

CHAPTER 3

LIVELIHOOD STRATEGIES

3.0 Introduction

The chapter examines the diverse range of livelihood strategies pursued by smallholders and how they influence oil palm production. A key finding of this study is that smallholders pursue a diverse range of livelihood strategies in addition to oil palm production. Livelihood strategies are defined as those activities undertaken by smallholder households to provide a means of living. A key goal of livelihood strategies is to ensure household economic and social security. In our analysis of smallholder livelihood strategies emphasis is given to the range of income sources pursued by smallholders, and the important role subsistence agriculture and kin networks continue to play in maintaining household livelihood security¹.

The chapter draws attention to the range of economic activities in which smallholders are engaged, of which oil palm is but one. This has implications for extension services and smallholder interventions. Importantly, the chapter shows that studies of smallholder production could benefit from focusing more on livelihood strategies as these strategies indirectly influence oil palm production through their impact on economic and social well-being. Acknowledging smallholders' participation in a range of livelihood strategies would assist in developing a more complete picture of oil palm smallholders and their social and economic circumstances.

3.1 Smallholder Livelihood Strategies

Men and women are involved in a diverse range of activities that draw on their labour and time (Figure 3.1). Activities like food gardening, maintaining social

and kin networks and seeking medical care draw on people's time; for women, food preparation, childcare and church activities take a considerable proportion of their time. Socialising, especially for men, is an important activity in that much of this time is invested in maintaining social relationships with relatives and friends, thus strengthening social networks and maintaining social harmony through the ongoing day-to-day resolution of social conflicts².

As mentioned in the introduction to this chapter, a principal goal of livelihood strategies is to ensure household economic and social security. This section outlines the range of livelihood strategies pursued by smallholders. To think of oil palm production as being the only and/or dominant economic activity of smallholders is misleading because other important household strategies are obscured. Indeed, in some instances, oil palm production is not the primary activity or income source at all.

This section discusses how these various livelihood strategies interact with oil palm production and how they contribute to household well-being. This is important information for understanding what is occurring at the block level, and for developing appropriate interventions aimed at increasing smallholder production and productivity. The main livelihood strategies outlined below include cash crop production, wage employment, small business enterprises, garden production for home consumption and local markets, and customary exchange. Each is discussed below.

3.1.1 Cash crop production

Oil palm is generally the only export cash crop planted on smallholder oil palm blocks. Some LSS smallholders have holdings of other export cash crops in their home villages cared for by village kin, and at Hoskins some LSS

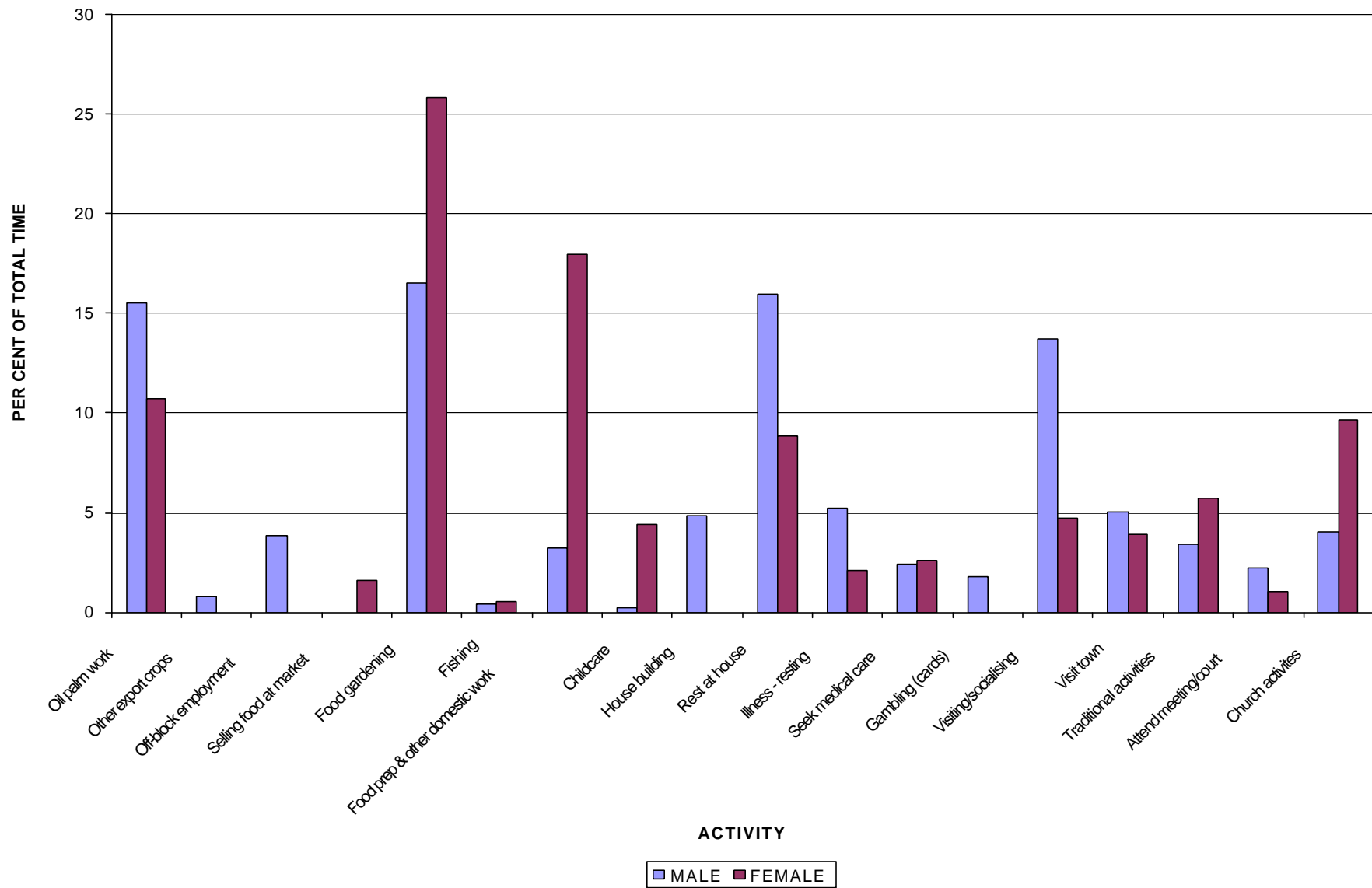


Figure 3.1. Activity by gender for Kavui and Gaungo (Source: Weekly Surveys, Hoskins).

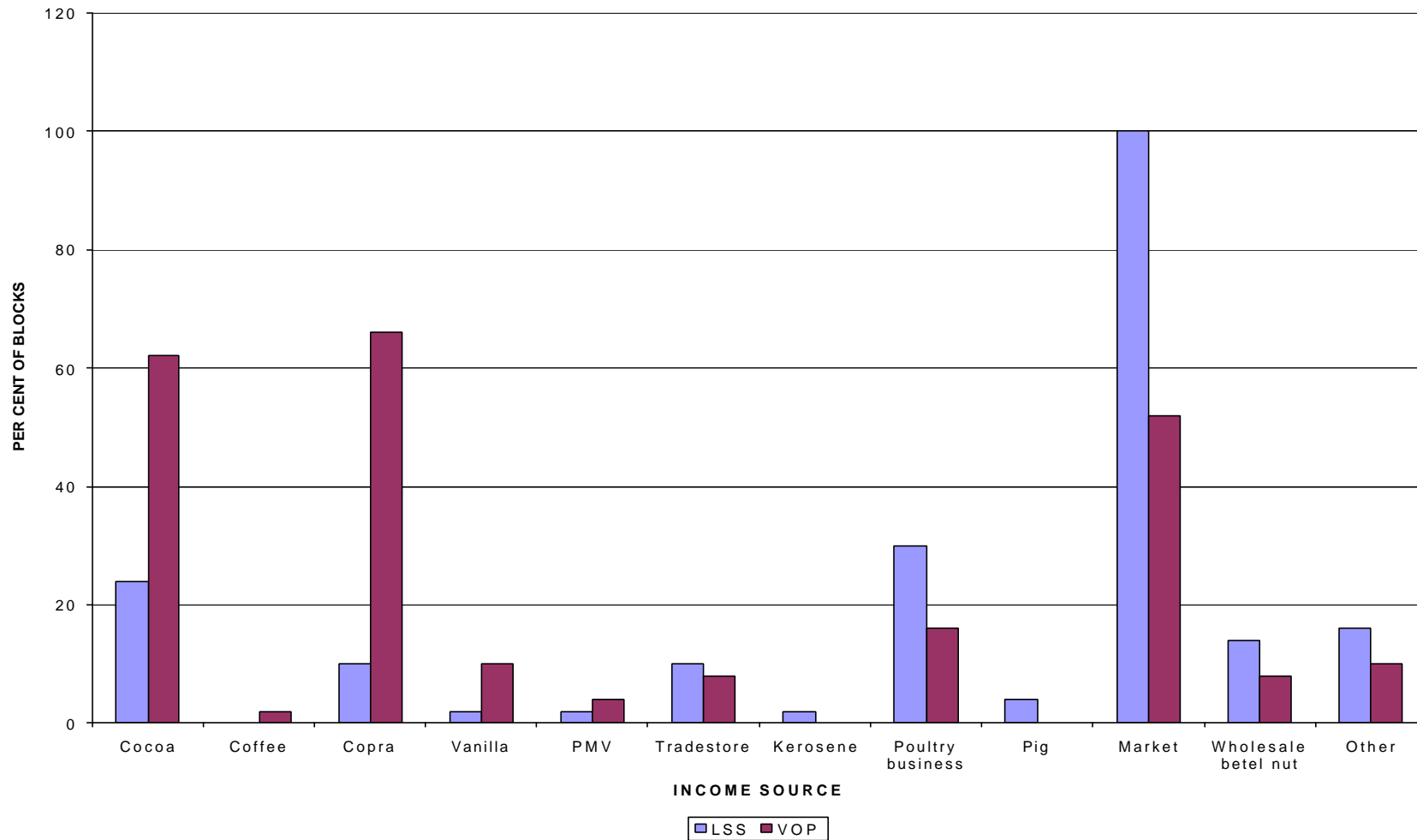


Figure 3.2. Non-oil palm income sources for Hoskins smallholders (Source: Growers Survey, Hoskins)

subdivisions such as Siki, Sarakalok, Kapore and Dagi still have remnant plantings of copra and some cocoa (Figure 3.2). At Siki, for example, in 1995, 16 smallholders owned copra dryers and eight owned fermentaries (Kean 2000, 165). More recently at Hoskins, planting of vanilla bean has been increasing and is now providing a supplementary income for some smallholders.

For most VOP smallholders in both Hoskins and Popondetta, entry into oil palm production is relatively recent and many retain holdings of other export cash crops, notably cocoa, copra, and coffee. These older export cash crops are increasingly being replaced by oil palm. In a survey of 50 VOP and 50 LSS leaseholders at Hoskins, 72% and 26% respectively had access to other export cash crops (Table 3.1). Of the Hoskins VOP blocks with cash crops, 83.5% had two or more types of cash crops in addition to oil palm.

Table 3.1. Percentage of Hoskins LSS and VOP leaseholders with export cash crops other than oil palm.

	Coffee	Cocoa	Copra	Vanilla
LSS	nil	24%*	10%	2%
VOP	2%	62%	66%	10%

*The majority of these blocks are in Kapore LSS

Export cash crops provide an alternative income source when oil palm prices are low. Many smallholders view cash crop diversification as a form of income security to hedge against falling cash crop prices. As one Galilo VOP grower stated:

*taim prais bilong wel palm igo daun, mipela no wori – moni
ikam long kopra na koko*
when the price of oil palm falls, we do not worry – copra and
cocoa provide us with money.

As the relative prices of cash crops change, many VOP smallholders adjust their production strategies accordingly. For example, the renewed interest in oil palm

production on the Hoskins VOP subdivisions may have much to do with the current depressed price of copra. Interest in oil palm may wane if copra prices were to rise. In New Ireland, a near doubling of oil palm production in 2000 among VOP smallholders has been attributed in part to the collapse of copra prices³ (ADS (PNG) 2001, 23). The stability in VOP oil palm production at Hoskins, despite the fall in oil palm prices, may be partly attributable to the very low price of copra over the past few years. Thus, for smallholders, especially VOP smallholders, a range of cash crop alternatives allows them some flexibility and greater income security in the face of fluctuating commodity prices⁴.

3.1.2 Wage employment

Access to off-block wage employment often adds significantly to material standards of living on the blocks. Permanent houses, water tanks and other substantial assets erected on the blocks in the last decade or so have mostly been financed by savings from off-block employment. Also off-block employment of a household member can provide an ongoing income subsidy to block residents which is especially useful on highly populated blocks (Chapter 4.2.1). The oil palm plantation estates provide opportunities for short-term casual employment and long-term employment of smallholders. The former often provides temporary financial relief for block residents during peak cash demands such as payment of school fees, brideprices or other customary obligations.

Non-agricultural wage labour is more limited and provides employment to a minority of smallholders that hold specific trade or professional skills or have obtained upper secondary or tertiary education. Some are employed in workshop, clerical or management positions in NBPOL and others work in government or the private sector. For families with a wage earner, material standards of living are usually significantly higher than blocks without a wage earner.

In the Landell Mills (1991, 32) study there was a higher level of self-employment amongst high producers on LSS blocks by the sons or relatives of household heads. The same study also presented evidence to suggest that off-block employment was associated with lower oil palm productivity on VOP blocks. The study reported for Hoskins VOPs that there was a high level of off-block employment in the low production category and those seeking off-block employment were young household heads. Further, of the low producers, 31.6% had off-block employment incomes higher than their income from oil palm. This would suggest that on blocks where there are a small number of dependants on the wage earner, off-block employment can become a substitute for oil palm income. That is, it more than compensates for foregone income from oil palm. Also, as indicated by the OPIC extension officers at Popondetta, off-block employment is only a problem when it limits the labour availability at harvest times.

The situation on heavily populated blocks is likely to be different, especially on LSS blocks where alternative incomes are more constrained. Here, off-block employment provides important supplementary income, and because of higher population numbers is unlikely to lead to other block residents withdrawing their labour from oil palm production (Box 4.1). In summary, we found no evidence to suggest that off-block employment adversely affects oil palm productivity, but it certainly added to the material standards of living of other block residents and widened the choices open to smallholder households.

3.1.3 Small businesses

Small commercial enterprises provide many smallholders with another source of income, but for the majority of small business proprietors, it remains a minor activity that supplements oil palm income. Business enterprises vary in size and turn-over, and include public motor vehicles (PMVs), tradestores, kerosene sales and the raising and marketing of poultry and pigs. Tradestores are typically small and sell a limited range of stock such as tinned fish and meat, rice, vegetable oil, tea, coffee, sugar, biscuits, cigarettes, matches, drinks and snacks. Profit margins are narrow and many stores can become insolvent,

particularly if customers are slow to repay credit. Approximately 10% of LSS blocks and 8% VOP blocks have tradestores (Figure 3.2).

The most common small business activity at Hoskins is live poultry sales. Survey results indicate that 30% of LSS and 16% of VOP smallholder blocks had poultry businesses. These enterprises are popular due to the relative ease of entry into the business, good consumer market and the profitable returns they generate (Box 3.1). However, recent increases in the price of chicks and feed have created new entry barriers to this business.

At Hoskins, most small business enterprises are operated by LSS smallholders (Figure 3.2). This is to be expected where limited access to land for other cash crops restricts LSS smallholders to small commercial business ventures on their blocks. Also, as LSS smallholders point out, access to alternative income sources is often necessary to meet household needs, particularly during times of depressed oil palm prices. On the Popondetta LSS schemes, small commercial enterprises are largely absent due to the conflicts between landowners and settlers (Chapter 6.1.2).

A burgeoning and profitable business in the VOP areas in Popondetta, and to a lesser extent in Hoskins, is the wholesaling of betel nut (*Areca catechu*). This may be sold locally or exported to other provinces where returns are higher. In Popondetta a substantial trade has developed between Popondetta and the Highland provinces and Port Moresby. Buyers from these regions frequently visit Popondetta to purchase large quantities of betel nut and their presence in town is heralded by the large numbers of betel nut sellers congregating outside the town market waiting for the buyers to arrive.

3.1.4 Subsistence production

Food garden production remains extremely important for LSS and VOP smallholders in terms of labour demands and household consumption. Households grow sufficient food to meet most of their requirements, and women often sell surplus garden produce at local markets. The range of foods

cultivated is broad, but is dominated by roots crops, notably sweet potato (*Ipomoea batatas*), Chinese taro (*Xanthosoma sagittifolium*), taro (*Colocasia esculenta*), cassava (*Manihot esculenta*), and yams (*Dioscorea* spp). These are often interplanted with bananas (*Musa* spp). Gardens may be planted to one or more of these root crops, and often contain tobacco and a range of other vegetables such as maize, tomatoes (*Lycopersicum* spp), sugar cane, pitpit (*Saccharum edule*), a variety of green vegetables including aibica (*Hibiscus manihot*), aupa (*Amaranthus tricolor*), pumpkin (*Curcubita maxima*), and spring onions.

Gardens cultivated primarily as cash crops for local markets are often planted as monocultures of peanuts or sweet potato. Fruits such as pineapples, pawpaw, watermelon and sweet banana are also planted for sale at local markets. Because of their relatively better access to land than LSS settlers, VOP smallholders are likely to have more extensive gardens and more access to secondary forest for foraging, hunting and the collection of house building materials.

The above general description of garden food crops does not take into account variations in food crop types by ethnicity (see Benjamin 1977 for a detailed discussion). From our own observations, Sepik households tend to plant cassava as a substitute for sago, a major component of “traditional” Sepik diets, while Tolai settlers favour larger plantings of bananas. Also, among the Orokaivan VOP smallholders in Popondetta, taro (*Colocasia esculenta*) is the dominant crop. However, ethnic differences in garden food preferences appear less marked than described by Benjamin (1997), and observations suggest that sweet potato and cassava are becoming more acceptable across all cultural groups. Whether this is a reflection of changing tastes or declining soil fertility on the blocks cannot be resolved at present (both sweet potato and cassava are more tolerant of poorer soils than other root crops).

The weekly surveys reveal that garden production is very important in terms of labour allocations and is a central part of everyday life for Hoskins and

Popondetta smallholders (Figures 3.1 and 3.3). Gardening labour surpasses oil palm labour as the dominant activity carried out by Hoskins smallholders. Overall, smallholders spend considerably more time in gardening than they do in oil palm related work. This is most notable among women who allocate almost 2.5 times as much of their labour to gardening than to oil palm; for Hoskins men, gardening and oil palm are of about equal importance in terms of amounts of time allocated to each activity (Figure 3.1). There is also an indication that both oil palm work and gardening are more important for LSS settlers than VOP producers (Figure 3.3). This may partly reflect population pressure/land constraints on the Hoskins LSS scheme where economic necessity is driving oil palm production, and where, as a corollary, gardening systems are becoming more labour intensive.

Further evidence of the importance of gardens for household food security is provided by data from dietary surveys undertaken at Hoskins and Popondetta (Figures 3.4, 3.5 and 3.6). Again, these results indicate that LSS settlers are much more dependent on gardens than VOP producers. Root crops, green vegetables and bananas dominate meal ingredients for LSS settlers, whereas Gaungo VOP smallholders have much more variety in their diets as well as better quality diets characterised by higher protein intakes (Figure 3.4). Nineteen per cent of all meals at Gaungo VOP contained either fresh meat/fish or tinned fish; whereas only 6% of meals at Kavui and 5% at Popondetta did so.

If sources of meal ingredients are categorised by “garden” and “non-garden”, the reliance of LSS settlers on subsistence garden production becomes more apparent (Figure 3.5). Approximately 80% of meal ingredients at Kavui LSS and Popondetta (mostly LSS settlers in the sample) were from gardens compared with about 50% of meal ingredients from food gardens at Gaungo VOP. Further, if the source of ingredients of each meal is considered, it is clear that Gaungo VOP producers have more nutritious diets as two-thirds of all the meals they consume contain at least one non-garden ingredient compared with 23% and 32% for Kavui and Popondetta respectively (Figure 3.6). Further, store food consumption among Kavui smallholders tends to be concentrated

within the first few days to a week of receiving the monthly oil palm cheque. For the following three weeks, Kavui smallholders rely mostly on garden foods.

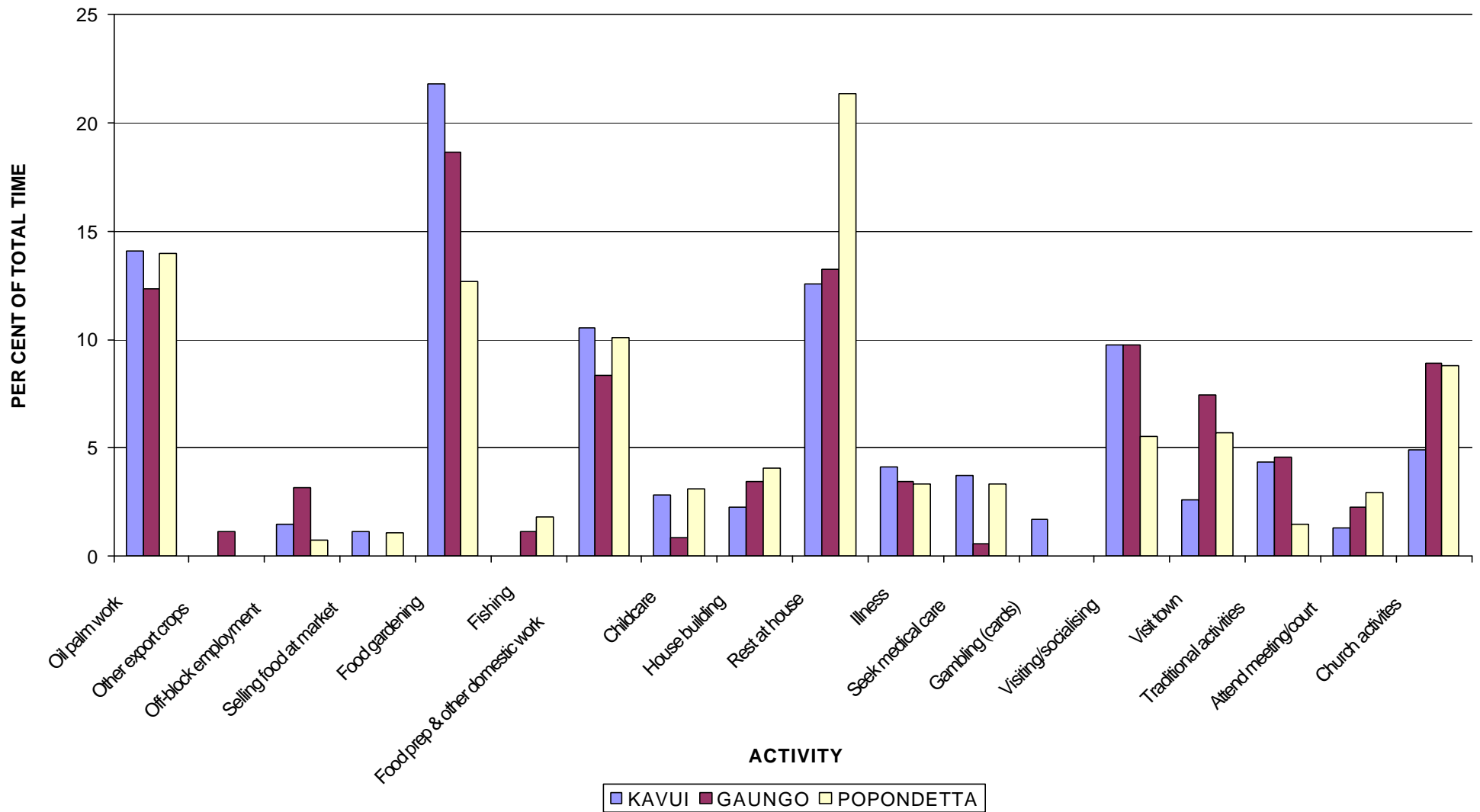


Figure 3.3. Proportions of time spent on different activities at Kavui, Gaungo & Popondetta (Source: Weekly Surveys).

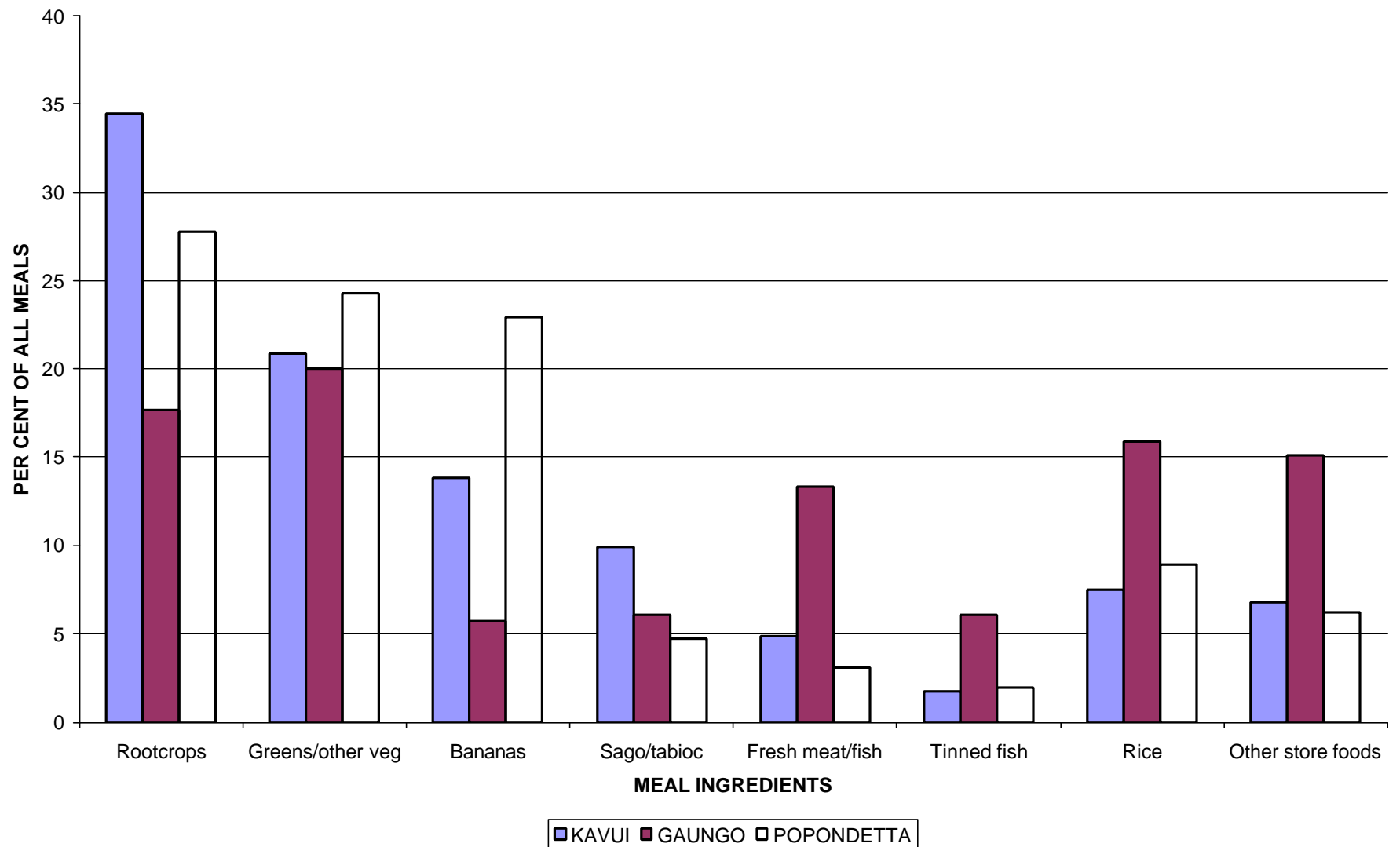


Figure 3.4. Meal ingredients at Kavui, Gaungo & Popondetta as percentage of all meals (Source: Weekly Surveys).

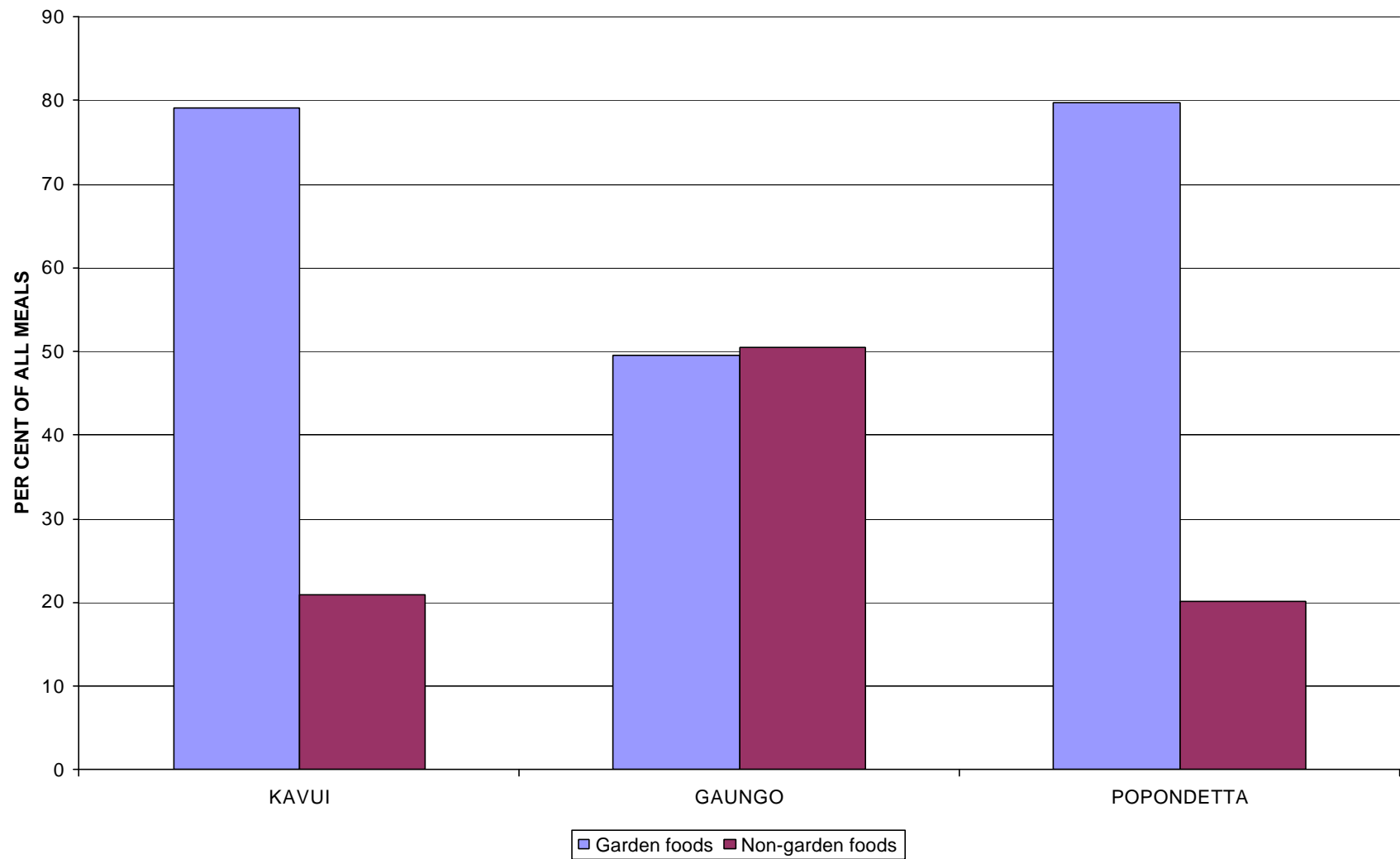


Figure 3.5. Sources of all meal ingredients categorised by garden and non-garden (Source: Weekly Surveys).

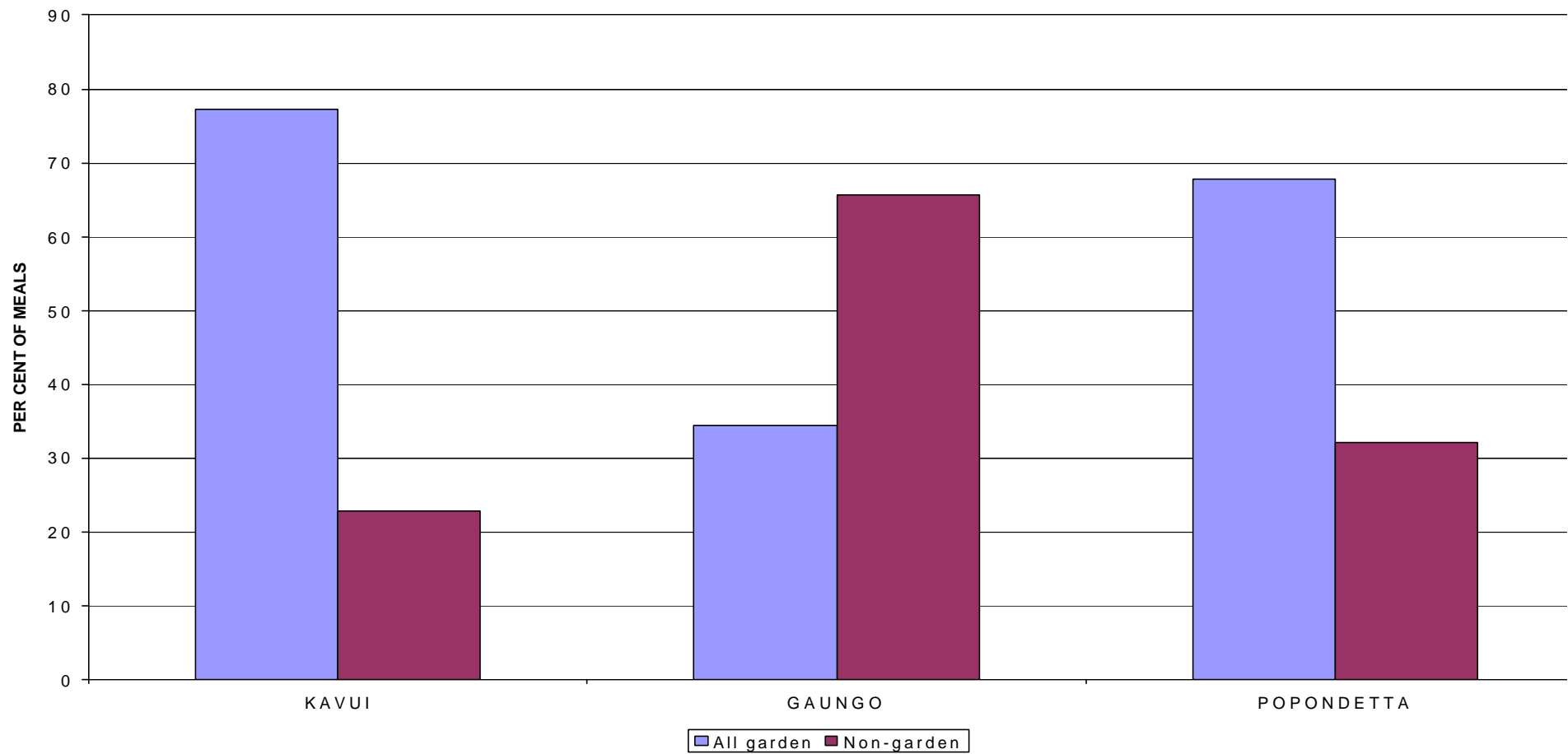


Figure 3.6. Proportions of meals consisting entirely of garden foods and meals containing at least one non-garden ingredient (Source: Weekly Surveys).

These data on garden production and meal consumption are perhaps surprising to some in the industry given the common perception that relative to LSS settlers, VOP smallholders are positioned more peripherally in economic development and generally less committed to and involved in oil palm production. The differences in diet quality between LSS and VOP smallholders are partly a reflection of the wider range of income choices available to VOP smallholders. They are also partly attributable to the population pressure on Hoskins LSS blocks, where declining per capita incomes from oil palm are increasing settlers' dependence on subsistence food production.

Exchanges of garden labour and food occur regularly between households co-resident on a block or between friends and relatives residing on nearby blocks. Daily exchanges of food between households are common and reflect the importance of food sharing in Papua New Guinean societies; and garden produce, especially on the VOPs, continues to play a central role in customary exchange (see below). In the Hoskins LSS subdivisions, some older Sepik settlers from the Maprik district, East Sepik Province, continue to cultivate ceremonial long yams (*Dioscorea alata*) which are sometimes exchanged between males from this area.

Most gardens are located on the block, although some smallholders have gardens on other blocks belonging to relatives or friends, or on village land in the case of VOP smallholders. At Hoskins, many growers near the boundaries of LSS subdivisions have also established gardens on adjoining private and government land. On the LSS schemes the rear two hectares are usually reserved for gardening land, though in recent years OPIC has been encouraging growers to plant these to oil palm (Chapter 7.4). Where old oil palms have been poisoned for replanting, the area is generally planted to food crops and remains in production until the new oil palm canopy closes. In these areas food gardens appear to be very productive, probably as a result of the application of fertiliser for juvenile oil palms and the richness of organic matter from the decaying poisoned palms⁵.

In-shore fishing is also an important part of the subsistence and cash economy for many coastal VOPs in West New Britain and can provide a significant income source during the fishing season. Fish is sold at local markets (fresh or smoked), to town supermarkets in Kimbe and, increasingly, to commercial fish buying operations. At Gaungo VOP, for example, fishing provides a good and regular income. People often move between oil palm and fishing depending on fish catches and the price of oil palm. During the survey period at Gaungo when oil palm prices were relatively low (K56/tonne), some households temporarily abandoned oil palm production to concentrate on fishing⁶.

3.1.5 Informal markets

The marketing of food crops, coconuts, betel nut, tobacco, processed foods and manufactured items at local markets provides a regular additional income, especially for women from the LSS schemes. Each LSS subdivision has its own community market, as well as several other smaller informal markets. In addition, the town markets of Kimbe, Bialla and Popondetta are also important for LSS women. Many oil palm company compounds have market places too, and LSS women frequent these markets to sell garden produce to plantation workers on company pay days.

Marketing is a popular activity among women as it provides a source of cash income between the fortnightly (Popondetta) or monthly (Hoskins) oil palm payments. Average earnings per person, per market visit were K10.91 at Hoskins and K4.64 at Popondetta. Although the amount of money earned is not substantial, the additional cash plays an important role in family welfare as the cash is used to purchase small everyday household items such as soap, kerosene and store and market foods. For some households on heavily populated LSS blocks at Kavui, local markets can be the primary source of income.

Before women were issued an oil palm harvesting card (“mama card” – Chapter 8), market income was, for many LSS women, their primary source of cash income. In a survey of 100 blocks at Hoskins in February-March 2001, 100%

of LSS blocks and 52% of VOP blocks reported female residents regularly selling food at local markets (Figure 3.2). Further, 88% of LSS blocks and 42% of VOP blocks reported at least one female resident marketing produce within the preceding seven days of the survey. This not only reflects the importance of markets (and gardening) for smallholders, especially for LSS women, but it also points to the fact that the rapid uptake and entrenchment of the Mama Lus Frut scheme at Hoskins appears not to have impacted significantly on marketing. In terms of total time allocated to marketing, it is a minor activity overall and considerably less than other tasks such as food gardening and oil palm work (Figure 3.1). Also, on blocks with multiple households, sometimes one woman may market produce on behalf of co-resident women. Therefore, in terms of the demands on total labour availability marketing is small.

A survey undertaken with OPIC of women selling at several markets around Kimbe and Hoskins in October 2000, revealed that 54% of sellers were from LSS schemes and 8% were settlers residing on village land (Table 3.2). Given that many of the other sellers at the markets were from urban centres or company or government compounds, then women from local landowner groups have very limited involvement in marketing. These figures again reflect the importance of local markets for women from the LSS subdivisions.

The same survey revealed that LSS women are disproportionately over-represented in local markets in terms of the values of items for sale (Figure 3.7). While “manufactured goods” and “secondhand clothes” dominate markets in terms of total value and tend to be marketed by non-LSS women, these figures are a little misleading. The survey recorded the value of goods on display, and because only a small proportion of these items are sold per market visit, their inclusion in Figure 3.7, tends to devalue the contribution of food items where a much higher proportion of the items on display are sold on each market visit.

Table 3.2. Numbers and percentages of settler women marketing in October 2000 from LSS subdivisions or residing on village land (percentages in brackets)

	MARKET						TOTAL
	BULUMA	HOSKINS	KAPORE	KIMBE	MOSA	NAHAVIO	
LSS	16 (50)	7 (54)	21 (95)	49 (45)	29 (67)	14 (41)	136 (54)
VOP SETTLER			1 (5)	6 (5)		13 (38)	20 (8)
OTHER*	16 (50)	6 (46)		54 (50)	14 (33)	7 (21)	97 (38)
TOTALS	32 (100)	13 (100)	22 (100)	109 (100)	43 (100)	34 (100)	253 (100)

*“Other” is made up of women residing in town, company or government compounds, and women from traditional landowning groups

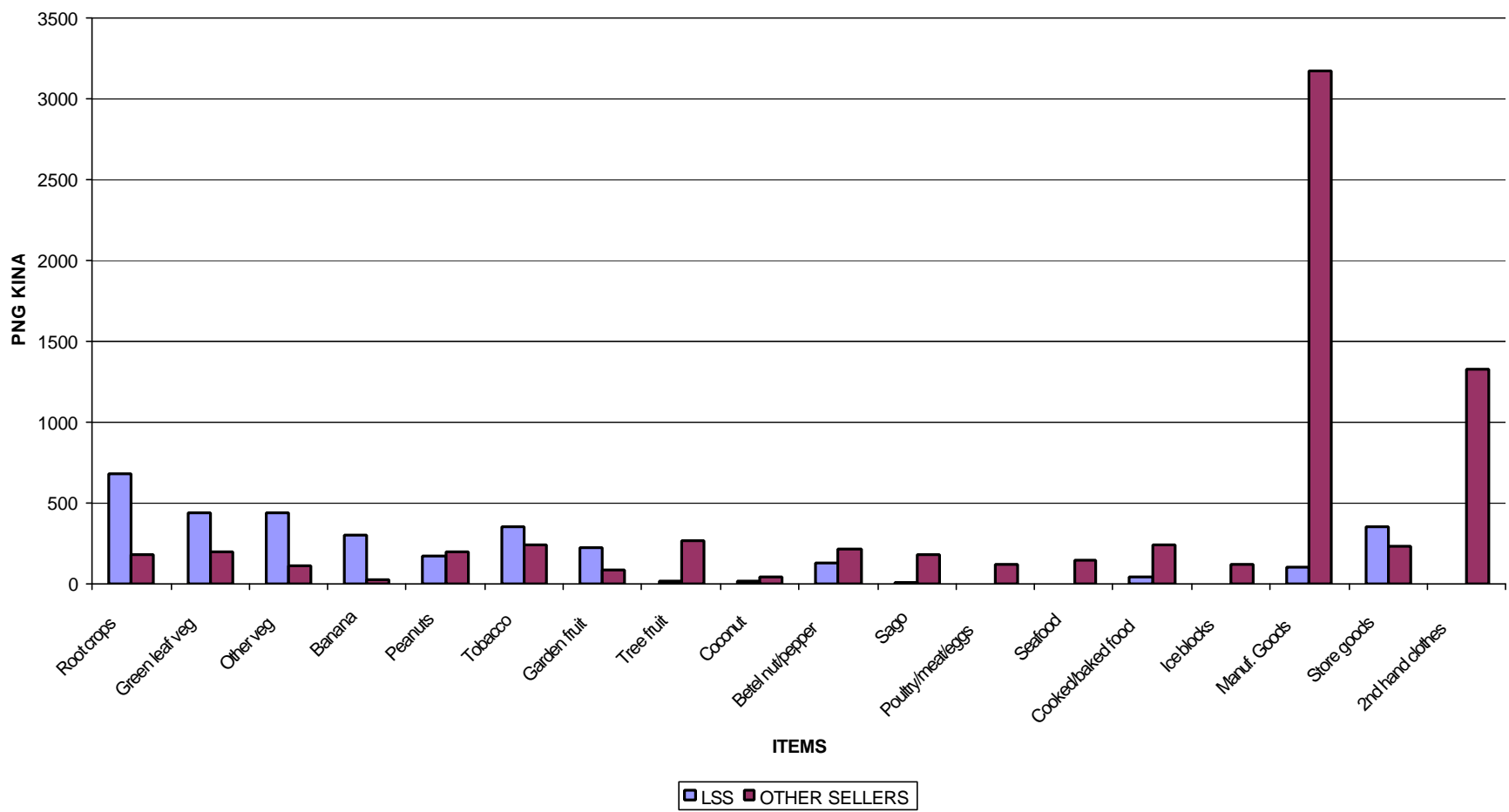


Figure 3.7. Values of categories of items on sale at markets (Source: OPIC & OPRA survey of markets in Hoskins and Kimbe in October 2000).

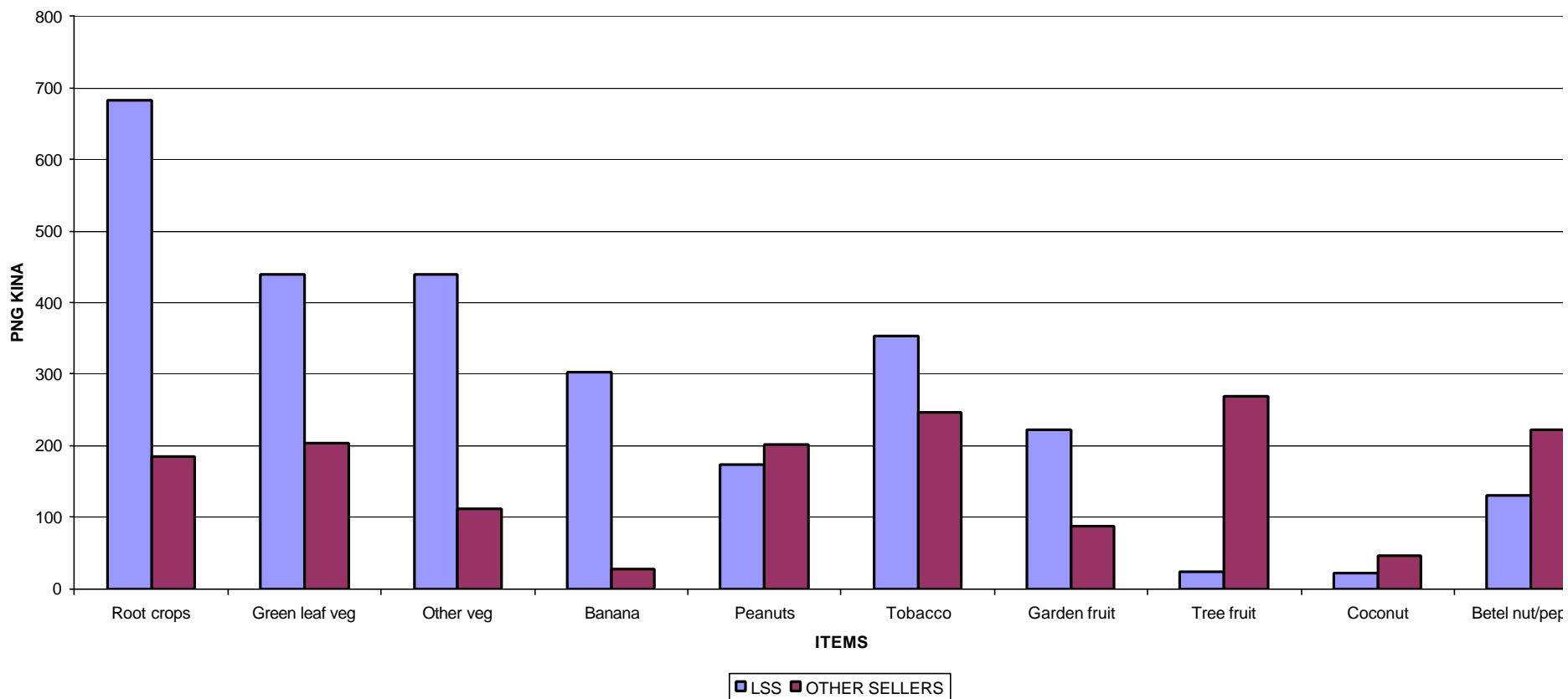


Figure 3.8. Values of categories of “garden” items on sale at markets (Source: OPIC & OPRA survey of markets in Hoskins & Kimbe in October 2000).

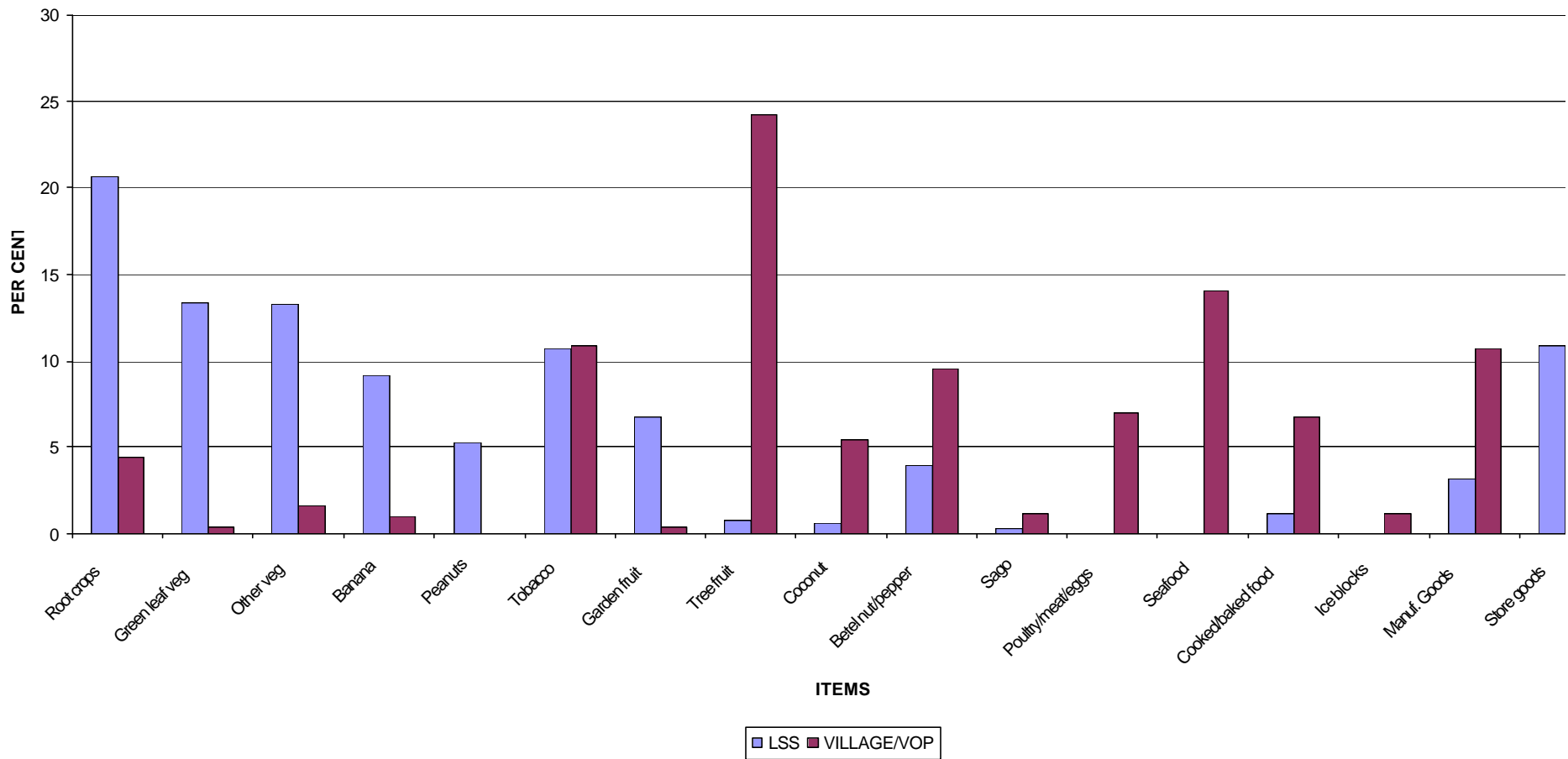


Figure 3.9. Breakdown of categories of items on sale at markets by women from LSS (total = 100%) & Village/VOP (total = 100%) (Source: OPIC & OPRA survey of markets in Hoskins & Kimbe in October 2000).

Women from the LSS subdivisions tend to dominate sales of “garden” foods, both in terms of the kina value of foods on display (Figure 3.8) and in their proportional share of the quantities of these items on sale (Figure 3.9). In terms of kina value, the most important items on sale by LSS women in descending order of importance are “root crops”, “green leaf vegetables”, “other vegetables”, “tobacco” and “bananas” (Figure 3.8). Perhaps surprisingly, given that the villages have more access to garden land, village and VOP women are not as heavily involved in marketing garden produce at local markets (Figure 3.9). They tend to sell more “tree fruit”, “poultry/meat/eggs” and “seafood”, which may reflect their better access to these resources. Also, given that they are living in the village context it is possible that a higher proportion of their surplus garden produce is channelled into customary exchange rather than markets. Overall, village/VOP women have very limited involvement in marketing relative to LSS women and other women (from urban settlements and company compounds) selling at local markets.

Apart from the economic benefits a market income provides, it is also a highly valued social environment for women to catch up on gossip, meet friends, relatives and recently arrived visitors from their home provinces, and to exchange stories and news. At the town market especially, women gather from all over the region and the market is a centre for the dissemination of news and information. We met many women who identified more closely with marketing than with oil palm production, and whilst this is partly a historical legacy of women’s marginal status in the oil palm industry, it also reflects the immense social significance women attach to marketing and the marketplace.

3.1.6 Customary economy

The indigenous economy consists of the exchange of goods, services, labour, traditional wealth items and cash between kin. The effect of exchange is to bind individuals and groups into networks of social relationships and obligations. Customary exchange can be in the form of daily gifts of cooked and uncooked food, garden and oil palm labour, various services and cash contributions to major events to mark initiations, marriage, birth, death, adoptions, dispute

settlements, or land transfers. Exchange is also increasingly being used to raise capital for business ventures and land purchases and to help with the education costs of children.

Customary exchange remains very important on both the LSS and VOP subdivisions. On the LSS subdivisions, exchange occurs between kin living nearby and many continue to participate in exchange with relatives in their home villages through either hosting short-term visitors or by making cash contributions to village exchange transactions or other requests. For LSS smallholders, it is in their interest to maintain customary exchange relationships with home so that their claim to village resources remains intact (Chapter 4.2.2). Some LSS smallholders have formed exchange relationships with unrelated settlers and contribute wealth and food to large ceremonies such as those surrounding marriage and death. These non-kin exchanges are a very important aspect of creating and strengthening a sense of community on the LSS schemes.

While customary obligations remain important on the LSS, it is more so on the VOPs. This is hardly surprising given that most VOP smallholders are still operating in the village context with all its networks of obligations and cultural practices still extant, whereas for settlers these networks have been altered, and partly eroded by their absence from their home villages. In Popondetta, for example, *pondo*, the Orokaivan term for customary exchange or feast, is central to social life and *pondo* events remain common where large quantities of food, pigs, cash and other items are exchanged. Such *pondo* exchange now extends to events such as Easter, Christmas, the opening of a new church, school or other community facility and to mark special days such as the anniversary of the Mt. Lamington eruption. A large *pondo* draws on extensive networks of kin who contribute pigs, garden food, cash and/or store bought foods. In this way, customary exchange is continually occurring between and within lineages which locks people into webs of social and material obligations. The intermittence of oil palm production on VOPs is sometimes attributable to the variable demands of customary obligations for labour, cash and time.

It is often assumed that cultural practices and customary obligations are an impediment to cash crop production (said to draw people away from production). However, the reverse can be true. Cash and store bought items are now important exchange items and one reason people engage in the market economy is to earn cash to fulfil customary obligations. In essence, the requirements of customary exchange can drive people's involvement in the market economy/oil palm production. For example, in Popondetta and at Gaungo, fluctuations in individual oil palm production among village smallholders can be explained partly by their activities in customary exchange. Some smallholders with intermittent involvement in oil palm production may not harvest for several months but will do so to contribute to a feast or exchange. For more regular producers, oil palm production may increase significantly when customary obligations are unusually high, such as when brideprices or death compensation must be paid. At other times, the harvest may be weighed on another card belonging to a relative, for example, to support a brideprice payment. It seems for village smallholders that cultural practices, obligations and rituals are timed to the oil palm cycle of payment, rather than with the garden cycle as practised in earlier times. The motivation to harvest is not so much concerned with accumulating savings for capital investments or consumption in the market economy, but with building and maintaining social relationships by redistributing wealth through exchange. Thus, for many VOP smallholders, oil palm production is very much embedded in kinship relations and customary obligations and does not conform to the model of the rational economic producer.

3.1.7 Other sources of income

VOP smallholders may also receive additional income as royalties from mini-estates or timber leases. Also, some VOPs at Hoskins such as Gaungo, Moroeka and Mosa "sell" land to non-clan members. Money earned from land sales can be substantial. During the survey period at Gaungo, one household received K3,000 and another K1,000 as part payment for sale of clan land. Whilst much of this income is distributed to other clan members, it remains an important income source for some households and allows them to make

significant capital investments in such businesses as tradestores, PMVs and fishing equipment.

Another source of income available to some smallholders at Hoskins are share dividends received biannually from NBPOL. In 1999 shares in NBPOL were offered at a discount to smallholders and approximately 2,300 growers took up the offer of shares in the company. The smallholder section at NBPOL estimates that between K300,000 and K400,000 was paid to growers as dividends in 2000. If we take K350,000 as an estimate for dividends paid to growers in 2000, smallholder shareholders earned an average dividend of K152.

3.2 Conclusion

Smallholders draw income and sustenance from a diverse range of sources, and oil palm is not always the principal activity or focus of people's lives. Indeed, where block populations are high and contain several household units, the block is often dependent upon several income sources for its livelihood and relies heavily on gardens for household consumption (see Chapter 4).

The diverse strategies pursued by smallholders are undertaken for several reasons. An important reason for income diversification widely raised by smallholders was that it lowered income risks by reducing their vulnerability to the fluctuating price of oil palm. During the latter stages of data collection when the price of oil palm dropped to K52/tonne, smallholders often referred to their dependence on other income sources to meet family needs. In one discussion with a grower at Kapore LSS on the range of income sources on his block, he remarked:

... banis kakaruk, em olsem liklik bisnis bilong mipela. Nau prais bilong wel pam igo daun, mipela lukluk long kakaruk na moni bilong maket.

... the chicken project is like our small business. Now the price of oil palm has dropped, we rely on the chicken business and local markets.

Similar sentiments were expressed on the VOP blocks. Such comments when combined with the data presented above illustrate that smallholder livelihood strategies promote household economic and social security by:

- increasing income and diversifying income sources;
- strengthening people's capacity to meet their needs;
- expanding the options and choices available to households;
- increasing food security;
- lowering risks; and,
- maintaining a sense of community.

Acknowledging the range of livelihood strategies operating on smallholder blocks and understanding why smallholder households undertake diverse economic and social activities may assist the industry in formulating appropriate smallholder interventions. For example, industry initiatives are probably more likely to succeed if they are compatible with (or do not undermine) household livelihood strategies. As outlined above, it may be that economic necessity (especially on the heavily populated blocks) leads a smallholder block to embrace a range of livelihood strategies to supplement oil palm income. Moreover, additional sources of income are even more critical to the household economy during periods of depressed oil palm prices. A fuller picture of smallholders that recognises their diverse situations and livelihood strategies and how these relate to variations in smallholder productivity would better inform smallholder interventions.

The range of livelihood opportunities also partly explains why some growers are more committed to oil palm production than others. It is probably correct to say that many VOP growers are part-time/intermittent producers who view oil palm as just one of several activities and choices open to them. On the VOP smallholder blocks managed by local landowners, harvesting is much more irregular than on the LSS schemes. VOP oil palm producers not only have an adequate subsistence base to provide for most of the daily food needs, but as in the case of Gaungo VOP, they often have a broader range of income sources than LSS smallholders. Thus, the economic pressure to harvest oil palm is not as great on the VOPs. They can, and do, shift in and out of production depending on the relative returns to labour of oil palm, other cash crops, fishing,

and garden production. Although such producers are a constant source of frustration to the industry, it may be better to accept this situation and look at ways of encouraging more flexible labour practices through the use of hired labour for harvesting and identify the ways in which the social and economic priorities of smallholders can be accommodated to increase oil palm productivity.

In brief, the ability of smallholders to pursue livelihood opportunities is important for the overall social and economic sustainability of the smallholder sector. The policy importance of such findings include:

1. Smallholders pursue diverse livelihood strategies as a way of reducing risk.
2. Non-oil palm incomes are important for maintaining the social and economic viability of smallholder blocks.
3. As population and land pressures continue to grow there will be increasing numbers of block residents engaged in non-oil palm activities.
4. Promotion of non-oil palm income earning opportunities is important for the long-term economic and social viability and development of the oil palm schemes.
5. Subsistence gardening is of critical importance to smallholders and ways of supporting the sustainability of food production, especially on the LSS schemes should be explored by the industry (e.g., composting trials, kitchen gardens, improving access to garden land, etc.).
6. While smallholders are competent in actively finding solutions to meet their needs, long-term planning is sometimes subverted to short-term needs when perceived levels of economic and social security are low.

Box 3.1: Chicken business, Gaungo VOP, Hoskins

William has two hectares of oil palm. We arrived at his block to complete the weekly survey and found him and his brother building a poultry coop. They were finishing the roofing when we arrived. Part of the roof was sago thatch and the rest covered with plastic, which William had bought for K68. William wanted to start his own poultry business after observing several successful poultry businesses in his village. Also, as he explained, poultry sales would provide him with supplementary income between the monthly oil palm cheques.

The estimated costs to establish the business are as follows:

Items	Cost (Kina)
1 box 52 chicks	130.00
1 bag starter	43.00
3 bags grower K43 X 3	129.00
1 bag finisher	43.00
TOTAL COST	K345.00

Estimated total sales

50 chickens at K20 each	K1,000.00
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Net profit	K655.00
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If the business succeeds, William plans to buy a further 3 or 4 boxes of chicks next time. A major factor determining the success of poultry businesses is credit repayments and saving the profits for reinvestment into the business. Many poultry sales are on credit and if the repayment of credit is delayed then the business can collapse.

Endnotes

1. The study of livelihoods and rural diversification is appearing as a new approach in rural development among international development organisations and practitioners. Our discussion of livelihood strategies is restricted to focusing on the economic and social activities households perform to secure livelihoods. Some studies use broader definitions and have included such components as household assets, educational levels, access to services or financial capital (e.g, Chambers and Conway 1992; Carswell 1997; Ellis 2000).
2. In Figure 3.1 the category “Rest at House” does not suggest that men spend a significant proportion of their time idle. In wet weather there is a tendency for men to stay around the house whereas women still need to visit their gardens to harvest food for meals. Also, on dry days when men said they were resting at the house, often a visitor was present, though this was under-reported. They were more likely to report “Visiting/ Socialising” when this involved a visit to another block.
3. Copra is the main alternative cash crop in New Ireland.
4. The behaviour of VOP oil palm smallholders is similar to other commodity crop smallholders in PNG where commitment to production depends on prices. In the Wosera subdistrict, East Sepik Province, for example, many smallholder coffee producers abandon their coffee blocks during depressed prices and concentrate their efforts on producing foods for sale at local markets.
5. In Popondetta growers planted aibika around the base of standing poisoned palms. Aibika flourished in these conditions which growers attributed to the abundance of organic material.

6. A study in two villages in New Ireland which owned copra plantations showed that fish landings were negatively correlated with the mean annual copra price (Dalzell and Wright 1990).