed by these measures (Indonesia FNSMS 2009, 7).

THE DAYAK AGRICULTURAL SYSTEM: SWIDDEN, *TEMBAWANG*, AND RUBBER

The agricultural system has traditionally been based on swidden production of upland rain-fed rice, which has continued to have strong

cultural significance. In traditional villages, households have access to 1.5–3.0 hectares of land for rice production, together with a rubber garden (usually forest or “jungle” rubber with many other species) and a share in a communal orchard or *tembawang*, which contains timber trees as well as a range of fruit trees, especially durian and mango, together with edible ferns and other vegetables. The *tembawang* often marks a former longhouse site and may have great historical significance. A village may have access to a remnant forest area, but there are also likely to be considerable expanses of secondary regrowth or sometimes *Imperata* grassland, both of which mark fallow areas from forty hectares to sixty hectares per family.

The shifting cultivation or swidden system was the subject of critical comments from various observers (e.g., McDonell 1977; Regional Physical Planning Program for Transmigration [RePPPProT] 1987).² McDonell suggested that by 1976, all subdistricts in Sanggau had already reached or exceeded the population density to support continuing shifting cultivation in the area, so that fallow periods were being shortened and people had to put more land under cultivation. The population in 1976 was 320,327, at an average density of seventeen people per square kilometer (Kantor Statistik Kabupaten Sanggau 1980). There were 32,459 hectares under dry (swidden) rice cultivation and a further 14,687 hectares for wet rice production, giving a total yield of 62,034 tons of paddy (McDonell 1977) or roughly 126 kilograms of milled rice per person per year.³ If these figures are correct, that amount would be almost enough to meet basic food needs.⁴ The district also produced corn and cassava, and many fruits and wild vegetables were available from the *tembawang*. Even without the cash cropping of rubber and sometimes coconut and pepper, the system could easily meet subsistence requirements. Although McDonell (1977) recognized that fact, he was still keen on supporting the government’s move to “permanent” agriculture, which had become more possible following the Australian road construction program. On the recommendation of the governor, oil palm began to be introduced from North Sumatra in 1979, as swidden fallows and “sleeping” rubber land⁵ came gradually to be occupied by large estates. While oil palm was still in its establishment phase, the RePPPProT report noted: “Shifting cultivation and bush/scrub regrowth mixed with *Imperata* grassland resulting from shifting cultivation occupy more than one-third of the province, especially north of the Kapuas-

Melawi rivers . . . This is a very high proportion of low productivity land” (1987, 30, 175).

In 2008, the original Sanggau district (which used to include Sekadau, now a separate entity) had 193,023 hectares of oil palm. The area of dry rice had declined to 21,000 hectares, while wet rice had increased to 20,400 hectares.⁶ The higher yields from the wet rice area (using improved varieties) meant that production totaled 105,000 tons, but meanwhile the population had almost doubled at 567,038, or an average of thirty-one people per hectare. The total availability of rice from the area was 120 kilograms per person per year, a considerable reduction from the pre-oil-palm days of the 1970s. The area under rubber had grown by 38 percent to 140,000 hectares, while pepper and cocoa had also increased, although they were still relatively minor crops. Auxiliary foods such as maize and cassava had, however, declined and the *tembawang*, an important source of fruits and vegetables in the traditional villages, had either disappeared or been massively reduced in most of the oil palm belt. The district had moved from one that was basically self-sufficient in food to one that was highly dependent on international commodity prices and purchased foods. While such a move could be seen as progressive during times of high prices (i.e. when higher cash incomes were earned), the inevitable decline would cause hardship, as what happened in 2008-2009.

Yet even with this quite dramatic change in the production pattern, it is remarkable that the category “temporarily fallow land” has persisted. It occupies twice the area of oil palm within the new boundaries of Sanggau and is especially dominant in those areas where oil palm is still very new, such as the hilly subdistricts bordering Sarawak in the north and Toba in the Southwest, where access is poor and the population density is still very low⁷ (*Kabupaten Sanggau Dalam Angka* 2009, 167, 180).

THE IMPACT OF CASH CROPPING FOR OIL PALM

The trauma associated with the initial introduction of oil palm into Sanggau came about as local Dayaks discovered the unequal and uneasy relationship that existed between them and the estate management, who came at the time from North Sumatra. Techniques of covert resistance, such as moving estate fertilizer to rice crops, soon began to be adopted (Potter and Lee 1998; Potter 2009). While the early estates were government-owned and more “smallholder friendly,”⁸ during the

1990s the emphasis shifted to private plantations owned by large corporations, often with Malaysian management. Under the schemes operating at the time, the people were asked to provide land for the estate nucleus, as well as the two-hectare smallholder plots.⁹ They were keen on retaining control of their *tembawang* lands and they wanted to continue to grow rice because of its cultural significance.¹⁰ They were happy to give up low-yielding rubber lands or grassland to the estate in exchange for an already planted oil palm plot, but disturbed by rat infestation, which appeared following the introduction of oil palm and reduced their rice yields. On some estates, people managed to keep their *tembawang* and still had lands to grow rice or rubber (Potter and Badcock 2007),¹¹ but on most properties the management insisted on putting under oil palm almost the entire land. People were provided with credit and fertilizer, which they eventually had to pay back together with the cost of the land, the estate deducting 30 percent of the profit from their fresh fruit bunches submitted to the mill for processing. While some succeeded in paying back the debt relatively quickly, others remained in thrall to the estates, especially when oil palm prices were low. Some estates had no smallholders, working only with day laborers who were obviously in a worse position as they did not own an oil palm plot and in many cases had lost land to the estate. In such cases, as in the government estate at Meliau, workers campaigned to force the estate to provide them with smallholder or *plasma* plots (Potter 2009).

With increased prices for palm oil in 2007 and a campaign by the estates to keep their mills operating at full capacity with less reliance on smallholders whom they regarded as inefficient and at times unruly producers, the Ministry of Agriculture introduced a ratio of 80/20, this time with 80 percent of the land to be held as the estate nucleus and only 20 percent available to smallholders (*Peraturan Menteri Pertanian* 2007). Most of the existing schemes still operate under the older conditions, but new plantations have moved to adopt the recent arrangements, which will prove more difficult for villagers to manage. It is unfortunate that these new plantations are being established in the poorer and more backward parts of Sanggau and other districts, such as the hilly lands along the Sarawak border. One plantation in the borderlands will provide a monthly payment to farmers depending on the amount of land surrendered, but it controls and runs the entire property (Zen, McCarthy, and Gillespie 2008). On a visit to that property, Gillespie noted that the nucleus lands were ready to harvest,

while those of the plasma, on which the farmer payment is based, were much slower to develop (Gillespie, pers. comm.). While the company director promised that the smallholders would be compensated for the late payment, with such control in the hands of the estate and a lack of knowledge of their rights under the new arrangements, it is easy for smallholders to be cheated.¹² On this property, the only one in Sanggau so far to implement these new “partnership” arrangements, farmers will only receive 30 percent of the total value of their fresh fruit bunches, as plantation costs (estimated at 40 percent) and credit repayment (30 percent) will first be deducted. So not only do farmers have less land available, they will receive less than half of the return available under the older schemes. Such arrangements will certainly keep these farmers stuck in poverty, from which they had attempted to escape by joining the scheme (Gillespie 2010; Zen, McCarthy, and Gillespie 2008). They will also lose land on which they had previously been able to grow their own food.

THE EFFECT OF THE GLOBAL FINANCIAL CRISIS, 2008-2009

High prices for palm oil in 2007 and early 2008 had been partly a result of surging costs of mineral oil and the growing international interest in biofuels, including palm oil biodiesel. District authorities were keen on encouraging more investments in oil palm, and making land available for new plantings by large companies. They became actively involved in “socializing” local villagers to give up land and become involved in the industry, while the number of independent planters began to grow. The latter received no credit from the estates and did not give up land, but arranged to send their fresh fruit bunches to estate mills for processing. At the same time, rubber prices were also high. Boom conditions enabled more smallholders to pay off their debts to the estates, following which, many incurred new debts, purchasing motorcycles and improving their houses.

By October 2008, the global financial crisis was beginning to take effect, with reduced demand for commodities in the United States and Europe resulting in a rapid decline in prices of both palm oil and rubber. Prices of crude palm oil in Kalimantan dropped from IDR 9,000 per kilogram in July to IDR 4,200 in October and just IDR 3,600 in November. By December 2008, farmers were receiving as little as IDR 300 for their fresh fruit bunches, compared with IDR 1,600 the previous July. These prices were below production cost. The position

was even more alarming for independent growers, as many estates either refused to accept their fruit or paid them only a fraction of the price given to tied smallholders. The extreme drop in rubber prices was also felt hard in the more remote districts, including the border areas, forcing many farmers to shift to illegal small-scale gold mining (Potter 2010).

One result of these low prices was a recommendation by various government officers for a return to small-scale mixed farming: "As long as the villagers can still eat, all will be well" (Yusriadi 2009). Such an official change of direction overlooked the fact that the spread of oil palm monoculture meant that many farmers no longer had any land on which to grow food. Even those who had managed to retain some land for hill rice were buying food. Their holdings were small and the yield low, partly a result of the continuing problem of rat infestation. Early in 2009, the West Kalimantan government distributed seeds and seedlings, recommending interplanting oil palm and rubber areas with food crops such as rice and corn (*Pontianak Post* 2009). Such a move would not help established growers, and with potential new independent growers deterred by the prevailing prices, it was not clear how many people would actually be assisted. However, it is indicative of a new concern over food availability.

It is in this context that the findings of the *FNSMS Bulletin* for West Kalimantan may be better understood. The early months of 2009 still posed a problem for oil palm growers, though prices were beginning to improve by midyear. Rubber growers, who were tied directly to demand from the US tire industry, were in a worse position, as rubber prices remained depressed until August 2009. As West Kalimantan's largest producers of rubber, Sanggau and Landak were in a uniquely unfavorable position.

CONCLUSION

In this paper, I have examined the food security situation in Indonesia from a general perspective, with particular attention to West Kalimantan and, more specifically, the Sanggau district. Although West Kalimantan's food security problem is not as severe as that of Papua and West Papua, it is still alarming. While "development" has come to the province with the substitution of oil palm plantations and smallholdings for the traditional swidden or shifting cultivation systems, that transition has not been without cost, as food sufficiency has declined. More onerous

demands on smallholders are now accompanying the continued push for new land for plantations, which appears to guarantee that those smallholders will remain stuck in poverty and therefore lack access to sufficient supplies of food, as well as medical and educational resources. The growth in demand for biodiesel is also fueling a continued growth in the area under oil palm in West Kalimantan, though at present more in the southern district of Ketapang than in Sanggau (Friends of the Earth Europe 2010). Nevertheless, there are indications that the proportion of land in the district under oil palm is set to increase, with likely serious implications for future food security. Given the notoriously volatile nature of international commodity prices, any price downturn is likely to repeat the hardships already experienced in 2008-2009, while poor seasons, limited access to food, and inadequate food distribution will compound the problem. ❀

NOTES

1. The HDI measures life expectancy, literacy rate, length of schooling, and expenditure per capita.
2. The RePPPProT team was seeking suitable lands for transmigration settlements and engaged in an extensive mapping program.
3. Using a conversion rate of 65 percent dry paddy (*gabah*) to milled rice (*beras*) and dividing by the existing population. Ward and Ward (1974) cautioned that the rice production figures were not very reliable, but they are sufficient to show general trends.
4. Basic food needs at that time were considered to be 135 kilograms of rice equivalent per person per year; estimated currently at 139 kilograms per person per year. McDonell (1977) noted that in 1971 a number of subdistricts in Sanggau (ten out of fifteen) were meeting the 135-kilogram requirement, and the map accompanying the road studies shows these as rice sufficient (Snowy Mountains Engineering Corporation 1973). The deficit subdistricts were those in the extreme north of Sanggau near the Malaysian border and one in the extreme south.
5. Many Dayak villagers had excess areas of rubber, which they only tap to fill special needs or when prices were very low. These trees were called “sleeping” rubber.
6. Part of this wet rice area may have been wet swidden (*padi payak*), rather than well-drained and irrigated sawah. There was a tendency to confuse one with the other, although this was not universal (Padoch, Harwell, and Susanto 1998).
7. An oil palm joint venture of 17,500 hectares was announced in February 2010 for the Toba subdistrict, between a large Malaysian firm and an Indonesian counterpart, so presumably some of the subdistrict’s extensive fallow lands will soon be used more intensively.
8. The proportion of land devoted to the estate “nucleus” as against that available to smallholders was more in favor of smallholders in the early period, as much as 70 percent smallholder to 30 percent nucleus. That allowed smallholders to continue to grow rice as well as oil palm.

9. The relative distribution of the land shifted to 60:40, with 60 percent to the estate nucleus.
10. Some types of upland rice could also be fermented into wine (*tuak*), an essential part of Dayak social gatherings. While Arkanudin (2010) suggested that one of the lifestyle changes brought on by oil palm to the Ribun Dayaks of Parindu, Sanggau, was the substitution of tea or coffee for *tuak*, such a change would not be taken lightly. In 2007, the author found that it was a source of pride in some villages that a supply of *tuak* was still available to greet visitors.
11. On one particular estate the people simply refused to give up the 7.5 hectares demanded by the management. They usually provided five hectares or less and still succeeded in obtaining their two hectares of oil palm (Potter and Badcock 2007). This situation was exceptional.
12. It is presumed that the new venture planned for the subdistrict of Toba in the south will also operate on the 80/20 system.

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