

CHAPTER SEVEN

INDUSTRY AND OPIC INTERVENTIONS

7.0 Introduction

This and the following two chapters review the major company and OPIC interventions that have recently been implemented to increase smallholder production at Hoskins and Popondetta (Appendix 1.1 lists OPIC's strategic objectives for 1999-2003 for the two schemes). The industry's goal is to increase smallholder production to 50% of total national production by 2003 (OPIC 1998). To achieve production increases in the smallholder sector the industry relies mainly on:

1. Increasing smallholder productivity.
2. Developing new areas of oil palm.

In this chapter we briefly review smallholder credit schemes, fertiliser incentive schemes, top-up (infill) oil palm plantings on LSS blocks and the replanting programme. In reviewing the main initiatives for smallholders, we highlight the potential of interventions to maintain or enhance household economic and social security while increasing smallholder production and/or productivity. The positive or negative effects of smallholder interventions are assessed by giving consideration to their impact on income levels and distribution, risk reduction, access to resources, people's capacity to meet their needs, the range of options and choices available to households, gender relations, and household social cohesion. The analysis is not always straightforward as some interventions, such as replanting, may increase household economic and social security in the long-term, but may be perceived by smallholders to have short-term negative effects on household income levels. Yet, acknowledging how interventions

impact on household economic and social security assists us to anticipate peoples responses to certain interventions and therefore can lead to better formulated policies and intervention strategies.

7.1 Increasing Smallholder Productivity

Chapter 3.1 indicated that smallholder yields per hectare are much lower than those for the plantation sector and average yields per hectare for the VOPs are consistently lower than those of the LSS subdivisions, with the exception of Popondetta (ADS (PNG), 2001). Whilst there have been recent increases in smallholder yields at some of the oil palm schemes (such as Hoskins, Bialla and New Ireland), there is scope for further improvements in productivity.

Over the last five years several company and OPIC smallholder interventions aimed at increasing smallholder productivity have been introduced with varying success. Some of these have been advanced in part due to the strengthening and reorganisation of the smallholder affair units at both NBPOL and HOP. On the other hand, deteriorating infrastructure, especially roads, minimal State and provincial government support and the increasing ratio of smallholders to OPIC extension officers have made potential productivity gains more difficult to attain.

The most important recent company and OPIC initiatives include:

Short-term

- ◆ Mama Lus Frut Scheme (Hoskins and Popondetta)
- ◆ Smallholder Credit Scheme (Hoskins and Popondetta)
- ◆ Fertiliser Incentive Scheme (Hoskins)

Long-term

- ◆ Top-up plantings on LSS blocks (Hoskins and Popondetta)
- ◆ Replanting programme (Hoskins and Popondetta)

The Mama Lus Frut Scheme is discussed in detail in Chapter 8.

7.2 Smallholder Credit Schemes

NBPOL and HOP advance interest free short-term, in-kind credit to growers with loans repaid through deductions from grower FFB income. At Hoskins, in-kind credit is given for tools, fertiliser and seedlings with repayments made at 50% of gross FFB income over periods of 3 months, 12 months and two years respectively. The credit scheme was introduced in 1994/95 following a report (Campbell 1994) recommending easier access to credit for seedlings, tools and fertiliser to boost smallholder production. According to company smallholder officers, prior to the scheme, lack of or damaged tools for regular harvesting and limited use of fertiliser by smallholders were significant factors explaining low productivity among smallholders. King *et al.* (1998, 2) claim that increases in yields among Hoskins smallholders between 1994 and 1998 were due in part to the increased application of fertiliser as a result of the introduction of the credit scheme.

At Popondetta, interest free credit facilities are available for fertiliser (for established blocks), tools and nets. Repayments are deducted from grower FFB income at a rate of 50% of gross income where no other deductions are being made. However, due to supply problems of fertiliser in the Popondetta scheme and transport difficulties, improvements in fertiliser use have not been as noticeable as in Hoskins. Presently, at Popondetta loans for block development and replanting are funded through the World Bank Oro Expansion project. Loans are recovered by HOP with deductions of 30% of FFB gross income. Access to project loans closes at the end of December 2001 and other sources of credit will need to be arranged (Section 7.5). There are no indications that HOP will extend credit for block development.

At Hoskins and Popondetta, the credit schemes suffer from growers avoiding debt repayments and both companies have made modifications to oil palm payments to reduce levels of debt avoidance (Chapter 8.4 and 8.6). However, at Popondetta, the problem of debt avoidance is more difficult to manage as growers can sell their fruit to private transport contractors where their production is recorded under the name of the contractor.

Despite problems with debt avoidance, interest-free in-kind credit to smallholders remains very important for maintaining and enhancing smallholder productivity and for ensuring the future growth of the smallholder sector. Because smallholders generally have difficulty securing loans from commercial banks, it is recommended that the interest free credit schemes currently provided by the companies remain in place.

7.3 Fertiliser Incentive Scheme (Hoskins)

In 2000, to further increase fertiliser application rates, NBPOL introduced an incentive scheme that refunded growers with K3.00 cash per bag of fertiliser applied. This K3.00 refund was added to the total cost of the loan. The cash refund provided a financial incentive to growers short of labour to employ youth groups, church groups or women to apply the fertiliser. The incentive scheme was being introduced during fieldwork and therefore it was too early to assess the full effectiveness of the scheme. Based on interviews with extension officers and growers and our observations at Kavui and Gaungo where the scheme was being introduced, the cash incentive was acting to free up labour and improve fertiliser application rates by smallholders.

Prior to the introduction of the cash refund for fertiliser application many growers did not apply fertiliser and often bags of fertiliser were left stacked under growers' houses, sometimes for many months, or remained at the roadside verges of blocks where they had been delivered. Within weeks of the introduction of the cash incentive scheme, Kavui and Gaungo growers were applying their fertiliser within a week of delivery, the stipulated period within which fertiliser had to be applied for growers to obtain their cash refunds. The apparent success of the scheme says much about the cash needs of smallholders and the strategies they employ to access cash. Cash-short growers, especially during depressed oil palm prices, will choose strategies that meet their immediate short-term cash needs. The fertiliser cash incentive worked because it provided immediate cash benefits even though, in the longer term, overall debt levels increased. This is very different to the situation described below

(Section 7.5) where Popondetta growers are reluctant to take out replanting loans. The fact that growers were willing to go further into debt to gain immediate access to cash reflects not only the economic plight of smallholders during depressed prices for oil palm, but also how responsive smallholders can be to appropriate financial incentives that meet their needs.

7.4 Infill Plantings on Existing LSS Blocks

The industry is also increasing smallholder production by encouraging LSS growers with blocks of 6/6.5 hectares or more to plant 6 ha to oil palm. Most LSS smallholders with 6 hectares or more plant 4 hectares to oil palm and retain 2 ha for gardening land.

Some growers in the Hoskins scheme have planted all 6 hectares to oil palm. These tend to be blocks where garden soil fertility is perceived to be very poor, or where several households co-reside on the block, and/or have relatively good access to additional gardening land adjoining or near the block. While some smallholders clearly see advantages in planting the whole block to oil palm, many do not.

This study briefly assessed the 6 hectares expansion initiative and found smallholders held mixed views. Many growers with whom we spoke did not feel that it was appropriate for their own block, but recognised that for some families it could relieve some of the financial pressures on the block, where, for example, the soil was poor or unsuitable for gardening.

The most common reason why smallholders did not view expanding oil palm planting to 6 hectares as appropriate for their own situations related to the impact such an initiative would have on gardening and household food security. Because of the importance of gardening for household food consumption and income, many smallholders felt that household food security would be threatened by allocating more land and family labour to oil palm production. At Sorovi sub-division, Popondetta, we interviewed some smallholders who attended an OPIC field day last year where infill planting was encouraged. One

Sorovi smallholder felt that the suggestion by OPIC to plant all the block to oil palm illustrated how out of touch the organisation was with the everyday situation of blockholders. He remarked:

*Gaden kaikai em wanpela bikpela samting long ol blok man na meri.
Ol OPIC lain ino save long laif long blok olsem na ol tok long planim
wel pam long blok.*

Garden food is something that is very important to male and female smallholders. OPIC staff have no understanding of life on the blocks and that is why they talk about planting the full block to oil palm.

He also referred to the recent drop in oil prices to highlight the risks involved in planting the whole block to oil palm. He added that at least with a garden one could rely on garden food and selling food at markets when the price of oil palm falls. His wife who had also attended the OPIC meeting recalled:

*Olgeta settler komplain na tok prais bilong wel pam save go antap
sampela taim tasol, na suppose prais igo daun tru bai mipela kisim
kaikai long we na kaikai?*

All settlers complained [to OPIC] and said the price of oil palm is known to fluctuate, but if the price drops significantly, then where will we find food to eat?

Another female smallholder at the meeting expressed her concerns with OPIC's message to plant all the block to oil palm:

*...ol ino tingting long how bai mipela istap long blok. ... Mi
wari long ol pikinnini bilong mi, ol bai kaikai wanem samting
sapos nogat kaikai long gaden.*

...they [OPIC] don't think about how we will cope on the block. ... I worry about my children. What will they eat if we don't have garden food.

These sentiments, especially those of the women, are indicative of the strong resistance many have to planting their full blocks to oil palm.

Restricting women's access to garden land may not be in their interest. Women are expected to provide food for their families, and reduced access to garden land would add to their burdens as wives and mothers. Also, women usually have control of income earned from selling garden food at local markets, unlike oil palm income which is more open to the claims of male kin. Limiting access to garden land and market income has, therefore, the potential to disadvantage not only women, but all members of the household. Moreover, it is probable

that some women would seek gardening land elsewhere (e.g., on State or company land), which may result in increased environmental pressure on State reserve land. If gardening land is located at some distance from the block, it may mean that women have less time to devote to oil palm production and block maintenance. Because gardens are viewed as a means of maintaining household food security and lessening the risks associated with fluctuating oil palm prices, extension efforts may be better directed to supporting not undermining gardening. This study therefore disagrees with the recent recommendations of a World Bank report (ADS (PNG) 2001, 83) to develop oil palm on the rear 2 ha of garden reserve land on LSS blocks.

Another initiative to expand LSS oil palm plantings is the creation of new subdivided blocks on the larger LSS blocks. The newly created “expansion” blocks are owned by relatives and/or the offspring of the original leaseholders who are issued their own harvesting card. Because the initiative is not suitable for all blocks, the number of these “expansion” blocks is limited to 140. Approximately 63% of “expansion” blocks are between 7 and 12 hectares (ADS (PNG) 2001, 33).

Because of time constraints, this study was unable to examine the socio-economic impacts of these new “expansion” blocks. However, it is possible another harvesting card on a block may have the effect of redistributing income between family members and strengthening household economic security. For some blocks, the economic and social merits of the scheme are promising, although a more detailed analysis of the impact on access to garden land and inter-and intra-household social relationships is recommended.

7.5 Replanting Programme

To maintain the productivity and viability of the smallholder sector, the older oil palm schemes at Hoskins, Popondetta and Bialla are undertaking poisoning and replanting programmes as the palms mature beyond the peak production age of 15-20 years (Table 7.1). The focus on replanting is a recent move. For

example, the Bialla scheme began a replanting program only in 2000, and Popondetta's replanting program was delayed until 1998.

At Hoskins, approximately 3,000 hectares have been earmarked for replanting, although the rate of poisoning and replanting over the last two years has been well below expectations (F. Lewis pers. comm.). Hoskins OPIC has a replanting target of 500 hectares per year over the next few years. The low replanting rate can be partly explained by the low priority it has been given by the OPIC extension services. The OPIC field manager also reports that replanting has been stalled by some smallholders reluctant to forego oil palm income during replanting, and by younger male growers who show little interest in oil palm production. On the Hoskins LSSs, reluctance to replant is likely to be a function of population density where highly populated blocks are struggling already with low per capita incomes and any cut to oil palm income through replanting is likely to worsen their situation.

Table 7.1 Area (ha) identified for replanting at Hoskins, Bialla, Popondetta

	HOSKINS	BIALLA	POPONDETTA
Total area targeted for replanting (ha)	3,000	3,600	3,600

Source: ADS (PNG) (2001)

At Popondetta a replanting program has been funded under the Oro Expansion project which commenced in 1993. The replanting program began in earnest in 1997/98 with field days and meetings with smallholders to promote the programme and increase growers' awareness of replanting. The blocks targeted for replanting were those planted between 1977 and 1985, in the Sorovi, Igora, Saiho and Aika sub-divisions. The rate of replanting has been much lower than anticipated (Table 7.2) and the original replanting target of 3,600 hectares has since been reduced to 1,250 hectares due to lack of interest in replanting (ADS (PNG) 2001, 66). By 2000, 732 hectares had been replanted.

Table 7.2 Popondetta replanting targets and area (ha) replanted
1998-2000

YEAR	REPLANTING TARGET (ha)	REPLANTING ACHIEVED (ha)
1998	500 ha	28
1999	500 ha	238
2000	500 ha	566

Source: OPIC statistics

The low rate of replanting among existing Popondetta growers is in stark contrast to the enthusiasm shown by local landowners to join the industry and plant oil palm. This lack of interest in replanting places doubt on the future viability of the scheme. It therefore warrants some attention as to why growers are reluctant to replant. As part of this study we examined replanting issues in interviews with smallholders, OPIC officers, company representatives and the Lands Department. Smallholders were reluctant to replant for several reasons including high debt levels, potential short-term loss of income, tenure insecurity, rental arrears, poor road conditions and a view by some smallholders that replanting is unnecessary. Each is discussed below.

7.5.1 Smallholder avoidance of high debt levels

Under the Oro Expansion Project, credit is made available for existing smallholders to purchase a 2 hectare replanting package at a cost of between K2,500-K2,900, including interest and depending on the inputs purchased (OPIC replant budget). This covers the cost of poisoning old palms, new seedlings, fertiliser, chemicals and lining. The cost has increased substantially from 1997 when the package was just over K1,072. An 8% interest rate is charged on the replanting loan package, and loans are recovered by deductions of 30% from the gross income of growers.

Some smallholders are unwilling to take out what are perceived as large loans and therefore are reluctant to replant. For these smallholders, they may have existing loans with the Rural Development Bank or credit with the company,

and many feel that living expenses are already too high to accommodate further loan repayments. Smallholders with loans from the Rural Development Bank are largely those with Oro Housing loans. In January 2001, there were 105 blocks with outstanding housing loans that were initially taken out in the late 1970s – early 1980s when the Popondetta scheme was established. The typical loan was for K7,851 (Table 7.3) and only 17 loans have been repaid in full.

Table 7.3 Popondetta Rural Development Bank loan arrears as at January, 2001

	AMOUNT BORROWED (PNG KINA)	BALANCE OUTSTANDING (PNG KINA)
Mean	8,061	6,322
Minimum	7,851	359
1 st Quartile	7,851	2,655
Median	7,851	5,575
3 rd Quartile	7,851	8,843
Maximum	11,110	26,700
Total amounts	846,405	663,860

Source: Rural Development Bank data

In January, 2001, average loan arrears stood at approximately K6,322. Because of the poor repayment rates, large loan arrears and smallholder difficulties in repaying these loans, interest has not been charged on these loans since 1995. According to the Rural Development Bank, many of these loan arrears accumulated rapidly when the Oro-for-Oro campaign emerged in the early 1990s, when many settlers abandoned their blocks following harassment from local landowners. Also, the negative experience of these smallholders is widely known in the subdivisions and may be a disincentive to other growers taking out replanting loans.

Moreover, as Table 7.4 shows, for smallholders who take out a replanting loan and already have credit with the company and/or a Rural Development Bank loan (Grower A), repayments can take a substantial proportion of their gross income. Replanting package loans are deducted at 30% of gross income, and sundry loans from the company (after the development phase for tools, fertiliser, nets, etc.) are deducted at 50% of the remaining balance after deductions for the replanting package. If a smallholder has a Rural Development Bank loan, then this and credit loans with the company are deducted at 30% each of the

remaining balance after deductions for the replanting package are made. Hence, the reduction in net income from loan repayments can be substantial, especially if growers take out loans for replanting.

Table 7.4. Popondetta, smallholder budget for replanting loan repayments

	GROWER "A"	GROWER "B"
Gross monthly income	K100	K100
Less payment for replanting package (30%)	-K30	-K30
Less RDB loan repayments	-K21 (30% of K70)	
Less credit repayments to company	-K21 (30% of K70)	-K35
Net monthly income	K28	K35

Yet, there is an urgent need to encourage growers to purchase replanting packages. World Bank funding of these loans ceases in December 2001, leaving the availability of low interest loans in doubt, as it is unlikely that HOP will extend subsidised credit for replanting. It is also anticipated that by 2002 seedlings will rise in price from K2.50 to K4.00. Those blocks that do not undertake replanting before December 2001 are therefore likely to be confronted with increased costs for replanting and higher interest rates on loan repayments. Any additional replanting expenses may further discourage growers from replanting.

7.5.2 Smallholders averse to foregoing income

Many Popondetta smallholders are averse to poisoning mature palms because of the forgone income this will involve, and their already high levels of debt. Smallholders can expect to wait up to three years before the new 2 ha plantings mature sufficiently to generate reasonable incomes. They consistently expressed the view that the loss of income was a major disincentive to replanting. This was especially the case on the 2 hectare VOP blocks where growers would need to rely on alternative income sources. For VOP smallholders access to adequate gardening land and possibly other cash crop income may, however, make it easier to forego oil palm income during

replanting compared with LSS smallholders who have limited access to gardening land and very restricted alternative sources of income.

On 4 hectare blocks, replanting is arguably an easier option when 2 hectares remain in production. However, the low price for FFB at the time of fieldwork, is certainly a major disincentive to replanting for several reasons. Growers repeatedly stressed that they were reluctant to remove two hectares from production because their reduced income would be insufficient to cover basic household needs. From November to January 2001 some Popondetta growers said that they were postponing replanting until school fees were paid and many claimed they would be unable to meet the educational costs of their children if they replanted. As indicated above, this is particularly true on the Popondetta LSS blocks where alternative income sources are limited. Growers are also reluctant to acquire loans when prices are low as it means their net incomes after loan repayments are often insufficient to meet their basic needs.

Further, as pointed out by OPIC officers, people begin to lose interest in oil palm production during prolonged periods of low oil palm prices. Efforts by extension officers to encourage growers to replant are thus less likely to succeed when oil palm prices are low and when growers may be struggling to maintain their livelihoods. The replanting logic of smallholders is the reverse of that of the plantation companies. For the company, it makes sense to replant while prices are low as potential revenue losses are minimised. For the smallholder, the replanting option becomes more viable as oil palm prices rise because they are more able to reach a minimum income at which basic needs can be met. It is likely that the demand for replanting will increase as oil palm prices rise over the next few years.

7.5.3 Land disputes on LSS and VOP subdivisions

A major constraint on meeting replanting targets at Popondetta is the problem of land disputes on LSS and VOP blocks as outlined in Chapter 6. Insecure and uncertain tenure of some settlers on LSS and VOP blocks creates a disincentive to make long-term investments in their blocks. On the LSS subdivisions, where intimidation of settlers occurs, many smallholders expressed little interest in replanting. Smallholders were concerned that re-investment and development of their blocks would attract the attention of local landowners and were fearful that they would become targets of landowner anger.

In most areas of Papua New Guinea, the planting of economic trees and plants gives the cultivator ownership rights to the resources as distinct from the land on which they are grown. As such, investment in replanting may be viewed by landowners as a challenge to their authority and claim to “ownership” of land alienated for LSS. For this reason, some settlers are concerned that replanting may trigger a new round of efforts to evict “outsiders”. Also, at present, intimidation and harassment of settlers discourages them from establishing supplementary income sources on their blocks, such as PMVs, tradestores and poultry projects. Landowners claim that settlers were only ever granted rights to plant oil palm and thus they have no right to earn alternative income on this alienated land. Many settlers, though, believe that these restrictions also extend to the replanting of oil palm and believe that landowners would interpret their efforts to replant as attempts to establish new businesses which would be opposed vigorously. Although not presently harassed by landowners, some settlers claim that Oro-for-Oro sentiments still run deep at Popondetta, and as a consequence they are discouraged from replanting and making other long-term investments in their blocks.

There are a large number of abandoned and caretaker blocks at Popondetta as a result of land tenure disputes. Replanting is less likely on these blocks. Presently, there are approximately 2,000 hectares of “abandoned” blocks at Popondetta and interviewees from the Rural Development Bank, Lands Department and OPIC indicated that caretaker and abandoned blocks are a

legacy of the Oro-for-Oro campaign of the early 1990s when settlers fled their blocks. While many settlers have since returned, it seems that a proportion of them never returned and such blocks have been managed by caretakers; or occupied by squatters, mostly from local landowner groups. Many caretakers are living on the blocks with the consent of the leaseholder, but according to OPIC and HOP these blocks are not likely to be replanted. While the absentee leaseholder retains “ownership” of the block and therefore can either sell the block or return to live on it, caretakers are unwilling to invest in replanting when the benefits of replanting may not accrue to them. Also, absentee leaseholders may not be inclined to permit caretakers to replant because, as pointed out above, throughout much of PNG, the planting of economic trees/palms confers ownership rights on the cultivator. Further, if the caretaker works to repay the loan for the replanting package, this will build up their ownership claim to the block.

Disputes over ownership of VOP/LTC blocks are usually between landowning groups and settlers from other parts of Oro Province. These settlers may have married into the landowning group, and the sons are now finding their inheritance rights challenged. Such disputes have resulted in many “abandoned” and under-productive blocks. Like the LSS blocks, opportunities for replanting have led to the local landowners reclaiming blocks from non-clan members, or demanding a “rental fee” before allowing the block to be replanted. Often these demands are made by a younger generation of landowners and in many cases the block is either out of production or replanting is delayed well past the stage when it is necessary.

7.5.4 Rental arrears

All LSS blocks are subject to a land rental fee (land tax) payable to the Lands Department. For a variety of reasons, many LSS blocks are heavily in arrears. For example, some leaseholders have not paid rental fees since the Oro-for-Oro campaign and now have rental arrears in excess of K1,000. In 1999, the Lands Department collected only K20,000 out of the K90,000 owing from the LSS scheme.

Rental arrears have been a disincentive to replanting for two reasons. First, many blockholders already have high levels of debt and are reluctant to take on further debt. Second, until 1999, the Lands Department refused to grant approval for replanting of LSS blocks that had land rental arrears. This slowed the progress of replanting in the early years of the program. Under pressure from OPIC, the Lands Department has relaxed these restrictions and now permits growers to replant if they have rental arrears less than K1,000. Despite this policy change many growers still believe that they must first clear their debt with the Lands Department before they can obtain permission to replant.

7.5.5 Smallholders view replanting as unnecessary

The palms targeted for replanting are those planted between 1977 and 1985. However, many growers with palms 15-20 years old (planted 1980-85) do not think that their palms are too tall to harvest. These growers say that they will not replant while their palms are producing well and they can still harvest them. Given that funding for replanting will cease in December 2001, it is important that extension officers make growers aware of this situation as OPIC will come under pressure from smallholders for replanting packages when their palms become too tall for efficient harvesting or when the price of oil palm increases.

Another group of growers who do not see the need to replant are those that can be described as “hobby” farmers. These growers are more likely to be low to medium producers who have only a partial commitment to and interest in oil palm production. For these growers, oil palm is a resource that can be tapped into occasionally as the need arises. Thus for these growers to commit to a substantial investment of almost K3,000 for replanting is a difficult decision.

7.5.6 Road infrastructure

An ongoing problem affecting smallholder production and grower commitment to oil palm production is the poor and deteriorating road infrastructure that hinders fruit collection (Plate 1.1). Several industry stakeholders identified poor

road conditions in the Popondetta scheme as a major constraint on smallholder productivity and was also a factor explaining the reluctance of smallholders to replant.

Road maintenance has been neglected by the provincial administration for several years now, resulting in many smallholders not having their fruit collected for lengthy periods, particularly during the wet season. For example, in March 1999 almost 25% of roads were inaccessible and in the last week of January 2001, approximately 774 smallholder blocks were cut-off from transport collection due to impassable roads. Almost 300 of these smallholders had been without a harvest pick-up for nearly three months, and another 244 had no fruit collected the previous month. Whilst HOP continues to do patch-up work on the roads, road infrastructure is in urgent need of maintenance and upgrading. Also, poor road conditions mean that company and contractor trucks require continual repair work, resulting in fewer trucks available for FFB collection and less reliable schedules for FFB collection¹.

OPIC and the company acknowledge that smallholder frustration with unreliable fruit pick-ups and impassable roads (in some areas for up to four or five months) act as disincentives for growers to replant. When growers have continual problems with harvest pick-ups, the relationship between the company/OPIC and smallholders is undermined and OPIC officers are often blamed for the transport problems. Thus the role of OPIC to encourage growers to replant is made even more difficult and frustrating under these circumstances. Moreover, for growers affected by transport problems, it is understandable that they question both the purpose of replanting and their commitment to the industry.

These factors are often operating together to discourage replanting. Tenure security, levels of debt, potential income foregone, poor road infrastructure and unreliable harvest pick-ups, either singly or in some combination are major disincentives to replant. These problems will not be easily overcome and issues such as tenure security and road maintenance require long-term solutions that are largely outside the control of the industry.

7.6 Development of New Areas for Oil Palm Production

Alongside efforts to increase smallholder productivity, the industry is also encouraging the opening up of new areas to expand smallholder production. Development of new areas is largely restricted to VOP expansion and the development of mini-estates on customary land. Expansion of LSS schemes is unlikely because of the difficulty of alienating land for these purposes. VOP expansion and the development of mini-estates are discussed below.

7.6.1 VOP expansion

In all project areas VOP plantings are increasing (Table 7.5). At Hoskins, for example, OPIC has identified 3,000 hectares of land for potential VOP development over the next few years, and Popondetta is currently experiencing rapid growth in the VOP sector. The major expansion of VOP is occurring in villages that have not been part of the industry, although many are likely to have other cash crop holdings (Chapter 3.2.1). Infill is also occurring to a lesser extent in some existing VOP areas.

Table 7.5. Numbers and areas (ha) of VOP blocks in PNG. For 2000 and projected expansion

VOP BLOCKS	HOSKINS	BIALLA	POPOND-ETTA	MILNE BAY	NEW IRELAND
2000 number (ha)	1,634	1,067 (2,552)	4,448 (7,404)	536 (1,338)	648 (1,285)
Projected expansion ha*	3,500	NA	4,000	600	800

* projected expansion area – data from ADS (PNG) 2001

Popondetta currently has a large VOP expansion programme under the Oro Expansion Project funded by the World Bank. VOP planting has increased by over 7,840 hectares since the project commenced in 1993 (ADS (PNG) 2001), far exceeding the initial project target of 3,500 hectares.

Enthusiasm for oil palm at Popondetta may be a partial reflection of the protracted depressed prices for other commodity crops such as cocoa and copra. As mentioned in Chapter 3.1, smallholders actively attempt income diversification as a means of increasing income security. In this way, VOP expansion has the potential to provide benefits to smallholders by raising incomes, promoting income diversification and reducing risks. Also, with the recent introduction of a separate oil palm harvesting and payment card for women, there are potentially significant economic and social benefits to be gained (see Chapter 8).

VOP expansion has been so rapid in Popondetta that the provision of extension services and transport infrastructure has not kept pace with the new blocks coming into production. In some parts of the project area, road construction has been delayed leaving smallholders with no means to sell their fruit. Those within a few kilometres of a road have resorted to carting their fruit by wheelbarrow to the nearest collection point. At the beginning of 2000, OPIC reported that approximately 6,000 tonnes of FFB/month were being “lost” as producing blocks were unable to get their fruit to the mill because of access problems (L. Ruki pers. comm.). The lack of infrastructure development and deterioration of existing infrastructure is a serious constraint on VOP productivity in Popondetta.

7.6.2 Mini-estates

A new initiative of the industry is mini-estate development on customary land. Mini-estates are arranged under lease, lease-back regulations in which customary landowning groups register as Incorporated Land Groups (ILGs). The ILG then leases the designated land to the State which then leases it back to the ILG (the lease is registered under the Land Registration Act). The ILG then sub-leases the registered land parcel to the company on a 20 or 40 year lease. The company manages the estate, and the land owning group receives annual land rental fees and royalty payments. At Hoskins, ILGs are also issued with company shares. The shift to mini-estate production is driven largely by the restrictions on private companies obtaining alienated state land for plantation

development and in part by the interest of local landowners to enter agricultural sub-lease agreements with the oil palm companies².

In 2000, NBPOL had seven mini-estates totalling approximately 7,128 hectares (Table 7.6). The company also has plans to develop a further 19 mini-estates in the near future, in total an area of approximately 11,900 hectares. In 1998, Higaturu Oil Palms negotiated their first mini-estate agreement and now have six mini-estates totalling 2,051 hectares. Proposals for further mini-estates are being assessed which include up to 6,000 hectares on the Dobuduru grasslands (ADS (PNG) 2001). Both companies report enthusiastic interest in mini-estates by customary landowners. Milne Bay Estates and Poliamba have also recently entered into mini-estate arrangements with ILGs, and have plans to expand mini-estate production over the next few years. At Milne Bay, mini-estates occupy almost 2,000 hectares and plans for a further 11,000 hectares are under consideration (ADS (PNG) 2001).

Table 7.6. Mini-estate development in 2000 and proposed expansion

	HOSKINS	BIALLA	POPONDETTA	MILNE BAY (Alotau)	NEW IRELAND (Lakuramau)
Total mini-estate area (ha)	7,128	N/A*	2,051	1,975	309
Proposed expansion (ha)	11,900	N/A	6,000	11,000	3,000

Source: interview data and adapted from ADS (PNG) Report 2001

*Customary landowners have not entered into mini-estate arrangements with HOPL. Instead four Landowner Development Corporations have pooled their land and are self-managing their own oil palm plantation (ADS (PNG) 2001).

Mini-estates are a recent development and are undergoing rapid expansion. Yet, the long-term socio-economic impacts are little understood and difficult to predict. In a recent World Bank report (ADS (PNG) 2001) on the smallholder

oil palm sector in PNG, several concerns were raised relating to current mini-estate arrangements. These included:

- No obligations for the company in some lease arrangements to replant palms at the end of the 20 year lease period (Popondetta and Milne Bay)³.
- Limited financial/investment advice and assistance offered to landowners to ensure long-term economic development and security.
- Landowner dependency on royalties and rents encouraged by non-participation of landowners in mini estate management.
- Possible environmental impacts.

Landowners' ongoing reinterpretation of land tenure principles, the changes in landowner interests over time and inter-generational issues all pose potential risks for the future of oil palm developments on leased land. Studies of Incorporated Land Groups (ILGs) in other industries in Papua New Guinea, such as mining and forestry, point to some of the flaws and problems that have emerged under the conventional method of ILG incorporation (e.g., Kameata 2001; Duncan and Duncan 1997; Kalit and Young 1997). Problems identified in these studies include: lack of information or knowledge among ILG members to make informed decisions on lease arrangements; exclusion of secondary right-holders from sharing in benefits; inter-generational issues under long-term contracts; and, the individualisation of communal land. All have the potential to lead to land disputes and/or ongoing conflicts among clan members. Whilst lease, lease-back arrangements enable customary landowners to develop oil palm on their land, we recommend further analysis of the various mechanisms currently used in Papua New Guinea to address customary land ownership and resource development before more mini-estate arrangements are finalised.

A particular concern is how to ensure that the benefits from mini-estate development flow to women and groups holding secondary rights in the resource. Women, for example, risk being marginalised from the financial benefits of mini-estate development, given the way cash crops are generally incorporated into rural households in Papua New Guinea where men tend to

claim ownership of the crop and the resultant income. Mini-estates therefore may have adverse effects on women and may widen existing income and resource access disparities between landowning males and women/secondary right-holders.

7.7 Conclusion and Recommendations

One of the greatest obstacles to increasing smallholder productivity in the long-term is the reluctance of smallholders to replant. Although there is still a need to increase smallholders application of fertiliser, there are indications at some locations that appropriate interventions are resulting in higher application rates of fertiliser amongst smallholders. Devising suitable incentives for replanting is more difficult as the factors explaining the reluctance of smallholders to replant are complex and vary between LSS and VOP smallholders. A key reason is the short-term loss of income as 2 hectares of oil palm are removed from production. Many VOP smallholders have only 2 hectares of oil palm, so unless they have alternative income sources to support them until the new palms come into production they will delay replanting as long as possible, and certainly well past the point where yields have begun to decline. On the Hoskins LSSs, reluctance to replant is more likely to occur on highly populated blocks with low per capita incomes.

Smallholders' propensity to replant is also influenced by tenure security, existing and projected debt levels, income foregone, quality of road infrastructure and the reliability of harvest pick-ups. The relative importance of these factors varies between Popondetta and Hoskins and cannot be overcome easily, particularly in Popondetta where tenure insecurity and road maintenance are proving difficult to resolve and require long-term solutions that are partly outside the control of the industry. However, there are several initiatives that the industry could adopt to encourage replanting. These include:

- Extend credit to Popondetta smallholders beyond 2001. Many Popondetta smallholders expressed the view that oil palm prices in late

2000 were too low to allow them to replant. Therefore, with recent price rises in oil palm, demand for replanting packages will increase as growers are more able to secure an acceptable minimum income. With this in mind, it may be appropriate to consider extending credit for replanting for the next few years and concentrate extension efforts on replanting stands of oil palm planted before 1980. A staged replanting effort over the next five years would ensure that oil palm smallholdings established in the initial burst of oil palm expansion are all replanted.

- Restructure loan repayments during periods of depressed oil palm prices so that loan repayment rates are lower. The value of credit schemes to smallholders could be enhanced significantly by making repayment rates more flexible to take account of fluctuations in oil palm prices. When prices are low, loan repayment rates could be reduced to lessen the impacts on growers. This would help maintain smallholder interest in oil palm production during periods of low prices and also reduce incentives to avoid loan repayments.
- Promote income diversification. The development of supplementary incomes would increase the propensity of smallholders to replant and assist them to develop a long-term perspective on oil palm investment and production rather than on immediate short-term returns to meet their immediate and pressing needs.
- Encourage the cultivation of profitable market crops on newly replanted blocks to provide an income source until new palms come into production. In areas poisoned for replanting, many smallholders already cultivate garden crops for sale at local markets. This should be encouraged by the industry and ways identified to promote the cultivation of high value crops (e.g., tobacco, peanuts, bananas, green leaf vegetables and chillies) to compensate for short-term losses in oil palm income.

- Rather than poison a full 2 hectares of palms, remove three rows per year and replant them from the age of 15 years (J. Chester pers. comm.)⁴. This would probably be much more attractive to smallholders as they would not lose the income of a full 2 hectares of oil palm.

Easier access to credit and interventions that enhance household income security in the short-term are likely to increase replanting rates amongst smallholders.

Resource disputes between the companies and Incorporated Land Groups have not emerged in relation to mini-estates. However, given the expansion of mini-estates and the conflicts that have arisen between landowners and other private resource developments based on the lease, lease-back model (e.g., mining and forestry), future disputes cannot be ruled out. We therefore recommend that the industry undertake an investigation of the land tenure issues and potential long-term risks associated with the introduction of mini-estates. We suggest that the investigation also examine how other industries and landowners using the lease, lease-back model are resolving conflicts. This would provide useful information for the oil palm industry.

Finally to maintain the productivity and future viability of the smallholder sector, the industry must be mindful of the importance of ensuring smallholder initiatives do not inadvertently act to undermine social stability in the smallholder sector. The promotion of infill on LSS blocks where smallholders are encouraged to plant 6 hectares of oil palm is a case in point. This initiative while perhaps increasing total smallholder production, has the potential to undermine food security by removing land from food garden production. During periods of depressed oil palm prices, the potential for social instability in the smallholder sector is likely to increase as the insurance value of food gardens is eroded by the 6 hectare policy. Smallholder discontent and social instability on LSS schemes inevitably leads to lower productivity.

For the long-term sustainability of the smallholder schemes it is imperative that the industry give more priority to enhancing smallholder food security. Some

key points relating to food garden production were identified in Chapters 3 and 4 and are worth restating here:

- Gardens provide most of the daily household food needs, especially on the LSS schemes.
- Access to food gardens reduces the vulnerability of smallholders to fluctuating oil palm prices and increases food security.
- Garden produce is an important source of supplementary income, especially for women.
- Exchanges of garden labour and garden food plays an important role in strengthening social relationships and building a sense of community.
- Women's social status is closely linked to their gardening activities and skills.

In light of the above we recommend that the industry reassess its 6 hectare policy on LSS blocks. Also, these issues should be taken into account when planning future developments in the smallholder sector, especially when devising initiatives to expand smallholder oil palm plantings. In Chapter 9 we stress that social stability and household security in the smallholder sector equally are important for the long-term viability of the industry as more direct strategies to raise grower productivity levels.

Endnotes

1. The recent introduction of a skip bin system at Popondetta where tractors with trailers collect smallholder FFB and cart it to a central truck collection point has helped overcome some of the problems of poor accessibility.
2. In Papua New Guinea non-citizens cannot legally engage in direct dealings for access to customary land. They can only access customary land that has been registered under the Land Registration Act. Once registered, the land is no longer under customary tenure, but is alienated to the State. Under the lease, lease-back system the state foregoes its use rights to the land when it leases the land back to the registered land owners (ILG). The ILG can then enter into joint business ventures with a company.
3. The decision not to replant at Milne Bay was seen by the company as a way to allow a choice to be made by landowners at the end of the lease. If landowners wish the company to replant then the lease will be extended or they may choose to end the lease and undertake another enterprise, or replant for their own account (J. Chester pers. comm.).
4. This only works if palms are felled or poisoned in an east-west direction as this allows the maximum amount of sunlight to reach the seedlings (J. Chester pers. comm.)