

CHAPTER FIVE

SMALLHOLDER HOUSEHOLD PRODUCTION UNITS

5.0 Introduction

Chapter 4 drew attention to the changing demographic situation of Hoskins LSS where the increasing numbers of multiple household blocks mean that oil palm income is insufficient to meet income needs. The discussion revealed that multiple household blocks are complex economic and social units and far more heterogenous than the nuclear single families that first settled the scheme in the late 1960s and early 1970s. These multiple household blocks have adopted new oil palm labour and production strategies and pursue diverse livelihood strategies to maintain household economic and social security.

The population and demographic changes occurring on the older schemes and the increasing complexity of household structures questions existing frameworks for understanding and analysing smallholders and smallholder production. While the smallholder high-low production framework used in the Landell Mills study and in the OPIC workshops (Chapter 2), produced valuable information for understanding variations in smallholder productivity, it does not capture the complexity of production strategies now present in the smallholder sector.

Further, a high-low producer framework does not lead to thinking through the everyday processes within households and how individual family members and households on a block interact with each other. Moreover, a high-low producer dichotomy can conjure a static image of a high producer as an individual farmer or single household working together and making rational economic decisions about oil palm production; low producers, on the other hand, may be perceived as economically irrational decision-makers, poorly skilled, uneducated, or lazy (lacking commitment), and thus incapable of shifting to higher levels of

productivity without some external intervention. This leaves little room to think about the socio-agronomic and economic arrangements of growers as they attempt to balance family food security, income needs and loan repayments in the context of fluctuating commodity prices and increasing population pressure.

To overcome some of the limitations of the high-low smallholder framework, this chapter presents an alternative framework for analysis that aims to capture the diverse household types now present on smallholder blocks and the varied ways in which smallholder oil palm labour is organised and remunerated. The framework is based on a simple household typology which is used to identify inter- and intra-household processes to better understand constraints on and variations in smallholder productivity. The chapter begins with a discussion of smallholder household production units (single household, caretaker household, and multiple households) to examine the dominant forms of labour allocation and payment arrangements in oil palm production to understand variations in smallholder productivity. The discussion also draws attention to one of the main findings of the study, which is the transition now occurring in land settlement schemes at Hoskins (and probably Bialla) where single household blocks are giving way to multiple household blocks. This transition is being accompanied by significant shifts in oil palm labour and income strategies which have important implications for how the industry interacts with the smallholder sector.

5.1 Smallholder Household Production Units

As the smallholder sector develops over time diverse household types are emerging to include:

- Single household blocks – usually consist of one household made up of household head, spouse, children and relatives attached to the household such as an elderly parent of the husband or wife, and/or short-term visitors.
- Caretaker household blocks - many caretaker households are single households consisting of the household head, spouse, children and relatives attached to the household, such as a brother or temporary visitor.

The type of relationship between the blockowner and caretaker varies. Caretakers can be close kin (e.g., brother, brother-in-law), distant relatives, friends or merely someone from the same ethnic group as the blockowner.

- Multiple household blocks - often consist of the elderly original owner, his wife, their married sons (and sometimes married daughters) and their families. On some of the older LSS schemes the original owner is deceased and the married sons/daughters now share the block.

Alongside this diversification of household types new ways of organising and remunerating labour are emerging. Two main types of oil palm production strategies found on blocks are the traditional *wok bung* pattern where all household members harvest together and share the income, and a rotation harvesting system where the harvesting and oil palm cheque are rotated among the co-resident households on a block. The rotation system is referred to by smallholders as *markim mun*, and is a recent shift in labour organisation in oil palm production (see Chapter 4.2.5 for more details on the rotation system).

Payment arrangements differ between the two harvesting systems. Blocks with a *wok bung* system share the monthly/fortnightly cheque between family members, whereas on rotation (*markim mun*) blocks the cheque is allocated to an individual household on a rotating basis. The latter tends to emerge when the sharing of income among several co-resident households is disputed. The way in which labour is remunerated also appears to differ between the two harvesting systems. Labour remuneration on a rotation (*markim mun*) system is usually expected to be commensurate with labour input and there is limited in-kind payment for labour. On a *wok bung* system labour remuneration is not necessarily commensurate with labour input, but rather payment is governed more by gender, age, or kinship status. Thus, there is usually more in-kind payment for *wok bung* harvesting labour and/or reciprocal (unpaid) labour.

Taking into account the varied household types and harvesting production and payment systems now found on smallholder blocks, we present smallholder

household production units as a framework for analysis based on different household types (single, caretaker and multiple households) and the dominant oil palm production strategy operating on a block. We identify the following typology of smallholder household production units:

1. Single household (*wok bung*). All or most adult family members work together to harvest.
2. Caretaker household. Usually single household working together (*wok bung*).
3. Multiple household (*wok bung*). Most adult members from each household work together to harvest, and adult women rotate the collection of loose fruit between households.
4. Multiple household (*markim mun*). Harvesting and loose fruit collection are rotated monthly between the different households resident on the block.

The type of smallholder household production unit on a block reveals much about other key household factors/processes affecting block productivity. These other household factors are:

- labour supply and organisation;
- decision-making;
- income distribution;
- family/gender relations;
- the range of livelihood strategies;
- production motivation.

These key household factors have been incorporated into our analysis of household production units to explain variations in block productivity. For example, how labour is organised and mobilised, how income is distributed, and how decisions are made on a block can explain much about variations in productivity between smallholders and household production strategies. Below, we provide a description of the four primary types of smallholder household

production units. We describe the dominant characteristics associated with each type.

5.2 Single Household – *Wok Bung*

Single household blocks are predominantly found on the VOPs. These households tend to have a *wok bung* production strategy whereby adult male members harvest the FFB and women and children collect the loose fruit (and sometimes wheelbarrow FFB to the road). Usually, the oil palm cheque is shared among the adult members of the household, but not necessarily commensurate with labour input (see below).

5.2.1 VOP blocks

On VOP single household blocks oil palm harvesting often involves reciprocal exchanges of labour with relatives residing on other blocks or in the village. Much of this labour is unpaid and is considered to be in the realm of customary obligations, and is therefore subject to the rules and obligations associated with customary exchange. Flows of labour in and out of the block also extend to other activities such as gardening, house building, fishing and block maintenance. The sheer volume of labour flows on the VOPs, makes it difficult to think of these single households as bounded production units as they are characterised by interdependence with other VOP blocks and village households.

On VOP single household blocks, income distribution often does not reflect the labour input of individual household members. Instead, income distribution is shaped more by gender and kinship relations, customary obligations and age. Sometimes these culturally specific variables determining payment are disputed, sometimes not. Also, social obligations to share are particularly pronounced on the VOP blocks and it is more difficult for an individual to retain most of the income. Indeed, the social demands and obligations placed on oil palm income by kin can be very high and take a significant proportion of the oil palm cheque.

Single household VOP blocks also tend to have a high level of variability in their commitment to oil palm production. Some growers have limited involvement with oil palm production and harvest occasionally when supplementary income is required for household/personal needs or to meet customary obligations. In the village setting they often have adequate access to gardening land for subsistence as well as other sources of income. Because of these factors (rather than labour shortages or household conflicts), irregular or incomplete harvesting often characterises these blocks.

On many of the single household VOP blocks visited at Gaungo, when asked about decision-making, most respondents said that the male household head was the “boss” of the block and therefore made the major decisions regarding oil palm.

5.2.2 LSS blocks

Single households on the LSS subdivisions differ from those found on the VOPs and are more likely to be young families or elderly blockowners whose adult children are residing elsewhere. In these instances labour shortages are more likely, leading to incomplete or irregular harvesting. If they have relatives residing nearby they can sometimes call on them for assistance with harvesting, or they may rely on hired help. In either situation, labour availability is likely to be more constrained so that production can vary markedly through time depending on labour availability and their willingness to pay for hired labour.

Oil palm income is usually shared between household members and with off-block relatives who have contributed labour to the harvest. But, some household members’ labour contribution to harvesting gives them limited rights to the income (e.g., younger sons), so most of the income is retained by the male head of the block. This provides scope for disputes and withdrawal of labour (see below).

The dominant form of decision-making authority on LSS single household blocks is centralised (usually the male household head), although there are

instances of co-operative decision-making. Sometimes decisions are disputed. For example, on some blocks where the male head has control, his decisions may be challenged by a wife or son. This appears more common on LSS blocks where sons are seeking greater control of the block and therefore challenging the authority of their fathers (usually elderly). Such tensions between household members can affect oil palm production through the withdrawal of some family labour.

A summary of the main characteristics of single household (*wok bung*) block is provided in Table 5.1. Two case studies of single household blocks are presented in Boxes 5.1 and 5.2.

Table 5.1. Main characteristics of single household (*wok bung*) production unit

MAIN HOUSEHOLD FACTORS	SINGLE HOUSEHOLD VOP	SINGLE HOUSEHOLD LSS
PRODUCTION STRATEGY	<ul style="list-style-type: none"> Family works together 	<ul style="list-style-type: none"> Family works together
LABOUR CHARACTERISTICS	<ul style="list-style-type: none"> All family members contribute labour. Labour exchange with extended kin. Sufficient household labour. 	<ul style="list-style-type: none"> All family members contribute labour. Hired help. Shortage of labour (usually elderly block owner or young family).
DECISION-MAKING	<ul style="list-style-type: none"> Central authority. Co-operative. Disputed authority. 	<ul style="list-style-type: none"> Central authority. Co-operative. Disputed authority.
INCOME DISTRIBUTION	<ul style="list-style-type: none"> Shared within family. Shared with extended off-block kin 	<ul style="list-style-type: none"> Shared within family. Mostly retained by one individual.
FAMILY/GENDER RELATIONS	<ul style="list-style-type: none"> Egalitarian/social cohesion. Unequal/conflict. 	<ul style="list-style-type: none"> Egalitarian/social cohesion. Unequal/conflict.
PRODUCTION MOTIVATION	<p>high</p> <ul style="list-style-type: none"> Competitive producer. Indigenous obligations. <p>low</p> <ul style="list-style-type: none"> Reasonable alternative sources of income. Subsistence security. 	<ul style="list-style-type: none"> Debt reduction. Competitive producer. Low debt. Few dependants.

5.3 Caretaker Household – *Wok Bung*

Many caretaker households are single households consisting of the household head, spouse, children and relatives attached to the household, such as a brother or temporary visitor. In most instances caretaker single households adopt a *wok*

bung production strategy where all family members contribute labour to oil palm harvesting.

Household characteristics and oil palm labour and payment arrangements vary considerably on caretaker blocks. Also, the type of relationship between the blockowner and caretaker varies greatly. Caretakers can be close kin (e.g., brother, brother-in-law), distant relatives, friends or an unrelated person from the same ethnic group as the blockowner. Some blockowners maintain close and regular contact with their caretakers, while others may allow many years to elapse between visits to the block or communications with their caretakers.

The strength and nature of the relationship between caretaker and blockowner has a significant influence on block productivity. A good working relationship between caretaker and owner is reflected in regular harvesting and high production. Disputes and uncertainties can shift a block to the low production category for several months or years. A key factor affecting the type of working relationship between caretaker and owner is how income is shared between the two. Again there is considerable variation in the oil palm payment arrangements on caretaker blocks, with some caretakers controlling all or retaining most of the income while some caretakers rely on owners to distribute the proceeds of the oil palm cheque. Whilst the former makes for the most harmonious situation, it can breakdown if, for example, the caretaker begins avoiding bank or company loan repayments on behalf of the owner.

Where payment is made by the owner to the caretaker there is more likelihood of grievances emerging, particularly if payments vary and do not reflect the labour input of the caretaker's family. In some cases, where the kinship relationship between the owner and caretaker is unequal, lower payments to the caretaker may reflect their relative kinship status rather than the labour input of the caretaker. In some situations reduced payments are tolerated, but for many there is an eventual fracturing of the relationship. The unstable nature of many caretaker-owner relationships partly explains why production on caretaker blocks is often disrupted by protracted disputes.

Control over decision-making can also influence production on caretaker blocks. Caretakers sometimes have limited decision-making control over inputs such as purchasing fertiliser, replanting, hiring labour or investing in new tools. Long delays may be experienced before decisions are made on replanting or the purchase of new tools. On the other hand, where a caretaker has authority to decide block investments and maintenance, there can be a level of reluctance to invest in the block, especially regarding medium and long-term investments such as replanting when the ultimate beneficiary of the investment will be the blockowner. This reluctance to invest increases the higher the level of tenure uncertainty and the longer the delay in investment returns.

Little is known about the mean productivity of caretaker blocks because of the difficulties in identifying such blocks on production data bases. It is likely that there is high variability in commitment to oil palm production and possibly lower productivity given the likelihood of disputes. There is some evidence for this argument at Popondetta where caretaker blocks on LSS blocks are common and where productivity of LSS blocks is lower than VOP blocks – a situation not found at Hoskins or Biialla. Whilst there are other factors explaining the lower productivity on LSS blocks at Popondetta (such as insecure land tenure and a large number of “abandoned” blocks), the high rate of caretaker blocks is likely to be an important contributing factor.

A summary of the main characteristics of caretaker household (*wok bung*) blocks is provided in Table 5.2. Two case studies of caretaker household blocks are presented in Boxes 5.3 and 5.4.

5.4 Multiple Household – *Wok Bung*

Multiple household *wok bung* blocks are often characterised by a high level of inter-household dependence and co-operation and adequate labour supply. Although each household may have its own gardens, separate supplementary income sources and allocate most of their non-oil palm labour to their own

household activities, the different co-resident households may also maintain common gardens and regularly share food and subsistence work.

Table 5.2. Main characteristics of caretaker household production unit

MAIN HOUSEHOLD FACTORS	CARETAKER HOUSEHOLD
PRODUCTION STRATEGY	<ul style="list-style-type: none"> • Work together.
LABOUR CHARACTERISTICS	<ul style="list-style-type: none"> • All family members. • Hired help. • Limited labour exchange with off-block kin.
DECISION-MAKING	<ul style="list-style-type: none"> • Shortage of labour. • Central authority. • Co-operative. • Disputed authority. • Limited decision-making control as caretaker.
INCOME DISTRIBUTION	<ul style="list-style-type: none"> • Controlled by caretaker and shared within family. • Controlled by caretaker and shared unequally. • Controlled by owner and shared "fairly" with caretaker family. • Controlled by owner. Shared unequally but not disputed.
FAMILY/ GENDER RELATIONS	<ul style="list-style-type: none"> • Egalitarian/social cohesion. • Unequal/conflict.
PRODUCTION MOTIVATION	<ul style="list-style-type: none"> • Tenure insecurity. • Indigenous obligations. • Obligations to caretaker.

With a multiple household *wok bung* strategy the FFB cheque is shared among the adult males of all the households, and the mama cheque is allocated to a female from one household on a monthly rotating basis. On occasions, the FFB cheque may be allocated to a particular household for a month. With all households working together on oil palm, labour shortages for FFB harvesting rarely occur. An adequate labour supply and harmonious social and working relationships often translate into complete and regular FFB harvesting and loose fruit collection. Usually, where households work together on FFB harvesting, individuals and households receive a share of the primary oil palm income which they consider fair. Disputes over FFB income distribution are infrequent and harvest labour is rarely withdrawn due to conflicts on the block. It is likely that women on these blocks were among those few who collected loose fruit prior to the introduction of the mama card.

To a large extent, co-operative labour arrangements on multiple household *wok bung* blocks reflect either shared decision-making where most household members contribute to production and income decisions, or centralised

decision-making dominated usually by the male head of the block but which is rarely disputed. The multiple household *wok bung* block can be characterised as an egalitarian and cohesive family production unit. These blocks are likely to be the most productive and represent many of the high producing blocks, though further data are necessary to substantiate this claim.

Table 5.3. Main characteristics of multiple household (*wok bung*) production unit

MAIN HOUSEHOLD FACTORS	MULTIPLE HOUSEHOLDS (<i>WOK BUNG</i>)
PRODUCTION STRATEGY	<ul style="list-style-type: none"> Households work together on FFB harvest and women rotate loose fruit collection.
LABOUR CHARACTERISTICS	<ul style="list-style-type: none"> All members of households. Inter-household cooperation. Limited labour exchange with off-block kin (LSS). Sufficient household labour.
DECISION-MAKING	<ul style="list-style-type: none"> Co-operative. Central authority (strong). Disputed authority (weak).
INCOME DISTRIBUTION	<ul style="list-style-type: none"> Shared between households. Shared unequally but not disputed. Occasional rotation of income.
FAMILY/ GENDER RELATIONS	<ul style="list-style-type: none"> Egalitarian/social cohesion.
PRODUCTION MOTIVATION	<ul style="list-style-type: none"> Debt reduction (LSS). Competitive producer. Indigenous obligations (VOP). Limited alternative sources of income (LSS). Economic pressure (LSS).

Disputes do occur as conflicts of interest and power struggles play out in the family. This may be the result of brothers disputing their respective shares of the oil palm cheque or a son challenging his elderly father's control of the block. The former may arise following the death of the father when the eldest son attempts to assert control of the block and his younger brothers begin disputing his authority. Disputed inheritance or ongoing disagreements over inputs of harvesting labour between brothers leads to a breakdown in the social cohesion of the family. These disputes can be traumatic for block residents and if they occur regularly the block may shift to lower productivity levels as some brothers withdraw their labour from oil palm production.

In some cases the solution to conflict on the block is a move away from high levels of inter-household dependence and co-operation in oil palm production and gardening to the more individualised system found on blocks with a rotation (*markim mun*) production system (Section 5.5). In this way, the multiple household *wok bung* strategy can be tenuous in the context of population and economic pressure or disputes over block tenure. Thus, in some instances, the multiple household *wok bung* production unit can be viewed as a transitory stage as households shift (mainly due to demographic and generational changes on the block) from co-operative production units to more individualised units of production by adopting a rotation (*markim mun*) system.

A summary of the main characteristics of multiple household (*wok bung*) blocks is provided in Table 5.3. Two case studies of multiple household (*wok bung*) blocks are presented in Boxes 5.5 and 5.6.

5.5 Multiple Households – Rotation (*Markim Mun*)

Multiple household rotation (*markim mun*) production units are predominantly on the LSS schemes at Hoskins where up to five or six households reside on one block. These households may consist of the original blockowner, his married sons and sometimes married daughters. In these situations population pressure is a serious issue and the total population living on a block may exceed 25 individuals. As mentioned in Chapter 4 these highly populated blocks are generally under a great deal of economic and social pressure.

Most respondents reported that the rotation (*markim mun*) strategy emerged as a response to inter-household disputes over allocations of oil palm labour and/or the distribution of oil palm income. It is therefore a response to the increasing number of co-resident households on blocks. When the numbers of household units becomes too great for the sharing of oil palm income they begin to act as separate production units. Co-resident households begin to operate as individual production units with limited inter-household labour co-operation and exchange in oil palm and garden production. They cultivate their own

gardens, develop their own income sources and have their own allocated oil palm harvests.

Further, as households move from a co-operative to a rotation (*markim mun*) production system there appear to be changes in labour remuneration arrangements. On single and multiple household *wok bung* blocks, labour payments often do not reflect labour input, but rather payment is governed more by gender, age, or kinship status, and reciprocal labour co-operation is common. On blocks that have moved to a rotation production system, people expect to be paid for their labour input and there is less in-kind payment for labour. This is exemplified by differences between VOP/LSS single household blocks and rotation (*markim mun*) multiple households on the LSS subdivisions. The former are more likely to use in-kind payment for labour or some form of reciprocal labour arrangement for harvesting, whereas rotation production systems are more likely to remunerate labour with cash.

The way in which harvest labour is allocated on blocks with a rotation (*markim mun*) strategy varies. Generally, one brother/son and his family will be allocated the FFB harvest work and related income from that work for a particular month. The following month another brother will harvest the fruit and collect the cheque and so on. Similarly, the loose fruit cheque is rotated among female heads of households. In this way oil palm labour and income are rotated among co-resident households. On some blocks the household whose turn it is to harvest may seek some labour assistance from other households on the block. With both family assistance and the labour provided by other block residents, this allows for more thorough harvesting. Household members and close kin from co-resident households contributing to the FFB harvest typically receive a share of the oil palm cheque. As mentioned above, there is an expectation that they will share in the proceeds of the cheque, and that the amount of money they receive will reflect their labour input to the harvest.

Decision-making on rotation (*markim mun*) blocks varies and can have a significant impact on block production. In some cases we observed, decisions

regarding the allocation of harvests and harvesting payments were made by the head of the block – either the original leaseholder or the eldest born son of a deceased leaseholder. Their decisions were based on the views of other block residents or were made without consultation. Often an elderly blockowner will try to maintain control and leadership over the block by making all decisions on harvesting and payments, although a married son may begin to challenge his father's authority. Where the father is deceased and "ownership" has passed to the first or second born son, disputes may arise. Hence, decisions on allocating harvests may be challenged by younger brothers and the rotation system begins to break down.

Where disputes over harvesting and income distribution are minimal, and where some labour is recruited from other households on the block, production can be consistently high. Not only is there adequate labour to complete a full block harvest, but the economic pressure on these populated blocks means that it is unlikely that the block will forego a harvest round. These smallholders could be described as "desperate producers" rather than high producers as production is driven by economic necessity resulting from population pressure.

Sometimes, however, if disputes over income or harvesting emerge and remain unresolved, then a household may harvest alone as individuals from co-resident households withdraw labour. With limited labour assistance, the household usually is unable to harvest the full 4 or 6 hectares. Thus, conflicts can lead to the paradoxical situation where there is under-employed labour on a block while there is a labour shortage for harvesting. For instance, as Box 5.7 reveals, although this block has over 15 adult residents, there were never more than three people harvesting, including loose fruit collection.

In the distribution of oil palm income on these blocks, it is difficult to agree on payment arrangements that satisfy everyone. With several households residing on a block, a household may wait three to four months before being allocated a harvest and the oil palm cheque. Therefore, some access to a portion of the oil palm income, by assisting with someone's harvest, helps through the period

they are waiting for their allocated pay month. Economic pressure and the need to access income causes many disputes which can negatively affect oil palm production through disrupted production. There is also a need for income diversification on these blocks.

A summary of the main characteristics of multiple household rotation (*markim mun*) blocks is provided in Table 5.4. Two case studies of multiple household rotation blocks are presented in Boxes 5.7 and 5.8.

Table 5.4. Main characteristics of multiple household rotation (*markim mun*) production unit

MAIN HOUSEHOLD FACTORS	CO-OPERATIVE	CONFLICTED
PRODUCTION STRATEGY	<ul style="list-style-type: none"> • Rotate FFB harvest and loose fruit collection between households. 	<ul style="list-style-type: none"> • Rotate FFB harvest and loose fruit collection between households.
LABOUR CHARACTERISTICS	<ul style="list-style-type: none"> • Adequate labour for harvesting. • Some inter-household cooperation. • Limited labour exchange with off-block kin. 	<ul style="list-style-type: none"> • Limited number of labourers per harvest. • No inter-household cooperation. • Limited labour exchange with off-block kin. • Block labour under-utilised.
DECISION-MAKING	<ul style="list-style-type: none"> • Central authority with programmed harvests. 	<ul style="list-style-type: none"> • Disputed authority and disputed rotation. • No leadership.
INCOME DISTRIBUTION	<ul style="list-style-type: none"> • Shared within household. • Small portion shared with members of other households. 	<ul style="list-style-type: none"> • Mostly retained by one individual.
FAMILY/ GENDER RELATIONS	<ul style="list-style-type: none"> • Egalitarian/social cohesion 	<ul style="list-style-type: none"> • Unequal/conflict.
PRODUCTION MOTIVATION	<ul style="list-style-type: none"> • Economic pressure. • Competitive producer. • Indigenous obligations. • Limited alternative sources of income. 	<ul style="list-style-type: none"> • Economic pressure. • Indigenous obligations. • Limited alternative sources of income.

5.6 Smallholder Households in Transition

The typology of smallholder production units outlined above permits an alternative way of examining smallholders and smallholder production strategies. It raises questions regarding household dynamics, such as how labour is organised and mobilised, how decisions are made, what influences income distribution, how households and household members maintain social stability, and how all of these, separately and conjointly influence oil palm

production and productivity. If we begin to think in terms of households rather than individual producers, then we can begin to think about the dynamics operating within and between households to access income and thus influence production. The framework, therefore, enables further scrutiny of household dynamics and can be used in conjunction with the high-low producer framework (Landell Mills 1991) to provide another layer of analysis. The household framework could also be of use to extension officers to better address problems on blocks through a greater understanding of the intra-household processes operating in each type of smallholder production unit.

By considering the different smallholder household production units a better sense can be gained of the varied smallholder production strategies present on LSS and VOP blocks. An outstanding feature of the LSS and VOP subdivisions is the diversity of household types and production strategies that have emerged as the smallholder schemes develop over time. Block population, household size and organisation, gender relations, production strategies, labour availability, household co-operation and conflict, while diverse show some correspondence with our typology of smallholder household production units. Our framework, therefore, captures some of the diversity and complexity of smallholder production today.

Finally, the various types of household production units reflect a recent transition on the older LSS schemes such as Hoskins where single household blocks are being replaced by multiple household blocks and as a consequence labour arrangements, harvesting practices and methods of payment are changing in a variety of ways. Since the establishment of the oil palm smallholder sector over thirty years ago, the uncomplicated single household block has become the complex multiple household block of today.

It appears that the rotation (*markim mun*) system is a recent change in production practices that has occurred over the last decade as population pressure has begun to exert an influence on LSS blocks at Hoskins. Long-serving OPIC extension officers and employees in the Smallholder Affairs

section of NBPOL recalled that the rotation system emerged around the mid 1980s when settlers' sons began to marry and form their own households (Waka Wayang and Tapas Pokus pers. comm.). It did not become widespread until more recently. In the 1991 Landell Mills Hoskins smallholder study there was no mention of the rotation system, although blocks with a population above 20 persons were omitted from the study due to data collection difficulties. The agro-sociologist involved in that project does not recall the rotation system being a significant feature of harvesting practices at the time of the study (C. Benjamin pers. comm.). At Popondetta this study did not come across the rotation (*markim mun*) system among smallholders on the LSS, and OPIC officers identified only a small number of blocks that had adopted the system.

The multiple household rotation (*markim mun*) blocks operate very differently to the less populated blocks and VOP blocks where communal harvesting and inter-household garden labour exchange remain common. As mentioned earlier, when the number of household units becomes too great for the sharing of oil palm income they begin to act as separate production units. Also, on these multiple household rotation blocks, reciprocal labour and in-kind labour are increasingly being replaced by cash payments that are likely to be commensurate with labour input. This differs from the single household blocks, where money received for harvesting assistance often does not reflect the labour input of individual household members, and where reciprocal co-operation is the norm.

The changes observed in harvesting arrangements and income distribution appear to be driven primarily by generational and demographic changes on the schemes. However, it is likely too that socio-cultural change, increased demands for cash and economic pressure on blocks are also contributing to these changes. For example, young men at Kavui LSS now want to be paid well for their work, whereas in the past food or some other small payment was considered adequate remuneration.

The shift to a rotation (*markim mun*) rotation system on highly populated blocks where households are operating more like nuclear family units and where labour payment arrangements are changing is a major socio-agronomic transformation occurring on the land settlement schemes at Hoskins (probably Bialla too where population pressures are also a factor). However, it should be remembered that many multiple household blocks continue to work together and share income and food, but the rotation system appears common and is increasing.

The transition that is occurring in smallholder household types and production strategies presents new challenges to the industry. Although there are only limited data to support the following claims, we suspect that the move to the rotation (*markim mun*) system has four important implications for block productivity and smallholder interventions:

1. Oil palm productivity is higher on highly populated blocks that have not moved to the rotation (*markim mun*) system. Families that harvest together tend to have more people involved with the harvest and therefore can harvest more of the crop. In a rotation system fewer block members may participate in a harvest round so harvesting is more likely to be incomplete.
2. Under a rotation (*markim mun*) system, there is a higher probability that block maintenance (or replanting) is neglected or disputed (the tragedy of the commons argument). For an individual household wishing to minimise its labour expenditure while maximising its income, it makes more economic sense not to engage in block maintenance as the benefits from such labour (higher yields) are dispersed amongst all resident households including those that did not contribute to block maintenance.
3. Under a rotation (*markim mun*) system, where economic pressure exists, it is more likely that there will be a reluctance to poison old palms and replant. The loss of income may be considered, in the short-term, too great.

4. Under a rotation (*markim mun*) system there is probably more incentive to abuse industry credit schemes or the mama card (Chapter 7.2 and 8.3) as individual households seek to maximise their oil palm income during their allocated payment month. On blocks where each household is receiving only three or four oil palm cheques a year, then the temptation to avoid loan repayments or to place a significant quantity of fruit on the mama card could be irresistible, especially since the costs of such a decision (e.g., loan repayments) are shared amongst all block households.

Potential interventions for highly populated blocks are explored in Chapter 8.

Box 5.1. Single household (*wok bung*), Gaungo VOP, Hoskins

Bernadette and Bill reside on Bill's sister's block. They have a 4 year old daughter. Currently two adult male in-laws, Mark and Steven are temporarily living on the block. Mark and Stephen are supported financially by their brother who works as a supervisor with NBPOL, and they also occasionally receive a share of the oil palm cheque on the block. During the survey period, the visitors were building a chicken house to start their own poultry business. Their brother provided the money to start the business and they will share the profits with him.

Bill and Bernadette harvest oil palm only once a month, and decisions on harvesting are made jointly. Although only a 2 hectare block, they usually receive help from close kin at harvesting and the number of kin involved in the harvest is relatively large. A harvest during the study period involved:

Bill – cutting fruit;

Bernadette – wheelbarrowing fruit and stacking bunches;

Steven cutting fruit and collecting and wheelbarrowing loose fruit;

Anna (Bill's brother's wife) collecting loose fruit;

Peter (brother) cutting fruit,.

Lucy (niece) wheelbarrow fruit

Loose fruit was weighed on Anna's mama card and the money will be shared with her family. According to Bill and Bernadette the main reason for inviting relatives to harvest is to promote solidarity amongst the kin group, as sharing wealth is instrumental in maintaining kin and social relationships. This social aspect of oil palm production is very important.

The oil palm income is controlled by Bernadette. She collects both the papa and mama cheques and distributes the household income. Bernadette gained control of the household income after they moved to Madang where Bill worked previously. Bill respects his wife's claims on the household income and acknowledges that he would fritter the money away if he kept the papa cheque. At times there are disputes over the income but overall it seems to work. Bernadette manages the income well, and it was the only household in the survey (including Kavui) where each week at least K10 was spent on store foods.

Because Bernadette has control of the papa card, it means that she can often allocate the collection of loose fruit (and the mama cheque) to female relatives. Being able to distribute income was seen by Bernadette as one of the main benefits of the mama card.

There is great variation in the amount of fruit harvested each month. This is explained by several factors such as competing activities occurring in the village, the need for cash and the availability of labour. The block also has several sources of alternative income:

- selling clan land to settlers (mainly the sons of LSS settlers);
- timber royalties;
- fishing;
- currently establishing a chicken business on the block;
- one small pig.

As expected in a village context much energy is oriented towards kinship-based activities and transactions, most of which is mundane daily exchanges of food and gardening help.

Box 5.2. Single household (*wok bung*), Igora LSS, Popondetta

Kathie and Luke migrated from the Sepik to Popondetta in 1979. Currently five children live on the block: two adult unmarried sons (Paul and Robert), a teenage daughter (Susan) a 10 year old son and 6 year old daughter. Also living on the block is their first born daughter's 5 year old son. Kathie's brother has been living on the block since June 2000. Their two eldest sons work in other provinces and provide financial assistance to the family when necessary.

Four hectares are planted to oil palm. The family harvests for most pick-ups, with all family members working together to harvest the block, including the young children. Paul and Robert do most of the harvesting as their father is too old to do the physically demanding task of cutting fruit. Luke usually helps wheelbarrow the fruit. Kathie and Susan and the two youngest children collect the loose fruit.

Because of the number of male adults on the block, labour shortages are not a harvesting constraint. Luke told us that before they finished re-paying their loan, the family harvested for every pickup. Now he does not feel the pressure to harvest every round and claims he only harvests when he feels like it. The sons will usually harvest if their parents are not interested.

The oil palm cheque is deposited in Luke's bank account and then shared with the sons. This appears to work well as the sons continue to do most of the work on the block, including maintenance work. The sons usually accompany their father to town on pay days. Paul believes the amount of money he receives is reasonable. He acknowledged that some young men are not pleased with the small amount they receive for their labour and relayed how on other blocks, some young men have disputed their father's control of the block. In some cases the sons have taken control of the income on the block and the parents are now dependent on the son for money.

Kathie has control over the mama cheque and shares it with Susan and the younger children. The remaining money is spent on food for the family and other household items. Kathie sometimes sells food at the community market, but the main income source on the block is oil palm. The customary landowners, through intimidation and threats, discourage settlers from other areas from establishing small businesses on their blocks.

Box 5.3. Caretaker household, Sorovi LSS, Popondetta

This block is owned by Raymond, an employee of Higarturu Oil Palm Ltd who lives on a company compound. Patrick and Rita from Morobe Province have been caretakers for 5 months and live on the block with their six children – all under the age of 15 years. Prior to being caretakers they lived on Rita's brother's block at Sorovi. They heard that Raymond was looking for caretakers for his block and approached him. Rita is from the same village as Raymond's wife and they all belong to the same ethnic group. Before Patrick and Rita moved onto the block, Raymond paid a youth group to harvest the block.

Four hectares of oil palm are planted, but Patrick never manages to fully harvest the block as he is the only adult male on the block. Without control of the block income (see below) he cannot afford to hire labour. He works alone cutting fruit and is helped by his younger sons in transporting the fruit to the road. Cutting the palms on this block is arduous work as the palms are very tall and ready for replanting. Rita and the eldest daughter collect the loose fruit and the young sons help in transporting the loose fruit to the road. There is no mama card on the block. During the survey period, they missed two harvest pick-ups because their wheelbarrow broke and they were waiting for the caretaker to visit the block so that they could request a replacement.

The oil palm cheque is deposited into the owner's account and he then allocates some of the cheque to Rita and Patrick. The amount of money they receive varies depending on the price of oil palm. According to the caretakers, if the price of oil palm is reasonable then they may receive K100 or more, but if the price falls they can receive as little as K50 and, on occasions, they have received only store bought food and no cash. A few times the owner has given them a 5kg bag of rice rather than cash payment for their harvest labour. Both are unhappy with the remuneration they receive. Patrick said that his main concern is that he will not have enough money to pay his children's school fees this year (around K290). The payments they receive for their labour from the owner is used to buy food and other essential household items. The family tries to save a little of each payment to put towards school fees.

Patrick and Rita have gardens on the block which they rely heavily on for most of their food and for the sale of garden crops for some additional income. Rita and the eldest daughter also supplement the diet by fishing regularly in a nearby creek.

In the last week of the survey period the owner visited the block to ask Patrick to prepare two hectares for replanting.

Box 5.4. Caretaker household Gaungo VOP, Hoskins

This 2 hectare block was bought by a “settler” who currently resides at the new subdivision of Soi at Bialla LSS. The owner has his widowed brother, Simon, as caretaker of the block. Simon has two young sons. Also living on the block is Paul. Paul’s brother owns a block nearby, but following a dispute with the brother, Paul was evicted and Simon took him in. Paul helps with harvesting and block maintenance. Paul has lived away from his village for over a decade and claims that it would be very difficult for him to return and access land as both his parents are deceased and he is the youngest brother. For most of the survey period Simon had two young male relatives visiting him and his mother also arrived for a two week visit.

Simon and his brother have agreed that the primary harvesting card be used to pay off the debt for the recently purchased block at Soi and the mama card became Simon’s income. The primary cheque is deposited directly into Simon’s brother’s bank account. To increase Simon’s share of the oil palm income, fruit bunches are also placed on the mama card, and for most of the survey period the tonnage was higher on the mama card. Simon decides how much fruit is to be weighed on the primary card. Whilst the amount of income he allocates himself varies depending on his family’s needs (e.g., hosting visitors from his home village) or the price of oil palm, he stressed it is important to give his brother a share which his brother views as fair and reasonable. In this way, disputes over income will not emerge and there will be no reason why his brother should want to evict him (a common problem on caretaker blocks).

Simon said that once the debt on the Soi block is reduced to a reasonable level, then he will increase the amount of fruit weighed on his mama card, giving him a higher income. It is likely, according to Simon that his brother will remain living at Soi and Simon will take control of the block at Gaungo. As there is no debt on the block, the mama card provides the brothers with a very convenient way to share income.

Simon is a high producer and harvests every pick-up. Because of the frequent harvesting and small area to be harvested, the harvest is usually completed in one day. The general pattern is that Simon cuts the fruit and Paul collects loose fruit and transports the fruit to the road. If additional labour is required, a visitor will help cut and transport fruit. Sometimes if relatives in his home village need money, Simon will “mark” a month for a family member to visit and harvest the oil palm.

Simon has two large gardens. Most crops in his garden were planted by village relatives who have little access to garden land. When the crops are ready they return to Gaungo to harvest them. The food is used for household consumption and a large section of tobacco is often planted for sale at local markets. To maintain high garden yields Simon applies oil palm fertiliser. His last purchase of fertiliser from the company included two extra bags for his garden.

Box 5.5. Multiple household (*wok bung*), Kavui LSS, Hoskins

The original blockowners, Martin and Lina from Morobe Province, reside on the block with their six sons. The eldest son Michael is married and lives on the block with his wife Patricia and six children. Robert (18yrs), David (approx 16yrs), Julius (approx 13 years) all live and work on the block. Yoan lives on the block and attends school – grade 8. Last born Api, 8 years lives on block. A total of 15 people live permanently on the block.

Two single sons are currently working for NBPOL and live elsewhere in West New Britain and another daughter is temporarily visiting a sister in their home village. The third born son lives permanently in his wife's village in Morobe province. Links with children living off-block are maintained as are links back to Martin's village.

All family members sleep in the one house and work together in gardening and harvesting. Unlike many young men at Kavui, the young males on this block spend little time away from the block, but rather are active in gardening, block maintenance and harvesting work. The explanation for such "disciplined" behaviour is partly found in the strict behavioural codes associated with their religion which espouses a strong work ethic, family unity and self discipline. Their religion also opposes the consumption of tobacco, alcohol and betel nut - which are very popular among young males.

The family harvests together for every pick-up and all members of the family contribute to the harvest. It is not unusual to have 7 or 8 family members working on a harvest. If family members are sick, then relatives living on other blocks are called upon. The father controls decisions regarding harvesting and has put a system in place whereby all members of the family will cut and transport fruit from one section of the block before moving onto the next section. In this way no one individual is given an easier or more difficult section to work on.

The large number of people working on a harvest means that all 6 hectares of oil palm are harvested each harvesting round which places the block in the top high producer category. In 2000, the average monthly income was K531.45 (papa card) and K241.05 for the mama card. The family identified several reasons for their "high producing" status. One, they only cut ripe bunches - these are the heaviest (highest oil content). The father learnt this while working for the plantation many years ago. Second, there is no conflict between the brothers and the family has not moved to a rotation system which they see as an inefficient production system because of the limitations it places on the number of labourers per harvest. Finally, they cut fruit just before the truck pickup (fruit bunches begin to lose weight after they are harvested).

The oil palm cheque is paid into the father's bank account and part is distributed among the family. Some income is used to buy food for the family and some of the proceeds remain in Martin's bank account. For example, during the survey period the block received an oil palm cheque (papa cheque) for K390. K212 was disbursed among 9 male members on the block and one cousin who helped with the harvest. Individual shares of the cheque ranged from K10 to K40 depending on the level of work carried out on the harvest and the age of the son. After spending some money on food for the family and putting aside K70 for the father and son to attend a religious retreat, the balance remained in Martin's account as savings.

The father appears to make all decisions over the disbursement of the papa cheque. Although there is some discontent with this system (see below), it obviously works well as the young sons continue to harvest. Whilst the distribution of income by the father provides some income to all members of the family, a few family members complain that the small share they receive prevents them from saving any money. Michael and Patricia, for example, would prefer that the father occasionally allocate them a month for the papa card to allow them to save some money to visit relatives in other provinces. Also Robert would like his father to open a bank account for him so he can save to buy an oil palm block as he is concerned about future pressures on oil palm income with so many brothers living on the block.

Cont...

Box 5.5 cont.

The mama cheque is rotated monthly between Lina and Patricia. When it is Lina's month, Patricia helps her mother-in-law with the collection and transporting of the fruit to the roadside— this is expected in her role as daughter-in-law. Occasionally, Lina will help Patricia collect loose fruit. Lina and Patricia tend to use the mama cheque in the same way. Both use the money to buy food and clothes for the family and will distribute some of the money to their children. According to the women, they were collecting loose fruit regularly prior to the introduction of the mama card and they were receiving a share of the papa cheque. '*Martin em scalim [papa cheque] gut long ol pikinnini na meri*'.

A further characteristic of the block is that there is much garden labour cooperation between. Additional income is earned by the women at local markets. There are three small peanut gardens on the block which provide block residents with a good source of extra cash. There are no other businesses on the block.

Box 5.6. Multiple household (*wok bung*), Igora LSS, Popondetta

Rex and Grace are the "owners" of the block and are from the neighbouring village of Horihita. They were given the block by Rex's brother-in-law as part payment for a brideprice. Rex and Grace reside on the block with their three children, and Rex's widowed mother. Their last born child, Giona is married and lives on the block with her husband, Francis, and two young children.

The block has four hectares planted to oil palm and some reserve land for gardening. Rex and Francis share most of the harvesting and on occasions are helped by Rex's sister's husband who lives nearby. If they are short of labour they receive help from relatives in Horihita village. Rex makes all decisions on block harvesting and maintenance. He also works on a casual basis as a carpenter and is regularly undertaking off-block work. Sometimes when he is absent he will allocate the harvest to Francis. If Rex has not allocated a harvest to someone in his absence, the block is usually left unharvested, so irregular harvesting can be partly explained by Rex's frequent absences from the block. The block has very low production with very few harvests over a period of several years.

Oil palm payment arrangements vary. Francis claims that sometimes when he cuts the fruit with Rex he receives only a small portion of the cheque while Rex receives the rest. Sometimes if he harvests alone in Rex's absence he is given all the cheque. At other times if Rex needs the money he will keep all the proceeds of the oil palm cheque, despite the help received from Francis. Towards the end of the survey period Grace was issued with a mama card. The mama card will be shared with her daughter Giona. It would be expected that as a daughter-in-law Grace would also share the proceeds of the mama card with Rex's mother living on the block.

Being close to their village, they remain involved in customary exchange transactions. Sometimes they will either give cash from oil palm income or invite someone to work and harvest their block and let them keep the oil palm cheque.

For the last two weeks of the survey period the family was preoccupied with preparing for a *Pondo* (feast) exchange. The *Pondo* is for the adoption of their youngest child. The biological parents were to be presented with a selection of store bought foods, a pig and a substantial quantity of garden food - mostly taro and banana, as well as coconuts, betel nut, pumpkin, sweet potato and sugar cane.

The store bought food and the pig were purchased by Rex. On the last two visits to the block during the survey period many relatives had contributed garden food for the *Pondo*. Most brought taro, betel nut, and tobacco – valuable contributions. Most relatives were staying on the block until the *Pondo* exchange was completed. Other relatives were expected to arrive closer to the day with food for the exchange. Nearby blockholders from other provinces (e.g., Morobe and Sepiks) have also

contributed food to the *Pondo*. Similar to other large *Pondo* events, this exchange was planned months ahead to allow gardens to be prepared. Cont...

Box 5.6 cont.

Grace told us that because of the prevalence of *Pondo* amongst the local population, oil palm production is intermittent. Some people may not harvest their block for several months but then will do a complete harvest to help with a *Pondo*, or they may harvest and weigh the harvest on another card (when this occurs no production is recorded on the block).

Box 5.7. Multiple household rotation (*markim mun*), Kavuii LSS, Hoskins

Twenty six people reside on this block including the elderly owners Agus and Wutnia, some of their children and close kin. Agus and Wutnia left their Sepik village in 1958 and have 10 children. Two sons live in their home village and 2 daughters have married and live on nearby blocks.

Three sons (Aron, Wemen, Terrence) and one daughter Dominica are married and reside on the block with their spouses and children. The youngest daughter is single and lives with her parents. For the second half of the survey period, Terrence, his wife and three children were temporarily absent - visiting in-laws in Madang. Two male relatives (David and Phillip), both with their wives and children also live on the block. A total of 7 households reside on this 6 hectare block. Each household acts as an individual production unit. While there is the usual sharing of food among kin, each household has its own gardens and income sources. There is limited exchange of garden labour and very little co-operation among households in oil palm harvesting (see below).

The large number of households places great economic pressure on the block, which appears to be relieved by households moving off the block for short periods. For example, for most of the survey weeks, at least one of the seven households was absent for more than five days.

Agus holds authority on the block and maintains control over harvesting labour and the flow of oil palm income. Because of the large number of households on the block a rotation (*markim mun*) system of harvesting is used. Agus makes all decisions regarding harvest allocations to particular individuals/households on the block, for both the mama and papa card. This is said to reduce conflict on the block. His decisions relating to the harvest rotation are often based on the needs of individual families, and are an attempt to distribute equally the income between households on the block.

Although there are no set rules on how income should be distributed on the block, there is an expectation that people should show generosity if there are not great demands on the income. The rotation system, whilst acting to distribute the income to all families, is not a very efficient harvesting system because the allocation of a harvest to one household results in only two or three adults from a particular household working on a harvest at any one time. The outcome is that the block is usually not fully harvested. Another problem on this block is that a family whose turn it is to harvest tends to put more fruit on the mama card to avoid loan repayment deductions on the papa card. This explains why the tonnes recorded on the mama card are often equal to or about two-thirds of that placed on the papa card.

Although Agus carries out all block maintenance, he and Wutnia do not harvest oil palm. They do receive a small share of the oil palm income, but rely mostly on money Wutnia earns at local markets. Wutnia often sells cassava "sago" which is undertaken by both Wutnia and Agus. Money earned from selling cassava "sago" can be significant— sometimes earning as much as K20. Agus and Wutnia spend a great deal of time gardening and working together and sharing domestic tasks such

as collecting firewood. Mutual co-operation and respect is a marked feature of their relationship.
Cont...

Box 5.7 cont.

The mama card is in the name of the eldest daughter living on the block and like the papa card is rotated among households. A month is allocated to a particular female head of household, and it is expected she will distribute part of the income to her husband, children and sister-in-laws. Marketing and gardening are also important as they provide an area where women have complete autonomy and control over the income derived. Wutnia and Katarine (Aron's wife) described themselves as '*meri long market*' – identify strongly as market women. They market at least once or twice a week and the income is the household's main source of cash while they wait for the papa cheque.

A considerable amount of time is spent on gardening by women. Twenty-six gardens in various stages of cultivation were recorded. . Many of the gardens surveyed were planted with produce to be sold at local markets. Also, the block backs onto company (SBLC) land and this provides the households with additional land for gardening. Some gardens are also cultivated on the adjoining block owned by Agus' brother.

The block residents have extensive social and kinship networks with other blocks. There are many closely related and more distantly related kin living on blocks at Kavui and on other land settlement schemes in the Hoskins project and in the town of Kimbe. Also the family maintains ties back to the village. Hence, customary exchange is important and occasionally places demands on people's time and finances.

Towards the end of the survey period, Phillip (visitor) opened a small tradestore on the block and planted over a dozen betel nut palms. The tradestore and betel nut is anticipated to provide most of his household's income in the future.

Box 5.8. Multiple household rotation (*markim mun*), Kavui LSS, Hoskins

The original blockowner and his wife migrated from the Highlands to the land settlement scheme in the early 1970s where they raised five sons. The parents are now deceased. Three sons are married with children and two are single (of marriageable age). Until March 2000, all sons and their respective families lived on the block. Presently, one married son and his two younger single brothers are visiting the Highlands and intend to return early next year. The brothers have no links to their home village; nor do they have rights to village resources. They are visiting in-laws. Two married brothers, Yopo and Nali remain living on the block with their respective wife and children. The block population during the survey period was 6. When the brothers return, there will be four households totally 11 people residing on the block.

When the father was alive he made most decisions on the block relating to oil palm harvesting and income distribution. Oil palm was harvested with all sons working together (*wok bung*). After the father died conflict over ownership and control of the block emerged between the brothers, when the first born son (Francis) was "officially" given title of the block. As Francis attempted to take on the leadership of the block, the other brothers disputed and resisted his new role. Yopo took over the role of '*mausmari*' (spokesman) for the block. With all five brothers living on the block a rotation harvesting system was introduced. At harvest times the brothers would work together to cut the fruit, but the heavy and time-consuming task of carting fruit to the road was carried out by the brother who was allocated the cheque for the month. Although a cheque was allocated to a particular individual, the holder of the cheque was obligated to reward the other brothers for their help at harvest time by giving them a small portion of the oil palm cheque.

Box 5.8 Cont.

While this system aimed to distribute the income to all households on the block, there were problems. Often a brother would dispute the allocation of a "month" to a particular brother, or one of the brothers would collect the oil palm cheque when it was not his allocated month. Also, the distribution of oil palm income regularly resulted in fights between the brothers, and no one brother would take responsibility for block maintenance. Finally, the rotation system meant that each brother would only receive a cheque twice to three times a year, resulting in families relying on other sources of income and/or relying on the generosity of the cheque holder of a given month. It was a fight over the oil palm cheque earlier this year that resulted in Yopo evicting his three brothers from the block. Yopo now claims ownership of the block.

Yopo and Nali sometimes work together to harvest the block, though Yopo does most of the harvesting as Nali has off-block income. With Yopo doing most of the harvesting and block maintenance on his own, he rarely is able to harvest the full 6 hectares of oil palm. On his own, and sometimes with the help of his young son, he will harvest two hectares. With his brother Nali, or with the help of friends, he may harvest the full 6 hectares. For block maintenance and fertiliser application Yopo often relies on the help of young single men. They are sometimes paid with cash or provided with cooked food.

Ruth (Yopo's wife) has two sweet potato gardens on the block and a peanut garden on a nearby block belonging to an in-law. The peanuts will be sold at local markets. Currently, Ruth does not sell food at local markets as she says she does not have adequate garden space on her block. Most food in the garden is used for consumption and part of the sweet potato production is fed to her pig which will either be sold or used in exchange. Ruth also has a chicken business which she shares with her son. She collects loose fruit, and her husband (or others) transports the loose fruit to the road. Yopo also collects loose fruit and shares in the mama cheque. There is no strict division of labour for loose fruit collection. On one harvest during the survey period, Yopo collected most of the loose fruit, but the money was shared with Ruth. Ruth does not exercise complete control over the loose fruit collection nor the distribution of oil palm income. Instead, the mama card appears to be used as a convenient way to earn more cash when loan repayments are very high. Ruth rotates the mama cheque with Dorothy (Wemen's wife).

Both the mama and papa cheques are deposited into Yopo's bank account and Yopo appears to control the distribution of income from both cheques - although this is not always the case. For most months during the survey period, the mama cheque provided the main source of income on the block because more fruit was placed on the mama card than the primary card. Approximately 70% of the gross income on the papa cheque is deducted each month to repay a bank loan taken out in early 2000 to fund the brothers trip to the highlands.