

CHAPTER TWO

FORMULATION OF PROBLEM AND RESEARCH DESIGN

2.0 Research Problem

During 1999 funding was approved by ACIAR for a joint ANU/Curtin/PNGOPRA project to research the socio-economic constraints that affect productivity among smallholders. The primary aim of the research was to help improve smallholder oil palm productivity.

Smallholder production in Papua New Guinea has been increasing steadily over the last decade (Table 2.1). In 2000 total smallholder output was 531,264 tonnes, a doubling of production since 1994. However, a characteristic of smallholder production is that yields for both LSS and VOP growers are much lower than those for the plantation sector (Table 2.2), and average yields per hectare for the VOPs are consistently lower than that of the LSS (except for Popondetta). There is also considerable variation in productivity among individual smallholders. Some LSS and VOP smallholders consistently maintain productivity levels at or near estate productivity levels, while other smallholders have consistently low productivity levels.

Table 2.1. Smallholder production by project 1994-2000 (FFB tonnes)

YEAR	Hoskins	Bialla	Popondetta	Milne Bay	New Ireland	Totals
1994	120,733	79,425	59,374	4,101	67	263,633
1996	146,140	93,627	75,177	8,537	1,357	324,838
1998	210,918	83,708	94,280	7,793	2,505	399,204
2000	277,643	119,730	113,665	9,609	10,617	531,264

Source: POPA 1998 and data held by OPRA

Table 2.2. Comparison of smallholder and estate productivity by project for 2000 (tonnes/hectare)

	Hoskins	Bialla	Popondetta	New Ireland	Milne Bay
Smallholder	17.2	10.6	8.7	8.3	7.2
Estate	23.2	14.7	18.9	17.3	28.3

Source: OPRA data

A primary goal of the industry is to increase smallholder production and productivity through a range of interventions such as increased fertiliser use, access to credit for tools and seedlings, harvesting cards for women and promoting better farm management techniques amongst smallholders (Chapter 7). These interventions have mostly been geared to increasing yields through intensification of inputs by improving block maintenance, switching to higher yielding palms and encouraging the participation of women in oil palm production.

Although it is widely acknowledged by the industry that diverse socio-economic factors interact with agronomic practices to explain variations in productivity between growers, few studies have examined the socio-economic constraints among smallholders. One key work is the Landell Mills (1991) study at Hoskins. That study identified the socio-economic factors associated with four smallholder production categories (0-25, 25-50, 50-75 and 75-100 percentiles of mean block productivity), and concluded that variations in productivity were attributable to incomplete harvesting, post-harvest loss and poor agronomic practices. It was suggested that labour shortages, conflicts over land, disputed inheritance, off-block residence and employment, time management between customary obligations, community commitments and oil palm production, together with illness and aging among the original owners were explanatory factors. By using high, medium and low production categories the study identified the main constraints operating in each category (Table 2.3).

Table 2.3. Factors affecting production on low, medium and high producing blocks

PRACTICE	LOW PRODUCERS	MEDIUM PRODUCERS	HIGH PRODUCERS
Harvesting	Abandoned block Incomplete harvesting Irregular harvesting Less than 12 pick ups p.a.	Incomplete harvesting Irregular harvesting 12-20 pick ups p.a.	Complete harvest Regular harvest every 14 days 20 + pick ups p.a.
Lus Frut collection	None	Sometimes	Always
Fertiliser	None	Unevenly administered Not enough	Correct amounts Correctly administered
Weeding	None	Inappropriate weeding Not enough Irregular weeding	Good technique Regular weeding
Herbicide	None	Inappropriate use	Adequate use
Replanting	None	Not at right time Not enough	Well planned
Poisoning	None	Not at right time Poisoned trees burnt or left to stand	Well planned Poisoned trees knocked over

Source: adapted from Landell Mills 1991

2.1 Formulation of Research Questions

Workshops with OPIC extension officers were conducted at the beginning of fieldwork at Hoskins and Popondetta to draw on their knowledge and experience to refine the research questions and to ascertain their understanding of the primary factors explaining variations in productivity. A similar framework of smallholder production categories to that used in the Landell Mills study was adopted in the workshops. At the workshops a comprehensive list was made of what extension officers identified as the primary factors influencing smallholder production. The results from each workshop are presented in Tables 2.4 and 2.5.

Several important findings and research questions emerged from the OPIC workshops. First, extension officers at both project schemes stressed how individual smallholders frequently shift between the “high” and “low” producer categories through time. Several of the factors identified to explain low production, such as illness, death, or disputes over tenure and/or conflicts between family members on a block were raised in relation to how the occurrence of these types of events can suddenly shift a smallholder from high

Table 2.4. Factors identified by OPIC officers to explain high and low production among Hoskins smallholders

	HIGH PRODUCTION	LOW PRODUCTION
PHYSICAL FEATURES	Good soils. Good terrain conditions and drainage.	Poor soils. Poor terrain conditions and poor drainage.
AGRONOMIC AND FARM MANAGEMENT PRACTICES	Regular harvesting More likely to harvest rear section of block. Regular and correct use of fertiliser. Well maintained tools regularly available for harvesting. Well maintained block. Introduction of the Badang to overcome labour shortages, irregular harvesting and terrain problems.	Irregular harvesting. Low harvesting rate at rear of block. Harvesting rate decreases away from the road (i.e., strong edge-effect). Fertiliser use poor or irregular. Harvesting tools often unavailable for harvesting or broken and not repaired promptly. Poorly managed block.
LABOUR CHARACTERISTICS	Co-operation of all family members (<i>wok bung</i>) in production. Organised, hard-working family unit. Limited labour availability overcome by use of contract work (e.g., contract workers used to apply fertiliser and for block maintenance). Visitors provide additional labour for harvesting and block maintenance work.	Elderly blockowner with limited labour supply. Limited labour availability unable to be overcome. Usually the result of family conflict. Labour disorganised. Illness and poor health, but no support with block maintenance or harvesting.
INTRA-HOUSEHOLD RELATIONS AND DECISION MAKING AND INCOME DISTRIBUTION	Family unity and cohesiveness. All the family benefits from income earned on block. All co-operate to harvest and maintain block.	Family conflict. Reluctance to share income. One person controls the money and thus little incentive for other family members to harvest. Too many visitors on the block wanting to share in the income. Can act as a disincentive to harvest regularly.
TIME AND CASH MANAGEMENT SKILLS	Good cash management. Community type distractions limited. Good time management. Limited demands on their time from customary obligations.	Community distractions which remove labour from oil palm production (e.g., funerals, local and community politics and customary obligations). Poor cash management. Spending money on beer often results in low block maintenance and less commitment to production
TENURE SECURITY		Inheritance problems on the LSS acts as a disincentive as ownership uncertain. Land disputes, either with customary owners or within the family.
ECONOMIC MOTIVATION	Economic pressure to earn a high income (e.g., some households motivated by school fees, debt repayments, etc. Once economic pressure is removed (e.g., payment of school fees) then the household can shift to lower production levels.	Limited or no economic pressure to earn a high income (e.g., VOPs blocks). Less economic pressure to harvest as they have greater access to subsistence and alternative sources of income (e.g., cocoa).
LEVEL OF INTEREST		Young people lack commitment to the industry, or pride in the block. They are interested in money, but not interested in maintaining the block. Multiple block owners. Several low producers are multiple block owners, especially on VOP. Lazy grower.

Source: data collected from workshop with OPIC officers at Hoskins, Nahavio, 22nd August, 2000

Table 2.5. Factors identified by OPIC officers to explain high and low production among Popondetta smallholders

	HIGH PRODUCTION	LOW PRODUCTION
PHYSICAL FEATURES	Favourable topography	Poor topography.
AGRONOMIC AND FARM MANAGEMENT PRACTICES	Regular harvesting. Owner harvests and maintains all the block. Adequate supply of tools.	Irregular and partial harvesting. Only harvests and maintains front section of the block. Lack of tools. Old palms on block. Grower tends to harvest only the younger and shorter palms.
LABOUR CHARACTERISTICS	Most family members involved with harvesting.	Family members unwilling to provide labour due to family conflicts. Off-block employment – less labour for oil palm.
INTRA-HOUSEHOLD RELATIONS AND DECISION MAKING	Co-operation between family members. Disputes rare.	Disputes within family. Mainly between brothers, between fathers and sons and sometimes between sons and step-fathers.
INCOME DISTRIBUTION	Fair distribution of income within family.	Unequal distribution of income acts as disincentive to family members to harvest.
TIME AND CASH MANAGEMENT SKILLS	Good cash management. Balanced social and community obligations.	Poor cash management. Customary obligations takes time away from oil palm production.
TENURE SECURITY		Land ownership disputes on VOP blocks. Some blocks being reclaimed or compensation demands made. Insecurity of tenure of LSS blockowners acts as disincentive to production and improving living standards.
ECONOMIC MOTIVATION	Rely heavily on oil palm income and block to provide family sustenance. No alternatives. Fall in oil palm prices has only limited impact on production.	VOP smallholders have good access to garden land and other subsistence resources. Do not need to rely heavily on oil palm. Fall in oil palm prices acts as disincentive. Some stop harvesting and maintaining the block.
LEVEL OF INTEREST	Personal character. Competitive and plans ahead. Readily listens to extension advice.	Personal character. Grower 'lacks vision and initiative'. Some growers resist change. Unwilling to listen to extension advice.

Source: data collected from workshop with OPIC officers at Popondetta, 26th September, 2000

to low production. Conversely, a low producer can over time move from low production to high production when problems are resolved on a block. Hence, at both Hoskins and Popondetta, extension officers maintained that individual smallholder productivity is highly variable and often fluctuates in response to social factors affecting the well-being of smallholders and the level of social harmony on the block. The discussion raised several research questions:

What explains the high variability in production among smallholders?

Why is there so much movement between production categories?

What influences the level of social harmony on a block?

How useful is the high-low production dichotomy in capturing the complexity of inter- and intra-household processes operating on a block?

Second, extension officers stressed poor cash and time management as an ongoing constraint on smallholder production. The discussion revealed how men and women are involved in a diverse range of activities that draw on their labour and time (e.g., customary obligations, off-block employment, visitors and gardening), and oil palm is only one of these activities. However, extension officers emphasised that some of the negative factors identified as affecting production, such as customary obligations and hosting visitors from home (Hoskins only) are also important dimensions of life quality. Fulfilling customary obligations and hosting visitors from home strengthens social bonds and is a valued part of social life. Also, it must be kept in mind that high producers continue to participate in customary exchange and host visitors. In the Landell Mills study (1991, 42), for example, a quarter of the top producer households had family members who had visited their home villages during the five month survey period. The discussion drew attention to the following research questions:

How are non-oil palm activities and responsibilities (e.g., customary exchange, off-block employment, gardening) managed or integrated into household economies and production practices?

What is the relationship between non-oil palm activities and oil palm production? Do non-oil palm labour and time demands compete with oil palm production or do they have a positive influence whereby they contribute to household livelihood security?

What is the relationship between non-oil palm activities and social stability on blocks?

Following the workshops at Hoskins and Popondetta we compiled the factors extension officers identified as affecting smallholder oil palm production (Table 2.6).

Table 2.6. Compilation of factors affecting oil palm production at Hoskins and Popondetta

HIGH PRODUCTION	LOW PRODUCTION
Favourable topography	Poor topography
Regular and complete harvesting	Irregular and partial harvesting
Well maintained block	Poorly maintained block
Family cohesion	Family disputes common
Co-operation of most family members in harvesting	Few family members participate in harvesting
Secure land tenure	Land tenure is insecure or under dispute
Fair/undisputed distribution of oil palm income	Income distribution unfair/contested
Economic pressure to harvest	Less economic pressure to harvest (mostly on VOP blocks)
Good time management of customary and community obligations	Customary and community obligations take time away from oil palm production
Good cash management	Poor cash management
High commitment/interest in oil palm industry	Low commitment/interest in oil palm industry
Well maintained and adequate supply of tools	Lack of available tools for harvesting

Table 2.6 highlights the key variables that required further investigation of their influence on smallholder production. These were:

- Physical factors.
- Agronomic and farm management practices.
- Intra-household relations and decision-making.
- Income distribution.

- Time and cash management skills.
- Tenure security.
- Economic necessity to harvest.
- Level of interest in oil palm harvesting.
- Personal characteristics of growers.

These variables were incorporated into the research design of the project. The study aimed to investigate the links and interactions between these variables to reach a fuller understanding of the constraints on and variations in smallholder productivity.

Most of the factors identified in Tables 2.4, 2.5 and 2.6 are largely internal to a block. Extension officers also identified a range of external factors affecting smallholder production and commitment to the industry. The study therefore also explored, where relevant, the impact of the following on smallholder production:

- Company transport systems (for the collection of smallholder fruit).
- Road conditions.
- Extension and company-smallholder services and initiatives.
- Effectiveness of the Lands Department to resolve land disputes.
- Law and order problems.

2.2 Objectives of the Study

After consultation with the main stakeholders in the project area (smallholders, OPIC, oil palm companies), several modifications were made to the initial aims and objectives outlined in the original project document. The final objectives of the project were to:

- gain an understanding of the socio-economic constraints on smallholder production, especially the socio-economic factors operating within households that help explain household productivity and the range of agronomic practices.

- Evaluate the Mama Lus Fruit Scheme. The aims were to learn how the scheme has changed production practices within the household and to assess its impact on women, household income and labour flows.
- Develop strategies for more effective extension interventions through working with smallholders, OPIC staff and the companies.
- Make recommendations for change that might result in further increases in smallholder productivity.
- Produce a “toolkit” for extension officers. The toolkit is designed to be a learning manual to improve extension skills and strategies for increasing smallholder productivity.

In summary, the expected benefits of the project were:

- improved understanding of the circumstances and decision-making of smallholders;
- interventions to raise productivity better tailored to the needs and circumstances of smallholders;
- the enhanced economic viability and social stability of the smallholder sector in the longer term.

2.3 Description of Research Design

2.3.1 Research sites

Fieldwork was limited to the Hoskins and Popondetta oil palm projects because of logistical constraints and the requirements of the study to have LSS smallholders included in the study. New Ireland and Milne Bay do not have oil palm LSSs and were therefore unsuitable for investigation in this study. The Biella project was omitted because at the commencement of the project, Hargy Oil Palm had withdrawn financial support for key industry organisations such as OPIC and OPRA, so their support of the project was not guaranteed.

The Hoskins and Popondetta sites provided an interesting contrast as smallholder and plantation development at each site occurred under different historical, economic, social, and political contexts. Also, both companies and OPIC offices have recently introduced several smallholder programmes and are actively promoting expansion of the smallholder sector.

2.3.2 Research Design

The research design was based on a combination of methodologies involving semi-structured interviews, case-studies, questionnaire surveys, workshops, focus groups, analysis of industry smallholder data bases and review of relevant reports and published literature. The research relied on in-depth qualitative interviews with smallholder families. The multi-method approach enabled a comprehensive understanding of the factors influencing smallholder production, especially from the perspective of smallholders. This approach also provided a means of cross-checking and validating information across smallholder families as well as providing leads into important areas of inquiry.

Key stakeholder groups that participated in the research included:

1. Smallholders (men and women).
2. Oil palm companies.
3. OPIC.
4. Industry associations, such as the Oil Palm Growers Associations, and
5. Customary landowners.

Most data were collected from August 2000 to the end of January 2001 (four months at Hoskins and two months at Popondetta) by two research scientists (funded by the project) and an OPRA-employed research assistant at each project site. Additional data were collected by OPRA's agronomist, GIS researcher and research assistants during February to April 2001.

Initially at each site, OPIC and company smallholder production data bases were analysed, discussions were held with OPIC field and project managers,

and field visits undertaken with OPIC extension officers to all LSS and some VOP subdivisions.

2.4 Data Collection

Data collection in Hoskins and Popondetta was divided into four parts:

1. Weekly interviews and surveys with selected smallholder households (six weeks at Hoskins and four weeks at Popondetta).
2. Interviews with key industry personnel, workshops with OPIC extension officers and focus groups with smallholders.
3. Bio-physical and socio-economic smallholder survey.
4. Review of company and OPIC data bases, reports and other published material.

2.4.1 Weekly interviews and surveys with smallholder households

The main purpose of the weekly surveys/interviews was to develop household case studies to reveal the socio-economic dynamics within and between households resident on a block. This was to contribute to an understanding of the range of agronomic practices within the smallholder sector, including how households respond to and accommodate new industry initiatives to increase smallholder productivity.

At Hoskins and Popondetta a total of 12 households at each site were initially selected from one LSS and one VOP for the weekly survey/interviews. The sample was restricted in size and confined to one LSS and one VOP for several reasons:

- Small sample size is more suitable for household case study analysis using repeat interviews based largely on qualitative research methods. Using qualitative interview techniques, each interview generally takes between one and two hours. This allows for three smallholder interviews per day.
- Logistically, it was more appropriate to confine the study to a small geographical area as distances between blocks and subdivisions are too

great to allow more than two sites of data collection in each project area. Also, if the family is absent it is easier to return later in the day after completing an interview with another family in the same subdivision. This would not be possible if the interviews were spread across several subdivisions.

- Time constraints.

Smallholder households were selected on a range of characteristics, including demographic profile of block, access to labour and production performance (high, medium and low producers). The study also included a mix of ethnic groups on the LSS schemes. Smallholder production data from company and OPIC data bases for the previous 18 months, and information gained from OPIC officers were used in the final selection of households.

At Hoskins, the LSS and VOP subdivisions chosen for weekly surveys were Kavui LSS subdivision and Gaungo VOP. Kavui was established in 1972 and currently has 319 registered blocks. It is typical of most LSS subdivisions and was chosen after several subdivisions were deemed unsuitable for data collection (e.g., security risks, recent inter-ethnic conflicts, or only recently established, such as Siki). Also, according to OPIC, Kavui was fairly “stable” socially and in terms to production.

The first oil palm plantings at Gaungo were in 1974/75 when 12 blocks were planted. Initially the establishment of oil palm blocks at Gaungo was slow, but in the last fifteen years oil palm has expanded considerably, partly because of better road infrastructure and land being “sold” to “outsiders”. Gaungo currently has 320 registered oil palm blocks, and a further large area is presently being subdivided into blocks for planting oil palm.

Gaungo was selected for several reasons: recent and rapid expansion of oil palm; the movement of villagers to reside on their blocks rather than in the village; the trend to “sell” village land to “outsiders” (migrants); and access to alternative sources of income such as fishing and other cash crops. The latter is

a feature of many coastal VOPs, and the “sale” of customary land is also occurring at several other VOPs in the Hoskins scheme.

At Popondetta, Sorovi LSS and Igora VOP were selected for the study. Sorovi LSS was chosen largely because the Mama Lus Frut Scheme had been introduced earlier that year and the research team were interested to learn of any changes to production since its introduction. Igora VOP was chosen because it had a mix of producers with recent and lengthy engagement with the oil palm industry. However, due to access problems (e.g., Plate 2.1), Igora VOP was dropped from the study after two weeks and Igora LSS was chosen for its easier access. Much of the data collection at Popondetta took place in the wet season. The very poor road conditions restricted site selection and hence, accessibility and road conditions heavily influenced the final selection of survey sites.



Plate 2.1. Collapsed culvert at Igora VOP, Popondetta

After completing the sample selection and gaining the acceptance and approval of the twelve families to be included in the study, families were visited weekly over a six-week period. In Popondetta, due to heavy rains, flooding and impassable roads, the number of visits was reduced to four and in some cases, three visits for some households. Regular visits were considered the most appropriate means to develop family case studies that explored household dynamics, labour strategies and income distribution. Gaining an understanding of the situations of particular households requires a level of trust and rapport to develop between interviewees and interviewers and this takes time and commitment. Once familiarity and trust are established people are more open in

discussing their situations and concerns, and are generally very co-operative. For the interviewer, it is also a gradual process of getting to know the individuals in each family and learning what characterises and shapes their everyday life.

The weekly visits to smallholder blocks combined semi-structured interviews with a short standardised quantitative survey (Appendix 2.1). The weekly survey recorded: household and inter-block labour activity and allocation (oil palm, gardening and other economic and social/leisure activities); household income (e.g., from oil palm, marketing, customary exchange) and expenditure and food consumption (the latter to assess the relative importance of garden and store-bought foods). An additional survey was conducted following a harvest pick up (Appendix 2.2) which recorded household and non-household labour contributions to the oil palm harvest. Survey questions usually were interspersed in general conversation. In responding to questions, informants were not discouraged from digressing to related issues or other important matters that had arisen in the week since the previous interview. This often uncovered new information that would not be revealed through the standardised survey and provided insights into what people themselves felt were important issues.

These conversations led into more semi-structured interviews. The main emphasis of the interviews was to gain an understanding of everyday life issues through people's own stories and from the perspective of smallholders themselves. This helped build a picture of what influences people's decision-making processes and behaviours. Also, as the visits progressed, people came to view our visits as an opportunity to express their concerns and ideas. Although relatively free-flowing, the interviews explored the following topics:

- household labour and income decision-making;
- factors influencing household and family members', participation in oil palm production;
- additional and/or competing labour and income demands;

- levels of household cohesion and cooperation;
- constraints on oil palm production;
- impacts and perceptions of agricultural extension initiatives, especially the Mama Lus Fruit Scheme.

On a typical fieldwork day we would visit three smallholder blocks together (four days each week for 12 households). Often smallholders who were not part of our sample would turn up at an informant's block or stop us on the road and request to be interviewed at a later date as they too wished their views be included in the study. In these additional interviews, themes identified amongst the sample group were often elaborated in more detail. Because these people were "self-selecting" it is probable that the issues they wished to discuss were of more concern to them than for the general population – issues such as population pressure and lack of access to gardening land. In this way, interview numbers snowballed to include many smallholders that were not part of the formal sample¹. In total, 172 separate interviews with smallholders were undertaken.

Towards the end of the fieldwork at each site we discussed the general findings and recommendations with the families in our weekly surveys and sought their feedback on our recommendations. This process helped ensure the data collected were an accurate reflection of the situations and concerns of smallholders, and that the recommendations were more likely to be valued and supported by smallholders. At Hoskins, the preliminary findings and recommendations were then presented in a seminar to the Scientific Advisory Committee of the Oil Palm Research Association (Koczberski and Curry 2000).

Data collection methods in the weekly surveys and one-off interviews could be described as participatory action research in that the emphasis was on close collaboration and discussion with smallholders to identify constraints on production, and develop workable solutions to overcome these constraints. The approach also sought to gain an understanding of the lived experiences of smallholders from the perspective of husbands, wives, sons, daughters and other

relatives residing on the blocks (Reason 1998, 269). These discussions inform the main findings and recommendations of this report. As researchers our primary aim was to produce research results and outcomes that would enhance the well-being of smallholders, which at the same time would gain the support of industry.

2.4.2 Industry interviews, OPIC workshops and smallholder focus groups

Interviews were conducted with key stakeholders in the industry such as the oil palm companies, OPIC, growers associations, and customary landowning groups. Semi-structured and structured interviews were conducted with key personnel in the oil palm companies at both Popondetta and Hoskins. Interviews with the General Managers, smallholder officers and mini-estate officers were conducted to:

- learn about corporate strategies and new or planned smallholder initiatives;
- gauge what the company, especially smallholder staff, identified as the major smallholder production issues; and
- gain a more rounded understanding of the oil palm industry in Papua New Guinea.

Group interviews with several members of the growers' association in Hoskins and representatives from the landowning company in Popondetta provided further information on the smallholder sector and the main socio-economic and political factors affecting smallholder production at both sites.

A close working relationship with OPIC allowed for numerous interviews and discussions with OPIC staff throughout the fieldwork period. On several occasions, particularly in the early stages of the project, we accompanied extension officers to the field to gain a better understanding of the various subdivisions, the nature of extension work and to draw on extension officers' knowledge of the subdivisions and the smallholder sector. These fieldtrips also provided an opportunity to observe the interactions between smallholders and extension officers. Interviews and discussions with extension officers also explored their ideas on effective extension strategies, possible ways to increase productivity among smallholders, problems in the smallholder sector and difficulties in their work as extension officers. The support, knowledge and experience of OPIC staff were extremely helpful in validating information gathered from smallholders and in developing a sense of the main issues affecting smallholder-extension officer relationships.

As mentioned in Section 2.1 a workshop with OPIC staff in each project site was conducted at the beginning of the project. The workshops were well attended with 25 and 19 officers participating at Hoskins and Popondetta respectively. At the conclusion of fieldwork at each site a further workshop was held with extension officers to present the preliminary research findings and recommendations, and to seek their input and feedback for the final report².

Smallholder group interviews (focus groups), usually made up of four to eight people, were conducted occasionally to explore specific topics. Two focus group meetings with women were held in Hoskins (Kavui and Gaungo) to discuss issues pertaining to the Mama Lus Fruit Scheme (MLFS). The purpose of the interviews was to gauge women's views on the attractiveness/unattractiveness of the MLFS and to obtain a more detailed

understanding of how the scheme had been incorporated into household labour and income strategies.

Two other focus group meetings were held at Hoskins: one with Kavui smallholders to discuss some of the preliminary findings and recommendations of the research and another at Gaungo with “outsiders” “buying” land in the VOP to gather information on land disputes at Gaungo (both focus groups were held at blocks participating in the weekly survey to which other people were invited to participate). Although these formal group interviews generated valuable data, they tended to lack the more free-flowing discussion of many of the opportunistic group discussions which sometimes occurred when we visited smallholder blocks. In these latter instances the smallholders had taken it upon themselves to invite other people (mainly extended kin or shared ethnicity) to their blocks to talk to us, or we just happened to arrive on a block when a group of people were visiting for some other purpose. In these discussions most people appeared to express their views easily, and their familiarity with each other meant that the conversation was more open as well as humorous.

2.4.3 Bio-physical and socio-economic smallholder survey

A quantitative bio-physical and socio-economic survey of 100 smallholders was undertaken by OPRA staff across several LSS and VOP subdivisions at Hoskins and Popondetta. At Hoskins 50 blocks were surveyed in February-March 2001 across five LSS and 50 blocks across 16 VOP subdivisions. At the time of writing, the growers survey of 100 blocks at Popondetta was under way. The purpose of these surveys was to examine the bio-physical and socio-economic interactions within the smallholder sector. The survey was conducted following completion of the main data collection phase described above, and the content of the survey was informed by data collected in the first phase of the study. In the socio-economic part of the survey, data were collected on:

- Planting details (area and year planted).
- Ownership status (original leaseholder, deceased estate, caretaker).
- Population (number of individuals and families living on block).

- Food Gardens (location and type).
- Additional income sources.
- Labour supply and agronomic practices.

The bio-physical data collection is currently underway by OPRA agronomists and will be completed in late 2001. The bio-physical data incorporates soil chemical and plant tissue analyses and terrain classification of each block visited. The 100 blocks at each study site were selected across the main soil types, and a cross-section of high, medium and low producers in the sample was attempted.

Data entry and analysis of the socio-economic information is not complete: some of the Hoskins data are discussed in this report, but the Popondetta data, due to poor road conditions delaying data collection, are as yet unavailable. Thus while the report is presently unable to address bio-physical and socio-economic interactions within the smallholder sector, some of the socio-economic data have been used to inform the broader smallholder issues discussed in this report.

2.4.4 Review of company and OPIC data bases, reports and other published material

Smallholder data bases held by OPIC and the oil palm companies in Hoskins and Popondetta were used for sample selection based on smallholder oil palm income, production and planting history; loose fruit production; production trends; variations in productivity between smallholders within and between subdivisions; and levels of and patterns of debt repayment. While production data were considered to be reasonably accurate at Hoskins, data on areas planted and years of planting were less so at Hoskins, because the relevant data bases were not always updated. Block production data at Popondetta were problematic because of the large numbers of growers avoiding loan deductions by using contractors to cart their fruit to the mill (production was not being recorded against their blocks). However, Popondetta OPIC's data base on smallholdings of oil palm and replanting data appeared reasonably accurate.

Company and OPIC reports and other published material provided additional information on the oil palm industry and smallholder sector. This additional material was especially useful for detailing the background of the industry and understanding the current state and future development of the industry and the smallholder sector.

2.5 Conclusion

In summary, the research relied on a multi-method approach that entailed spending a considerable amount of time with individual smallholders and their families to gain a better understanding of the socio-economic factors affecting household productivity. The mix of qualitative and quantitative techniques provided detailed data which, in certain circumstances, is preferable to approaches relying solely on formal survey methods where larger numbers of people are interviewed using a standardised questionnaire. The latter technique assumes that the researchers already have a detailed understanding of the economic and social situations in the sample population. However, where little is known about the everyday situations of a population, more qualitative assessments are preferable as a prelude to a formal survey as they allow the researchers to develop a more accurate picture of the situation of the study population.

Endnotes

1. The following example gives some idea of this process of “snowballing”. During a regular interview at Kavui a neighbouring smallholder requested we visit his block. When we arrived at his block we found four other smallholders waiting to talk to us. After a lengthy discussion one smallholder asked if we would visit his brother who also wanted us to collect his ‘*stori*’. A week later we arrived at his brother’s block where three other growers were waiting for us.
2. The workshops also provided data for the contents of the extension work manual.