

School of Design and the Built Environment

**The Intersection of the Socially Embedded
Economy and Participatory Development Projects
in Eastern Highlands Province, Papua New Guinea**

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Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

The research presented and reported in this thesis was conducted in accordance with the National Health and Medical Research Council National Statement on Ethical Conduct in Human Research (2007) – updated March 2014. The proposed research study received human research ethics approval from the Curtin University Human Research Ethics Committee (EC00262), Approval Number # HRE2019-0829.

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I am not aware of any conflict of interest.

Jennifer McKellar

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Abstract

This research examines the features of social embeddedness which shape the outcomes of Development projects in a coffee farming community in Eastern Highlands Province, Papua New Guinea. Institutionalised cultural practices and spatial factors shape the ways in which community members engage with Development projects, but both participants and institutions have the potential to change through a process of what Giddens (1984) describes as structuration.

Recognition of the ways in which the village economy is socially embedded, and the ways in which actors, institutions, and Development projects intersect to produce change, can facilitate project design which better meets both the economic and social needs of community participants.

The economic life of the community is explored through the lens of *pasin*, a Melanesian Pidgin term which can variously refer to behaviour, ways, or customs (Baing et al., 2008), but can also describe “particular kinds of *doings*, ranging from the habitual to the traditional to the idiosyncratic” (Andersen, 2017, p. 241). I argue that through a process of structuration, *pasin* shapes the decision making of project participants, thus impacting the outcomes of Development projects in both positive and negative ways. In turn, Development projects shape *pasin* and other cultural institutions which change gender and economic relations in the community. The guiding framework of *pasin* and the process of structuration work together to explain how indigenous cultural institutions are both resilient and adaptable, and how community members use Development projects to meet their social as well as economic needs.

The research uses a mixed-methods approach, drawing on interviews and short surveys conducted with a cohort of 13 women and 4 men, as well as quantitative and qualitative research undertaken by the Pacific Livelihoods Research Group (PLRG) at various times since 2010. I also present a comparison of time allocation data collected by the PLRG in 2011 with data collected in the period 1976 to 1993 by previous researchers in the Eastern Highlands. These findings demonstrate that farmers are responsive to price and will allocate labour to coffee production when prices are high.

Furthermore, the time spent on leisure and cultural activities remained consistently high in all time allocation surveys, with around 30% of time spent on these activities in the 2011 survey. Through using a lens of social embeddedness, I argue that leisure and cultural activities form an important part of economic activity in PNG communities.

I analyse experiences from two Participatory Action Research projects undertaken in my research community to demonstrate the socially embedded nature of engagement with Development and decision making within my research community. The first of these is a Village Savings and Loans Association (VSLA) which was first established in the community in 2018, and the second involves the use of a coffee demucilager, introduced in 2020 to improve returns to labour in coffee production. I demonstrate that an analytical framework of societal, proximal, and territorial embeddedness, adapted from Hess (2004), is useful in explaining the ways in which the community engaged with these projects. Furthermore, there is an interaction between these two projects, existing cultural institutions, and the actions of community members which both reinforce and reconstitute cultural practices. These interactions provide an opportunity for change which extends beyond the immediate benefits of the project, including an increase in women's financial literacy and their access to greater benefits from coffee production.

Through this research I have identified several opportunities to improve the sustainability of Development interventions in both my research community and elsewhere in PNG. These include changes to VSLA to improve access to and management of credit, identification of areas where women coffee farmers can be better supported, support for community leadership succession planning, and strategies to improve the cohesiveness of groups involved in Development projects. I also demonstrate the usefulness of a spatially oriented approach to analysing social embeddedness and argue that this approach can support improvements to the design and implementation of Development projects in PNG and elsewhere.

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*For my father Duncan Alexander McKellar who is still greatly missed and who
would have enjoyed this journey*

Abbreviations

ACIAR	Australian Centre for International Agricultural Research
BP	Before Present (time)
CBB	Coffee Berry Borer
CIC	Coffee Industry Corporation
CSIRO	Commonwealth Scientific and Industrial Research Organisation
EHP	Eastern Highlands Province
GAD	Gender and Development
HDI	Human Development Index
HH	Household
ICO	International Coffee Organisation
INGO	International Non-Governmental Organisation
MDG	Millenium Development Goal
NGO	Non-Government Organisation
PAR	Participatory Action Research
PD	Participatory Development
PMV	Public motor vehicle (minibus)
PNG	Papua New Guinea
PLRG	Pacific Livelihoods Research Group
RA	Research Assistant
SDG	Sustainable Development Goal
TP	Tok Pisin
UN	United Nations
UNDP	United Nations Development Program
US	United States
VSLA	Village Savings and Loans Association
WHO	World Health Organisation

1 Introduction

1.1 Introduction

This research explores the intersection of the socially embedded economy in a coffee farming community in Eastern Highlands Province (EHP), Papua New Guinea (PNG) with participatory Development¹ projects and action research. The economic life of the community is explored through the lens of *pasin*, a Tok Pisin (TP)² term which can encompass a range of meanings depending on the context (Andersen, 2017). It has a dictionary definition of behaviour, ways or customs (Baing et al., 2008, p. 62), but can also describe “particular kinds of *doings*, ranging from the habitual to the traditional to the idiosyncratic” (Andersen, 2017, p. 241). I argue that through a process of structuration, *pasin* shapes the decision making of project participants which impacts the outcomes of Development projects in both positive and negative ways. In turn, Development projects shape *pasin* and other cultural institutions which change gender and economic relations in the community. The guiding framework of *pasin* and the process of structuration work together to explain how indigenous cultural institutions are both resilient and adaptable, and how community members use Development projects to meet their social as well as economic needs.

Pasin is fundamentally gendered and performative, so when exploring its interaction with economic empowerment in the PNG Highlands a focus on gender relations is necessary. *Gutpela pasin* (good *pasin*) is linked to forms of masculinity and femininity which are enacted to achieve social approval.

These concepts will be explored in more depth in the next chapter along with other contextual

¹ I use the capitalised ‘Development’ throughout this thesis as I wish to draw attention to its nature as a global project, and not a natural process. I utilise Hart’s (2010, p. 119) approach, where she notes, “‘Big D’ Development [is defined] as the multiple scaled projects of intervention in the ‘Third World’ that emerged in the context of decolonization struggles and the Cold War. ‘Little d’ development refers to the development of capitalism as geographically uneven but spatially interconnected processes of creation and destruction, dialectically interconnected with discourses and practices of Development”.

² Tok Pisin, or Melanesian Pidgin, is the *lingua franca* and one of the four official languages of Papua New Guinea (the others being English, Hiri Motu, and Papua New Guinea Sign Language).

literature relevant to this research. In the remainder of this chapter, I present my research questions and the significance of this work, followed by an overview of the field of Development and its sub-fields of Gender and Development (GAD) and Participatory Development (PD). I then discuss the ways in which PNG's development is viewed in the global context. Finally, I present an outline of the structure of this thesis.

1.2 Research questions

The research presented here is linked to the work of the Pacific Livelihoods Research Group (PLRG)³ and builds on the findings of previous PLRG research projects at the field site. The PLRG completed an initial research project in 2017 titled, *“Improving livelihoods of smallholder families through increased productivity of coffee-based farming systems in the highlands of Papua New Guinea (ACIAR ASEM-2008-036)”*, which was funded by the Australian Centre for International Agricultural Research (ACIAR). My work formed part of the follow-up project *“Improving livelihoods of smallholder coffee communities in Papua New Guinea (ACIAR ASEM-2016-100)”*, and also incorporated data from the project, *“Identifying opportunities and constraints for rural women’s engagements in small-scale agricultural enterprises in Papua New Guinea (ACIAR ASEM-2014-054)”*, both of which were also funded by ACIAR. The research undertaken by the PLRG identified a shift in women’s labour from coffee to fresh food production (Curry et al., 2019; Inu, 2015), which confirmed the findings of Overfield (1998). Additional work by researchers associated with the PLRG identified a need for a revitalisation of the coffee industry (Sengere, 2016), and a lack of involvement of women in agricultural extension in PNG (Hamago, 2019). These studies indicated that commodity production in the PNG highlands was changing, and that there may be an opportunity to improve the livelihoods of

³ The PLRG is a group of researchers who have worked on various ACIAR funded projects throughout Melanesia, but primarily focused on PNG. See pacificlivelihoods.com for more information on the PLRG and its projects and publications. See also www.aciar.gov.au for fact sheets and final reports relating to the projects cited in this project. Note that not all data from these projects has been published. Where it has been I refer to the final report, otherwise I refer to the relevant ACIAR project code under which the data was collected.

coffee farming households through interventions which increased returns to labour, supported women in agriculture, and also provided support for economic development through savings and loan access.

There are two main action research interventions which have arisen from these projects, as well as the work of other organisations at this field site. The first is a Village Savings and Loan Association (VSLA) which aims to facilitate community access to savings and credit facilities. The second is the introduction of a coffee demucilager⁴, which is a machine which can reduce the work required to process coffee cherry to parchment and improve returns to labour. An overview of these interventions is provided in Chapters 3, 7 and 8, and the integration of the data collected from the PLRG projects with my own work is explained in Chapter 4. I also describe the data collection processes undertaken by both me and the PLRG projects in Chapter 4 and how these data sources were brought together for analysis.

The research presented in this thesis serves to supplement the formal evaluation of the action research through a particular focus on the intersection of these Participatory Development projects with the socially embedded economy within which they operate. The research questions underpinning this thesis are as follows:

1. What social and economic changes have occurred in the socially embedded economy in Papua New Guinea's coffee farming communities in Eastern Highlands Province in the post-independence period?
2. How does socially embedded decision making in Participatory Development projects influence project outcomes in an EHP coffee farming community?

⁴ The technical term for the machine used at the site is a demucilager. The community uses the term Eco-pulper as it has a pulping capability attached.

3. How do Participatory Development projects influence the socially embedded economy and cultural institutions?

1.3 Research significance

This research has significance in three key areas. Firstly, it identifies pathways to economic empowerment for people living in coffee farming communities in PNG, with a particular focus on women. By economic empowerment, I mean not just the ability to succeed economically through fair and equitable access to markets, but also the agency to control resources and determine how they might be used (Golla et al., 2011). As detailed below, the eradication of poverty and the empowerment of women and girls are objectives of the United Nations Sustainable Development Goals (2016) and PNG's own Strategic Plan (2010 – 2030) (Department of National Planning and Monitoring, 2010). Secondly, this research identifies potential barriers to the successful implementation of Development projects in the Highlands of PNG and suggests mitigants. Thirdly, it demonstrates the usefulness of a spatially oriented approach to analysis of social embeddedness and a focus on the interaction of actors and institutions and shows how this approach can support the design and implementation of Development projects in PNG and elsewhere.

The SDGs form the basis of the multilateral program of Development work managed through the United Nations (2016). While all the issues within the SDGs are inter-related, this research relates most significantly to Goals 1 and 5. The former aims to reduce poverty or, by their measure, the number of people living on less than US\$1.25 per day (United Nations, 2021a). Goal 5 aims to “achieve gender equality and empower all women and girls”. This includes, among other things, ensuring women's empowerment through access to economic resources and decision making processes (United Nations, 2021b). The PNG government's strategic plan (2010 – 2030) states that, “All citizens, irrespective of gender, will have equal opportunity to participate in, and benefit from, the development of the country” (Department of National Planning and Monitoring, 2010, p. 111).

1.4 The evolution of Development Studies

This research engages with a range of theoretical perspectives, including Geography, applied Anthropology, and Economics. At its core, however, is an intention to improve the lives of smallholder coffee farmers and develop a deeper understanding of the barriers to women's economic empowerment in the context of my field site. This intention places this work in the field of Development Studies, which is aligned to ideas of progress and social betterment, usually in areas of economic growth, environmental conditions, or social circumstances (Greiner, 2014).

Development Studies grew out of the shift towards international co-operation in the aftermath of the First and Second World Wars and the period of de-colonisation that followed (Chan, 2016; Escobar, 1988). The social and economic disparities between Western and newly independent nations were viewed as something requiring direct intervention. These interventions have included top-down macro-oriented and bottom-up micro-oriented approaches. The former are based either on a Neo-classical logic of systemic efficiency or, alternately, Neo-Marxist attempts at structural reform (Chan, 2016). The latter can also be divided into two groups; those that focus on providing for basic needs, and those that attempt to incorporate the views of those living with poverty (Chan, 2016).

Macro approaches have been criticised as creating a discourse of development which continued the exploitative relationship of colonialism and locked developing countries into a 'Third World' or under-developed status (Escobar, 1988). The Structural Adjustment Programs of the 1980s and 1990s and the Poverty Reduction Strategy Papers of the early decades of the 21st century, which gave aid on the condition that recipient countries liberalise their economies, caused economic damage, and left countries burdened with debt, and were not effective in driving policy reform or alleviating poverty (B. T. Johnson, 1996; Killick, 1997; Moyo, 2009; Saeed et al., 2015).

In reaction to the top-down approach of early macro Development interventions, the 1970s saw calls for more of a 'basic needs' approach (Chan, 2016). Micro-level interventions, driven by an

increased attention to the effectiveness of aid, later became the blueprint for the Millennium Development Goals (MDGs) (Adusei-Asante, 2013; Chan, 2016), and shifted funding from large-scale projects without any clear objectives (other than perhaps to ‘open the economy’ or ‘reduce poverty’) to shorter term project funding with clear accountability (e.g. the building of wells, or the delivery of training) to be delivered in a set time frame (Adusei-Asante, 2013; Chan, 2016). While purportedly community led, the goals were often set by Western Non-government Organisations (NGOs) and delivered by Western experts (Adusei-Asante, 2013). Solutions were not necessarily aligned with needs – the installation of a well does not guarantee continuity of a clean water supply - and the solution may not be fit for purpose in a resource constrained context (Chan, 2016). Goals were set and decisions taken based on limited data, as sampling tended to be conducted during brief visits to villages close to main towns and excluded the voices of women, minority groups and remote communities without road access (Chambers, 1994).

Participatory and gender-aware methodologies emerged during the 1970s and 1980s which sought to engage with and empower those living with poverty. As these approaches are the focus of this research, I explore them in more detail in the next section. It should be noted, however, that the approaches described in this section are still utilised in the broader sphere of Development. Macro approaches are still relevant in State led development, and the basic needs approach still underpins programs such as the Sustainable Development Goals (SDGs) which are the next iteration of the MDGs. Furthermore, these approaches may be blended so that interventions may incorporate more than one approach.

1.5 Gender and Development

Initial recognition of the need for a gender lens in Development work emerged during the 1970s, leading to an era of Women in Development (WID). The term reflected a push for women to be part of the Development project – to be present at decision making meetings and to have senior and strategic roles in the operationalisation of Development projects (Koczberski, 1996). This form of

liberal feminism emphasised the similarities of men's and women's capabilities and sought equality with men in economic and legal spheres (LeGates, 2001).

Approaches to WID reflected both the Neo-classical and Neo-Marxist/Socialist approaches to development. With the former, engagement of women in economic activity was seen as the solution to women's marginalised status and was aligned to Modernisation Theory (Koczberski, 1998). This theory ties development to increases in Gross Domestic Product (GDP) and sees cultural practices as potential barriers to progress (Koczberski, 1998). Alternatively, Neo-Marxist/Socialist feminists argued that the problems lay in systems and structures which supported the continued exploitation of women, and was aligned more closely to Dependency Theory (Koczberski, 1998). In this theory, under-developed nations form a periphery which is exploited by core wealthy nations in the West, resulting in structural inequality (Evans & Newnham, 1988). Both approaches conceptualised gender relations as an "oppositional power relationship between men-in-general and women-in-general" (Rivas & Cornwall, 2015, p. 401).

From WID came Gender and Development (GAD), an area of Development Studies which came to prominence in the late 1980s shortly before the emergence of third wave feminism in the 1990s (Cornwall, 2007). Both GAD and third wave feminism strove to avoid reductionist approaches to understanding gender and sexuality and recognise that women of colour experience oppression differently to the white middle-class women who dominated second wave feminism and WID (Mohanty, 1988). Crenshaw's (1998) theory of intersectionality emerged during this time and has since played a highly influential role in approaches to gender research. This theory emphasises that the lived experience is multidimensional, and that "subjectivity is constituted by mutually reinforcing vectors of race, gender, class and sexuality" (Nash, 2008, p. 2). Age and location – both factors important to this thesis – are additional dimensions influencing the lived experience.

A key feature of the shift to GAD is an epistemology which foregrounds previously marginalised voices, particularly the experiences of women in the so-called Third World. The seminal work by

Mohanty (1988) "*Under Western eyes: Feminist scholarship and colonial discourses*" sought to "expose the power-knowledge nexus of feminist cross-cultural scholarship expressed through Eurocentric, falsely universalising methodologies that serve the narrow self-interest of Western feminism" (Mohanty, 2003, p. 501). This view is more closely tied to cultural feminism which emphasises the differences between men and women and seeks an imposition of women's values on society. This is in contrast to liberal feminism which seeks economic and legal equality with men (LeGates, 2001).

Whereas WID aimed to incorporate women into the practice of Development, GAD instead focussed on 'empowerment' and removing the gender-based barriers within local economies (Asiedue Asante, 2000). The shift from a focus on women to one on gender was criticised as an 'add men and stir' approach which detracted from the specific issues faced by women, and in fact served to stigmatise the category of 'women' (Cornwall, 2007; Gunnarsson, 2011). Furthermore, the people responsible for the implementation of Development projects as well as project beneficiaries often did not understand the point of gender mainstreaming (Brouwers, 2013; Warren, 2007).

Nonetheless, as a feminist project, GAD has brought attention to gender differences in how the process of development is experienced, and gender differences in the outcomes and impacts of Development projects. It brought attention to the need to go beyond the 'basic needs' approach which only dealt with women's practical concerns, to addressing women's (and men's) strategic interests through changes to entrenched systems of oppression (Molyneux, 1985). The need to better understand these complexities resulted in changes to epistemology and research methodologies.

Within this research, women were both a target of the interventions being examined, as well as a focus of my analysis. The relations between men and women, and cultural institutions such as bride price and ideal forms of masculinity and femininity, are also important concepts which are explored

in more detail in Chapter 2. These factors are foundational to the socially embedded nature of the village economy at my field site, and thus a GAD lens will be used throughout this thesis.

1.6 Participatory Development and Participatory Action Research

In alignment with GAD epistemology and methodologies, Participatory Development (PD) and Participatory Action Research (PAR) approaches seek to involve the community in the development and implementation of projects (Cahill, 2007). The shift of focus away from the State makes PD attractive to both Neo-liberals and Radicals, and so there is consensus across this spectrum of ideologies in support of its usefulness (Mohan, 2014). Green (2010, p. 1240) defines PD as an approach which enables “diverse stakeholders to temporarily align themselves around a common project for the purpose of development implementation”. PAR is a research methodology whereby researchers and participants collaborate to analyse a situation and enact positive change (Kindon, 2016). Both PD and PAR are part of the broader global project of Development, but the former is usually run as partnership between an NGO or civil society organisation and the community, while the latter is run between university-based researchers and the community. The two case studies analysed in this research are part of a program of PAR run by the PLRG. When referring to them as Development projects, I am placing them within the broader global project of Development.

Participation does not guarantee a good outcome. Mainstreaming of PD in Tanzania from the 1960s failed to result in a reduction in poverty or improved infrastructure (Green, 2010). Mohan (2014) notes that there are dangers of tokenism, the homogenisation of local perspectives, increased competition among local NGOs for resources, and a lack of attention to direct benefits that participation should deliver. To some extent, PAR addresses these deficiencies through a more rigorous attention to methods and ethics, as I discuss in Chapter 4.

An approach which engages the community and encourages ownership may intuitively be likely to deliver better outcomes, but this is difficult to assess. For example, in a systematic review of participatory farmer extension practices, Knook et al. (2018) found that few projects, particularly in

the Development sector, include this assessment in the evaluation framework. Furthermore, while program outputs are relatively easy to measure (e.g. the number of people trained in new farming methods), outcomes (e.g. increased yields) are less easy to link to project inputs, and impacts (e.g. reduced poverty) are extremely difficult to assess (Ebrahim & Rangan, 2014). In this research, I frame benefits for stakeholders in terms of the contribution interventions make to change, rather than attributing all aspects of the outcome to the change. This is in recognition of the complexities involved in determining cause and effect in social sciences.⁵

Participatory approaches to Development work enables a shift away from Neo-classical concepts of economic growth and increased productivity which do not necessarily align to local conceptions of a better life. As will be discussed in Chapter 5, both women and men continue to allocate significant amounts of time to leisure and cultural activities. This 'leisure' time contributes to creating and recreating the networks of social embeddedness which form the village economy. In the case of coffee production in the Highlands and oil palm production in the eastern island areas of PNG, farmers are less concerned with maximising production and more concerned with producing sufficient income to cover their main expenses and social obligations (Curry, 2003; Curry & Koczberski, 2012; Imbun, 2014; Sengere, 2016). This has implications for engagement with Development interventions which are explored in Chapters 7 and 8. Engagement with production, which is motivated by sufficiency rather than efficiency and profit, is a feature of the socially embedded nature of the economy. This theoretical perspective will be explored in more detail in Chapter 2.

Caution is needed, however, with participatory approaches which romanticise communities as always working harmoniously towards a shared objective. As with community projects in Western contexts, benefits do not always accrue equitably or to the expectations of participants. Research on

⁵ For further clarification of the distinction between contribution and attribution and how it applies to the evaluation of interventions see Spaapen and van Drooge (2011) and Forss and Schwartz (2011).

PNG coffee farmer groups found that while groups were the most efficient way to disseminate extension services, and the farmers themselves found value in group membership, issues with internal conflict and a lack of transparency and accountability were problematic (Sengere, 2010). This research shows that groups are able to form and continue in a sustainable manner when a collective identity is established, and the group has shared social as well as economic goals (Chapters 7 & 8).

The failure to recognise the social motivations of participants can result in an assumption that participant decision making will be based on market logic. This research explores social motivations of participants in PAR projects and demonstrates that notions of correct moral behaviour (*pasin*), ideal masculinity and femininity, and the prestige of the group are powerful influences in both group and individual decision making.

I now turn to PNG's position in global measures of development. These measures indicate that the people of PNG face challenges in relation to access to health, education, and wealth. Furthermore, there is significant inequality in PNG, and women are particularly disadvantaged in comparison with women in many other countries. Development projects have a role in addressing these challenges, and this research therefore has value in supporting the effectiveness of these projects.

1.7 PNG Development in the global context

The United Nations Development Programme (UNDP) developed the Human Development Index (HDI) to assess comparative development. It measures three dimensions; the length of healthy life, access to knowledge, and standard of living (United Nations Development Programme, 2021). These are measured through life expectancy, years of schooling and gross national income (GNI) (UNDP, 2021). In these terms, PNG ranks 155 out of the 189 countries assessed in the 2019 pre-pandemic data, putting it in the medium country category, and has improved across all assessments since 1990 (Table 1-1).

Table 1-1 PNGs HDI trends 1990 - 2019

	Life expectancy at birth	Expected years of schooling	Mean years of schooling	GNI per capita (2017 PPP\$)	HDI value
1990	56.5	4.7	2.3	2,289	0.380
1995	58.1	5.2	2.9	3,682	0.425
2000	59.3	6.3	3.3	3,368	0.450
2005	60.5	8.0	3.6	3,126	0.480
2010	62.0	9.8	4.0	3,661	0.522
2015	63.5	10.2	4.3	4,512	0.548
2016	63.7	9.9	4.6	4,414	0.549
2017	64.0	10.0	4.6	4,267	0.549
2018	64.3	10.0	4.6	4,152	0.549
2019	64.5	10.2	4.7	4,301	0.555

Source: From UNDP (2021).

The UN acknowledges the limitations of this type of measure (Jahan, 2015; UNDP, 2020). In PNG, which has a large informal sector (Conroy, 2010), measurements of income present an incomplete picture. In Chapter 5, I show that cash is only part of the wealth that circulates in the village economy, both between and within households. To mitigate the limitations of the HDI, the UN now complements it with other quantitative measures which aim to include the impact of factors such as inequality and gender. The inequality-adjusted HDI (IHDI) applies a ‘discount’ to the HDI based on levels of inequality within each country.

As seen in Table 1-2, the discount factor applied to PNG is much higher than for the comparable country of Laos, and to others in the medium country grouping and in the East Asia and Pacific Region (UNDP, 2021). This indicates that PNG has high levels of inequality. Data collected by the PLRG indicate wide disparities between accessible and inaccessible sites in EHP across several measures, and this has significant implications for pathways for economic empowerment (Curry et al., 2017). In Chapter 6, I explore how differences in age, gender, and social circumstances can also influence pathways to prosperity.

Table 1-2 Overview of 2019 IHDI for PNG, Laos, East Asia and the Pacific, and medium HDI countries

	IHDI value	Overall loss (%)	Human inequality coefficient (%)	Inequality in life expectancy at birth (%)	Inequality in education (%)	Inequality in income (%)
Papua New Guinea	0.390	29.7	29.6	24.1	35.7	28.9
Lao People's Democratic Republic	0.461	24.8	24.7	22.6	31.3	20.3
East Asia and the Pacific	0.621	16.9	16.5	9.9	13.4	26.2
Medium HDI	0.465	26.3	25.9	20.8	37.1	19.7

Source: From UNDP (2021).

The UNDP also uses two additional indices to assess gender differences in development – the Gender Development Index (GDI) and the Gender Inequality Index (GII). The former is a sex-disaggregated version of the HDI and is not available for PNG due to a lack of data. The latter is based on maternal mortality rates, rates of adolescent birth, the number of women in parliament, women who finish secondary school or higher, and labour market participation by sex. In this index, PNG ranked 161 out of 162 countries in 2019 (UNDP, 2021). While this is again a high-level indicator, it does indicate that women in general experience disadvantage in PNG, and that this research has value in examining PNG development through a gender lens.

The broad economic indicators produced by the UNDP are important in showing levels of relative deprivation between countries, and PNG's indices suggest that the people of PNG face significant challenges. The reality of life in PNG and the barriers to economic empowerment cannot, however, be understood without additional quantitative and qualitative data. Features of my research site, including geography, population density, education, livelihoods, gender relations, political relations, and local and global connections are explored in more detail in Chapter 3. Drawing on both quantitative and qualitative data from the PLRG and my own data collection, this research provides a micro-level understanding of economic progress in PNG which enables the formulation of recommendations which will support locally driven Development interventions.

1.8 Thesis outline

Following this introductory chapter which provides a broad overview of my research questions and their grounding in Development Studies, Chapter 2 examines the theory underpinning concepts of

social embeddedness. This includes an outline of Polanyi's (2001 [1944]) and Granovetter's (1985) approaches to this theory, and an overview of my own approach which is a modification of Hess's (2004) framework of societal, network, and territorial embeddedness. My approach collapses the societal and network forms of embeddedness and adds a proximal lens which re-introduces localised notions of spatial embeddedness, a feature which Hess had diminished in his approach. I then define the process of structuration which is used to explain the process of change resulting from interactions between actors and institutions. This is followed by an exploration of the concept of *pasin* which is a framework for understanding embeddedness in the PNG context. I then draw on the work of earlier researchers working in the Highlands to demonstrate the progression of gender research in this region. The socio-cultural practices that form part of *pasin* are then described. This includes bride price payments; sexual antagonism and complementarity; politics, prestige and personhood; labour, land and other factors of production; and sorcery.

In Chapter 3, I present a detailed overview of my field site with the intention of building a picture of this area as a particular 'place'. Here I refer to the geographic concept of place which is made up of both site and situational factors (Greiner, 2014). I present the key physical, social, and economic features of my field site and describe how these have influenced opportunities for economic empowerment. I also examine the local and global connections which form part of the networks of embeddedness. Overviews of the VSLA and the demucilager pilot projects, which are used as case studies in this research, are also provided in this chapter.

The methodology used in this research is discussed in Chapter 4. I describe the rationale for choosing a mixed-methods approach, as well as details of my research cohort and sampling approach. This is followed by the methodology used by the PLRG to collect data which forms an important part of my analysis. I also provide an overview of my research experience which justifies the methods I used for my own data collection, with a summary of the advantages and disadvantages of remote data collection methods. Ethical considerations are also reviewed in this chapter.

In Chapter 5, I focus on changes in the village economy since PNG's Independence in 1975. This begins with a comparison of time allocation using data from earlier researchers working in EHP between 1976 and 1993, and 2011 data from the PLRG. I also compare data from PLRG household surveys at Bena undertaken in 2010 and 2018. These data show that engagement in coffee production is price sensitive, and that both men and, to a lesser extent, women, will increase labour to coffee when prices are high. In accessible areas, labour is becoming increasingly constrained as women in accessible sites have greater access to income from fresh food production. Proximate and territorial embeddedness both influence economic outcomes, as access to markets and other resources impact economic activity. Furthermore, time allocated to cultural and leisure activities remains significant as these activities contribute to the maintenance of social networks - a feature of societal embeddedness.

The focus of Chapter 6 is the societal embeddedness of the village economy. I first consider the networks of societal embeddedness through which transactions flow, and the types of commodities which are exchanged through these networks. Using case studies, I demonstrate how marital status and cultural practices influence economic engagement and opportunities. I then explore how the VSLA and demucilager projects are influencing women's engagement in coffee production. Here, I show that most women have access to income from coffee, and that the VSLA is providing access not only to savings and credit facilities, but also to financial literacy skills which support other business activities. Their engagement in coffee production is highly embedded in their societal networks, where coffee cherry is exchanged in intra- and inter-household economies. Furthermore, while most women's access to income from coffee is low relative to men's, their returns to labour can be improved through use of the demucilager.

In Chapter 7, I present the first case study of engagement with Development, examining outcomes for the Village Savings and Loans Association (VSLA) from the period of 2020 and 2021. I explore the links between the VSLA and *pasin*, and how, through structuration, the VSLA share-out at the end of

the savings cycle both reproduces and modifies institutions of societal embeddedness. I consider the impact of the Covid-19 pandemic on savings and loans through this period, demonstrating that for most people the VSLA provided an important savings buffer. However, for some, the motivation to enact *gutpela pasin* had negative consequences when too much risk was taken during a period of constrained market conditions.

The second case study of a Development project is presented in Chapter 8. Here, I explore the demucilager pilot scheme which, in part, aims to improve returns to labour in coffee production. The project faced numerous challenges, particularly during 2021 when the impact of Covid-19 was greatest and the spread of Coffee Berry Borer (CBB; *Hypothenemus hampei*) was also affecting coffee crops. In this chapter, I consider the embedded nature of leadership and how this contributes to the sustainability of the project. I also discuss the way in which the VSLA and demucilager projects are now part of societal embeddedness which, through the actions of members, effects change in other cultural institutions in an ongoing process of structuration.

Chapter 9 draws the main threads of my argument together to consider my research and the implications for Development projects. I first provide an overview of the nature of my field site in relation to societal, proximal and territorial embeddedness. I then consider these factors in relation to the research questions posed earlier in this chapter. I argue that this approach is complementary to other Development methodologies such as the Sustainable Livelihoods Approach as it provides not only an inventory of assets and liabilities, but a greater understanding of how these are used within the cultural framework of *pasin*. To conclude, I provide an overview of recommendations not only in relation to the VSLA and demucilager projects, but also in relation to PNG Highlands Development projects in general. I now turn to a review of the key concepts used throughout this thesis.

2 The socially embedded economy in the PNG Highlands

2.1 Introduction

The preceding chapter provided an overview of how this research is positioned within the field of Development Studies, and outlined my argument that engagement with Development projects is driven by the socially embedded nature of the local economy. In this chapter, I first examine the meaning of embeddedness and outline the analytical framework of societal, proximal, and territorial embeddedness which is used throughout this thesis. I then discuss Giddens' (1984) concept of structuration, which I use as a way of explaining the process through which Development projects, community members, and existing cultural institutions interact and change each other. The concept of *pasin* is then explored, followed by an overview of gender research in the PNG highlands. I then explore the key cultural institutions through which *gutpela pasin* is enacted, and which are features of societal embeddedness. This overview provides the contextual basis for later analysis in this thesis.

2.2 Key concepts

2.2.1 The socially embedded economy

2.2.1.1 Polanyi and the dis-embedded economy

The socially embedded economy is a concept which has its roots in the works of Polanyi (2001 [1944]), who argued that so called socially dis-embedded, self-regulated market-based economic systems were a utopian fallacy. The title of his work, *The Great Transformation*, hints at the Modernist approach to development. Modernist theory, exemplified by Rostow's (1959) stages of economic growth, is based on the idea that societies progress along a particular trajectory from traditional rural societies of 'under-developed' states to the urban-industrial and modernized capitalist societies found in Europe and North America. However, while Polanyi discusses the economic progression of societies from tribal, to archaic, to modern, with the last being evidenced

through the existence of market-based economies, he does not take the Modernist position that this is a beneficial outcome of development. Instead, he seeks to critique Classical and Neo-classical approaches to economics which assert that market-based economies are dis-embedded from social relations.⁶ He notes that these approaches to economic analysis are ontologically formalist, meaning that it is based on a theory of scarcity of resources which push discrete ('rational') human beings to make decisions which maximise gains. Polanyi instead argues for a substantive approach, which focusses primarily on meeting human needs through sufficiency (Machado, 2011; Polanyi, 2001). His substantive approach recognises that for most of human history, social relations were a primary influence on economic action. He writes:

The outstanding discovery of recent historical and anthropological research is that man's economy, as a rule, is submerged in his social relationships. He does not act so as to safeguard his individual interest in the possession of material goods; he acts so as to safeguard his social standing, his social claims, his social assets. He values material goods only in so far as they serve this end. Neither the process of production nor that of distribution is linked to specific economic interests attached to the possession of goods; but every single step in that process is geared to a number of social interests which eventually ensure that the required step be taken. These interests will be very different in a small hunting or fishing community from those in a vast despotic society, but in either case the economic system will be run on noneconomic motives (Polanyi, 2001, p. 48)

Polanyi categorized three dominant principles of distribution of resources underpinning economic activities within societies which pre-date the market-based economy. These are: (a) *reciprocity* among groups that have a symmetrical arrangement or organisation, such as kinship groups; (b) *redistribution* facilitated by a politically based allocative centre; and (c) *householding* that revolves around production to fulfill the needs of a mostly self-sufficient (closed) unit, like a family, settlement, or manor (Jessop, 2001; Polanyi, 2001). The concepts of reciprocity and redistribution were drawn from anthropological accounts of Melanesia and Africa, whereas householding is an

⁶ Polanyi at times wrote from a Marxist perspective, but Block (2003) notes that his views changed over the course of writing *The Great Transformation* and he at times was also arguing against the formalist Marxist position on the market economy.

Aristotelian term which Polanyi applies to pre-market European social organisation, and which he dropped from later theorising (Gregory, 2009). Each of these modes of distribution is determined by the social structure within which it operates (symmetrical, centric, or closed), in contrast to the market-based arrangement where “instead of economy being embedded in social relations, social relations are embedded in the economic system” (Polanyi, 2001, p. 60).

An essential aspect of Polanyi’s thesis is that the supposed dis-embeddedness of self-regulated markets, which proponents claim can replace Hobbes’ autocratic Leviathan with transactions between disengaged parties, is a utopian proposition (Block, 2001; Granovetter, 1985; Machado, 2011; Stiglitz, 2001). Furthermore, *laissez-faire* approaches to economic management which are justified by this belief underpinned the two World Wars of the twentieth century, and the Great Depression of the 1930s. This attack on liberal economic policy contributed to resurgence in popularity of Polanyi’s work in the 1980s when Neo-liberal economics came to the fore in the form of Reaganism, Thatcherism, and the expansion of capitalism into previously non-market economies (Beckert, 2009; DiMaggio & Zukin, 1990; Stiglitz, 2001).

Polanyi described reciprocal and redistributive systems (that is, pre-market economies) in the following way:

As long as social organization runs in its ruts, no individual economic motives need come into play; no shirking of personal effort need be feared; division of labor will automatically be ensured; economic obligations will be duly discharged; and, above all, the material means for an exuberant display of abundance at all public festivals will be provided. In such a community the idea of profit is barred; higgling and haggling is decried; giving freely is acclaimed as a virtue; the supposed propensity to barter, truck, and exchange does not appear. The economic system is, in effect, a mere function of social organization (Polanyi, 2001, pp. 52–53).

Although overly romanticised, Polanyi here aims to capture the essence of substantivist economics, however, some of the important aspects of the nature of social embeddedness as it operates in Bena and elsewhere in PNG, such as gender relations, prestige, and the need to be recognised as a social adult, are under-played. Part of this is attributable to Polanyi’s methodology which only ever

relied on secondary ethnographic data which he drew into broad conceptions of economic and social processes. It is also due to the translation of Melanesian economic systems into a framework based on Western concepts of economic relations which, despite Polanyi's attempt to reframe these, does not adequately conceptualise embeddedness in the Melanesian context. Some of his followers, such as Paul Bohannan, sought to expand on and develop more useful conceptual frameworks of pre-market economies, such as spheres of exchange.

2.2.1.2 Spheres of exchange

Bohannan, working with his wife Laura, used Polanyi's theories to develop a substantivist ethnography of the Tiv of Nigeria (K. Hart, 2012). He argued that before the introduction of European forms of money, the Tiv economy operated in three distinct and hierarchical spheres (Bohannan, 1959). The first was where subsistence transactions occurred, the second was where the exchange of prestige items such as slaves, brass rods, and other culturally significant items occurred. These items never entered the marketplace to be sold or bartered. The final and highest level was the exchange of rights in women and children, which again occurred in a sphere which had no overlap with the other two. He argued that the introduction of money undermined this system as it could be used within any of the spheres, shifting the Tiv from an multicentric to a unicentric economy (Bohannan, 1959).

Despite his work being found theoretically naïve by anthropologists and inaccurate by historians (K. Hart, 2012), the concept of economic spheres was also used as model of analysis in a number of PNG highlands ethnographies (Sillitoe, 2006b). Work in the Pacific which identified different realms of economic activity can be seen before Bohannan's work, including Malinowski's (1984 [1922]) work in the Trobriand Islands which differentiated trade from ceremonial exchange, and his student Firth's (2004 [1939]) work in Polynesian Tikopia which identified three types of trade and exchange (Sillitoe, 2006b). These and subsequent models have incorporated between 2 and 4 spheres or nexuses which do not always adhere to the original concept of strict separation. Sillitoe (2006b) sought to

overcome these complexities through shifting the focus from exchange to production. Here he differentiates exchange of subsistence products from exchange of wealth products or valuables. He describes the subsistence sphere as occurring in a state whereby:

All households have access to sufficient land, labor, and capital adequately to meet their livelihood needs and their customary expectations, and associated material independently of others. Except for abnormal environmental perturbations, these resources are in adequate supply to meet current subsistence demands, although not necessarily wealth demands (p. 7)

He notes the features of the wealth sphere as follows:

... scarcity is a consideration regarding valuables that feature in sociopolitical transactions [of PNG highlanders] where persons compete politically for status and influence. Even if the resources needed to meet basic needs are in adequate supply, societies may institute culturally defined scarcities by putting a high value on things that are in limited supply [e.g. pigs]. To ensure their value and qualify as wealth, such things must be in scarce supply, for if everyone had unlimited access to them, they would no longer be valuable (p. 8).

This type of transaction differs from that which occurs in capitalist modes of production, as the object is not to accumulate wealth for oneself, but to give it away and achieve status and prestige through sociopolitical transacting. This type of transacting can be viewed as a social investment in others which delivers a social return. Production does not occur in this sphere, rather objects are transformed into items of value from where they are produced through an act of exchange.

Sillitoe (2006b) supports the view that the permeability of the spheres is made possible through the introduction of cash in the economy, as people are able to purchase scarce objects through the money they earn from labour. He argues that “economic development, usually initiated in the colonial era and continuing today as part of the process of globalization, which features connection

to the capitalist market with policies of trade liberalization, promotes the end of tribal orders” (p. 20).⁷

What Sillitoe (2006b) meant exactly by “the end of tribal orders” is unclear, but I take it as referring to the demise of indigenous political, social, and cultural relations which inform the norms of social and economic behaviour. While this might suggest a shift towards homogenisation of local systems through globalisation, the exchange of goods is still an important feature of embeddedness in my research community. As I demonstrate in Chapter 6, the networks within which these transactions occur are an important aspect of the village economy in the PNG highlands, as these create the links of obligation within families and communities. This would suggest that indigenous political, social, and cultural relations have adapted to accommodate new forms of transacting. I now turn to the work of Granovetter, who was instrumental in bringing attention to networks in his theoretical work on embeddedness.

2.2.1.3 Granovetter and the Importance of Actors, Networks, and Relationships

Granovetter (1985) was instrumental in reviving interest in Polanyi’s work after a period of academic disinterest in the concept of embeddedness. He argued that on the one hand, Classical and Neo-classical economists continued with an under-socialised approach and a belief in the rational actor who maximises gains, while on the other, reformists took an over-socialised approach whereby market participants were entirely beholden to social pressures. These two approaches, Granovetter claimed, resulted in a paradoxically similar outcome, since in the case of the over-socialised economic model, individuals were rendered as constrained and predictable by the perceived social environment as if they were an economically rational actor. This, he argued, did not represent the true nature of social embeddedness and instead argued that economic decision-making is

⁷ Sillitoe (2006b) notes a few exceptions to this rule where some Highlands societies have designated specific items as exchange valuables, which cannot be replaced with cash.

“embedded in concrete, ongoing systems of social relations” (p. 487) rather than the extremes of market logic or a pre-defined social position which determined the choices individuals could make. In contrast to Polanyi, Granovetter was concerned not with the processes through which societies obtain unity and stability (Jessop, 2001), but rather with the actors, interpersonal relationships, and networks (Hess, 2004).

Granovetter (1985; Hess, 2004) distinguishes between relational embeddedness and structural embeddedness, with the first concerned with the quality and strength of relationships, and the latter the structure of relationships, and both are discussed throughout this research, particularly in Chapter 6. Granovetter’s (2005, p. 487) depiction of social relations as “concrete” was intended to convey their real rather than abstract nature, however, it also (likely unintentionally) suggests they are fixed and unresponsive to the environment. Instead, I emphasise that actors and institutions interact to influence and change each other, a concept I explore in more detail using Giddens’ (1984) concept of structuration, which is outlined in the next section of this chapter.

Granovetter’s (1985) work became the focus of the emerging discipline of economic sociology and spurred a range of research pathways which developed new interpretations of the concept of embeddedness (Beckert, 2009). He shifted the theoretical agenda from Polanyi’s focus on social reform, to one which sought to understand the social pre-conditions necessary for markets to operate efficiently (Beckert, 2009). Zukin and DiMaggio (1990) expanded the concept of embeddedness to include four realms: cognitive, cultural, social and political. Each of these is an avenue of understanding the ways in which humans are limited in making rational economic choices. Halinen and Törnroos (1998) further atomised typologies of embeddedness to consider three different modes of analysis (actor/network, the dyad network or micronet/macronet) and six different forms of embeddedness (temporal, spatial, social, political, market and technological) which exist in either the vertical or horizontal dimensions. For this analysis, I have used Hess’s (2004) framework which gives primacy to the spatial nature of embeddedness.

2.2.1.4 Societal, proximal, and territorial embeddedness

Hess (2004) rejects Halinen and Törnroos's (1998) approach, arguing that despite its complexity, their approach fails to adequately conceptualise a typology of embeddedness. Furthermore, this and other approaches do not sufficiently account for issues of space and place which he sees as fundamental to economic action. He notes that where space is incorporated into theory, there is too much emphasis placed on local and regional networks, resulting in "over-territorialisation". While I agree that attention must be paid to the spatial nature of embeddedness, I reject the push away from attention to the local in analysis of embeddedness, as I consider this to be fundamental even in a context of an increase in links to global networks.

Hess (2004) advocates an analytical approach based on three forms of embeddedness: societal, territorial, and network. *Societal* embeddedness refers to the social relationships and cultural norms that shape economic activities and their outcomes. It emphasizes the importance of shared values, trust, and social capital in facilitating economic transactions and innovation. *Territorial* embeddedness refers to the spatial context of economic resources, including the physical infrastructure, natural resources, and institutional frameworks that shape economic outcomes. *Network* embeddedness "relates to the topological space of networks, in which distance and proximity are a function of the relations between actors without being confined to particular regions" (Hess, 2004, p. 181).

Hess is referring in his Network form of embeddedness to the structure and function of networks of actors but, in my approach, I incorporate this in my analysis of societal embeddedness (see Chapter 6). Instead, I focus on 'proximal' features of embeddedness. Unlike Hess's approach, this deliberately brings a focus to the spatial arrangements of local factors which drive economic action. By proximal, I am referring to the proximity of actors to each other and to the resources involved in economic activity, and how these spatial arrangements become part of a *habitus* of economic action. *Habitus* is a term developed by the work of Bourdieu, and refers to "the unconscious internalization of

objective social structures which appear spontaneous and natural, but which are in fact socially conditioned” (Macey, 2000, p. 175). In this sense, proximal embeddedness is more than just access to resources, it is how this access becomes culturally ingrained in action.

This tripartite approach to embeddedness emphasizes the importance of local knowledge, institutions, and governance in facilitating economic development and regional competitiveness. While this typology is useful, and I refer to these different forms throughout this thesis, I also refer to social embeddedness as a form of shorthand for a generalised notion of embeddedness in the Polanyian sense, where economic action is motivated by sufficiency instead of efficiency. I place deliberate emphasis on the social aspect of embeddedness, since this, at least within the context of PNG, is the primary lens through which the embedded economy should be considered.

2.2.1.5 Applications of embeddedness in social analysis

Granovetter (2005) limited the scope of his thesis to developed market-based economies, but researchers have since applied the concept of embeddedness to non-market economies. For example, Shipton’s (2007, 2009, 2010; cited in Hull & James, 2012) work on the Luo in East Africa attempts to broaden our understanding of the nature of economic transactions to include inter-generational obligations, paybacks between living people and their ancestors, and other scenarios not generally associated with 'money' or exchange. Embeddedness has been used in South Africa to explain the over-indebtedness of the country’s previously disenfranchised and now upwardly mobile black communities (James, 2012). In Asia, research on actors in China’s emerging market has demonstrated that in the absence of strong institutional support and accurate market information, managers rely more on personal networks (C.-N. Chung & Luo, 2013; Peng & Luo, 2000). In PNG, embeddedness has been used successfully in the analysis of a range of livelihoods, including coffee, oil palm and cocoa production, extractive industries, and fisheries (Barclay & Kinch, 2013; Curry & Koczberski, 2012; Inu, 2015; Sengere, 2016; West, 2016).

While both Polanyi and Granovetter would argue that all economies are socially embedded, it is the context within which they operate (or, to put another way, the nature of the embeddedness) which influences economic action.⁸ In this thesis, I utilise the concepts of societal, proximal, and territorial embeddedness as a framework to explain economic decision making and engagement with Development projects in the Bena research community. This approach does, however, have limitations in explaining the ways in which actors and institutions interact and shape one another, and how individuals are conceptualised in PNG. To address these limitations, I first turn to Giddens' (1984) work on structuration, before exploring in more detail the concept of *pasin*.

2.2.2 Structuration

Granovetter's (2005) focus on actors and networks moved away from Polanyi's interest in institutions, although, as noted above, later theorists sought to reintroduce consideration of the macro environment through broadening the conceptualisation of embeddedness. While useful, these approaches are limited in what they say about my second and third research questions, that is, the ways in which agents shape institutions, and how institutions in turn shape the people who interact with them. To address this deficiency, I utilise Giddens' (1984) Structuration Theory which rejects the dualism of structure versus agency, and instead refers to the relationship between action and institutions as a duality, or two sides of the same coin. In this model, agency and structure interact to constantly reproduce each other; neither has logical priority, and neither has an end state (Cresswell, 2012, p. 203). This model is process focused and can be used to explain how institutions interact with participants in Development projects to both replicate and change the status quo.

⁸ This position is perhaps clearer for Granovetter than it is for Polanyi, as the concept of dis-embeddedness is often thought to mean that Polanyi thought the market-based economy was not socially embedded, a misconception compounded by the fact that Polanyi did not clearly define what he meant by embeddedness. However, his core argument, as I have noted, is that the dis-embedded, self-regulated market is a utopian fallacy. As Krippner (2001, p. 782) remarks, one of his objectives was to "portray the market, even as it approximated the ideal of theory, as an inextricably social object".

In defining what he refers to as ‘institutions’, Giddens (1984) includes modes of discourse, political institutions, economic institutions and legal institutions, noting that they are “the more enduring features of social life” (p. 24). In this research, I consider the cultural practices which shape the socially embedded economy as institutions. This includes customary and commercial activities such as bride price payments, idealised gender roles, community leadership, group prestige, and the ways food and cash crops are produced and marketed. As I discuss later in this chapter, these institutions are both enduring and adapting to new economic and social conditions, and they play an important role in determining how community members engage with Development projects.

Structuration theory has been used to explain the interaction of agents and institutions in a variety of contexts. In business, it has been used to consider the integration of hotel management strategies with environmental controls (L. H. Chung & Parker, 2008). In the Development sector, Tabares et al. (2021) used Structuration Theory to consider the impact of B Corps⁹ on the rules, values and norms associated with sustainability in the corporate world. It has been used in education research to explore refugee support programs in Greater Western Sydney (Naidoo, 2009). In his analysis of Tibetan society, Luo (2016) notes that Structuration Theory enables an understanding of how individuals navigate power and risk, which is relevant to my analysis of engagement with Development projects. Furthermore, he combines Structuration Theory with indigenous understandings of sociality, which is similar to the approach I utilise in this research.

While Giddens’ concept of structuration is useful, it also frames agents as individuals in a Western context of sociality, acting in terms of self-interest. This framing of individual sociality is not always helpful in understanding the motivation for individual action in the context of PNG. To better

⁹ B Corps, or Certified B Corporations, are a hybrid organisation which has certification from US Non-profit B Lab that they deliver social and environmental benefits, as well as achieving profits for shareholders.

understand the motivation to engage in Development projects, I utilise the indigenous concept of *pasin*, which I now consider in more detail.

2.2.3 *Pasin*

The concept of *pasin* has been effectively used as a framework of analysis in a range of different PNG research projects. This includes examining the lives of internal migrants in the settlements of Port Moresby (Hukula, 2015, 2019; Rooney, 2019), the ways in which nurses reconcile Western and customary approaches to medical treatment (Andersen, 2017), the ways in which researchers conduct themselves and are perceived (Backhaus et al., 2020), as well as performance of ideal forms of masculinity and femininity (Barnett-Naghshineh, 2018, 2019; Neuendorf, 2020).

Pasin can be translated variously as “behaviour, manners, custom or way of life” (Baing et al., 2008, p. 62). Barnett-Naghshineh (2018, p. 60) describes it as “...a matter of how people, especially women, are evaluated by others...”. It is fundamentally related to action and performance, as noted by Hukula (2015, pp. 183–184):

Pasin is an action, it is something that people do. It is an action that can be described as good or bad, yet *pasin* is also a way of being. A person can be described as having *gutpela pasin* (good ways) and yet a single action by the same person can be described as *nogut* [TP no good] *pasin*. This *nogut pasin* does not necessarily change the perception that people have of this one person, although it does recognize an act that is deemed as unfavourable.

For enactment of *pasin* to be of value, it must be witnessed. The act of witnessing is also guided by a moral framework referred to as *luksave*, a Tok Pisin term which can be translated as recognition or acknowledgement (Backhaus et al., 2020; Baing et al., 2008). *Luksave* is not a passive act of observation, but a particular skill whereby the observer knows how to look, and how to respond (Rooney, 2019). This may, for example, be to discreetly assist a person who is indicating they are in trouble without bringing them shame. To do this is to enact *gutpela pasin luksave* (the correct way of looking, understanding, and acting) (Rooney, 2019).

In this thesis I argue that, in my research community, participation in Development projects is perceived as enacting *gutpela pasin* and contributes to the prestige of the community. Furthermore, leaders who demonstrate the ability to harness Development resources are achieving a form of masculinity and *pasin* which has evolved from earlier forms of bigmanship (see Chapter 8). M. Strathern's (1988) concept of the "dividual" is useful here, as it highlights that individuality should be understood in a Melanesian context. In Western approaches, individuals are conceived of as autonomous and self-contained entities, whereas Strathern claims Melanesians conceptualise themselves through their relationships and connections with others. The dividual perspective highlights how social, cultural, and institutional factors shape Melanesian identity and actions. In the case studies explored later in this thesis, it can be seen that the *pasin* of the group is an important constituent of individual *pasin* and vice versa. Group *pasin* may be enacted through exchange ceremonies with other communities or, in the case of this research, VSLA share-out ceremonies. As will be discussed in Chapter 7, these events are an important arena for the enactment of *pasin*.

2.2.4 Masculinities and femininities

Before exploring the linkages of *pasin* to gender, it is important that I first clarify my approach to gender analysis in this work. In relation to the term gender, I refer here to a person's socially constructed gendered identity. I subscribe to McDowell's (1999, p. 23) view that, "What it means to be man or woman is context-dependent...relational and variable, albeit constrained by the rules and regulations of the time which define permitted and transgressive acts". This research is concerned with how men and women enact their genders, and how 'masculinities' and 'femininities' are idealised and socialised. This approach recognises that gender is performative and relational (Butler, 1988). However, sex and gender do not operate independently of each other, and their relationship is historically and spatially contingent (McDowell, 1999). In PNG, men and women tend to have a "fairly rigid and dichotomous sense of their gender" (Wardlow, 2006, p. 15). This strong binary

masculine/feminine form of gender relations is the result of strong socialising forces, including *luksave* and *pasin*.

The concepts of 'masculinities' and 'feminities' arose from the work of Connell and others over the course of the 1980s (Connell & Messerschmidt, 2005), who theorised the existence of multiple forms of masculinity dominated by 'hegemonic masculinity'. Hegemonic masculinity is an enacted, normative ideal by which other men are measured, and which serves to oppress both women and men who do not meet this ideal (Connell & Messerschmidt, 2005). Schippers (2007, p. 94) develops the concept further, arguing that masculinities and femininities are "produced, contested, and transformed through discursive processes, and therefore embedded within and productive of power relations". She asserts that they are not fixed behaviours, developed in isolation and socially located in the construct of 'woman' and 'man', but are instead *relational*. In other words, they are constructed in reference to each other, and may or may not have an objective of maintaining male dominance (Schippers, 2007).

This difference is crucial in the context of cross-cultural analysis, as it shifts focus from hegemonic masculinities and femininities as a defined set of behaviours, often ascribed to white, Western culture, to a consideration of all discourse and social action relevant to gender relations, regardless of the cultural context. As Schippers (2007, p. 93) notes:

...this model encourages an additional exploration of how a naturalized, complementary, and hierarchical relationship between masculinity and femininity is produced and deployed as a rationale or legitimating discourse for social practice, policy, or institutional structure that result in or ensure inequality and domination, not just along the lines of gender, but along the lines of race, class, sexuality, age, region, or nation.

In the Melanesian context, the relational, performative nature of masculine and feminine identities was recognised in Marilyn Strathern's (1988) influential work *The Gender of the Gift: Problems with Women and Problems with Society*. Here, she argues that what appears as 'male' or 'female' in a fixed Western sense is instead determined through interaction with others (M. Strathern, 1988, p. 127). This implies fluid gender identity, which, as noted above, is not usually the case. In the broader

context of everyday life in PNG, any transformative potential may be tolerated in young people but it is curtailed through ritual and other social disciplinary action (Kelly-Hanku et al., 2020). The recognition of ideal masculinities and femininities (which is also a recognition of *gutpela pasin*) is an important part of this social conditioning. In her examination of the *pasin* of internal migrants in Port Moresby settlements, Hukula (2015, p. 194) noted, “What defines men and woman [sic] in the blok¹⁰ is what they do and what they are expected to do”.

This research includes an exploration of how performance and recognition of ideal masculinity and femininity influences engagement with Participatory Development projects within my Bena research community. To provide context to my analysis, I next provide a brief overview of gender research and cultural practices which are relevant to gender relations in the Bena community.

2.3 Gender research in the PNG Highlands

The opportunity to observe gender relations in PNG has proven to be an irresistible drawcard for anthropologists, with Malinowski (1929) one of the first to explore this topic with his book “The Sexual Life of Savages”. Early analyses of PNG gender relations were by and large based on Marxist and Structuralist theoretical frameworks. They described a state of “sexual antagonism” whereby men exploited women’s reproductive capability and labour and, through the exchange system, controlled resources (Josephides, 1983; Langness, 1967; Meggitt, 1964; Read, 1952; Reay, 2014). For example, women’s labour in pig production was seen to be appropriated by men for the purpose of enhancing the status of men at large scale exchange ceremonies. Josephides (1983, p. 306) argued that:

Women's labour receives official recognition at the pig feast, but this is exactly where the products of that labour are appropriated. The husband distributes pork, creating debts in his name. The wife may still enjoy the fruits

¹⁰ A *blok* is “a settlement is made up of groups of people who settle on either state or customary land” (Hukula, 2015, p. 8).

of the returns if she remains with her husband, but if she separates and remarries, she forfeits her investment.

Gender research in the PNG Highlands during the second half of the twentieth century was focused not only on the supposed exploitation of women by men, but also the genuine hostility that was perceived to dominate gender relations (Langness, 1967; Meggitt, 1964; Read, 1954; Reay, 2014).

This conclusion is perhaps not surprising given the contrast to Western cultural practices and beliefs at the time. For example, it was common for men to live apart from their wives in a men's house, and blood produced through reproductive processes, either menstrual, childbirth or lochia, was (and to some extent still is) thought of as dangerous. Women, who may have come to the patrilocal residence from an enemy tribe, were considered particularly dangerous in the early years of marriage due to conflicted loyalties (Dickerson-Putman, 1994; Knauft, 1999, p. 163; Sillitoe, 1998, p. 145). Sexual antagonism in the Bena area is discussed in more detail later in this chapter.

In contrast to Marxist analyses, Sillitoe (2006a, p. 144) argued that, "It is questionable to view the sexual division of labour as a gendered arrangement of exploitation because women spend time on certain tasks (often with material outcomes), and men on others (often with immaterial outcomes)". Like M. Strathern (1988), his work revealed that women did actively participate in social transactions for which men were publicly recognised, whether or not they were physically present. Strathern's (1988) postmodern critique deconstructed the Melanesian individual to the dividual – the social being who is constituted through the social action of others. This, however, created a further construct in the binary opposition of individual versus dividual constitution. Wardlow (2006, p. 13,14) asserts that both dividuality and individuality can be seen in Melanesia. She utilises agency to explore expressions of the latter in Huli culture, focusing on women who transgressed ideals of feminine behaviour, portraying these women as expressing their individuality through 'negative agency' – essentially, self-harm.

Wardlow (2006) framed women's agency as limited by extreme patriarchal constraints rooted in the practice of bride wealth exchange, through which women were 'fenced in'. In contrast, Barnett-

Naghshineh (2018) took pains to show women's lives in the Highlands in a more positive light. She demonstrated that in contrast to the Huli, women in the Goroka area have their own exchange systems, often based on special kinds of food, and argued that as women they "decided who and when they wanted to marry" (Barnett-Naghshineh, 2018, p. 256); the bridewealth system did not necessarily constrain them.

The agent-centric approach to gender research in PNG forms part of the consideration within the broader field of feminist research of how women in developing countries should be portrayed, and the extent to which cultural practices, which may be viewed as harmful to Western feminists, should be accepted rather than challenged (Cowlshaw & Lea, 1990; Kirby, 1989; LeGates, 2001; Mohanty, 1988, 2003; M. Strathern, 1989a, 1989b). Recognition of the capabilities and power of women in developing countries to determine their own solutions to issues of gender justice and inequality has been an important paradigm shift in approaches to Development work. There is a risk, however, that in celebrating women's agency, less attention is paid to structural barriers which limit our choices. On reflection of her time working as an anthropologist consultant with PNG women police officers, Macintyre (2001, p. 114) noted that women are less concerned with relativist issues of bridewealth, and more concerned with

...discriminatory promotion policies, low wages, sexist attitudes from male colleagues and the trials of having the double burden of housework and a job. Their ethnic origins and cultural differences are irrelevant as they see that their interests will only be advanced by uniting in a struggle against the pervasive male chauvinism of men in the police force.

Whether used positively to demonstrate women's control over their personal situation, or to underscore the limitations within which women operate in PNG, the agent-centric approach is useful but risks missing part of the picture as it tends to focus only on the societal aspects of embeddedness. This is also true of anthropological approaches which focus on gender symbolism and how gender is socially constituted. The inclusion of macro-level influences and the territorial and proximal aspects of embeddedness, such as geographic location, access to resources and the actions

of government, other institutions, and Development activities may be neglected. As will be demonstrated in this research, these factors can be significant. The process of structuration is a useful analytical tool here as it recognises that both agency and structure are important factors in shaping gender relations. I now examine a selection of institutions which are important in providing context and understanding of proximal, territorial, and societal aspects of embeddedness at my field site.

2.4 Bride price

Bride price, bridewealth, or *braid prais* (TP), remains a significant cultural and economic institution throughout the PNG highlands. The enmeshed nature of this system which enrols extended families into intergenerational obligation has been a discussion point in numerous ethnographies (Reay, 2014; Sexton, 1986; Sturzenhofecker, 1998; Wardlow, 2006). In the Eastern Highlands, where married couples traditionally resided patrilocally, the wife's family is compensated for their loss through a series of payments over the course of her life, of which bride price is the first. The last is a mortuary payment paid after her death (Dickerson-Putman, 1996). The compensation is not only for the loss of the woman, but also of her reproductive capacity and loss of potential or living children (Sexton, 1986).

As discussed in the case studies in Chapter 6, the payment of bride price (or non-payment) has implications in relation to the residential placement of children in the event of a relationship breakdown. To dissolve a marriage, the family of the bride may be expected to return at least part of the *braid prais*. The network of obligations that arise over time can be extensive, and difficult to disentangle, with parties other than the couple involved standing to lose in the event of a marriage breakdown. It is not surprising, therefore, that social pressures exist which strongly encourage the continuation of marital unions. Wardlow (2006, p. 91) describes it thus:

Bridewealth secures the reproductive substances and the gestational labour necessary for creating the next generation, and the process of giving, waiting and recuperating wealth link people vertically and horizontally over time.

It is important to stress, however, that *braid prais* is not only materialist in nature. It is also about the production of people as social beings. Neuendorf (2020) sees it as a tool used positively by women to be socially recognised for their choices. Women are able to enter into relationships of their own choosing, but it is through the payment of her bridewealth, a form of *pasin bilong luksave*, that a woman is recognised as *good* for her choice by her kin. She also notes that the payment, or non-payment, of bridewealth reflects equally on the perceived *pasin* of the man in the relationship. An inability to gain support from his relatives to pay *braid prais* can reflect negatively on a man and cause severe angst, as will be discussed in the case study of Luke (Chapter 6.3.2). Wardlow (2006) claims that women who reject this system and engage in transactional sex or sex outside of marriage, sometimes referred to as *pasinja meri* (TP travelling woman, a colloquial term for prostitute)¹¹, are seen as having *nogut pasin* and are therefore non-persons. Women who engage in transgressive sex (i.e., do not conform to ideal forms of femininity, or *pasin bilong meri*) are at higher risk of gender-based violence (GBV) as a form of moral disciplining (Kelly-Hanku et al., 2016). Recent research has pointed to an increasing level of commoditisation of bridewealth. Some men now refer to their wives as paid for property, which is used as justification for GBV (Eves, 2019; Wardlow, 2006). The trend towards commoditisation of bridewealth at times enrages women, but Wardlow (2006) argues that the reason women fail to reject the practice is due to its deeply socially embedded nature. In addition, the degree of acceptance, along with the power to reject it, varies with age. Ethnographic research has demonstrated that young women do try to act outside the *braid prais* system, while older women participated in practices which pushed younger women to conform (Dickerson-Putman, 1996; Reay, 2014; Wardlow, 2006). This differential age behaviour may also be seen as a ‘patriarchal bargain’, whereby women earn benefits from patriarchal systems later in life, and therefore support its continuation when older to the detriment of younger women (Kandiyoti,

¹¹ *Pasinja* can also mean a freeloading person in other contexts.

1988). There are also geographic age differences, with younger urban women most likely to reject bride price (Macintyre, 2014).

Another aspect of *braid prais* payment which affects both men and women is the rights it gives over any offspring from the union (Neuendorf, 2020; Reay, 2014; Wardlow, 2006). These rights can vary by locality, but my research indicated that in the Bena community the payment of *braid prais* gives the father a strong claim to the children in the event of divorce, but without this payment the children are placed at the discretion of the mother. This should not be considered in the same sense as a parental custody battle, but rather in terms of rights held at a clan¹² level, since it is this group who will have contributed to any *braid prais* paid.

Bride price is linked to modernist framings of development through notions of *kastom* (TP custom, or customary/traditional practice). By engaging in bride price payments, a person is practising the ways of ancestors and demonstrating *gutpela pasin*. Alternatively, by rejecting bride price, a person is enacting modernity (LiPuma, 2000). Some men enact *kastom* and *gutpela pasin* while attempting to disentangle themselves from the familial obligations involved in bride price payment through saving and borrowing money themselves to make the payment (Sykes & Jourdan, 2020). As noted by Sykes and Jourdan (2020, p. 180),

...what once had been woven as relations of mutual obligation is perceived now as potentially coercive entanglements (and economically fragile ones) that jeopardize the autonomy of young people.

The ongoing societal embeddedness of bridewealth exchange practices in EHP communities is a significant driver of behaviour, as well as defining masculine and feminine ideals. *Braid prais* is also a strong motivator to participate in cash generating economic activity, as money is now an important

¹² I utilise Knapp's (2017) interpretation of the term clan, or *klen* (TP), and use it to refer to the patrilineal family group resident in a particular location. In the Bena community, Knapp notes that location is a more important factor than relationships based on descent, and people are frequently adopted into clans if they move into a particular location. Clans are flexible and impermanent and are most relevant in everyday life during important cultural exchanges, warfare, and marriages. See Beer (2022) also for a consideration of how the usage of the term is changing in the context of land use compensation claims.

component of the exchange. Coffee production, for example, was the most frequently cited source of income to pay for ceremonial obligations across all sites in the 2010 PLRG household survey (Curry et al., 2017), and since it is the most important source of village household income in the Highlands (M. Allen et al., 2009), this is likely to be the case elsewhere in this region. Ceremonial activity tends to increase during the coffee season when there is more cash available (Sexton, 1986). The integral nature of the bridewealth practice to life and gender relations in the Eastern Highlands drives its inclusion in this research, but unlike Wardlow's (2006) work it will not be the main focus. Rather, it will be considered as one of several cultural institutions which are persistent but still variable in time and space. The next of these to be discussed is the complexity surrounding relations between men and women.

2.5 Sexual antagonism and complementarity

As previously noted, early analysis of gender relations in the Highlands suggested that they were dominated by a state of sexual antagonism. The situation, however, is complex and interpretation has varied with different theoretical approaches. In one utilised by Bena ethnographer Dickerson-Putman (1996, pp. 44–45), three ideologies can be found in operation at different times and places: male-dominant, female-superior, and complementarity. In the first of these, narratives of female pollution and danger dominate. In instances of the female-superior, women's power to reproduce and harm through blood is recognised and often encompassed in male initiation ritual. Finally, the complementary nature of men and women which is necessary to achieve a productive and stable household is lauded.

In traditional culture, to demonstrate *gutpela pasin* a woman had to show control over dangerous substances such as menstrual blood. This demonstration of ideal femininity was recognised with full personhood status that was only achievable at an older post-menstrual age. Examples of good womanly behaviour include the production of children, as well as the production of garden food, sharing of food and care of pigs (Dickerson-Putman, 1996; Sturzenhofecker, 1998). As well as being

recognised for having *gutpela pasin* and participating in the prestige of the clan, women were (and still are) rewarded for demonstrating these behaviours through inclusion in ritual and ceremonial activities normally reserved for men, albeit generally only in the post-menopausal stage of life (Dickerson-Putman, 1996).

Young men were equally considered irresponsible and potentially dangerous in relation to the reputation of the clan (Dickerson-Putman, 1996; Sexton, 1986; A. Strathern, 1979). For a man to be able to secure a wife and pay the necessary bridewealth, the support of his relatives is required. Family members are, in a sense, making an investment for which they expect to be rewarded at some point (Wardlow, 2006). The man must demonstrate his worthiness through being seen as having *gutpela pasin*. He enacts *pasin* through managing a successful household, attracting resources, enhancing the reputation of the clan, and repaying the debts at a future point in time (Dickerson-Putman, 1996).

The complementarity of masculine and feminine identities, not only as husbands and wives but also as brothers and sisters, has been argued in other PNG contexts (Errington & Gewertz, 1987; Weiner, 1980). It infers that through complementarity, men and women have the potential to become greater than their individual selves as they can encompass the strengths of their partner. In this framework, wives do not need to publicly participate in exchange ceremonies or name business vehicles after themselves even if the gifts or purchases were made possible by their labour (Sillitoe, 2006a; Spark et al., 2021).

The idealisation of men's and women's roles creates an inevitable tension, particularly when one side of the partnership fails on their side of the bargain, or when views differ on how assets should be utilised. The willingness to align to these ideal forms of behaviour is dependent on the perceived risk of non-compliance, as well as the perceived benefits. A factor related to complementarity and personhood, particularly in Highlands cultures, is that of prestige. This is effectively one of the rewards that is available to men and women for participating in the system of complementarity and

is exemplified in the personhood status of 'Bigmen' and 'Bigwomen'. This status, and its relationship to *pasin* and personhood, is discussed in the next section.

2.6 Politics, prestige and personhood

The Bigman or *Bikman* (TP) system of political leadership is intrinsically tied to how an individual is perceived by others and can be seen to reflect a form of ideal masculinity within Melanesian culture. Sahlins (1963) observed that it is commonly seen in western Melanesia, and he defines the Bigman as a person who attains a position of influence and power through a series of acts that elevate them above others, and who create a coterie of loyal, lesser men around them. The Bigman is not installed in an existing position of power, but rather creates their own power base through personal relations and acts of generosity. To achieve Bigman status is to achieve personhood and a name or *nem* (TP), which is something that can only be conferred by others. While it is an important concept throughout Melanesia, it is practised in different forms throughout the region (Lederman, 1990). It existed in the pre-colonial period and is still highly influential, albeit transformed in the colonial and post-independence periods (Ketan, 2000).

Bigman status is achieved through enactment of a particular form of masculinity; success in warfare (more relevant in the pre-colonial period), demonstration of oratory skills, the ability to influence others, and the ability to participate in large exchange ceremonies (A. Strathern, 1971). It is important to recognise that this was not solely linked to wealth, but rather to how wealth was deployed (A. Strathern, 1971). Sturzenhofecker (1998, p. 118) notes that "...prestige is hinged on the notion of power; that is, power to appropriate valuables from others and disperse them to third parties". The ability to procure items, particularly shells, for distribution required mastery of magic (A. Strathern, 1979). The Bigman status could not be achieved either working alone or only with other men, however, as it required access to pigs for exchange and these were under the purview of women (Stewart & Strathern, 2005).

Women had access to the prestige associated with Bigman status through pig production (Sillitoe, 1998). As well as rearing pigs for exchange ceremonies, women often had input into decisions relating to these occasions (Sillitoe, 2006a; Sturzenhofecker, 1998). However, the lack of direct access to prestige and control over resources did not always sit easily with women (Sexton, 1986). In parts of the highlands, including EHP, women sought to counter men's control over resources through the establishment of savings groups known as *Wok Meri* (TP women's work) which replicated male forms of ritual and exchange in order to attract and control resources (Sexton, 1986). I explore this movement in more detail in Chapters 3 and 7. In parts of the Eastern Highlands, the personhood status of Bigwoman was available independently of the status of a woman's husband (Sexton, 1986), however, this was generally only available to those who were post-menopausal (Dickerson-Putman, 1996).

The antithesis of the Bigman status is that of Rubbishman or *Rabisman* (TP). In discourse this can be used self-deprecatingly, or to denigrate others, and is associated with femininity in a derogatory way (M. Strathern, (1978); cited in A. Strathern, 1979) as a Rubbishman is usually, like women, perceived to be dependent upon a man of means to act as their sponsor (Reay, 2014). A Rubbishman is one without resources or personhood. They are unable to repay their obligations, or are just unreliable in this regard, and subsequently unlikely to secure the resources necessary to pay a bride price and secure a wife. Physicality and looks also played a part, with Bigmen generally physically larger and more attractive than Rubbishmen (Reay, 2014; A. Strathern, 1971). Between Bigmen and Rubbishmen are a range of potential standings, and men may occupy several over the course of their life (A. Strathern, 1971). It is an achieved rather than inherited status available to all adult men, which Finney (1973) argued created a society which preconfigured PNG highlands society for capitalism.

The introduction of money, cash crops and wage labour, the reduction of war activity, and the adoption of Christianity, transformed the signifiers of Bigman status in the colonial period.

Involvement in coffee production and other cash earning activities became a significant marker of prestige and status in the PNG Highlands (Finney, 1973). Ownership of vehicles, particularly those used to transport goods or passengers (PMVs), are another signifier (M. Strathern, 1981; West, 2006). Ketan (2000) argues that leadership in Melanesia has diffused to a plurality of roles, including government officials, magistrates, parliamentarians, businessmen, academics and gang leaders, many of which no longer align to the idealised forms of Bigmanship discussed previously (Martin, 2010). This, at times, creates challenges for modern community leaders who wish to be seen to be acting according to customary notions of ideal masculinity (Martin, 2013).

The ability to control and distribute resources remains a key skill necessary for Bigman recognition. As well as the distribution of cash and pigs, it now also includes information and technology often provided through aid or external partnership programs. Control of these resources may be achieved through different pathways by individuals, including local leadership of Development projects (see Chapter 8). These self-representations are not mutually exclusive and may be drawn on at different times when the individual deems it most effective.

Prestige is not solely accessible through Bigmanship and the public actions of men. Sexton (1986) found that husbands became active contributors and supporters of *Wok Meri* savings groups because the associated 'washing hands' events, where the accumulated savings are distributed, added prestige to the clan. Conversely, jealousy of the prestige achieved by others may undermine the success of Development projects when labour or support is withdrawn. This has significant implications for the success of Development projects in PNG which aim to increase business activity, as pooling of labour and capital is essential to the success of most businesses (Curry & Koczberski, 2013). The relational nature of labour and other factors of production is another key aspect of gender relations in the Eastern Highlands, and one to which I now turn.

2.7 Labour, land, and other factors of production

Some of the economic aspects of gender relations have been addressed in the discussions of bridewealth and prestige, but the influence of gender in other related economic activity, particularly cash crop production, is significant. The two main sources of cash income in EHP are through coffee and fresh food production (M. Allen et al., 2009).¹³ These crops tend to be gendered in nature, with men controlling income from coffee, and women having greater access to income generated from the sale of fresh food (Curry et al., 2019; Eves & Titus, 2020; Inu, 2015; Overfield, 1998; Sexton, 1986, p. 62; Sillitoe, 1998; A. Strathern, 1979). Coffee and fresh food production are intimately linked but also have their own story, and so I first provide an overview of coffee – the plant referred to by Sinclair (1995) as the Money Tree.

The growth of the coffee industry in the PNG highlands is also a story of PNG's integration into the global capitalist economy (West, 2012). Cash is needed to pay school fees, buy store foods, and participate in exchanges such as bride price, so it is necessary to engage in cash generating activities such as coffee production. Coffee was introduced to the PNG highlands in the 1950s, and soon a system of large scale, expatriate-owned plantations operated in conjunction with smallholder indigenous production (Sinclair, 1995). Since independence, the loss of plantation production has seen the proportion of smallholder production increase to over 85% of total coffee produced in PNG (CIC, 2019; MacWilliam, 2018).

The importance of coffee to the household economy, as well as the challenges facing smallholder producers, is discussed in Chapter 5. Of particular interest from a gender perspective is the changes to labour arrangements which have become apparent over the last 30 years (Benediktsson, 2002; Curry et al., 2019; Imbun, 2014; Inu, 2015; Sengere, 2016, p. 232). These changes can be understood

¹³ *Buai* (TP), or betel nut (*Areca catechu*), is also an important business in the PNG Highlands but this crop is produced in the lowlands. It is the seed of the Areca palm and it is chewed with slaked lime (calcium hydroxide) and betel pepper (*Piper betle*). The combination produces a mild euphoric sensation, and the resulting red spittle is spat out. For an overview of this important industry see Sharp (2012).

through examining the gendered and relational nature of food, land and agricultural labour in the PNG highlands. This is a complex issue which will be explored in-depth throughout this thesis, and so only a brief and somewhat generalised outline is provided here.

Patrilineal control of land is one of the most important cultural institutions affecting women's access to resources and economic empowerment (Dickerson-Putman, 1994). While men have socially recognised ownership of land and control over how it is utilised, women generally are limited to usufruct rights through their husbands, fathers or brothers (Overfield, 1995; Sexton, 1986). Even then, their rights may be limited in relation to the types of crops they may grow and earn income from (Overfield, 1998; Sexton, 1986). Despite coffee leaves being seen to symbolically represent women, at least in the Daulo region of EHP, its nature as a 'permanent' crop has enabled men to lay claim to it and the associated income as theirs (Sexton, 1986). This creates tension in gender relations as women have contributed significant labour to coffee (Knauft, 1999; Overfield, 1998; Sexton, 1986; A. Strathern, 1979). Women's withdrawal of labour from coffee towards fresh food production was identified by Overfield (1995) and in later work by Curry et al. (2019), and will be discussed in more detail in Chapter 5.

In contrast, fresh food production for subsistence consumption has traditionally been undertaken by women (Overfield, 1998; Sexton, 1986; A. Strathern, 1979). This is also true of small scale, market based production, and it is mostly women producers that can be found in the various local food markets selling their produce (Sexton, 1986; Sharp, Busse, et al., 2022; Sharp & Busse, 2019). While fresh food production is often considered women's work and of low prestige, men increase their involvement when operations enter a commercial scale (Benediktsson, 2002; Sexton, 1986).

Furthermore, Figure 2-1 demonstrates that while women represent the highest proportion of fresh food sellers in different PNG market locations, there is a trend of men increasingly their participation in some sites, including in the EHP provincial capital, Goroka (Sharp, Busse, et al., 2022).

Explanations of differences in gendered food production based on gendered divisions of labour must

therefore be assessed with caution. This is true also of coffee production, which I consider in my analysis of women’s involvement in coffee production and marketing at my research site in Chapter 6.

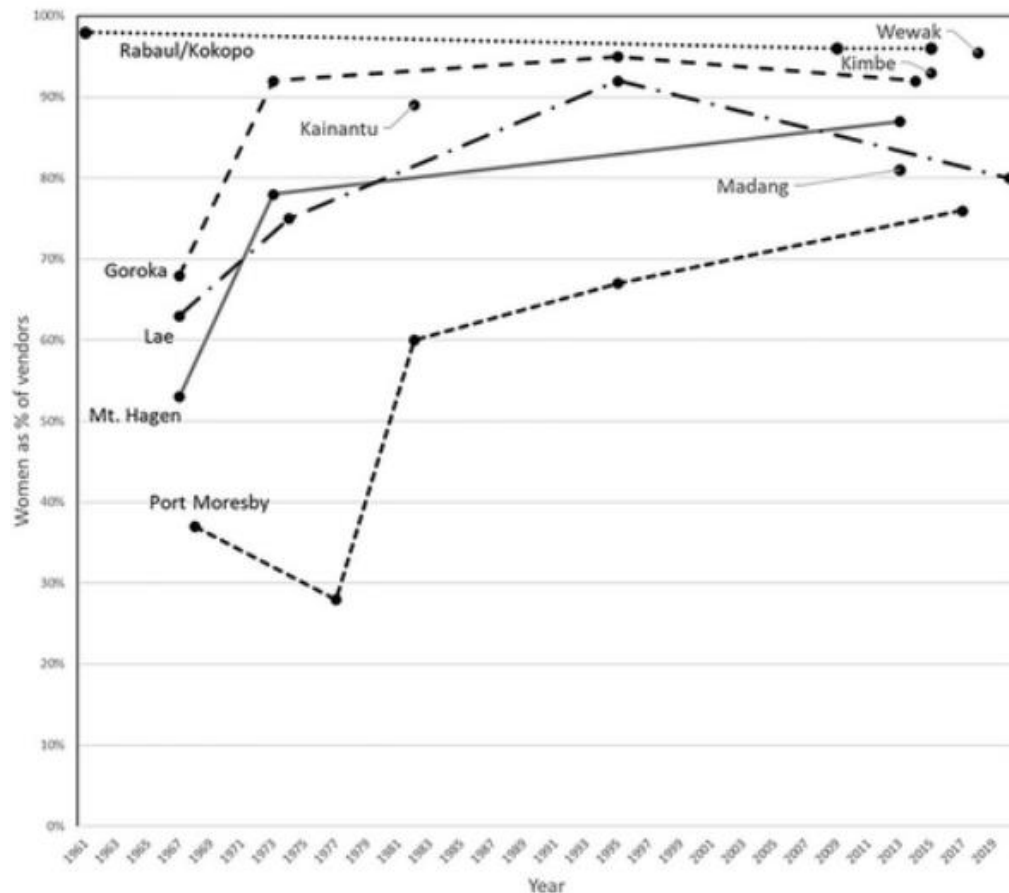


Figure 2-1 Proportion of marketplace vendors who are women at the main marketplaces in selected PNG towns, 1961–2020
 Source: From Sharp et al. (2022, p. 498).

As well as rights to land for production, Hamago (2019) notes that women’s access to agricultural extension training is also limited. Only around 18% of agricultural extension officers in the main export crop sectors of oil palm, cocoa, and coffee in PNG are women. These officers face several challenges arising from the male culture entrenched in their organisations. Despite this, the women farmers who have access to women extension officers found that they enabled them to participate more fully in agricultural production.

The findings discussed in this section suggest that women's access to income from coffee, the most significant cash crop in EHP in terms of cash income, is limited (M. Allen et al., 2009). However, as I discuss in Chapters 5 and 6, women do have access to income from coffee production through a number of channels, including income shared by their husband, payment for labour, and through harvesting their own coffee trees. Furthermore, the demucilager and VSLA projects, discussed in Chapters 7 and 8, are interventions which have the potential to increase returns on labour and allow women more time to pursue other income generating activities.

2.8 Sorcery

The final institution which frames *pasin* and the socially embedded economy is sorcery. It is an area perhaps under-examined in relation to economic decision making in the PNG highlands, particularly given its centrality as a principle of rationality. While it is not a focus of this thesis, it did impact on the economic and social life of my research participants and so I present here a brief outline of the nature of sorcery in the context of the Bena community and its relationship to *pasin*.

In the broader context of Melanesia, the work of Spann (2019) in the Solomon Islands found that accusations of sorcery often overlap with localised questions over what constitutes valid social relations in the modern era. He notes that "sorcery allegations are connected to new, more visible inequalities stemming from capitalist social relations, as well as questions over local political authority that are often associated with disputes over customary managed land" (2019, p. 101). Taylor's (2015) work in Vanuatu focuses on sorcery and the moral economy of agency. He found that people who are perceived to be acting in a possessive or selfish manner can be seen as morally abject and are thus more likely to be targeted with sorcery attacks. In the PNG context, those deemed vulnerable may be seen to have acted with *nogut* (no good) *pasin*.

The ways in which sorcery and witchcraft operate varies considerably throughout PNG, and indeed in different highlands communities. As an institution, sorcery is subject to change through structuration, so references to specific practices may only be relevant to a particular time and place.

In the Bena area, the responsibility to remedy the effects of sorcery tends to lie with the community rather than an individual (Schwoerer, 2017). Retribution for its effects can therefore be applied against those who did not instigate the action and demands for compensation are applied to the community as a whole (Schwoerer, 2017).

Sorcery can be referred to as *pasin tumbuna* (TP ways of ancestors), and may be used in this sense to refer to religious practices from the past which are outside Christian traditions (Andersen, 2017).

In Bena, I observed that it was used to explain behaviour which contravened the rules and expectations of behaviour (*pasin*), such as when a husband burned his wife's VSLA uniform. It was also used to explain unexpected illness or death, an event which is common in a country with a poor health system and a lack of formal assessment of cause of death (Andersen, 2017). This can result in claims for substantial compensation payment against one or more clans as a whole. This occurred in Bena in 2021, when people used their VSLA savings to pay compensation for a sorcery accusation. There were other instances where sorcery was used as the rationale for economic behaviour which were not related to the projects under investigation in this thesis. This suggests a need for further investigation, ideally through locally based qualitative data collection, into the role of sorcery in village economics.

2.9 Conclusion

In this chapter I have defined key terms and concepts used in this thesis, including embeddedness, structuration, and *pasin*. I provided a brief overview of gender research in the PNG highlands, and how, using structuration as a theoretical framework, this research seeks to balance the focus on agency and institutions in relation to changes gender relations and features of social embeddedness. In addition, I have provided an outline of the significant cultural institutions which influence engagement with Development projects, and which will be discussed throughout this thesis. These include bride price, sexual antagonism and complementarity, prestige and personhood, factors of

production, and sorcery. These institutions are all involved in the production and replication of ideas of *pasin*, both good and bad, and can influence how people engage with Development projects.

In the next chapter, I provide a detailed overview of my field site and explain the reasons for selecting this area for my research. Drawing on a range of data sources, I explore the history, geography, population, education, gender relations, livelihoods, political relations, and the global connections which contribute to the construction of Bena as a place. I also examine it as a site of Development work and provide an overview of the two Participatory Development projects which are the focus of this research.

3 Bena as a particular place

3.1 Introduction

The preceding chapter provided an overview of the theoretical basis of this research as well as defining key terms and institutions relevant to this research. This chapter provides a description of the Bena field site using the geographic term 'place' as an analytical approach. Place can be thought of as the meaning given to a location through the interaction of its physical and social aspects (Greiner, 2014). This chapter examines the physical, socio-economic, and political aspects of the field site, which are all relevant to territorial embeddedness. In addition, I explore proximal embeddedness through local and global connections which are increasingly influencing the social construction of Bena as a particular place. I focus on the recent events of the global Covid-19 pandemic, as well as the ways in which the community is engaging with the work of Development. Throughout this chapter I draw on existing literature, surveys and reports from colonial-era administrators, as well as PLRG project data and my own findings. This exploration of Bena as a place and its connections to the world is important in understanding the motivation for the community to engage with Development projects, as well as the context in which interventions operate in Bena.

At times throughout this research, I refer to the broader cultural group of Melanesia, which, together with Polynesia and Micronesia, is one of the geographic groupings of Pacific created in the 19th century by European colonialists (Lawson, 2013). Despite scholarly recognition of its problematic origins, which were rooted in ideas of race and racism, the name has endured and has been used by prominent indigenous thinkers in the region such as Tarcisius Kabutaulaka and Bernard Narokobi (Lawson, 2013). In my experience, people of PNG identify positively with the nomenclature, and so I use it at times when referring to relevant research on the area. Melanesia includes PNG as well as other island nations, Indonesian provinces, and Australian territories in the region. Most research which refers to Melanesia is conducted on either PNG, the Solomon Islands, Fiji, Vanuatu, or New Caledonia.

3.2 Site location

Papua New Guinea lies just south of the equator and north of Australia and incorporates a large land mass shared with West Papua, as well as numerous islands (Figure 3-1). At the last national census in 2011 it was home to around 7 million people (National Statistical Office of PNG, n.d.), and the WHO (2023) estimated that in 2020 it had grown to 9.7 million with only 13% of births registered. The UNFPA (2023) expects that with an annual growth rate of 3.1%, PNG's population will exceed 13 million by 2032. The focus of this research is a small area in the Unggai-Bena District, which is situated in the northern part of the Eastern Highlands Province, some 20-minutes' drive from the Provincial capital, Goroka. As seen in Figure 3-2, the airstrip is a dominant feature of the Goroka settlement. The colonial era town, which is still not direct connected by road to the capital Port Moresby, grew up around this supply link to other settlements, and the airstrip is still used to transport coffee in from areas not accessible by road for processing to green bean. The green bean is then transported by road to Lae to be shipped to customers in Germany, Australia, the United States, and other coffee consuming nations (West, 2012).

Goroka is continuing to grow, and the contested influence of China and Australia was evident in the new buildings that appeared during my visits at different times over three and half years. A new market, funded by both the Provincial and National Governments and built by a Chinese firm, was opened in 2021, three years after construction commenced (Nangoi, 2021; PC Admin PNG, 2018). The new market is a two-storey building with concrete floors and protection from the sun, and is a great improvement from the muddy, open-air field which served as Goroka's temporary main market when I first arrived. An Australian bank has built new office facilities, and the Chinese government is funding construction of a new public library.

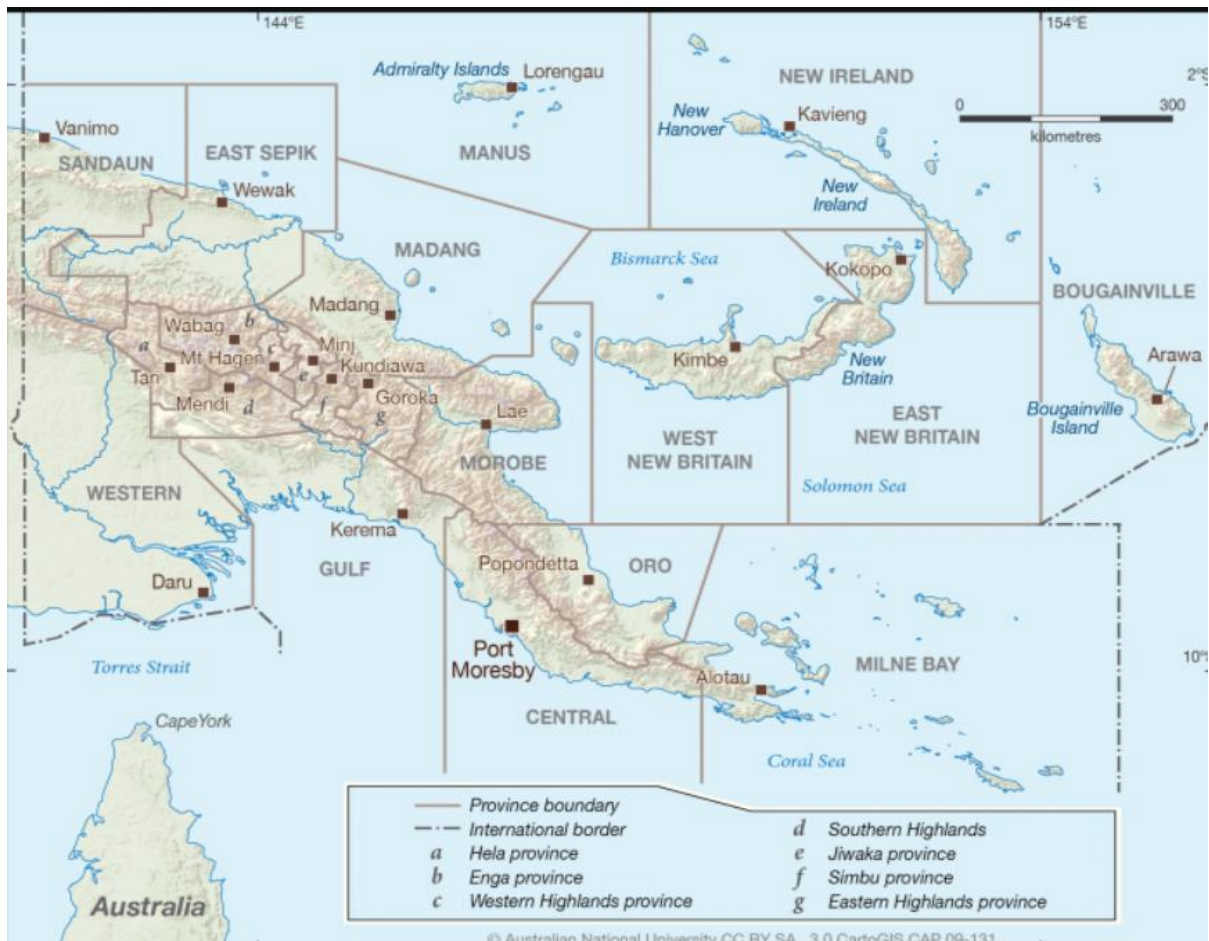


Figure 3-1 Map of Papua New Guinea including provinces
 Source: From Australian National University (2022) CartoGIS Services. Available under Creative Commons license.

The field site is comprised of four villages closely tied through kinship, marriage, customary exchange practices, and labour relations. The two Development projects which are a focus of this research are also creating new connections within these communities, as I discuss later in this chapter and in Chapters 7 and 8. The area is accessible by 4-wheel drive vehicle or by 2-wheel drive and a 20-minute walk, and community members regularly travel between their home and Goroka, both for business and personal reasons. This is an important feature of proximal embeddedness, as access to Goroka affords opportunities for livelihood diversification as discussed in Chapter 5, as well as engagement in Development projects.



Figure 3-2 Satellite image of Goroka and research field site 2023
Source: Google Earth Pro Image (2023). Copyright CNES/Airbus 2024.

3.3 Site selection

The field site was selected for my research for several reasons. Firstly, the relationships already established by the PLRG at this site meant that people were accepting of and engaged in the research. It was also considered safe for me to stay in the grounds of my host's land as he was well respected. This became a moot point given I was unable to stay at the location due to the Covid-19 pandemic, but it nonetheless influenced my initial choice of field site. Finally, and most importantly, the previous findings at this field site, and the introduction of the demucilager technology and the VSLA savings group, meant this site provided an ideal opportunity to investigate the intersection of the socially embedded economy with Development projects. These two projects were undertaken as pilot interventions monitored by the PLRG using a Participatory Action Research approach.

3.4 Geography of Bena

Agricultural field surveys of EHP conducted in 1982 and 1990 generated detailed field reports of natural features, populations, crops, livestock, and farming methods found in different regions (Bourke et al., 2002). Areas were grouped based on the location and systems of agriculture observed, and the community I researched was located in Area 1101 (Figure 3-3), which covers an area of 1116 km² (Bourke et al., 2002). A key feature of Area 1101 is the dominance of short grasses during fallow periods (Bourke et al., 2002), and kunai grass (*Imperata cylindrica*) is a common sight throughout the area (Figure 3-4). Wooded bushland can be found on upper slopes, with agricultural crop production and villages in the valleys and lower slopes. The Eastern Highlands experiences annual rainfall of around 2300 to 2500 mm, and the northern region, including the Bena area, experiences an annual dry season, where rainfall is less than 100 mm per month, which can last for three to four months (B. Allen et al., 1994). The area occasionally experiences drought and subsequent food shortages, and this increases dependence on store foods such as rice and tinned fish (B. Allen & Bourke, 2009).

The research site is in the Lower Bena local level government area of the Unggai-Bena District. Bena (sometimes referred to as Bena-Bena) is named after the language group which is spoken in this area (Langness, 1964). The Bena language group has around 45,000 speakers and is one of the larger language groups in a country with over 700 different languages (Knapp, 2017).

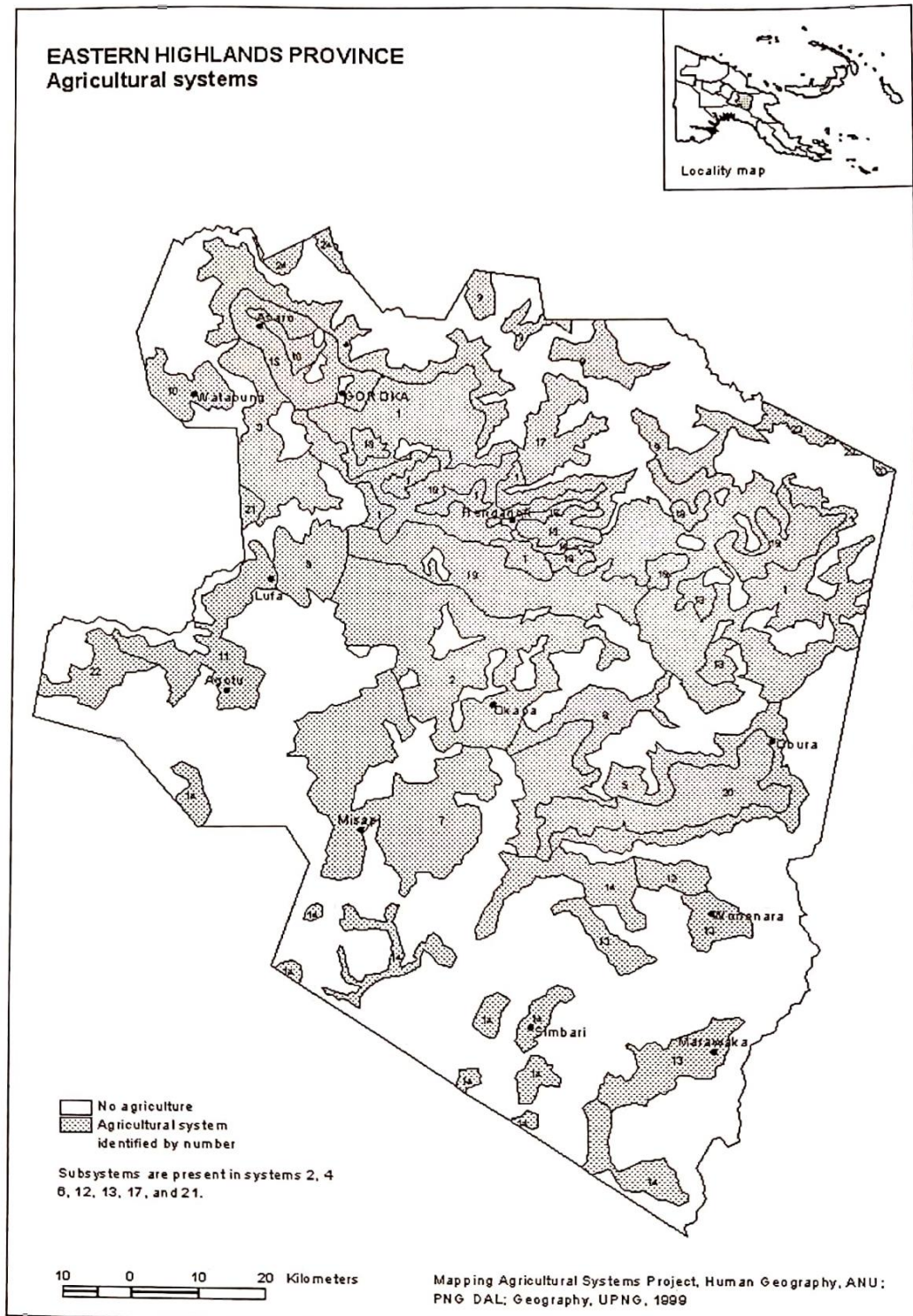


Figure 3-3 Map of Eastern Highlands Province Showing Field Site and Agricultural Area 1101
Source: From Bourke et al. (2002). Copyright ANU (2002).

Local languages are known in Tok Pisin as Tok Ples (TP talk place). During my fieldwork, I heard people say that in the Highlands, Tok Pisin is Tok Ples, meaning that people in that area had adopted Tok Pisin as their own. Indeed, compared to my experience in New Ireland province, people in the PNG Highlands have adapted the language and incorporated more colloquialisms as everyday words. Common words such as *long* and *bilong*, for example, are shortened to *lo* and *blo*, although in this thesis I use the formal version as used in Baing et al. (2008).



Figure 3-4 Bena area, Eastern Highlands Province, during dry season (July 2022)
Source: Photograph by Marty, L. Copyright Curtin University (2024).

The four villages are located along dirt roads extending up the mountains away from the sealed Old Highlands Highway. Figure 3-5 is a hand drawn map of the area produced by my research assistant with the village names obscured. Altitude increases from the bottom of the map (Old Highlands Highway, labelled as Main Bena Highway) to the top (Baptist Church, School and beyond to Village 4). During my brief stay at the field site I visited all the locations on this map on foot except for

Village 4, which sat an hour or more's walk beyond the Baptist Church.¹⁴ I noted people regularly moving around the different villages on personal and commercial business. Both women and men would bring heavily laden *bilums* (string bags) to the highway on foot to catch a PMV (Public Motor Vehicle or minibus) to Goroka, and bring store bought foods back up the hill on the return trip. Primary school children walked up the steep hill every weekday morning, or down the hill if attending the local high school.

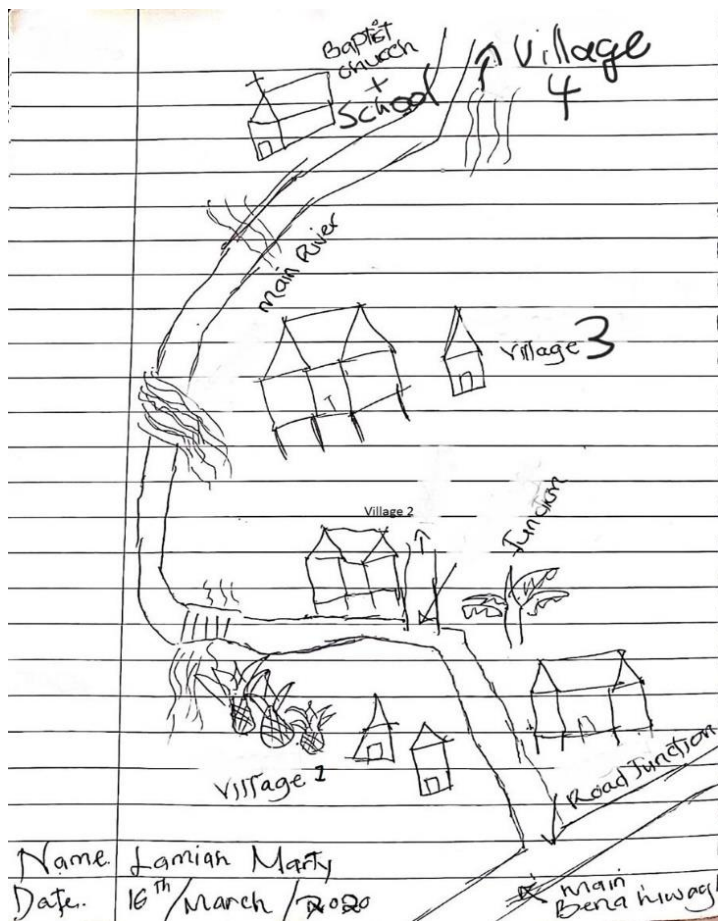


Figure 3-5 Hand drawn map of field site

Source: Adapted from a drawing by Marty, L. (2020). Copyright Curtin University (2024).

Water is accessed from rainwater tanks for those who have them, or from the river which, as indicated in Figure 3-5, criss-crosses the road at different points. Drinking water is obtained early in

¹⁴ My plan had been to visit this site but was unable to due to the Covid-19 pandemic.

the morning from springs, and people use the river for washing and bathing. In the 2018 PLRG household survey, 22% of households had a rain-water tank, but these often run out of water during the dry season and then all households became reliant on river and spring water for consumption, bathing, agriculture (hand watering only), and coffee processing.¹⁵

Despite the somewhat bleak descriptions of Lower Bena as a “hilly and dry land, widely overgrown with high kunai grass” (Knapp, 2017, p. 31), I was always struck by the beauty of the area where my residence was located. As well as the coffee and pineapple gardens, there are occasional groves of trees, and patches of flowering plants of both indigenous and introduced varieties.¹⁶ The surrounding mountains and the view down to the valleys make incredible vistas, however, some of my participants did live in areas which were drier and dominated by kunai grass.

3.5 Population density

The 2011 census the population density for Unggai-Bena was reported to be 73 persons/km² (National Statistical Office of PNG, n.d.). The lack of more recent census data for this District makes it difficult to assess changes. In research field site, the 2018 PLRG survey indicated that people were clearing bush and kunai grass for crop production (see Chapter 5.4.1), however this is likely to have been previously farmed land which was allowed to go to fallow. Farmers indicated that land clearing was occurring in more remote and higher altitude areas. The project surveys in 2010 and 2018 showed the average household size was 5.0 and 5.6 respectively, indicating relative stability. A satellite image of the area from 2022 (Figure 3-6) indicates that dwellings are still relatively

¹⁵ I was advised in 2020 that for women giving birth at Goroka Hospital, they must also take a 25L water container in with them as the labour ward had no running water. This may have since been fixed, but it was also the case at Namatanai Hospital in New Ireland during the 9 months I was based in that province, and so not an exceptional experience for PNG women.

¹⁶ See <https://pacificlivelihoods.com/2020/01/22/from-the-field/> for my thought piece on the floral beauty of EHP.

dispersed, with the most intensive settlement occurring along transport routes, a feature of territorial embeddedness.



Figure 3-6 Satellite image of part of the Bena site in 2024
Source: From Google Earth Pro (2024). Copyright CNES/Airbus 2024.

Population pyramids for age and gender (residents and non-residents) drawn from 2010 and 2018 PLRG project data are shown in Figures 3-7 and 3-8. As many older people in PNG do not know their exact age, interviewers estimated age in some cases. In addition, recording of persons not at the field site (i.e. non-residents) was based on recollection. The sample sizes are representative of the Bena community and can be considered relevant to other market accessible sites in EHP. Details of the project survey methodologies are described in the next chapter, but at this point it is noted that the 2010 survey captured most households in the area (n = 92 households), whereas the 2018 survey captured households in an area with slightly different boundaries (n = 79 households). This change was to enable capture of households most likely to use the demucilager, resulting in the inclusion of an additional village and the exclusion of more households closer to the main highway in

the 2018 survey. A total of 41 households were identified as captured in both surveys, but this may be higher due to people's names often changing during their life or in different contexts. There were also changes in household compositions as children left or established their own households, and children were born or adopted.

The pyramids show a high proportion of the population is in the under 25 age group, a feature consistent with the rest of PNG where it is estimated that 58% of the population are in this cohort (UNFPA, 2023). An overview of the total population and gender numbers from both PLRG surveys is provided in Table 3-1. A consistently higher number of men than women live in the community, and both surveys indicate relatively high birth rates, as well as high rates of absence in the ages between 15 and 25 driven by young adults leaving for better schooling and employment opportunities. The 2018 survey captured some daughters who had married outside the community and were living in their husband's community – a practice continuing from pre-colonial times. The number of men in the 40+ cohort is increasing, despite women in PNG having a longer life expectancy than men: in 2021 it was 68 years from birth for women and 63 years for men (World Bank, 2023a). The reasons for the persistent gender imbalance in the study population are not known and may be due to the small sample size.

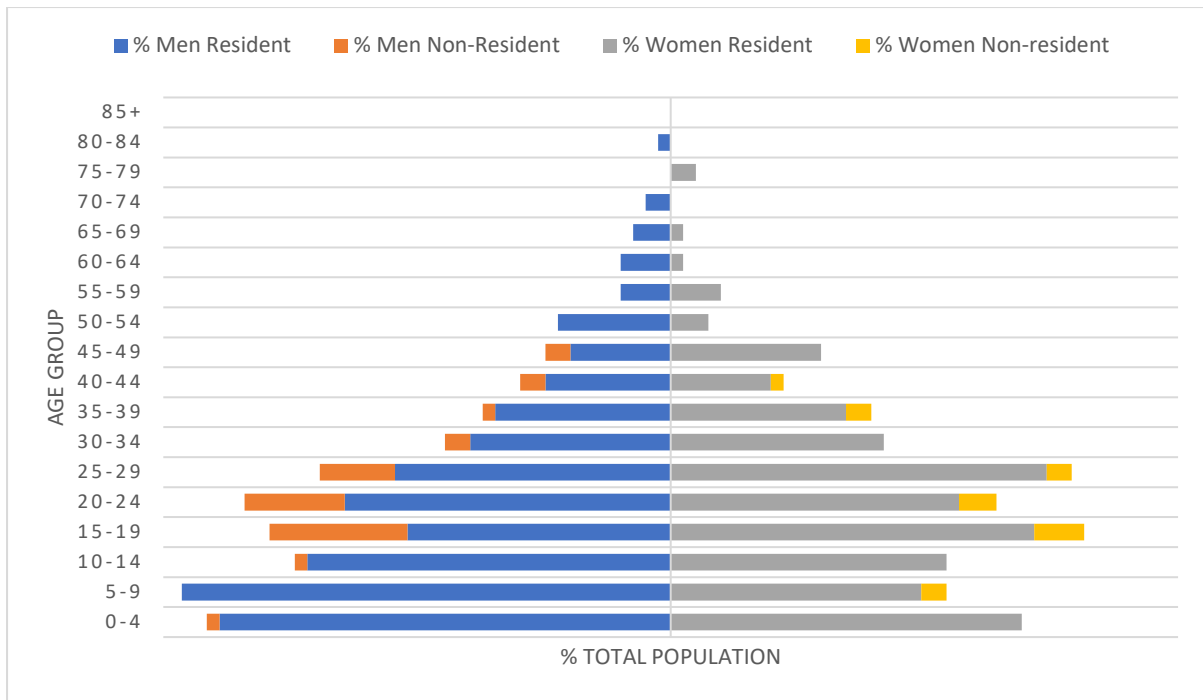


Figure 3-7 Age and gender population data including non-residents for Bena 2010
 Source: From data collected by the PLRG project ACIAR ASEM-2008-036.

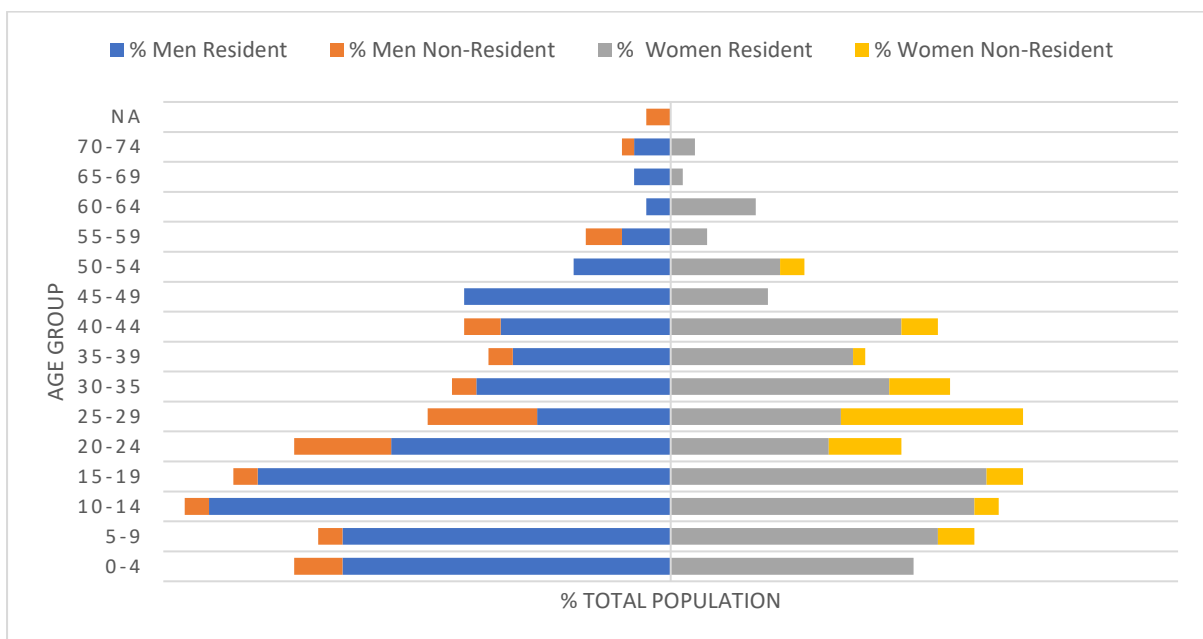


Figure 3-8 Age and gender population data Including non-residents for Bena 2018
 Source: From data collected by the PLRG project ACIAR ASEM-2016-100.

The number of people per household increased from 5 per household in 2010 to 5.6 in 2018, a slight increase but without further longitudinal data it is difficult to suggest this is a trend. Nonetheless, it is a lower increase than the national average population growth rate of 3.1% (UNFPA, 2023).

However, the high weighting to a younger demographic suggests that the community may face increased land pressures in the future. This may have implications for land use, such as a stronger motivation to establish firm claims on land through the building of permanent housing or planting of perennial crops.

Table 3-1 Populations for Bena by Gender 2010 and 2018

	2010		2018	
	Number	% Total Population	Number	% Total Population
Women resident	214	42.3	202	38.7
Women non-resident	14	2.8	40	7.7
Total Women	228	45.1	242	46.4
Men resident	244	48.2	240	46.0
Men non-resident	34	6.7	40	7.7
Total Men	278	54.9	280	53.6
Total Population	506		522	
Number of Households Surveyed	92		79	
Average number of people/household (resident only)	4.98		5.59	

Source: From data collected by the PLRG project ACIAR ASEM-2008-036 and ACIAR ASEM-2016-100.

3.6 Education

The 2010 and 2018 PLRG surveys assessed levels of education completed for household members 18 years and over. The results indicate a significant proportion of community members, and women in particular, had received no formal education. In 2018, this was 41.8% for women and 27.9% for men. Figures 3-9 and 3-10 show the gender disaggregated data of highest schooling completed for 2010 and 2018. Both men and women are completing higher levels of education, including university, in the 2018 survey, although the numbers are still very low. The lack of formal education is important when considering the design and implementation of Development interventions. As will be discussed in Chapter 6, women with no formal education benefited from the financial literacy skills gained through membership in the VSLA, which is purposefully designed for people with low levels of education (CARE International, 2022b).

The community has access to at least five high schools, and there is a primary school next to the Baptist Church as shown in Figure 3-5. During my fieldwork, I visited a technical college which

teaches a variety of trades, and this was close to Goroka and serviced by public transport. The University of Goroka, which specialises in agriculture and teacher training, is the most accessible tertiary institution for this community. Alternatively, students can attend PNG universities in Lae, Madang, or Port Moresby.

The children in the household I stayed in went to school in the morning and spent the afternoon playing and completing chores such as firewood or food collection to assist with the evening meal preparation. School-aged children often help with coffee harvesting and are commonly paid in sweet treats for their efforts, but parents place a high value on education for their children. As discussed in Chapter 5, payment for school fees was in the top three reasons for expanding coffee holdings in both the 2010 and 2018 PLRG household surveys, and my cohort of participants also made clear the importance they placed on education for their children.

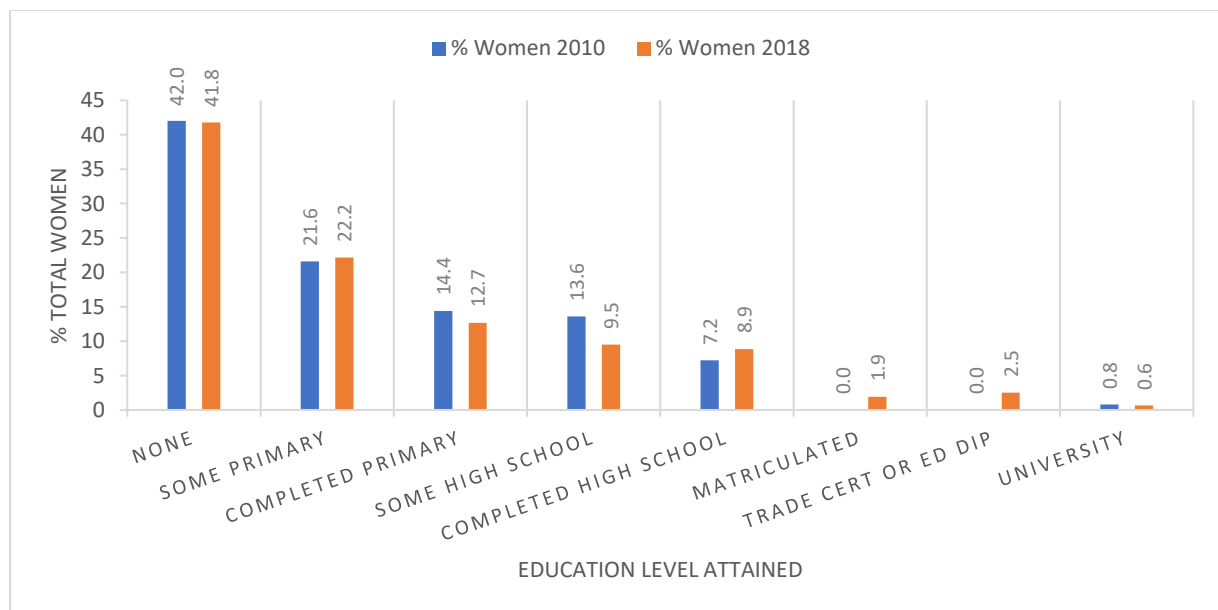


Figure 3-9 Highest education level attained by Bena women 18+ in 2010 and 2018
 Source: From data collected by the PLRG project ACIAR ASEM-2008-036 and ACIAR ASEM-2016-100; % total women; n=125 (2010) and n=158 (2018).

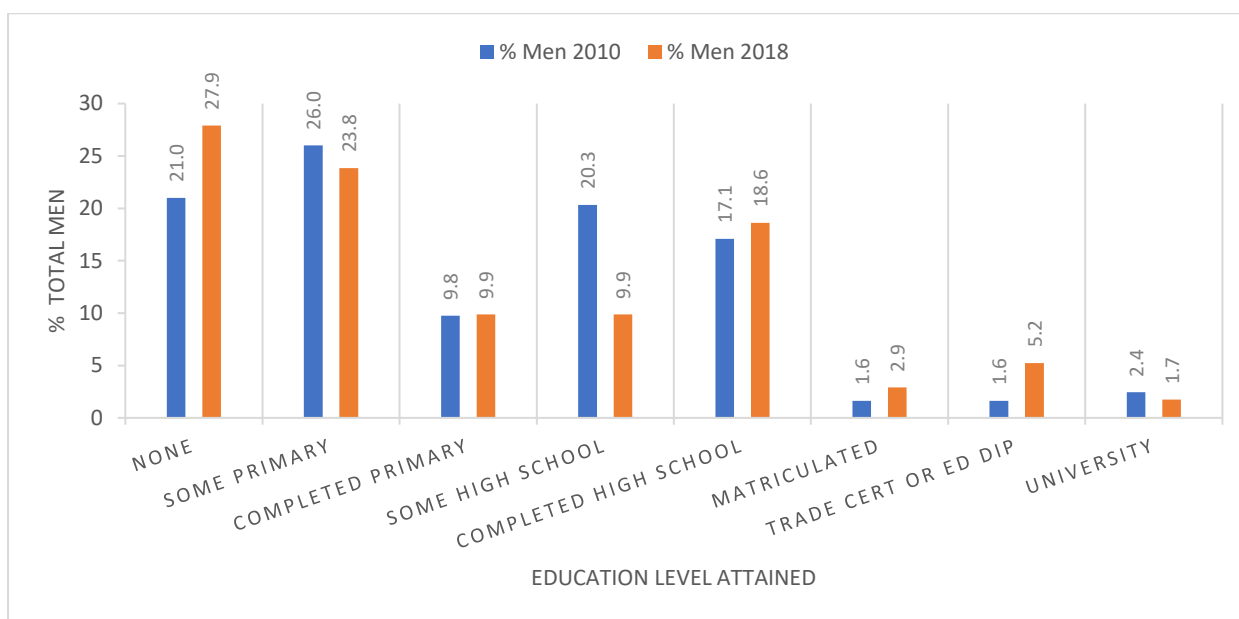


Figure 3-10 Highest education level attained by Bena men 18+ in 2010 and 2018
 Source: From data collected by the PLRG project ACIAR ASEM-2008-036 and ACIAR ASEM-2016-100; % total men; n=123 (2010) and n=172 (2018).

3.7 Livelihoods

Multi-disciplinary research in the Upper Wahgi Valley of Western Highlands Province – an area to the west of EHP and at the same altitude range as the field site – has established that exploitation of plants in that area began around 50 000 years ago with the simple clearing of land using fire (Denham & Haberle, 2008). There is evidence of cultivation or exploitation of wetland crops such as *Colocasia taro* occurring 10,000 years BP (Denham et al., 2017). Swidden cultivation, which included forest disturbance, digging taro (*Colocasia esculenta*), yam (*Dioscorea* sp.) and banana (*Musa* spp.) exploitation, staking, plot preparation and planting was in evidence 7000-6500 BP (Denham et al., 2017; Fullager et al., 2006; cited in Denham & Haberle, 2008). Pigs (*Sus scrofa*) were incorporated into the system around 1000 years ago, and the Highlands staple, sweet potato (*Ipomoea batatas*), was introduced in the last 400 years (Denham & Haberle, 2008).

The introduction of *kaukau* (TP sweet potato) had a transformative effect on the PNG Highlands, enabling people to move to higher altitudes and triggering a rapid and widespread development of

agricultural systems, an explosive growth of population, the introduction or major expansion of domesticated pig herds, and profound social changes (Bayliss-Smith et al., 2017; Brookfield & White, 1968). However, the discovery of a complex of ancient water-control ditches in the Wahgi Valley near Mt. Hagen in 1966 suggests that horticultural techniques were already complex at an early date, indicating that in the Western highlands at least, intensive agriculture was already well established (Brookfield, 1961). It is likely that the introduction of the sweet potato allowed for an upward extension of cultivation, clearing of montane forests, wider planting of casuarinas, and possibly abandonment of some lower areas (Brookfield & White, 1968). Feil (1995) has argued that the Eastern Highlands and Western Highlands have developed on divergent pathways as a result of different environmental conditions, but that the introduction of the sweet potato evened the playing field. These differences likely resulted in variations in culture between the Eastern and Western Highlands.

The introduction of sweet potato also impacted gender relations, as it engaged women in the work of pig rearing and *kaukau* production (A. Strathern, 1979). The compost from pigs supported sweet potato production, and pigs consumed up to half of the food produced (B. Allen, 1992). Pigs were not only good for protein storage; they also played a significant role in social exchanges and the social construction of masculine and feminine identities (Reay, 2014; Sillitoe, 2006a; A. Strathern, 1979; Sturzenhofecker, 1998). They still play an important role today; PLRG data collection at the remote field site of Marawaka found pigs to be integral to the agricultural system (Curry et al., 2017). In the similarly inaccessible site of Baira the Seventh Day Adventist Church is followed, and so the consumption of pork is not permitted. Here, pigs have been replaced with other livestock, such as goats. At the Bena field site, however, pigs are still commonly owned and used as a form of wealth (see Chapter 5.4.5).

Prior to 1930, the Highlands area of PNG was generally unknown to European colonisers and it was largely assumed to be empty of people (Finney, 1973; Sinclair, 1995). Lutheran missionaries in search

of souls made forays into the fringes of the Highlands during the 1920s, but did not establish any permanent settlements until 1933 (Sinclair, 1995). In 1930, Australian explorers in search of gold encountered a significant population of agriculturalists living in the fertile valleys of the region, and soon after colonialism extended to the Highlands (Sinclair, 1995). The establishment of control by the Australian Administration was interrupted by the Second World War but became well established in the years after until Independence in 1975.

A particular mission of the colonial Administration was to engage men in commercial enterprises as a means of occupying their time in lieu of time spent on warfare (Finney, 1973; Knauff, 1999). The masculine and feminine ideals of post war Australia were incorporated into this mission, with men encouraged to be the 'providers' through cash income generation, while women were channelled towards domestic production (Dickson-Waiko, 2013; Sturzenhofecker, 1998). While production activities were certainly gendered before colonisation, the Administration discouraged women's early attempts to engage in new business opportunities and layered a Western style patriarchal division of labour over existing gender roles (Dickerson-Putman, 1996; MacWilliam, 2018; Sturzenhofecker, 1998).

Arabica coffee (*Coffea arabica*) was introduced to the Highlands in the 1950s, and soon developed into an important cash crop. Initially produced on larger plantations owned by expatriates, local farmers soon adopted the crop as a means of engaging in the cash economy (Grossman, 1984; MacWilliam, 2018; Sinclair, 1995). Nowadays, more than 85% of coffee is produced by smallholders (Coffee Industry Corporation [CIC] 2019), with many of the larger plantation managers and owners leaving PNG in the lead up to and following Independence in 1975 (Sengere, 2016; Sinclair, 1995).

It is estimated that coffee is the major source of income for around 2.5 million people in PNG (Newton, 2018), and it is also provided 19.6% of PNG's agricultural export revenue and 1.3% of total

export revenue in 2020 (Bank of PNG, 2024).¹⁷ Arabica coffee is produced primarily in the Highlands region of the main island of New Guinea. EHP is one of the largest producers, although it is difficult to confirm the distribution across different provinces as much is transported to EHP for processing (M. Allen et al., 2009; Sengere, 2016). As will be shown in Chapter 5, it is the most important crop for income generation for the people living at the field site for this research.

Fresh food production is another key source of income for farmers in EHP (Benediktsson, 2002; Inu, 2015). Women make up the majority of small-scale sellers, but men are more likely to be interested in large-scale production (Benediktsson, 2002). As noted in Chapter 2, women are becoming increasingly involved in large-scale fresh food production, although the majority are still engaged primarily with subsistence and small-scale production. A focus on fresh food production and marketing is a strategy used by women to have greater control over the income from their labour (Curry et al., 2019; Inu, 2015; Overfield, 1995; Sexton, 1986).

In the Bena area, community members engage in a range of livelihood strategies. However, as will be shown in Chapters 5 and 6, coffee and fresh food are the main sources of cash income for most households. In contrast to coffee, which is mostly exported, fresh food is primarily sold at local markets, or in some instances in the larger commercial centres of Lae, Madang, and Port Moresby (Benediktsson, 2002). At the field site, pineapple has become a significant crop, particularly for women, thanks to the efforts of Alfred¹⁸, a local leader (Inu, 2015). Betel nut, or *buai*, is also an important source of cash income in the Highlands but it is grown in PNG's coastal areas (Sharp, 2012). A highlands species (*Areca macrocalyx*), known as *kavivi* (TP), and *sefo* in the local language, is also grown and is substituted when the lowlands species is unavailable. Data from the PLRG indicates that households earn money from both small-scale retailing of lowlands betel nut, as well

¹⁷ The Bank of PNG provides data on "Agricultural and Other" export revenue, which includes cocoa, coffee, tea, copra, copra oil, palm oil, rubber, other, and refined petroleum products. The calculation I have used for agricultural export revenue excludes "other" and "refined petroleum products"

¹⁸ A pseudonym.

as sales of the highland species. My own data showed that during the Covid-19 lockdowns when coastal betel nut was not available, one farmer who produced *kavivi* made several thousand kina in windfall profit. Generally speaking, however, income from this crop and from trade in coastal betel nut tends to be low in this particular community.¹⁹

Livestock is another important part of agricultural production in the research community, with 43% of households earning income in the previous 12 months from this source in the 2010 PLRG household survey and 37% in the 2018 survey. Even if households aren't earning income from pigs, many households keep them (85% in 2010 and 77% in 2018). This is a feature of societal embeddedness as the pigs are part of cultural exchange practices such as bride price, mortuary and compensation payments. The role of these items as cash substitutes is discussed in Chapter 6.2. Other livestock and income generating assets include goats, chickens, honeybees, and fish.

3.8 Gender relations and local conceptions of bride price

The payment of bride price is a ceremony which is marked by celebration within the community. It creates bonds within and between communities and families, as many in the husband's kin will have contributed to the payment, and many in the bride's kin will expect to receive part of the bridewealth, having contributed to the payment for the bride's mother. In this way, bridewealth creates intergenerational debts (Wardlow, 2006) and confers rights in relation to access to land, labour and children (Sexton, 1986). An overview of this practice in the highlands, drawing on current and historical literature, is presented in Chapter 2.4. Here, I consider the practice within the context of my field site.

The customs relating to when and how often payments are made vary considerably across different communities. As explained to me by my research assistant, people of the Bena area have four

¹⁹ See Sharp (2012) for a detailed overview of the betel nut trade and its role as a significant source of income for some Highlands people.

different types of bride price as outlined in Table 3-2 which are made around the time the couple have their first or second child. These payments are made from the groom’s close and extended family and can be substantial. Once *Kontrak* bride price has been made, her name from birth is cleared and finished from her home village.²⁰ Men usually rely on their kin for contributions, a process through which intra-family indebtedness is established. This indebtedness is repaid through bridewealth received for children of the union, as well as through other forms of exchange over the course of the man’s life.

Table 3-2 *Bride price payment types in the Bena community*

Bride Price Type			
Tok Pisin Name	English Name	Local (<i>Tok Ples</i>) Name	Beneficiary
Tabel	Table	Sige'nifa Minana	Bride's parents
Marasin	Medicine	Etaliafi Minana	Bride's mother's siblings
Kontrak	Contract	Gialisvisvi Minana	Bride's mother's female relatives
Braid Prais (tasol)	The remaining bride price payment	Nose Afoafu/Minana Lito Nose Afoafu	Bride's father's siblings and other relatives

Dickerson-Putman’s (1996) ethnographic work near my field site suggests that historically, bride price was paid before the bride was delivered by her family to her husband’s community. Keil (1974), who worked in the Bena area in 1970 and 1971, notes that young women typically lived first with their new mother-in-law before having conjugal relations with her husband and establishing her household. As with other highlands communities, men lived in a communal house rather than with their wives (Dickerson-Putman, 1996; Keil, 1974; Sturzenhofecker, 1998). This practice has been

²⁰ People generally have several names over the course of their life, and spelling of names is highly variable. This can make longitudinal research challenging as matching people across data sets mostly needs to be done manually. Some names and circumstances change so radically that matches cannot be done without local assistance.

abandoned, and men and women usually live together even before bride price is paid. Polygyny still occurs and, in this case, the husband may move between different households.

The younger participants in my cohort – those in their twenties and early thirties – all had children, but few had yet paid or received bride price. The implications of this are not clear cut. For research participant, Tilly, her marriage appears stable, and she is treated as a daughter by her in-laws. Her sister, Lauren, however (see Chapter 6.4.1), separated from two relationships without any bride price having been paid and returned to the parental home with her two children. Research participant, Bethani, had a similar experience. For these two women, their lives are in a liminal state as they are unable to establish their own households, and their access to land is limited. In comparison to their peers in stable marital arrangements, their lives are far more precarious.

It has been noted by other researchers that bride price is increasingly being perceived as a transactional arrangement which gives men control over their ‘purchased’ wives (Eves & Titus, 2020; Knauff, 1999; Wardlow, 2006; Zimmer-Tamakoshi, 2016). While my respondents appeared to all support the view that men are the masters of the household, they also indicated that the exchange encompasses much more than that. The following responses are to the questions “How much does the bride price payment give the husband control over his wife” and “How has this changed since older times?”. The responses were consistent across the group, and I present here two from married women (for whom bride price has been paid) and one from a recently married man (who is yet to pay bride price):

Taim man em laikim meri na em laik mare em, em kisim braid prais. Go long haus dua bilong meri na ol lain bilong meri. Taim man em baim meri long pig na man i bilong em, meri nau bai kam, stap wantaim man, kamapin pikinini na lukautim pikinini na stap wantaim lain femli bilong man. Taim man na meri stap wantem igo na man tok wanen meri mas stap aninit lo man na bihainim toktok bilong man na stap. Igo na taim man em les long meri na em maritim niupela meri, nau okay first meri bai lusim pikinini wantaim papa nau em bai go bek long ples bilong em, na pikinini em karim em bai pinis wanem braid prais bilong Papa, an pikinini iken stap wantem Papa.

When a man loves a woman and wants to marry her, he collects a bride price [from his kin]. He goes to her village. There he pays pigs to the woman’s family

and the woman then comes to stay with him and his family, has children, and raises them. She is “underneath” him and must listen to him and do as he says. This is the case unless he marries a new wife, then the first wife might leave the children with him and go back to her [natal] place. The children will stay with the father if bride price has been paid (Emili, 2021).²¹

Bifo taim braid prais em bikpla samting. Taim man i putim braid prais, meri nau i luksave olsem. Man i putim mak we meri bai stap anininit long man, harim tok blo man na wok bung wantaim na kamapim gutpela sidaun. Tasol, nau long dispela taim olain bilong man i putim braid prais long ol meri but ol meri ino wok long harim tok. Taim ol man i lukim olsem ol meri ino wok long harim tok. Ol man blo ol rausim ol meri bilong ol. Man tu, em i no tingim dispela braid prais em bin putm lo meri, na braid prais i wok long go kamap samting nating, na ol i no tingim pikinini tu.

In the past days, bride price was very important, when man pays bride price, we say that we will now be under our husband’s control. We used to obey them, work together, and make a good life. However, nowadays, we see that when a man’s kin put bride price for his wife, the wife disobeys them. When the man sees that his wife does not obey him, he divorce them. Men, as well, don’t think about bride price, the bride price and the children are not important (Isabel 2021).

Pasin bilong putim braid prais long ol meri, em meaning olsem meri ol withdraw lo sait bilong Papa na Mama bilong ol na ol bai kam stap wantaim man bilong ol, na ol bai kamap olsem. Meri bilong man na ol bai stap wantaim man na lain bilong man. Narapela bikpela samting olsem, taim man em putim braid prais em means olsem, ol meri bain kam stap wantaim man long ol bai karim pikinini so that ol dispela pikinini nau bai kisim ples bilong Papa bilong ol long lukautim graun lo bihain taim (especially pikinini man). ... Meri bai stap aninit long man. Wanem toktok man em tokim ol meri bilong stap an bihainim, na wanem hevi i kamap long sait bilong man ol meri bai stap aninit long man na sapotim man na go wantaim.

So dispela em olsem pasin ibin stap long bifo yet na kam inap nau. So mipla bihainim. Na taim ol meri kam long ples bilong man ol bai no inap bosim wanpela graun o eria, wanem toktok ol man tokim ol meri bilong harim na bihainim tasol. But olgeta disisen ino mipla ol man tasol save mekim. Ol man na meri wantaim save sindaun wanbel na toktok. Nau gutpela tingting save kamap long taim bilong mekim desisen.

The custom of bride price means the woman withdraws from their parents and relatives and comes to stay with the man and his family.²² The main thing is when we put bride price for our wife, we will have children and that our children will take our place in taking care of our land (especially male children). The women now come underneath the man after bride price so

²¹ This was originally recounted back to me by my RA in English in the first person, indicating the Emili’s husband had paid bride price for her before she came to live with him. In Tok Pisin, there is no word for love, only like (TP *laik*). My RA used love in the translation and so I kept that in the translation.

²² The term “becomes our property” was used in the original translation by my RA, but I think this may have been added colour.

they will act and behave according to the man's directions and support them when problems come along.

So that's the custom which was also in the days of our ancestors till today - so we have to follow. The woman will not control the man or even take charge or take control of land but should listen and obey. But any decision that we make isn't made only by the man. We sit down and discuss to agree so as to come up with the successful decision (Luke 2021).

Control of the household by the man is part of *gutpela pasin* and, as noted by Isabel, women who disobey their husbands are risking divorce. A consistent theme within these narratives is not only the issue of control over the household, but also control over access to children in the event of divorce. A criticism of bride price (Wardlow, 2006) is that women are unable to divorce their husbands as it would require their family to repay the bride price. The reality is perhaps more complex, at least in the case of the community under investigation here. If bride price has not been paid and the couple divorce, then the husband usually has limited rights to the children. If bride price has been paid it becomes more likely (though not assured) that the husband would keep the children with him. A divorce 'fee' may even be paid to the wife if they have been married for some time, as was the case with Diana (Chapter 6.4.3) or if a bride price had not been paid as with Lauren (Chapter 6.4.1). I was not made aware of any instances where the wife's family had to repay any bride price, perhaps because the divorces were after a considerable amount of time and the husband was taking a second wife. In the case of Diana, the wife had repaid the bride price through her physical and reproductive labour, and so time spent together in marriage is a factor.

The issue of who has control and who must obey is a narrative tied to customary ideals of masculinity and femininity; in a household which demonstrates *gutpela pasin*, the man is in control and the woman should demonstrate obedience. Both the men and women participants reflected that this is *kastom* (TP customary). This does not necessarily reflect a domineering and abusive relationship, although bride price has been linked to domestic violence (Eves, 2019; Jalal, 2009; Wardlow, 2006). As Luke notes here and in reflections outlined in Chapter 6, women should ideally also participate in decision making. This was also the case in earlier times; women could choose to act inside or outside the interests of the clan, and could potentially withdraw their labour from clan

projects such as exchange ceremonies (Sillitoe, 2006a; M. Strathern, 1972), or household projects such as coffee production (Overfield, 1995). Nonetheless, a tension exists in women’s “desire for autonomy and independence and their need to become a full social person through marriage” (Barnett-Naghshineh, 2018, p. 141).

The argument that bride price is a “harmful practice” (Jalal, 2009, p. 2) was not particularly evident in my research community. In contrast, I found that young women can find themselves in vulnerable positions when bride price is not paid after the birth of children, as seen in Lauren’s case study (Chapter 6.4.1). Similarly, young men who do not have rights to land through paternal ancestry have a constrained ability to raise a bride price, as in the case study of Luke (Chapter 6.3.2). In this situation, their rights to land and their children in the event of a divorce can be limited. Both women and men who have not enacted a bride price exchange remain in a liminal state, having not achieved full social adulthood as recognised by the community, which may result in limited access to resources and pathways to economic empowerment.

3.9 Political relations

During my research period there were two elections held for the local member seat at the field site; one was a by-election to fill a vacancy, and the second was part of the national election which is held every 5 years.²³ During these two elections, which I experienced remotely, the main feature portrayed to me by my informants and through social media was that it was a time of festivity, at least in the pre-election period. Cartons of lamb flaps, beer and cash are commonly distributed by candidates to prospective supporters. In the second election, free transport was provided during a

²³ I was living in PNG for the 2017 national election and had experienced first-hand the intense campaigning and rivalry that is a feature of PNG politics. During this election I was based in New Ireland province – one of the larger islands to the east of the island of New Guinea – and there was an attempted bombing of the counting centre and numerous accusations of skull-duggery throughout the close and protracted contest for the Governor’s seat.

time when bus fares had increased due to rising fuel costs. The voting takes place over several weeks, and in the 2022 election many people in the Goroka district were prevented from actually casting a vote. Observers from the PNG National Research Institute noted:

One general observation that is applicable in most polling stations in EHP is that the most disadvantaged persons such as females, disabled, elderly and the poor were not given any opportunity to decide how they should cast their ballots in secret for candidates of choice but had to accept the decision made by certain groups (mob voting) and those who have received much support including cash from candidates. Almost all ballots were done by a selected few for block voting of one or two candidates only (Goro & Sanida, 2023).

In the Bena community, this led to some violence within my research community, with 4 people taken to hospital with cuts and abrasions and some damage to housing, livestock and a small trade store.

There is no system of taxation in rural areas and so no social contract exists between the government and people to underpin accountability. Policy is less of a concern; rather the candidate is viewed through the lens of *gutpela pasin*. Their ability to provide food, cash, and other immediate necessities such as transport is an enactment of *gutpela pasin*, and the sharing of wealth creates a network of obligation which is repaid with a vote. In the first election, my research assistant received K40, a bottle of coke and some food which, she told me, assured her vote. It appeared to be unthinkable to vote for another candidate after having received this gift. The performance of *gutpela pasin* is visible outside of election time to some degree as well. My research assistant noted that during Covid-19 lockdowns, the local member for Goroka in the national parliament had been supportive of the community through cash payments, although whether this was sourced from public or private funds was unclear.

The strength of ties to formal government may be weak, but community leadership is very important. Within my research community, the local Pastor, Alfred, is a formidable force and a key gatekeeper for any research conducted in the area. He mobilises community projects such as the VSLA and demucilager projects, as well as other interventions and training from CIC and various

NGOs. The locus of control of any Development project rests with him, although he recognises that this power has been given to him by community members and can very easily be taken away. He achieves the support of the community through enactment of *gutpela pasin* and he made clear to me that he is constantly wary of how the community views his actions. Social factors such as prestige and jealousy can influence economic decision making, as will be discussed in Alfred's case study (Chapter 8.6).

3.10 Local and global connections

The local and global connections, and the proximity of my research community to these connections, form part societal, territorial, and proximal embeddedness. There are many nodes in the network of relationships which are important to my research community, including the urban areas of Goroka, Lae, Madang, and Port Moresby. Trade, services, kin, and leisure pursuits all make these sites attractive to visit. The influence of proximity to these places will be explored in detail in Chapter 5. My research participants had personal connections to other areas too, mostly through kinship connections but also employment or schooling.

As noted in the discussion on bride price, it is customary for women in EHP to move to their husband's land after marriage, which in pre-colonial times often meant they did not see their natal family again (Dickerson-Putman, 1996; Reay, 2014). Although transport and road options improved during the colonial period, women were still socially discouraged from travelling (Sturzenhofecker, 1998; Wardlow, 2006). This may be changing, however, as my research participants, both men and women, were often visiting family members in other communities both close to and some distance from their own. During the Covid-19 pandemic, participant Emili paid for her daughter-in-law and three grandchildren to come back home, noting they were 500 km away at the time. Alfred and his wife often stay for extended periods (both together and separately) with their daughter in Lae, and Alfred has also flown to Port Moresby to visit his son who is in university there. This mobility creates new networks of social embeddedness and economic opportunities.

The uptake of mobile phones and use of social media in PNG since the beginning of this century has impacted how people conduct their lives and livelihoods (Crowdy & Horst, 2022; Curry et al., 2016; Magea, 2019). The remote ethnography undertaken in this research is a case in point (Chapter 4.6.1 provides an overview of this data collection method). In 2018, 44% of 79 Bena households surveyed by the PLRG had a basic mobile phone, and 18% had a smartphone (Figure 5-11). The technology also enables networks to be strengthened through more frequent contact with non-local relatives, as well as providing farmers with access to information about market produce shortages and price changes (Benediktsson, 2002; Sharp, 2012), thus making trips to Lae and Madang to sell produce more likely to be profitable. There are, however, differences in access to mobile technology along urban/rural and gender lines which will potentially re-enforce existing differences in those demographic areas (Curry et al., 2016).

The production and marketing of coffee forms part of the flows between the PNG Highlands and the global economy, despite Eastern Highlands people not usually partaking in coffee consumption. West (2012) describes how the perception of PNG as a particular kind of place – exotic and wild – is used to market PNG coffee in countries which do consume the product. The geographical imagining of PNG influences branding and product placement. Notions of a society uncorrupted by modern life align to the ‘organic’ and ‘fair trade’ labels which add a price premium to the product, but which require expensive certification outside the reach of most PNG smallholder farmers (West, 2012). In most parts of the Bena area, farmers would not be able to claim ‘organic’ status due to the widespread use of chemical fertilisers and herbicides. In the 2022 demucilager survey run by the PLRG, 23 out of 25 farmers surveyed noted they used herbicide to suppress weeds in their coffee gardens, and most of my own participants indicated they used herbicides, insecticides and chemical

fertilisers on both coffee and food crops. Insecticides tend to be used on imported food crops such as cabbage and broccoli, and fertilizers may be used when inter-cropping food crops with coffee.²⁴

The global spread of Sars-CoV-2, the virus which causes Covid-19, was another way in which my research community is connected to the global environment. It is important to note that while there were government controls imposed in 2020 and 2021²⁵ which closed schools and markets and restricted peoples' movements, the generalised fear experienced by my community members kept them at home well outside these official periods. In March of 2022 I undertook a brief survey²⁶ with my participants on the impact of the pandemic on their lives. My participant Bella noted that she was very scared of the pandemic, so she and her family avoided being with people, so they all stayed home and did garden work, getting fresh air. Due to lack of testing I was unable to ask who had had Covid-19, so instead I asked if they had been unable to work for more than a week in the previous year due to illness, and for how long were they unable to work. Of my 17 participants, 15 responded (1 had left the community, another was a partner of a respondent and was included in his response). Of those 15, 10 had answered yes to this question, with an average time unable to work of 7 weeks. Several lost close family members, and 14 of the 15 had close family members who were also unable to work for more than a week (average time lost 5 weeks).

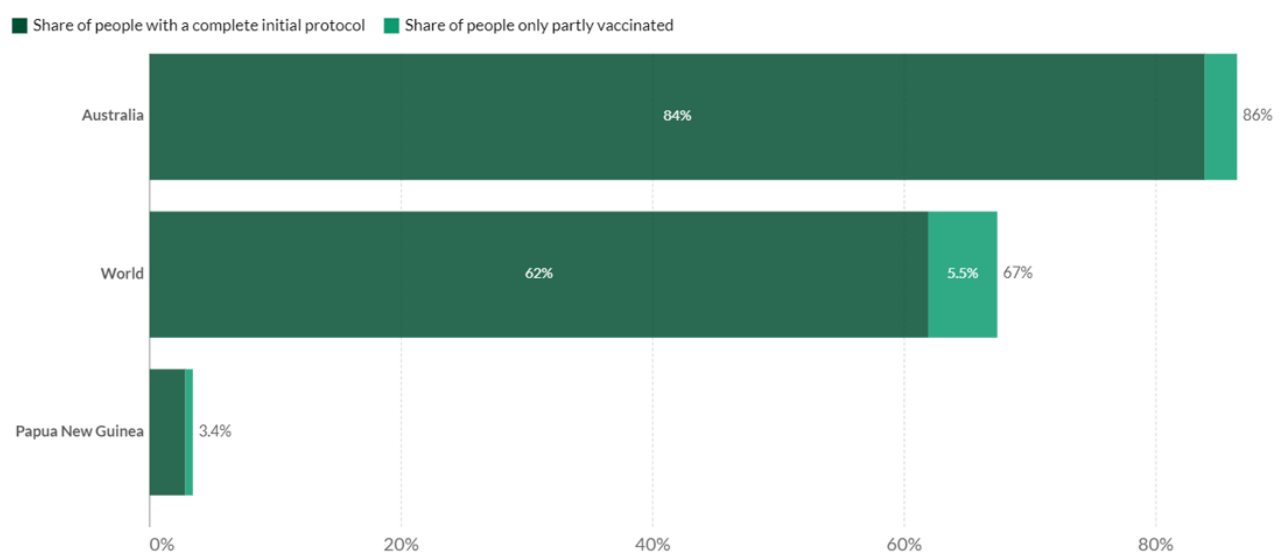
The approaches to managing the pandemic which worked well in developed economies, where communications could be controlled to some extent and which could pivot to online work and schooling, were inappropriate for the PNG context. After the initial strict lockdown of March 2020 which followed the first detection of a Covid-19 infection, PNG's case numbers remained very low

²⁴ Intercropping was examined as part of ACIAR ASEM-2016-100 as it benefits both food and coffee production.

²⁵ The PNG National Government declared a two-week nationwide State of Emergency on 20 March 2020 which was extended for a further two months (Day, 2022). This was the strictest level of control experienced through the pandemic, with flights grounded, schools closed, and non-essential personnel required to stay at home. There was an additional national isolation strategy which closed schools and restricted interprovincial movement for one month in March 2021 (Day, 2022). EHP was one of three provinces locked down for 12 days in response to high case numbers in September 2021 (EHP Provincial Government, 2021).

²⁶ See Table 11-5 Appendix A for question set.

through 2020, leading many to believe they were immune and/or protected by God (Day, 2022). Furthermore, PNG people were exposed to significant levels of disinformation which drove vaccine hesitancy (Id et al., 2022). The levels of vaccination compared to Australia and the world in 2022 are shown in Figure 3-12 below, which indicated that, at the time, only 3.4% of PNG had received one or more vaccine doses, compared to 86% in Australia. In my research community, members were able to access vaccines through a nearby Baptist Health Clinic, but most were unwilling to receive it until 2022 when the worst of the first wave had already resulted in severe illness or death.



Source: Official data collated by Our World in Data
 Note: Alternative definitions of a full vaccination, e.g. having been infected with SARS-CoV-2 and having 1 dose of a 2-dose protocol, are ignored to maximize comparability between countries.

Figure 3-11 Share of population vaccinated for COVID-19 in Australia, the world, and PNG as of August 12, 2022

Source: From Our World in Data (2022). Copyright Our World in Data (2022).

For many of my participants, schooling was noted as an area which was significantly affected by the pandemic. This impact differed from the experience in resource rich countries, where parents had to deal with juggling home schooling and working from home. In my research cohort, 9 of 15 respondents said they were no longer able to pay school fees for relatives whom they had assisted in the past. The overall picture was one of increasing costs and reduced incomes due to limited marketing opportunities. These impacts were unevenly felt, as 9 of my participants decreased their contributions to VSLA, whereas 4 increased their contributions. The implications of these external

shocks to the community's participatory Development projects are explored in detail in Chapters 7 and 8.

Unfortunately, the spread of SARS-CoV-2 is not the only threat to livelihoods. During the time of my research, CBB, a pest which originated in Africa (Newton et al., 2023), spread through the coffee gardens in the community. The beetle lays its eggs in the cherry, destroying at least one of the two beans within each cherry as it lives out most of its life there (Newton et al., 2023). Despite the infestation, coffee production continued through 2021 and 2022, and the full impact to the industry in PNG is yet to be understood. The management of this pest is another way in which the socially embedded economy intersects with Development projects. As discussed in Chapter 8, the PLRG has been working with the entomologists, CIC and local farmers to develop and document agricultural extension training to minimise the impact of CBB (Newton et al., 2023).

The spread of disease or pests from outside the community, as well as the introduction of new technologies and systems such as mobile phones, the VSLA, and the demucilager, are all events which are responded to through existing cultural frameworks of understanding. As Sahlins (1985) noted, "an event is not just a happening in the world; it is a *relation* between a certain happening and a given symbolic system" [emphasis in original]. The long-term impact of the pandemic and spread of CBB will not be seen for some time, however, as argued in this thesis, responses to these events will be shaped by existing cultural frameworks, and these responses will, in turn, shape Bena as a particular kind of place.

3.11 Bena as a site of Development

Prior to current transformational events, the people of the Highlands adapted to other significant cultural disruptions, often incorporating what has been introduced into existing cultural practices (Grossman, 1984; LiPuma, 2000; MacWilliam, 2018; Stewart & Strathern, 2005; A. Strathern, 1979). Soon after encountering this technology, Highlands communities rapidly shifted from stone to steel axes and have consistently demonstrated that change happens on their terms, sometimes to the

frustration of Western agents of change. In a report to the Australian colonial Administration of his 1963 patrol in the Bena region, *Kiap*²⁷ Roy Andrews reported a distinct ambivalence towards the government by 'natives' (Figure 3-11). Sahlins (1992) concept of Develop-man is useful here, whereby Western technologies and commodities are incorporated into existing cultural practices to suit local purposes.

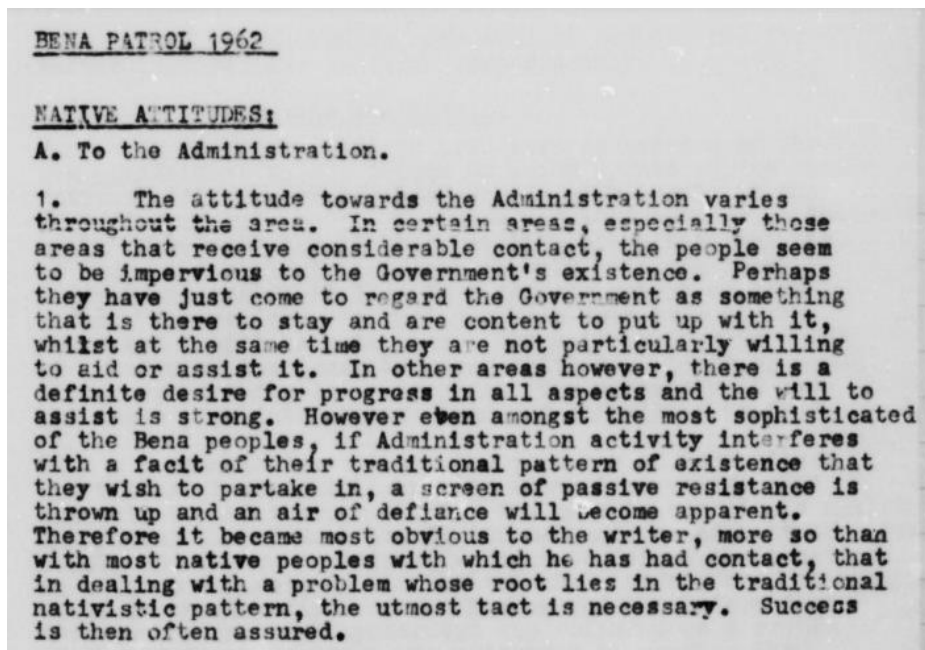


Figure 3-12 Extract of R.J. Andrews' report from the 1962/63 Bena patrol
Source: From Andrews (1963). Copyright UC San Diego Library 2021.

Bena's proximity to the provincial capital, Goroka, means that it is not uncommon for NGOs, as well as other researchers, to be active in the area and engaging the community with the project of Development, a feature of proximal embeddedness. There is a variety of actors working in this space, from individuals based within the community, to large INGOs who engage with the community to deliver various activities such as financial literacy training, agricultural extension, or training to support co-operative household relations. The community is also familiar with researchers conducting various forms of data collection. For example, the work of Overfield (1995),

²⁷ *Kiap* was the name given to the patrol officers of the Australian Colonial Administration.

in conjunction with the CIC, asked Bena farmers in an area which overlaps my field site to respond to a survey every two days over several years, as well as taking time allocation observations.

While the Bena community is both generous and patient with outsiders who engage them on these projects, they are also adept at determining which of these projects will deliver community benefits and who gets ongoing access. During my research, there were several other organisations attending the field site and delivering training to the community. Some were spoken of enthusiastically, while others were not likely to be invited back. It is therefore a positive indication that the community continues to engage with the two PLRG projects described below, as well as other data collection activities which began at the site in 2010.

The following descriptions are a brief overview of the two participatory Development projects which are discussed throughout this thesis: the Village Savings and Loan Association (VSLA), and the demucilager. While I refer to these projects as Development projects, the PLRG refers to them as 'Participatory Action Research' projects. The 'Action Research' label perhaps differentiates the work of academics from those Development projects initiated by NGOs but, given there is some overlap in the case of VSLA with the work of CARE International, I use the broader term. As previously noted, I also specifically include the Development label as these projects are part of this global project. These two projects are pilot programs intended to identify challenges and inform an expansion of the concepts to other areas.

3.11.1 Improving access to savings and credit

Village Savings and Loan Associations, a form of Rotating Savings and Credit Association (ROSCA) are a common tool used in Development projects to economically empower communities (H. Allen & Panetta, 2010; Biggart, 2001; Fort & Koczberski, 2020). Estimates of global participation range from 10.5 to 100 million people, with the high variance attributed to difficulties in including smaller groups which are not part of large NGO accounting (Fort & Koczberski, 2020). Most operate on a model of group sizes between 20 and 30 and have an annual savings cycle (Burlando & Canidio,

2017). Members typically come together on a weekly basis²⁸ to contribute savings to a pool, which can then be used to fund short-term loans to members. The interest from loans, together with the savings, are distributed to members at the end of the cycle based on an agreed formula (Burlando & Canidio, 2017). A more detailed overview of the specific workings of the Bena VSLA is provided in Chapter 7.3.

VSLA schemes offer access to savings and credit facilities which may otherwise not be accessible to rural and remote communities (H. Allen & Panetta, 2010). As well as being available locally, there is no need for formal identification required as members know each other, and the simplistic design aims to accommodate financially illiterate communities. Money is kept in a box with three padlocks, with the elected chairperson, treasurer, and record keeper each holding one of the keys (CARE International, 2022b)²⁹. VSLAs operate on a basis of situational rather than market logic, relying more on social relationships than credit worthiness to ensure repayment of loans (Biggart, 2001). In this way, borrowers have easier access to credit than through formal banking institutions.

The VLSA model used in this community was introduced as part of PLRG project ACIAR ASEM-2014-054, an intervention which identified opportunities and constraints for rural women’s engagements in small-scale agricultural enterprises in Papua New Guinea (Koczberski, Sharp, et al., 2021). It was also an integral part of the PLRG project ASEM/2016/100 which sought to improve the livelihoods of smallholders in coffee farming communities in EHP. Methodologies for both ACIAR projects are discussed in more detail in Chapter 4. The VSLA model was developed by CARE International, an International Non-Government Organisation (INGO) which operates in low and middle income countries with a mission to “fight poverty and injustice to help create a more equal and gender-just world” (CARE International, 2022a). The organisation claims to have engaged over 8 million people globally, the majority of whom are women, in their VSLA program (CARE International, 2022b). The

²⁸ The Bena group meets fortnightly for savings, with every second meeting used for loan activity.

²⁹ The keyholders in Bena may be any member. They have this responsibility for the full savings cycle.

CARE model has operated successfully in Africa and India, but the Bena community formed part of the pilot program in PNG which only began in 2018.

The CARE VSLA model may have been only recently introduced, but other community savings models gained traction in earlier times. Notable among these is the *Wok Meri* groups referred to in Chapter 2, an indigenous innovation described by Sexton (1986, 1988) which was popular in parts of the PNG highlands from the 1960s to the 1990s, although there is no evidence it operated in the Bena community. These savings groups differed from the CARE VSLA in several respects. For example, they tended to run over longer time periods – generally between 5 and 7 years. The groups were only for women, although men performed the administrative and record keeping tasks. The design of the savings groups was deeply rooted in culture, with an emphasis on magic, ritual and kinship practices as a means of wealth creation. The significance of *Wok Meri* in relation to the Bena VSLA, as well as other socially embedded practices, is discussed in further detail in Chapter 7.

Access to credit has been identified as a barrier to agricultural production in PNG coffee farming communities (Collett, 2008). The VSLA operating in the Bena field site has been operating on an annual basis since 2018. It started with one women’s and one men’s group but has since added two other women’s groups. A formal evaluation of the scheme at this site has been undertaken by the PLRG (Koczberski, Sharp, et al., 2021), which examined group level quantitative data, as well as personal attitudes and experiences with the scheme. The findings of this assessment indicated that the Bena VSLA has made a positive contribution to the community. The analysis presented in this thesis, and in Chapter 7, in particular, is intended to supplement this evaluation through examination of the decisions made by the group and how these impacted individual members of the scheme.

3.11.2 Improving returns to labour

The work required to process coffee from cherry to parchment by PNG coffee smallholders is labour intensive and each stage can influence the quality of the product, and therefore the price received

(Aroga, 2015; Imbun, 2014; Sengere, 2016). Technology which both reduces the number of steps and delivers a more consistent parchment quality has the potential to reduce labour inputs, and improve quality, price and returns to labour. In Figure 3-13 below, steps 2, 3 and 4 are no longer required when hand-pulping is replaced with a demucilager. These steps impact the quality of parchment coffee³⁰, as farmers will often ferment the cherry for too long, and also not remove enough of the enzyme-rich mucus in the final washing stage, thus allowing fermentation to continue (West, 2012). There are indications as well that the time to dry to parchment stage, at which point the bean has a moisture content of around 11%, is reduced from 11 to 7 days when using the demucilager (Kumie & Sharp, forthcoming). Equipment which removes both pulp and residue has been in development since the 1940s, but early versions required large quantities of water which often made them unviable (Brando, 2018). Later versions, including the one used at Bena, have been designed to use less water.

For most smallholder coffee producers, there is limited access to technology for coffee processing. Many are reliant on hand pulpers or, in some remote sites, even using stones to remove cherry pulp before allowing the cherry to ferment to remove the mucilage (Curry et al., 2017). Farmers can also be resistant to new technologies and farming methods which do not align to their current low labour input approaches (Collett, 2008; Curry et al., 2021). Labour saving devices which help with coffee processing are, however, popular. Data from the PLRG household surveys indicate that the number of Bena households with hand pulpers increased from 44% to 81% in the period from 2010 to 2018, suggesting that the community finds these labour-saving devices useful.

³⁰ Parchment coffee is the stage in the value chain before it is processed to green bean and exported.

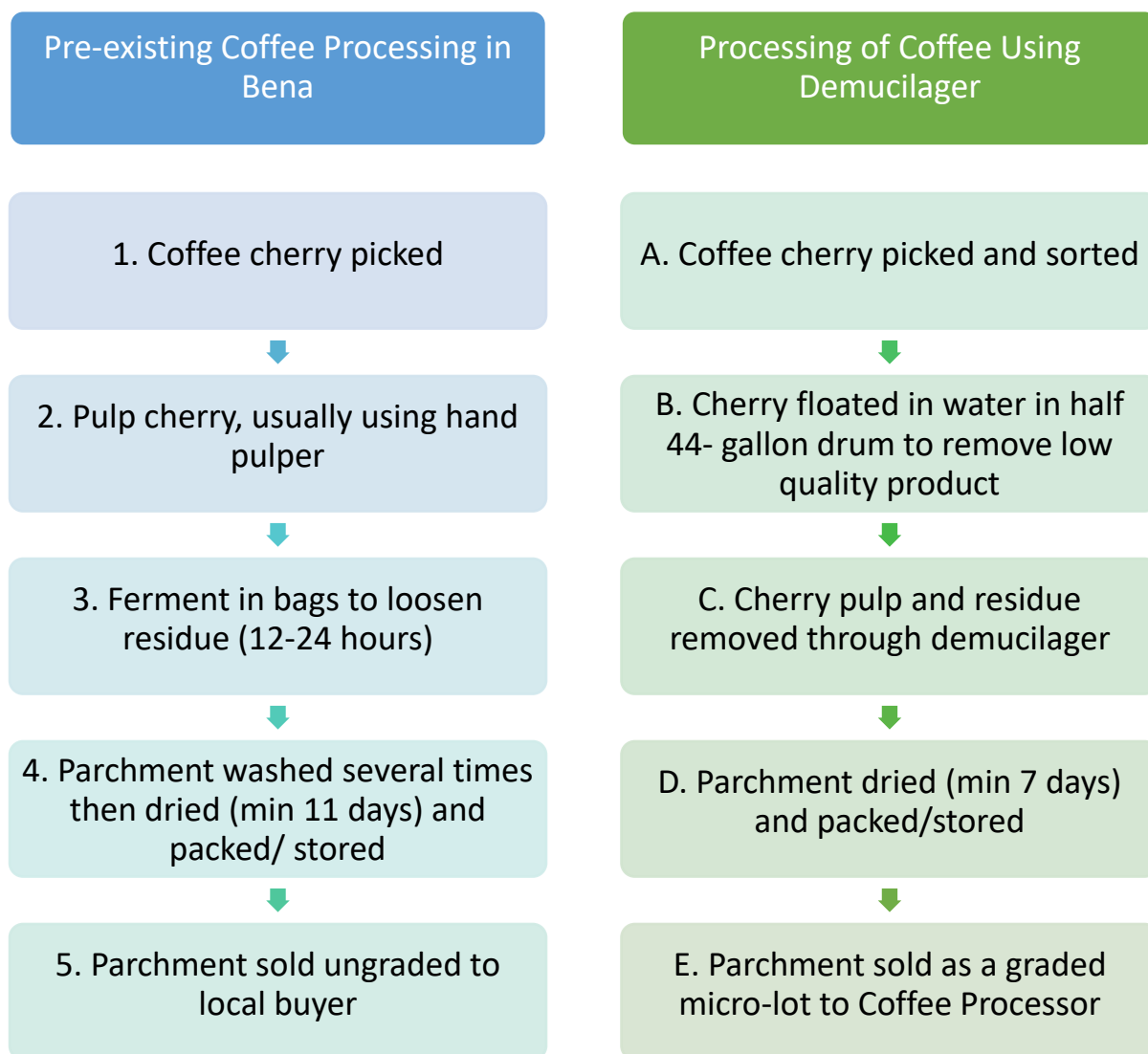


Figure 3-13 Differences in coffee processing when using a demucilager
 Source: West (2012, p. 125); Kumie and Sharp (forthcoming., p. 8).

Following the initial assessment of coffee livelihoods by the PLRG over the period 2010 to 2017 (Curry et al., 2017), it was determined that a demucilager might be introduced as a pilot program at the Bena site to improve returns to labour (Curry et al., 2018). The waste pulp and mucilage from the pulper would be used to fertilise food crops³¹ grown as a community project near the coffee processing site. The project also aimed to produce only high quality coffee to maximise the return, and so a partnership with a coffee exporter from Goroka was also established. The quality of the

³¹ Brown onions were initially trialled in the usage of waste pulp component of the project.

coffee produced by the demucilager is constrained by the quality of the cherry that is processed, and so only fully ripe cherry was accepted.

As with the VSLA pilot project, this intervention has been formally assessed and the findings were collated in a report for project funders and community stakeholders (Curry et al., 2024). The analysis in this thesis focuses on the way in which the community, and women in particular, have engaged with this technology and how it is used as part of their own socially embedded approach to Development. I also examine the important role of community leadership and how this aligns to *pasin*.

3.12 Conclusion

In this chapter I have presented the different facets of my research community which make it a particular kind of 'place'. The area's territorial embeddedness features a physical geography which supports an agriculturally oriented economy, and in particular the production of Arabica coffee. The closeness of Bena to Goroka enables a diverse range of livelihood activities and opportunities to engage in the cash economy is a key feature of proximal embeddedness. Aside from coffee, food marketing and livestock production are important means of generating cash income. The community has access to schools, but in 2018, 28% of adult men and 42% of adult women had no formal education. The power of formal government in the community is weak in the sense of Western democratic institutions and processes, but members will support political and informal community leaders who enact ideals of *gutpela pasin*. The community is linked to the outside world through coffee, but the use of technology to access media and disseminate ideas, as well as the mobility of people, is interacting with and shaping local culture and institutions through structuration. The Bena community is an active site of Development work, with both researcher and NGO led projects operating in the area since at least the early 1990s, and interest from the Australian colonial administration evident in the 1960s. These factors all shape economic activity in the area.

In the next chapter, I outline my methodological approach and provide justification for the methods I have used. This includes the approaches used by the PLRG for data collection, as well as the methods used for my own data collection and analysis. The ethical considerations of the research are discussed, and I also provide an overview of the changes I had to implement to manage the impact of Covid-19 on my fieldwork. Finally, I consider the advantages and limitations of the approach taken in this research.

4 Research methodology

4.1 Introduction

The preceding chapter provided an overview of the Bena field site as a particular place which is engaged in the project of Development. I provided an overview of the features of territorial and proximal embeddedness which shape the *habitus* of economic life in the community. In this chapter I discuss the methodology, ethical implications, and the strengths and limitations of the approach adopted in this research. I begin with an overview of my interest in Papua New Guinea, and how this shaped my research. I then provide an account of the impact of the Covid-19 pandemic on this work and, in particular, on my approach to data collection. This is followed by an outline of the methodological orientation which evolved as a result of the Covid-19 disruption, as well as the sampling methodology used, an overview of the participants, and the types of data collected. This covers both the data I collected myself, as well as the existing data I was able to draw from the PLRG projects. Next, I provide an overview of my approach to data synthesis and analysis. Finally, I discuss the ethical aspects of the research, and advantages and limitations of my methodology. I argue that despite the emotional turmoil and disruption of the pandemic, it afforded me an opportunity to develop new approaches to data collection in PNG. These innovative methods have the potential to enable ongoing engagement with research communities and collect follow-up data once on-site fieldwork is completed. They may also redress the imbalance of information sharing that may exist between researcher and participant.

The data used in this thesis can be split into two groups – that which I collected in partnership with my research assistant (RA), Lamiah, from September 2020 to the completion of this thesis, and the data collected by the PLRG³² as part of a number of different research projects. The methodology

³² The “Pacific Livelihoods Research Group” name only came into being in 2018, but I use it to refer to earlier data collected by the same lead researchers, albeit noting that Dr Timothy Sharp joined the team in 2018.

used for work with my research assistant means that data was collected outside of the periods of onsite field work. It was, essentially, an ongoing conversation between myself and research participants, usually through my Research Assistant. For the purpose of this thesis, no further data was incorporated after October 2023 except when seeking clarification. Where I refer to 'my data', I am writing about the former, whereas 'PLRG data' refers to the latter. PLRG data were collected in this community at different times between 2009 and 2022. When utilised, I refer more specifically to the relevant project and time period during which it was collected.

4.2 PNG as a research focus

My experience of working in PNG began in 2017 when I was based for 9 months as a Health Project Manager in Kavieng, New Ireland Province. This built on five years of work in the Development sector in South Africa, and 20 years of work in the Financial Services industry in Australia. My time in Kavieng encouraged my interest in Development Studies³³, and sparked a curiosity in the ways in which PNG communities interacted with Development projects. This research has enabled me to explore these interests in more depth, and to incorporate my knowledge of economics, banking and finance developed through my earlier academic studies and career.

The initial plan for this research project was to undertake three trips to Eastern Highlands Province, focusing on the Bena community described in Chapter 3, as well as potentially field work in other areas such as Asaro and Daulo. I undertook a scoping trip to EHP in November 2019 for three weeks, visiting the Bena and Asaro communities where the PLRG had research projects underway, and Aiyura, where CIC has a research station. My intention was to return in early 2020 for 6-months of field work and return in the later stages of my thesis writing to share and confirm my findings with my research participants. This plan was disrupted by the Covid-19 pandemic, and I was only able to

³³ At this point I was also completing a double Masters' in Applied Anthropology and Participatory Development, and Culture Health and Medicine, at the Australian National University

spend a short time at the field site during the second trip. By 2023 I was, however, able to return to complete the validation of my findings with key stakeholders and subject matter experts in the community.

4.3 Adapting the fieldwork approach

I was two weeks into my planned 6 months of fieldwork when one of my supervisors gave me the news from Australia. “Things are getting more serious with this coronavirus pandemic. There’s a chance you might have to come back”.³⁴ I was initially sceptical. It had been a year of hard work and preparation to get me to my field site. I had made my way through the regular hurdles facing researchers planning fieldwork in the modern era: research planning and project proposal submission and review, development of research questions and ethics clearance, travel approvals to a ‘high-risk’ country, organising accommodation (a house built for me by villagers in the community where I was collecting data), visas and vaccinations, equipment to support my stay brought up difficult muddy roads, and learning as much Tok Pisin as I could before my departure. By the following week I had said my teary goodbyes to the villagers (at that stage I was hoping to be back in 3 months or so) and was back in Perth, Australia and into student accommodation for a mandatory 2-week quarantine.³⁵

The inability to be physically present in a field site for what I had intended to be a primarily ethnographic, qualitative research project on gender relations was a significant blow. I had intended to supplement the quantitative data of the PLRG with qualitative methodologies grounded in

³⁴ The global pandemic of SARS-CoV-2, a novel coronavirus which causes the disease Covid-19, was starting to be of concern before I left for field work at the end of February 2020, but the spread began to accelerate globally through March. For a timeline of the early pandemic in Australia see Duckett and Stobart (2020).

³⁵ At this stage of the pandemic, the Australian government was requiring people returning from overseas to quarantine for 2 weeks in their own homes. I had given up my own residence as I expected to be away for an extended period. I did not wish to risk staying with my elderly mother, so Curtin University kindly provided me with free accommodation in student housing for the two-week period.

feminist geography, as suggested by Underhill-Sem (1999), to consider more specifically how gender relations were changing. It took some time to adjust to the reality of the situation and realise that I was unlikely to ever go back in a time frame which would enable me to collect first-hand participant observation data. After six months, however, I decided that I had to see what else I could do, and, through the village community leader in Bena with whom I had stayed, I made contact with his niece Lamiah, a young woman based in Bena, who acted as my RA. I had met Lamiah during my brief stay in the community, and so we already had established the foundations of a personal relationship.

Lamiah had completed high school and, most critically, she had a smart phone and was reasonably adept with the use of communication applications such as WhatsApp.³⁶ Her English proficiency was similar to my level of understanding of Tok Pisin so, through using a mix of the two languages, we were able to communicate reasonably well. For someone who had never worked as a research assistant before, she was quick to grasp what I needed doing, often going beyond what I had asked for.

With this connection to the community established, I was able to replan my research approach from one that was largely participant observation, to one drawing on multiple channels of written and verbal data collection and analysis to form the case studies presented in this thesis. This was incorporated with the existing data collected by the PLRG. As my data collection progressed, I began to understand the importance of the VSLA and the demucilager to the village economy, and further refined my focus to these Development projects.

The disruption created by the Covid-19 pandemic led to a pragmatic research methodology which drew on a range of data sources through a mixed methods approach. It also provided an opportunity to trial alternative data collection methods which have the potential to increase the power and

³⁶ WhatsApp (2024) is an application based private messaging service which is downloaded to mobile devices. It supports sharing of text messages, images, video, voice messages and voice calling. It is free except for data usage charged by the internet data provider.

participation of local partners. The strengths and limitations of the resultant methodology are discussed later in this chapter, but the changes I had to make highlight that our research – the questions we can investigate, the methodology we use, our analysis and dissemination – are always context driven and socially embedded (Hiemstra & Billo, 2017).

4.4 Methodological orientation

4.4.1 Mixed methods approach

The mixed methods approach is a research methodology that combines both qualitative and quantitative methods to gain a comprehensive understanding of a research topic (Leavy, 2023). Quantitative methods are deductive and provide statistical analyses and numerical data to identify trends and patterns, while qualitative methods are inductive and offer in-depth insights and rich context to understand the meaning behind the numbers (Leavy, 2023). The use of mixed methods allows researchers to leverage the strengths of both qualitative and quantitative approaches, which has the potential to increase the validity and reliability of findings (R. B. Johnson & Onwuegbuzie, 2004).

There has been some debate regarding the theoretical paradigm which underpins the mixed-methods approach.³⁷ However, the pragmatic paradigm is broadly accepted as an appropriate philosophical position from which to understand and utilise the mixed methods approach (Leavy, 2023). It recognizes the value of different types of data and argues that a combination of methods can lead to a more comprehensive understanding of a research topic. Additionally, pragmatism places significant importance on the research questions themselves, encouraging the adoption of approaches which will answer those questions rather than a dogmatic adherence to a quantitative or qualitative methodology (R. B. Johnson & Onwuegbuzie, 2004; Leavy, 2023; Teddlie & Tashakkori, 2009). As noted by R.B. Johnson & Onwuegbuzie (2004, pp. 17–18), “What is most fundamental is

³⁷ For an overview see Green (2008)

the research question – research methods should follow research questions in a way that offers the best chance to obtain useful answers. Many research questions and combinations of questions are best and most fully answered through mixed research solutions”. This means that methodological decisions will align with and address the research questions effectively, as shown in Table 4.1.

Table 4-1 Approaches used to respond to research questions

Research Questions	Quantitative Approach	Qualitative Approach
1. What social and economic changes have occurred in the socially embedded economy in Papua New Guinea’s coffee farming communities in Eastern Highlands Province in the post-independence period?	1. Understand changes in labour through time-allocation data comparison 2. Understand changes in coffee production through household survey comparisons	1. Interviews with the participant group to understand their experiences of change
2. How does socially embedded decision making in Participatory Development projects influence outcomes in an EHP coffee farming community?	1. Assess economic outcomes of Participatory Development projects based on usage data 2. Understand the household economy through cash flow diaries	1. Understand the cultural context of decision making based on historical ethnographic research. 2. Understand individual motivations through interviews and WhatsApp conversations
3. How do Participatory Development projects influence the socially embedded economy and cultural institutions?	1. Assess the social outcomes of Participatory Development projects based on surveys and interview responses.	1. Assess the social outcomes of Participatory Development projects based on interviews and WhatsApp conversations

Mixed methods approaches have been used successfully in the context of PNG research, including work which is focussed on the socially embedded economy and problems facing smallholder farmers. Sengere (2016) combined quantitative data related to coffee production with focus groups and interviews to explore the challenges facing the PNG coffee industry. Inu (2015) used survey data,

interviews, focus groups and participant observation to understand gendered labour and food production for marketing in Bena. Earlier work by Sexton (1986) incorporated participant observation with time allocation and budgetary surveys in her research on the *Wok Meri* movement. Curry & Koczberski have utilised the mixed-methods approach on a range of research projects related to coffee, oil palm, cocoa, and a range of other issues in various PNG field sites (for example Curry, 1992; Curry et al., 2017; Koczberski, 2011; Koczberski, Sharp, et al., 2021).

The mixed-method methodology enables validation through triangulation. Furthermore, it generates insights from the use of complementary approaches and the integration of data to produce new knowledge (Elwood, 2010). In this research, semi-structured and structured interviews are integrated with survey data, personal journals of income and expenses, time allocation surveys, savings and borrowing behaviour in the VSLA, and demucilager processing data to build a detailed picture of the socially embedded economy and how it drives outcomes in Development projects. The findings of the PLRG quantitative data were triangulated with my own interview data, and also through questioning of my key informant. In my final visit to the research site I went through my key findings with my RA, the community leader Alfred, as well as with other informants from the community to confirm the interpretation of my analysis.

4.4.2 Positionality

Another important aspect of my approach was the incorporation of critical reflexivity in my analysis. The process of reflexivity involves “recognizing the ways in which the researcher’s relational position within social structures, particularly with respect to those being researched, is a crucial part of the research process and product” (Whitson, 2017, p. 300). I understand that my position as an older, white, educated woman as well as my research assistant’s position as a younger woman in the research community have an impact on my research findings. This impact is mitigated through use of multiple sources, feedback from others who have a deep understanding of PNG culture, as well as confirmation of my findings with the research participants themselves to validate my findings.

4.4.3 Ethical considerations

Throughout this research I have sought to ground my ethical framework in feminist methodology which recognises that research involves power relations and has the potential to “re-inscribe hierarchy and exploit participants” (Hiemstra & Billo, 2017, p. 287). To ensure participants were not financially disadvantaged through participating in this research, I compensated my research assistant with cash and phone credits, and I replaced her mobile when hers broke down as this equipment was essential to my research, and she was able to keep this following completion of this work. My research participants were compensated for their time with rice and tinned fish on three occasions during my research. I also discussed my questions with my research assistant to see if I had accidentally included any cultural *faux pas*, and I also encouraged her to send me stories that people were wanting to tell me outside of the questionnaire format. This she did on numerous occasions via our WhatsApp chats.

This research received ethical clearance through Curtin University Human Research Ethics Committee (HRE2019-0829). The research was also conducted in partnership with the PNG Coffee Industry Corporation. Funding for the research was provided by the Australian Government’s Research Training Programme Scholarship, the Pacific Livelihoods Research Group, and Curtin University. Research participants were provided with information sheets about the research in both English and Tok Pisin, and verbal consent was obtained for interviews, and written consent was obtained for pictures where people are identifiable. Ethical clearance for data collected by the PLRG was obtained through Curtin University. Similarly, information sheets were provided to participants for the PLRG projects and verbal consent was obtained. Pseudonyms are used to protect the identity of participants.

4.5 Sampling and participant recruitment

For my own data collection, I sought a sample to best understand the phenomenon under investigation (Bryant, 2020). My participant selection sought to identify potential case studies which

explored a range of life experiences within the Bena community. Economic engagement and decision making in the PNG Highlands is influenced by a range of demographic factors including age, marital status, gender, and geographic location (Barnett-Naghshineh, 2018, 2019; Dickerson-Putman, 1994; Koczberski, Inu, et al., 2021; Overfield, 1995; Reay, 2014; Sexton, 1986; Spark et al., 2021). I therefore sought to include participants who were over 18 years old, both young and older, but still economic producers. Some participants were married, others divorced or separated. While there is a strong inter-relatedness of people within the area, I did seek to include multiple family groups from across the four villages to understand if experiences differed across different family groups and geographic location. To this end, a cohort of 17 participants was recruited - 16 through the VSLA scheme and one through a house visit. This included 13 women and 4 men, as I wished to primarily focus on the experiences of women and understand their role in coffee production (Chapter 6), while also hearing of men's experiences. Data validation was also undertaken with two other women outside the core participant group during my third trip to Bena. I also validated and shared my findings with the community leader who is actively involved with the Development projects discussed in this research.

All participants lived in one of the four villages described in Chapter 3. These four villages have strong social ties, and the relatedness of the participants is outlined in Table 4-2, although it should be noted that these participants have other ties and affiliations due to the closeness of the community. In the initial recruitment process, my RA advised me that some women did not join until they had received permission to do so from their husbands, and that some did not receive that permission and so did not join. This highlights the methodological challenge of focusing on women's voices in some research contexts. The one participant who was recruited through a house visit – a young, newly married woman – was motivated to join as participants were compensated for their time with tinned fish and rice.

It is important to recognise that the group's willingness to participate was the result of a number of factors. Firstly, the projects I was associated with had been operating at the site for over a decade and had established strong relationships with the community. These projects have already delivered benefits to community members and are described in more detail later in this chapter. Secondly, the community-based project leader openly endorsed the project through the VSLA meetings, encouraging people to participate. Thirdly, while not explicitly paid, participants were compensated for their time with a token contribution of tinned fish and rice, which are food staples usually paid for with cash earned through market selling and other livelihood activities. Three distributions took place, and at each distribution participants received three cups of rice and a large tin of fish.

The quantitative components included in this thesis are mostly drawn from PLRG data. For the initial 2010 household survey, the PLRG sought a sample of 100 households within each target area. This data was collected at four different sites in EHP – Bena, Asaro, Marawaka and Baira. Most of the data I present here relates to Bena, but I occasionally refer to the other sites for comparative purposes. The sampling and data collection approach was the same for each of these sites. For time allocation and dietary surveys, thirty households (a subset of the survey data group) were targeted using a purposive sampling approach (Russell, 2011) which selected households based on the number and age of members, the size of coffee holdings, land tenure and coffee management practices, with an overarching aim of targeting larger, established households. The 2018 follow up household survey sample aimed to include people from each of the four communities, and both VSLA and non-VSLA members. It also aimed to include members and non-members of a local coffee group. There was an additional, shortened version of the household survey administered to members of the VSLA men's A and women's A and B groups to capture those who were not already part of the main household survey.

Table 4-2 Relatedness of study participants

	Tilly	Mary	Angie	Diana	Luke	Ella	Mark	John	Rebecca	Lauren	Duncan	Jean	Sarah	Bethani	Emili	Bella	Isabel
Tilly		Mother		Aunty				Uncle		Sister			Cousin by marriage				
Mary	Daughter			Sister				Brother-in-law		Daughter			Cousin by marriage				
Angie																	
Diana	Niece	Sister								Niece							
Luke															Aunty		
Ella																	
Mark																	
John	Niece	Sister-in-law								Niece							
Rebecca													Step daughter				
Lauren	Sister	Mother		Aunty				Uncle									
Duncan												Wife				Niece	
Jean											Husband					Niece	
Sarah	Cousin by marriage	Cousin by marriage							Step mother	Cousin by marriage							
Bethani																Sister-in-law	
Emili					Nephew												
Bella											Uncle	Aunty		Sister-in-law			
Isabel																	

Note: Names of participants are pseudonyms. Names on the vertical axis represent the starting point (ego) of the relationship reference, e.g. Mary is the mother of Tilly and Diana is Tilly’s aunt.

The VSLA data were collected from the records of all participants in the savings groups between 2018 and 2022. The scheme began with one men's and one women's group in 2018, then added another women's group in 2019 and another in 2020. Up to 2024, the number of groups then remained stable. This research focuses on data collected for the original two Women's and Men's A groups for the period 2020 and 2021. I selected these two groups as they were the most established and had also decided to increase the share price to a relatively high level in 2021, a group decision which is examined in more detail in Chapter 7.

4.6 Data collection

The methodology used to collect PLRG data was a mix of non-participant observation, household surveys, focus groups, interviews, dietary surveys and time allocation surveys. I was therefore not starting from the beginning in my objective of gaining an understanding of the lives of my participants. I was able to add to this knowledge through a combination of three data collection methods: interviews conducted either over the phone by myself or in person by my research assistant, key informant questioning using WhatsApp, and participant record keeping. These interactions occurred at various times over a period of approximately three years, enabling me to gain insights over the annual cycle of crop production and VSLA membership.

As this research draws on a wide variety of data sources, it is not practicable in this chapter to provide details of each of the different methods used. Rather, I provide information such as the population source and numbers of participants in the tables and figures used to present findings. For example, details of the different methodological approaches used in the comparison of historical and PLRG time allocation data is presented in Table 5-1. Other figures note the number of households in 2010 and 2018, and what the gender breakdown was if available and relevant.

4.6.1 Approaches used for my data collection

4.6.1.1 Interviews

The initial semi-structured interviews were conducted over the phone from Australia and aimed to get some basic understanding of their personal circumstances and daily lives. While I had not met some of my participants individually before this, I had been introduced to most of them at community meetings during my first and second field trips. The interviews were conducted in Tok Pisin on speaker phone and recorded, which was at times challenging as I had not spent sufficient time at the site to become fluent. To mitigate this shortcoming I recorded and transcribed the interviews and followed up for clarification where required with my RA or supervisors. The data collected here was supplemented with demographic and household data collected through household surveys conducted in 2010 and 2018 by the PLRG.

After completing these interviews, shorter structured interview sets were developed for my RA to conduct face-to-face with participants. These interview sets covered five main areas: women's access to and control over income from coffee, exchange relations with Goroka kin, labour inputs and labour exchange relationships, changes in gender relations related to bridewealth, and the impact of the pandemic. Responses were handwritten by my RA in English for most of these, but the bridewealth questions were able to be recorded in Tok Pisin when my RA upgraded her phone.

Semi-structured and structured interviews provided both quantitative and qualitative data. Each question set administered by my RA was first tested with one participant to check whether there were issues with the clarity and framing of my questions. I aimed to keep each set relatively short (i.e., able to be completed in around 10 minutes) so as not to overburden both my RA and the participant as she had to write all responses down by hand. Apart from the bridewealth questions, responses were recorded by her in English, and I would occasionally clarify meaning with her using WhatsApp. Responses recorded in this thesis have been edited on occasion for clarity, but where this occurred, I confirmed the meaning and intent with my RA.

4.6.1.2 *Key informant questioning via WhatsApp*

The second method of data collection was through key informant questioning of my research assistant, primarily using the texting service WhatsApp. This approach enabled me to build an ethnographic picture of the community based on text conversations and occasional phone calls from September 2020 to the completion of data collection. As we both developed a close relationship during this time, these conversations will continue on a more informal basis after the completion of this research.

As well as conducting interviews, my research assistant was able to follow up and clarify responses and provide context. She also initiated conversations about issues in the community that were of interest to her. She was also able to follow up on data collected by the PLRG and her localised knowledge ensured she could locate and question survey participants when required. This had an advantage over more traditional field work approaches as I could be more flexible with the timing of my data collection, and it could occur at times more suitable to my participants.

Gilchrist & William (1999) note three factors which differentiate key informant interviews from other forms of data collection:

- The key informant's position within the research community which affords them access to detailed information about the research topic
- The relationship with the researcher which is deeper than with other research participants
- The key informant's deep understanding of a particular research topic

Furthermore, Marshall (1996, p. 92) has identified a range of criteria to assess the suitability of a particular person for the role of key informant. An assessment of my RA against these criteria is provided in Table 4-3. This assessment indicates that she is well qualified to contribute to this research as a key informant.

Table 4-3 Overview of key informant suitability

Criteria	Description	Assessment of Suitability
Role in community	Their formal role should expose them to the kind of information being sought by the researcher.	Although she had no formal role in the community, her father and uncle were well known and respected community leaders. She had good access to community members in general and my research participants in particular.
Knowledge	In addition to having access to the information desired, the informant should have absorbed the information meaningfully.	She assisted with the development of questions and ensuring they were phrased to elicit the sort of information I was looking for.
Willingness	The informant should be willing to communicate their knowledge to the interviewer and to cooperate as fully as possible.	She was paid for her work both in cash and through phone data credits. She also expressed a great eagerness to be learning new skills and to practise her English. She repeatedly stressed to me the value the community placed on the research work and the benefits the community members felt they received from their association with this work and the broader project.
Communicability	They should be able to communicate their knowledge in a manner that is intelligible to the interviewer	She has finished high school and has a good grasp of written and spoken English. We used a combination of Tok Pisin and English to communicate which worked for both sides. When I could not understand her Tok Pisin I could refer the message to a supervisor fluent in the language for clarification, or request her to explain in English.
Impartiality	Key informants should be objective and unbiased. Any relevant biases should be known to the interviewer.	The first part of this particular criterion is difficult to achieve in practicality – any person who knows a community sufficiently well is likely to have interests and agendas which will inevitably influence their responses. I have therefore sought to triangulate the key informant data with the findings of other researchers in this area, with the findings of the PLRG, and through the interviews which I conducted with the other participants.

Source: Adapted from Marshall (1996, p. 92).

WhatsApp, a global messaging application, is increasingly being used in a wide range of disciplines to facilitate various aspects of research, including recruitment, data collection, research collaboration, and the dissemination of findings (Aidoo-Frimpong et al., 2023; Mavhandu-Mudzusi et al., 2022; Ro, 2023). In January 2023, WhatsApp was the leading global messaging application based on numbers

of users, with around 2 billion people worldwide using the service (Statista, 2023). While the service does require access to the internet, the data it uses is very small which makes it useful in low technology settings (Ro, 2023). To facilitate continued contact with my RA, I purchased monthly data, and we connected over this platform every few days. When her existing phone broke down, I purchased a replacement basic smartphone which she kept after the completion of data collection. Through this, we were able to establish a close relationship which is an important component of key informant data collection (Gilchrist & Williams, 1999).

4.6.1.3 Participant record keeping

The final method used in my data collection was record keeping by participants to track their cash flows over periods of between two and six weeks during 2021. These were recorded during the start of the coffee season. The objective of this data collection was to gain insights into their livelihoods at a micro level which complemented the time allocation data collected by the project. The data were intended to provide insights into income earning and spending activities, which fed back into my interview questions.

A number of the participants saw the value of the journalling exercise for gaining insights to their own economic lives and said they intended to continue the exercise outside the project. As seen in the 2010 PLRG household survey data (Chapter 5.4.4), smallholder coffee farmers in areas close to major towns engage in a range of commercial activities to generate cash income. Through the income and expense record keeping, these small business operators gained knowledge of the effectiveness of their activities.

The ability to undertake this exercise was dependent on having a certain level of financial literacy which not all participants possessed. However, only one member of the cohort was not able to participate due to this difficulty. One other chose not to participate as she found it too onerous. The financial literacy gained through participation in the VSLA project likely contributed to people's ability to participate (see Chapter 3.6 for education levels in the community).

The data provided by the cash flow journals is of minimal value as a stand-alone piece of information as it only covers a short period. Household income and expenses can be very lumpy in PNG coffee farming households, and so to capture a more complete picture it is necessary to collect data at different periods throughout the year (Sexton, 1986). However, when combined with other data collected, the diaries provide important insights into participants' daily lives. It showed evidence of the diversity of income generating activities and enriched the ethnographic understanding of returns on labour when combined with time allocation surveys conducted by the PLRG. The data from these journals triggered numerous conversations with Lamiah to clarify how these commercial activities were undertaken and the implications for household labour relations.

4.6.2 Approaches used for PLRG data collection

As noted previously, the PLRG collected a range of data from this field site as part of three different research projects with different objectives. The type of data available extends well beyond the scope of this project, but for the purpose of this research I focused on the household and time allocation surveys, a survey of demucilager users, as well as data collected on VSLA savings and loans and demucilager usage. Additional data were collected by the PLRG through empirical measurement of land and soils, interviews, focus groups and participant observation, but these data were only used when they were part of already published material.

Table 4-4 shows the three projects which were utilised by this research, as well as details of the data collected. It also notes the related project reports which include more detailed descriptions of methodologies used. All projects were funded by the Australian Centre for International Agricultural Research (ACIAR). Within this chapter, I use the "Project Reference" when referring to a specific data set. Elsewhere, I refer to the project specifically.

Table 4-4 Overview of ACIAR projects used in this research

Project Name	Project Reference	Years Active	Key Data Collected	Additional Information on Methodology
Improving livelihoods of smallholder families through increased productivity of coffee-based farming systems in the highlands of Papua New Guinea (ACIAR ASEM-2008-036)	Project 1	2010 - 2017	2010 Household Survey (n=92 households in Bena) 2010 Time Allocation Survey (n=27 households coffee season 11 households off season)	Curry et al. (2017)
Improving livelihoods of smallholder coffee communities in Papua New Guinea (ACIAR ASEM-2016-100)	Project 2	2016 - 2024	2018 Household Survey (n=79 households) 2022 Demucilager survey (n=37 individuals)	Curry et al. (2024)
Identifying opportunities and constraints for rural women’s engagements in small-scale agricultural enterprises in Papua New Guinea (ACIAR ASEM-2014-054)	Project 3	2016- 2021	2018 Household Survey Extension (n=27 households) 2020 and 2021 VSLA data (n=60 individuals in 2020 and 57 in 2021)	Koczberski et al. (2021)

The 2010 household survey formed part of Project 1. It covered 92 households in three of the Bena villages, as well as three other sites in EHP – Asaro, Baira and Marawaka – and I refer to these when comparing the situation for accessible and inaccessible sites. Time allocation data were also collected for 27 Bena households in the coffee season, and 11 in the off-season. These households were purposefully selected “based on household size, age of household heads, number and size of coffee holdings, type of land tenure, and coffee garden maintenance and nutrient management strategies” (Curry et al., 2017, p. 21).

The 2018 survey was collected in the Bena area to capture baseline data prior to the introduction of the demucilager. This work was part of Project 2 and initially captured data from 52 households across a broader area which included the fourth village. Later, with the introduction of Project 3, a shorter version of this survey was conducted to include an additional 27 households who were members of the VSLA.

The design of the household surveys was primarily focused on the household's involvement in coffee production. The first survey collected data not only for the household, but also at the adult individual level for some questions, and so it was possible to disaggregate on a gender basis. The later survey, which was intended to build on the first and thus had a number of duplicated questions, was more focused on engagement with coffee production and had fewer questions at the individual level. The limitations of using data which was designed for other research purposes was overcome through supplementing the findings with my own data collection. Project 2 also collected survey data in relation to the use of the demucilager which I draw on in Chapter 8. This survey sampled households who had used the technology in the 2020 and 2021 seasons.

For Projects 1 and 2 the data were captured manually and then entered into Excel spreadsheets for analysis. The final report for Project 1 was completed by the time I commenced this research, but at times I used raw data from the Excel spreadsheets. I reference the final report by Curry et al. (2017) when I use data that was already analysed and prepared for or included in publication. Where I developed my own analysis from the raw data, I refer to the project reference as the source of the data (e.g. ACIAR ASEM-2008-036).

The VLSA data used primarily in Chapter 8 was collected as part of Projects 2 and 3. This data was drawn from record keeping undertaken by VLSA members themselves (personal passbooks, deposit and loan record sheets and central record keeping books). These records were photographed and manually entered into Excel spreadsheets for analysis. This data was entered into Excel by me with validation and correction work undertaken by researchers in the PLRG.

4.7 Data analysis

The data from my own qualitative question sets were analysed after each set and, using a grounded theoretical approach, were used as the basis for additional question sets. Grounded theory is a data driven approach to analysis which identifies trends and themes in research outputs. These themes are used to formulate hypotheses which inform the design of future data collection (Cope, 2016).

The quantitative data I collected through these question sets, and the income and expense diaries, were grouped and analysed using Excel. The diaries were also important triggers for further investigation, either through additional question sets or WhatsApp questions to my RA. These findings were used to develop case studies which are qualitative explorations of the socially embedded economy.

Case study research has been described as “the study of a single instance or small number of instances of a phenomenon in order to explore the in-depth nuances of the phenomenon and the contextual influences on and explanations of that phenomenon” (Baxter, 2016, p. 130). The case study approach enables the researcher to engage in “theory-testing” and/or “theory-generating” modes (Baxter, 2016, p. 136). This research engages with both modes through first testing the validity of existing tropes of *gutpela pasin* and other cultural institutions described in Chapter 2, and secondly through developing theories of how these interact with and are changed by Development projects in the contemporary context through the process of structuration.

The data analyses for the household surveys and time allocation surveys were undertaken using Excel. The VSLA data analysis, and the synthesis of data across different PLRG projects was undertaken using the programming language R, which enabled me to join the large data sets together. This was enabled through assigning a common key to households and individuals who participated in these projects.

I also drew on other data sources to build the inductive, inferential and historical account of my findings which is fundamental to a constructivist approach (Pouliot, 2007). These included the quantitative findings of earlier researchers presented in Chapter 5 and the *kiap* report cited in Chapter 3.11. The contextual understanding of the institutions relevant to social embeddedness and structuration presented in Chapter 2 also draws on the findings of earlier researchers working in Melanesia.

Overall, my analysis draws together the data from earlier researchers, the PLRG, and my own data collection to build an understanding of how the Bena community makes decisions in relation to Development projects. It links community decision making to social embeddedness and the need to demonstrate *gutpela pasin*. Furthermore, my analytical approach focuses on the interaction between people and institutions and how, through the process of structuration, institutions are both replicated and modified.

4.8 Strengths and limitations

The data collection methods described above fit with existing, well-defined categories such as interviews and surveys. However, my absence from the field site shifts this approach into a non-traditional methodological paradigm, particularly for a rural area in PNG which is lagging in access to technology. I argue that through ongoing engagement with the community through social media, combined with my earlier visits to the community and the extensive data available through the PLRG, I have been able to develop a deep understanding of the socially embedded economy in this community and how it interacts with Development projects.

In recent years there has been an upward trend in mobile phone subscriptions in PNG, from less than 2% of the population in 2006 to over 30% in 2018 (Wansink, 2018; cited in Foster, 2020). In Melanesia, the adoption of mobile phones has generated a new moral economy linked to the sharing of phones, phone credit, music, videos and information (Crowdy & Horst, 2022; Foster, 2020; Foster & Horst, 2018; Magea, 2019). As discussed in Chapter 5, however, there are differences between accessible and inaccessible areas in PNG in terms of access to infrastructure and technology (Curry et al., 2016). At the Bena site, 44% of households surveyed in 2018 had a basic mobile phone and 18% had a smartphone.

The rise of mobile technology has implications for the generally accepted view that one must 'be there' in the field to build interpersonal rapport – "presence builds trust" (Russell, 2011, p. 4). I suggest that this is not always the case, and meaningful connections with communities can be made

in other ways. Cyber-relationships are perceived to be as important as those 'in real life' and have real world consequences (Gillespie, 2017; Whitty, 2005). The ethnographic data presented throughout this thesis is evidence that online rapport can be developed, and when used in conjunction with traditional ethnographic methodologies, can enhance the depth of connection between researcher and participant. For example, connecting with our research participants using social media has the potential to redress the imbalance of information flow. Participants often expose all of their lives to the researcher with only a curated researcher identity provided in return. Connecting to participants through social media may contribute to breaking down this barrier and make available to participants the more personal aspects of the researcher's life away from the field site.

I reflect on the strengths and limitations of remote ethnographic data collection in Table 4-5. In summary, the methodology is suitable for the questions under investigation, and there were no limitations which affected the validity of the research. The need to adapt the methodology to suit the Covid-19 environment highlights the fact that like knowledge, research methodology is also situated. The context of my research influenced the questions I could ask and the methods available to collect data. The increase in access to technology in accessible areas of PNG provides opportunities to collect data in less obtrusive ways which have the potential to also give greater power to local participants and researchers, however, personal relationships are still a critical enabling factor for access. It is possible that these relationships could be formed remotely through social media, but in my case, it was facilitated through the long-term presence of the larger programme of work at the field site, my field site visits, and the association with a local key informant.

Table 4-5 Overview of strengths and limitations of remote ethnography

Factor	Strengths	Limitations
Data richness and validity	The multiple sources and sampling of data across a time frame of 18 months for my own data and more than 10 years for the project data provided sufficiently rich data to support a case study methodology.	My absence from the field site meant I was limited to discourse and narrative, and other data sources such as sights, observations, sounds, smells and spontaneous interactions were limited or not accessible. Spontaneous interactions were limited to my WhatsApp conversations with my key informant. My RA was, however, able to send video and photographs of occurrences in the village which she felt were important (e.g. bridewealth ceremonies, funerals, village court, various food production activities, environmental problems such as landslides).
Ethical considerations	Having a white person stay in the community can cause problems such as jealousy and a need for increased security (Wardlow, 2006). The risk of this occurring was significantly reduced by doing the work remotely. The power imbalance was also reduced through the increased exposure of my own life via social media connections.	I was reliant on a third party to recruit participants, explain my research objectives and to obtain consent, although this was provided in written form to participants, and they acknowledged this in the recorded interview.
Participant empowerment	The increased participation of a local person in the research, including her role as a pilot participant for research questions sets, was beneficial to question set design.	The lack of technology at the field site meant my direct engagement was limited to my research assistant (except for phone interviews). As smartphones become more widespread, it would be feasible to have multiple direct contacts which would increase participant engagement in the work.
Access	I was able to recruit a suitable cohort of participants for the case studies	It is unclear if some participants were excluded due to them having negative attitudes towards the other research projects. Given the interest in the project this is unlikely. Mobile and internet quality and consistency can be poor in PNG, but generally this did not interfere with data collection.
Financial	More of my research budget could be utilised locally rather than on flights and accommodation	It was more expensive for me to stay in Australia than be based in PNG.

4.9 Conclusion

This chapter reviewed the methodological orientation of this research, which utilises both quantitative and qualitative data to investigate the intersection of a socially embedded economy with participatory Development projects. I support my arguments with data drawn from my own interviews conducted both directly and via a local researcher, as well as through findings from surveys conducted by the PLRG. The research questions and methodology were adapted to the context of my work – that is, the inability to be physically present at the field site due to the Covid-19 pandemic.

I now turn to an examination of changes in economic activity in the Bena area in the post-independence era, which is intended to address the first of my research questions. I compare time allocation data from the PLRG with data collected from earlier researchers in EHP, and my findings indicate that while time spent on coffee production increased in response to higher prices, leisure and cultural activities are still important. This feature of social embeddedness has implications for engagement in economic activity and Development interventions. I also compare changes in household data in the 2010 and 2018 PLRG surveys in relation to coffee production. This data demonstrates the continuing centrality of coffee as a cash earning activity, and that it appears to be contributing to an improved standard of living in the community.

5 Changes in economic engagement in the post-independence period

5.1 Introduction

In the preceding chapter, I outlined the theoretical basis of my research methodology and provided an overview of the approaches used for data collection and analysis. In this chapter, I focus on responding to my first research question, which is:

1. What social and economic changes have occurred in the socially embedded economy in Papua New Guinea's coffee farming communities in Eastern Highlands Province in the post-independence period?

This chapter and the next continue my exploration of the nature of social embeddedness in the Bena community which I began in Chapter 3. Here, I draw on quantitative data from the PLRG as well as from earlier researchers to examine changes in economic engagement and production in the post-independence period. I first present an overview of the importance of coffee production in the Highlands which is a key economic activity in Bena. I then conduct a comparison of time allocation data collected by the PLRG and earlier researchers which suggests that time spent on coffee work substantially increased in the 2011 period, potentially in response to the increase in returns from coffee and decreased purchasing power. Despite an increased engagement in the cash economy, time spent on cultural and leisure activities remains high.

I then present an overview of data from the PLRG household coffee surveys conducted in 2010 and 2018 which shows a continued trend of engagement with coffee production as well as increased labour constraints. These findings suggest that while returns to labour are a motivating factor for engagement in different cash earning activities, cultural and leisure activities still play an important role in Bena life and are likely to influence engagement with Development projects.

5.2 The importance of coffee in the PNG Highlands

Coffee was brought to the Highlands and grown in Aiyura, EHP, following contact with European missionaries and Australian gold prospectors in the early 1930s (Finney, 1973). By the 1940s, the brother of one of these prospectors established the first coffee plantation in the Highlands, just outside Goroka (West, 2012). As discussed in Chapter 3.10, it now connects PNG communities through physical and social networks to global trade networks, and links Western consumers to an imagined exoticism which is incorporated into the marketing of PNG coffee (West, 2012).

Since its introduction to PNG, the production of coffee has become both socially and economically important to the lives of many Papua New Guineans. Around 2.5 million people and 524 000 households were recorded as relying on income from coffee in the 2011 PNG Census (National Statistical Office of PNG, 2013). Over 85% of coffee is produced by smallholder farmers, primarily in the Highlands region of the main island of New Guinea (CIC, 2019). The Eastern Highlands Province is one of the largest producers in PNG, and coffee from other provinces is also processed there (Sengere, 2016).

During the period of Australian administration in the post-World War II era, the coffee industry rose to prominence in the 1960s and 1970s, before plateauing in the 1980s and then falling into decline from the 1990s to today (Sengere, 2016; Sinclair, 1995; Thompson-Orlegge, 2010). Three contributing factors to this decline were identified by Sengere (2016):

- Increased costs and lack of security reduced the viability of large plantations and blocks³⁸, which subsequently went into decline.
- The withdrawal of large-scale producers directly impacted smallholders as they no longer received production support and market access.

³⁸ Block producers were part of a government scheme to support smaller scale plantation production and are generally between 5 and 29 ha in size. Anything above 29 ha is considered Plantation production, and less than 5 ha is smallholder (Sengere, 2016). The producers in Bena, Asaro, Marawaka and Baira are considered smallholders.

- This in turn impacted partnerships between smallholders and other parts of the value chain which also deteriorated.

Figure 5-1 indicates a general decline in production since 1990 with an occasional spike, including in the 2011/12 period which is a focus of this chapter. As my analysis demonstrates, in some accessible sites, time allocated to coffee increased significantly during a period when coffee prices were high and the cost of imported goods, such as rice, increased. Part of this decrease in production volume is related to the decrease in high input, high yield plantation production, and an increase in low input, low yield smallholder production (Brookfield, 1968; Imbun, 2014; Sengere, 2016). Between 1985 and 2005 smallholder production contribution to overall output increased from 65% to 85%, and doubled in volume (M. Allen et al., 2009). Maintenance of the trees and removal of weeds are important labour inputs necessary to maximise yield, however, farmers may allocate labour elsewhere if the income they currently receive is sufficient to meet their household needs, or if they can achieve higher returns to labour through other production activities (Sengere, 2016).

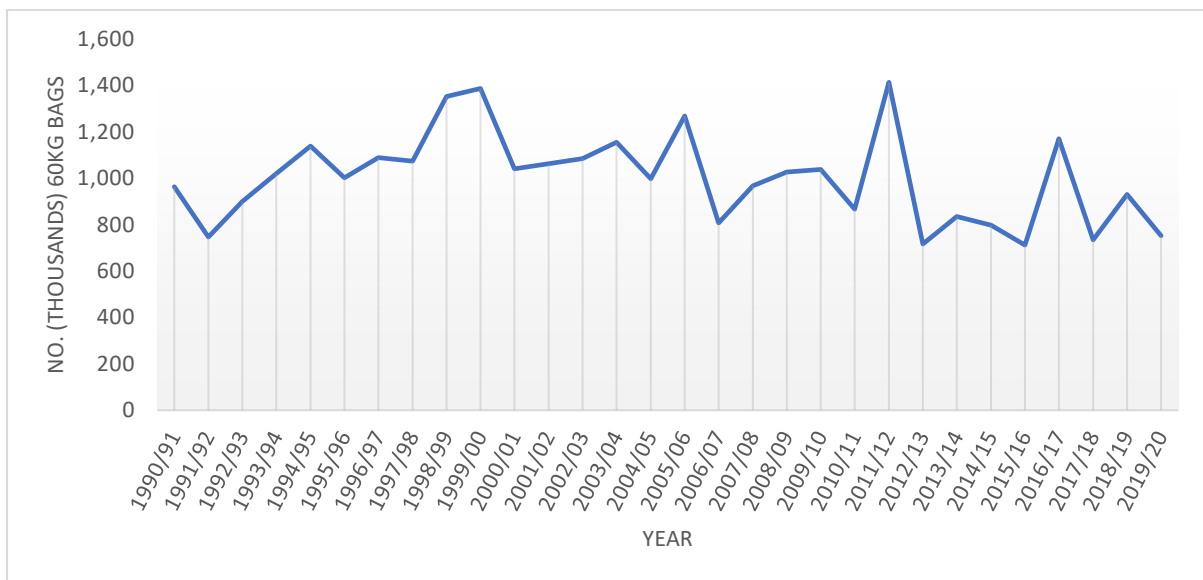


Figure 5-1 PNG coffee production volume in thousands of 60 kg bags 1990/91 to 2019/20
 Source: International Coffee Organisation (2023b).

Smallholder coffee farmers face a number of challenges which also impact yields and potential income. There are efficiency losses from theft of cherry before it can be harvested, and degraded

transport infrastructure which particularly impacts remote production (Curry et al., 2017). Diseases such as coffee rust and, more recently, infestations of coffee berry borer (CBB) also impact output volumes (Aroga, 2015; Newton et al., 2023; Sengere, 2016; Sinclair, 1995; Thompson-Orlegge, 2010). Furthermore, as will be seen later in this chapter, labour inputs at the household level are becoming increasingly constrained. Interventions which improve production efficiency, such as the demucilager, can potentially mitigate these labour input losses.

Coffee produced in PNG is not commonly consumed by smallholder farmers in PNG, and so it is grown almost exclusively as a cash crop (West, 2012). The money earned from coffee sales is money needed to buy store food and pay for school fees, medical care, and the trappings of modernity such as mobile phones and associated call and data costs (Curry et al., 2016; Finney, 1973; Sexton, 1986; West, 2012). The women in my cohort agreed that coffee, followed by pineapple, was the most important crop to meet household cash needs. This was supported by data from the PLRG household surveys as well as household cash flow diaries. This money is, however, seasonal and is supplemented with income from fresh food production in the off-season. As outlined in Chapter 2, women in many rural communities have limited access to income from coffee due to historical and cultural gendering of labour in relation to export crops, discriminatory income distribution from these crops, and lack of input in decision making in relation to land use. However, data I present in this and the following chapter indicate that women do have access to coffee income, either through sharing the income from their husband's trees, receiving coffee cherry for labour, or from their own trees.

I now turn to changes in coffee production in the post-independence period using time-allocation data from the PLRG and other researchers, followed by an analysis of household coffee surveys conducted by the PLRG.

5.3 Time allocation and household economics – from 1976 to 2011

The following analysis contributes to an understanding of changes in economic activity in EHP in period shortly after PNG independence to 2011. It shows that despite increased engagement in coffee production, time allocated to social and cultural activities and the maintenance of social networks was still important. I compare time allocation surveys undertaken by researchers in the period 1976 to 1993, with PLRG time allocation data collected in 2011. The earlier researchers that I discuss here are Grossman (1984) who collected data in 1976-1977, Sexton (1986) whose fieldwork was conducted in 1977-78, and Overfield's (1995) later work from 1992-1993. While not directly comparable due to methodological differences, this analysis gives an important overview of engagement in economic activity over a 36-year time period after PNG achieved independence – a period which approximately covers the coffee industry from a peak to decline (Sengere, 2016).

5.3.1 Comparing the research contexts and methods

The different time periods, field sites (albeit all within EHP) and methodologies used by the researchers means that caution must be exercised when comparing data collected in these research projects. Overfield collected data in the Bena region, including the field site for my research. Sexton worked in Daulo which is to the west of Goroka. Daulo is located on the main road leading from Goroka to the Western Highlands provincial capital Mt Hagen and is near the Asaro site where the PLRG project collected time allocation data. Grossman's work was in the eastern area of the province, furthest from Goroka but more accessible at the time of his work than it is today. The PLRG project collected data at four sites – two accessible (Bena and Asaro) and two inaccessible (Marawaka and Baira). As the data from the inaccessible sites was only collected during the off-season, I have excluded it to enable a more robust comparison. I therefore only include here the PLRG time allocation data from the Asaro and Bena sites.

Table 5-1 Comparison of methodologies for time allocation data collection

Researcher	Time Period	District	Sample	Methods
Grossman	1976-77	Kainantu	57 individuals from 13 households (21 males > 10 years, 23 females > 10 years, 13 <10 years (excluded))	Random spot checks between 7am and 7pm on 69 days. Number of observations per individual varied between 14 & 22, with an average of 15.3 observations per person. Data was disaggregated by gender and marital status. Findings extrapolated by (total observations for an activity / total observations) x 84 (i.e. number of available hours). Data is split Feb-Apr, May - Aug, Sept- Dec. Coffee Season (CS) was data collected over May-Aug and Off Season (OS) was Feb-Apr. Household members less than 10 years excluded.
Sexton	Feb 1977-Jan 1978	Daulo	10 households => 12 households due to HH restructure	Random spot checks between 6:30am and 6:30pm on 83 days throughout the year. The major activity being undertaken by individual adults in the target household at that time was recorded. Gender was recorded. Findings extrapolated in the same way as Grossman. Data is grouped by activity type and disaggregated by gender. Data split by CS and OS not available.
Overfield	1992-1993	Bena	18 HH from 6 dispersed villages.	Observations between 6am and 6pm of all activities on 50 randomly selected days per HH over 2 years. Where the HH member could not be found, data was captured using recall. Data split by CS and OS not available. It is not stated how different age groups are treated but it appears to be focussed on adult heads of HH (i.e. husband and wife).
PLRG	2011	Bena	In Bena, 27 households were surveyed for labour allocation in coffee season and 11 households in off-season	Data was based on recall rather than observation. HH were visited every second day in the data collection period and HH members were asked to recall activities between 6am and 9pm of all activities over 2 x 10 day periods (CS and OS). Householders were asked to record all activities of every household member undertaken from when they rose in the morning until retiring for the night. There were 5 x 3 hour time intervals 6am-9am; 9am-12noon; 12noon-3pm; 3pm-6pm; and 6pm-9pm (the latter period was excluded from the data to reduce skewing the data to leisure and domestic activities). Pre-schoolers were excluded and school aged children treated as 0.5.
PLRG	2011	Asaro	32 households surveyed in the coffee season and 11 in the off-season	As per Bena

Source: Grossman (1984), Sexton (1986), Overfield (1995) & Curry et al. (2017).

A summary of the methodologies and data collected by these researchers and the PLRG project is presented in Table 5-1. This table shows that a variety of approaches have been used, with Grossman and Sexton being directly comparable with each other, and Overfield being most comparable to the PLRG data collection methodology. The three earlier researchers utilised villagers to observe or interview participants and record findings, whereas the PLRG involved researchers and CIC extension officers who stayed on site for the duration of the field work.

In terms of external influences throughout the comparison period, the purchasing power of coffee income is one that can be tracked to show the potential influence on time allocated to coffee production. The price available to coffee farmers is largely driven by global markets and the quality of the product (Aroga, 2015; Sengere, 2016). Since 1994, when PNG experienced a liquidity crisis and was forced to float its currency, the local and global economies have experienced shocks which impacted the relative purchasing power of the kina (Bakani, 2011; Chand & Stewart, 1997). This meant that after 1997, when the kina began a period of prolonged devaluation, prices of imported goods became more expensive. Figure 5-2 shows the relative price paid to farmers for coffee compared to the cost of rice, a food staple which households purchase more of when tree crop prices are high (Bourke et al., 2009). The fall in terms of trade (blue line) below zero (red line) indicates that the purchasing power of coffee income was lower during the data 2011 PLRG data collection period, compared to the periods covered by Grossman, Sexton and Overfield, thus incentivising cash-earning activities. Coffee prices (brown line) also peaked in 2011 (International Coffee Organization, 2023a) which further incentivised time allocation to coffee farming.

The sensitivity of labour allocation to global prices has been seen in other PNG contexts. For example, low copra prices and the spread of Cocoa Pod Borer (CPB), a pest which has had a devastating impact on cocoa production in PNG, saw farmers shift from copra to marketing dry coconuts (Sharp, Tilden, et al., 2022). This became noticeable in the period 2012 to 2013 when returns to labour for dry coconut selling exceeded that available from copra (Sharp, Tilden, et al.,

2022). As discussed in the next section, the availability of high returns to labour from coffee during 2011 led to a significant increase in time spent on this activity.

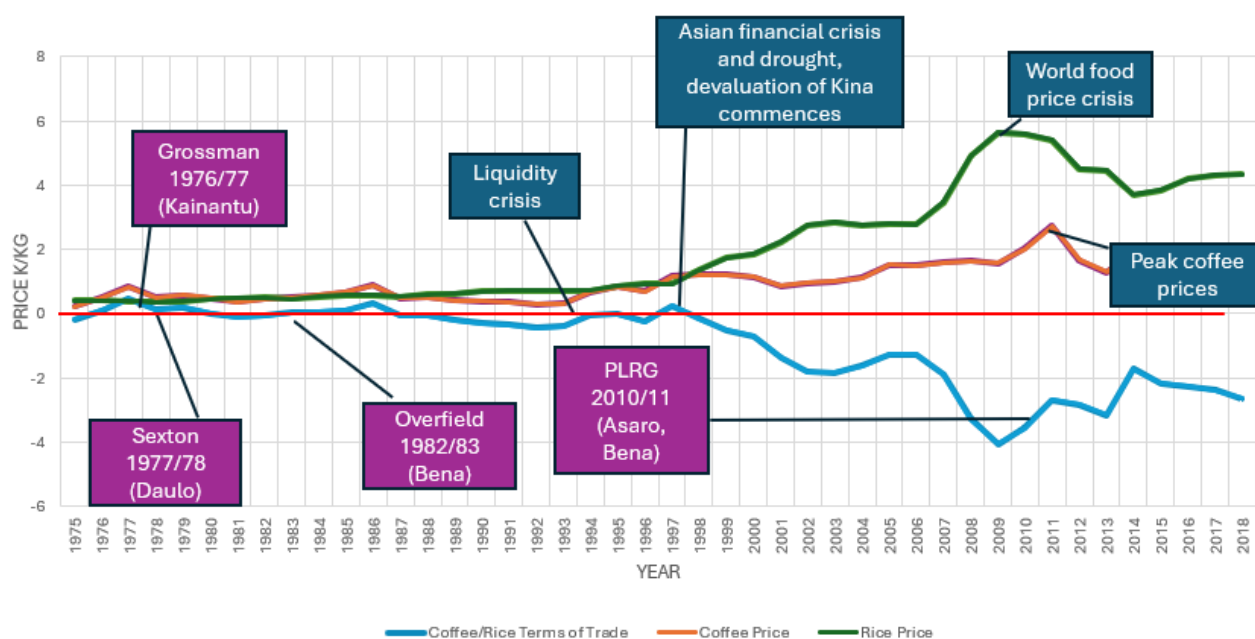


Figure 5-2 Purchasing power of coffee income 1975 - 2018³⁹

Source: International Coffee Organisations (2023a) World Bank (2023b), Grossman (1984), Sexton (1986), Overfield (1995), Curry et al. (2017), Chand & Stewart (1997), Bakani (2011), National Statistical Office Consumer Price Index.⁴⁰

5.3.2 Summary of changes in time allocation

A comparison of time allocation differences between data collected in the period 1977-1993, and the Curtin project data collected in 2011 in accessible sites, indicates a large increase in time allocated to coffee production (Figure 5-3).⁴¹ The data is broken down by gender and shows the percentage of

³⁹ Calculated as coffee price – rice price; Coffee price calculated as average prices paid to PNG growers, US\$/lb converted to PGK/kg using data from International Coffee Organisation (ICO) (2023a) and World Bank (2023b). Rice prices are per PGK/kg from National Statistical Office Consumer Price Index data compiled by Tim Sharp, Mike Bourke and Elizabeth Kopel.

⁴⁰ National Statistical Office Consumer Price Index data from multiple data sets compiled by Tim Sharp, Mike Bourke and Elizabeth Kopel. Supplied via personal correspondence.

⁴¹ The data from Grossman (1984) has been annualised by averaging the coffee and off season data, as was the data from the Curtin project collected at the accessible sites. As per table 5-1, Grossman collected data over 3 time periods but only used 4 months of data for the coffee season and three months for the off season. While imperfect, the approximation of a 50/50 split is appropriate as it is unclear how many observations were taken in each period.

time spent on coffee, fresh food, and leisure and culture, each of which I focus on in the discussion which follows. The remainder of the time allocation is grouped as ‘other’ activities. The three focus activity groupings were selected as they were comparable in terms of activity classification across the research projects, as well as being the most relevant to this thesis.

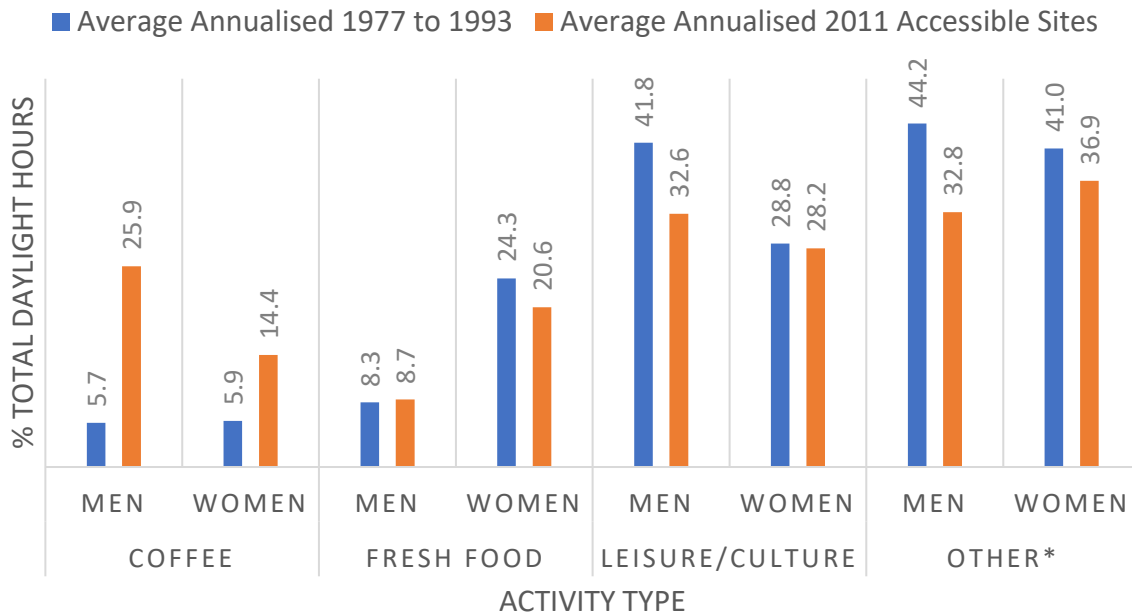


Figure 5-3 Comparison of research findings for time allocation in EHP by gender
 Source: Adapted from Grossman (1984), Sexton (1986), Overfield (1995) & data from ACIAR ASEM-2008-036.

*Includes housework; other income such as wage labour, animal husbandry, time at market, trading; miscellaneous activities.

The data presented in Figure 5-4 shows a comparison of ratio of women’s time allocation to men’s. All columns above the green line indicate that women spent more time than men on that task. It should be noted that this figure gives no indication of the actual time spent on a particular task (for this, see Figure 5-3). The ratios indicate that in comparison to the earlier period, the difference between men’s and women’s time on fresh food in accessible sites had declined in 2011. In contrast, the gender difference between the time spent on coffee increased, with women spending relatively less time than men on this task than they did in the past. The difference for time spent on leisure and

cultural activities reduced, with both genders allocating much closer to an equal amount of time to these activities in 2011.

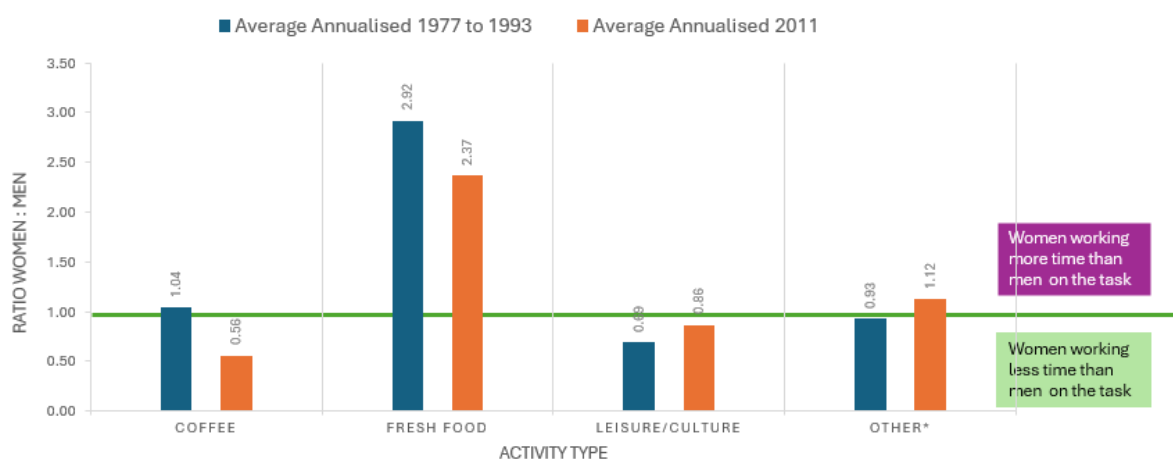


Figure 5-4 Ratio of women's time allocation to men's across research project eras and activity types

Source: Adapted from Grossman (1984), Sexton (1986), Overfield (1995) & data from ACIAR ASEM-2008-036.

*Includes housework; other income such as wage labour, animal husbandry, time at market, trading; miscellaneous activities.

5.3.3 Time allocated to coffee production

In 2011, a substantial increase in time allocated to coffee production occurred for both women and men during a period of high coffee prices (Figure 5-3 and Table 5-2). Men increased the time they spent on coffee relatively more than women. This aligns to Overfield's (1995, 1998) argument that women's lack of control over the income from coffee was a disincentive for their participation in coffee production. The withdrawal of women's labour from cash crop production has also been reported in oil palm and cocoa production in PNG for similar reasons (Curry et al., 2019). Other PLRG research suggests that women in coffee farming communities are increasingly engaged in fresh food production as this is where they have greater control of income (Curry et al., 2019; Inu, 2015).

Table 5-2 Time allocation for coffee activities by different research projects

	Location	% Total time by gender			Ratio Women:Men
		Men	Women	Average	
Grossman (1976/77)	Kainantu CS	4.0	5.6	4.8	1.4
	Kainantu OS	1.4	0.9	1.2	0.7
Sexton (1977/78)	Dualo (annualised)	8.6	6.8	7.7	0.8
Overfield (1990/91)	Bena (annualised)	5.8	7.7	6.8	1.3
PLRG (2011/12)	Asaro CS	37.43	26.33	31.88	0.7
	Asaro OS	21.60	9.33	15.47	0.4
	Bena CS	23.52	15.23	19.38	0.6
	Bena OS	20.87	6.74	13.80	0.3

CS = Coffee Season OS = Off Season

Source: Adapted from Grossman (1984), Sexton (1986), Overfield (1995) & data collected by the PLRG project ACIAR ASEM-2008-036.

The PLRG time allocation survey was undertaken in 2011 when coffee prices peaked both locally and globally (International Coffee Organization, 2023a), which incentivised coffee production. PLRG data collectors reported that people were harvesting at night, and incidents of cherry theft from unharvested trees also increased. The reduced purchasing power of coffee income at the time of the survey may have also contributed to this increased time allocation to coffee production. In the 2010/2011 period, rice was least affordable compared to sweet potato in Lae, Madang and Port Moresby, compared to any time since 1972 (Sharp, Busse, et al., 2022).

All 13 women in my research cohort generally supported the view that women earned more money now from coffee than five years ago. Most also agreed that they earned more than their mothers did at the same age, except the younger ones whose mothers were still active coffee farmers. Their explanations for this change (they sometimes provided more than one) were better available price, increased coffee holdings, and the use of the demucilager (Table 5-3).

Table 5-3 Responses to questions on changes in coffee income

Do you think women get more or less money from coffee now than 5 years ago?		
More	Less	Stayed the same
13	0	0
What has caused this change?		
Price increase	Demucilager	Expanded holdings
6	2	7
Do you think women get more or less money from coffee now than their mothers did?		
More	Less	Stayed the same
10	1	2
What has caused this change?		
Price	Demucilager	Expanded holdings
9	5	6

Participant Rebecca noted:

In the past, our grandparents and parents don't spend much time working in their coffee garden, only a few times when they feel like it. Nowadays, most people make a huge coffee garden and still continue planting and working in the coffee garden to make sure it is clean so as to give them more cherries, because coffee now has a higher standard income.

As will be seen in Chapter 8, price also plays an important role in motivating engagement in Development projects which improve returns to labour. People had higher engagement with the demucilager when coffee prices were low and the price premium that they could achieve was more likely to meet household needs compared to what they would receive from a roadside buyer. When coffee prices were higher, they were more willing to accept the roadside price.

5.3.4 Time allocated to fresh food production

A comparison of the time allocated to fresh food production is shown in Figure 5-3, with a breakdown provided in Table 5-4. This data does not include time spent preparing food for market or time spent marketing. As well as the methodological differences already noted, there are differences in the way fresh food production is treated among the different research projects. Only the PLRG

split time spent on subsistence gardening and production for market.⁴² The other research projects describe only gardening or food gardening⁴³ as an activity category.

Table 5-4 Time allocation for fresh food production by different research projects

	Location	Description	% Total time by gender			Ratio W:M
			Men	Women	Average	
Grossman (1976/77)	Kainantu CS	Food Gardening	6.2	14.6	10.4	2.4
	Kainantu OS	Food Gardening	10.6	19.7	15.2	1.9
Sexton (1977/78)	Daulo (annualised)	Gardening	5.6	19.7	12.7	3.5
Overfield (1992/93)	Bena (annualised)	Food Production	11	36	23.5	3.3
Project (2011/12)	Asaro CS	Subsistence gardening	6.09	14.76	10.43	2.42
		Marketing gardening	0.32	1.86	1.09	5.82
	Total		6.41	16.61	11.51	2.59
	Asaro OS	Subsistence gardening	7.30	26.21	16.8	3.6
		Marketing gardening	1.50	7.54	4.5	5.0
	Total		8.80	33.75	21.3	3.8
	Bena CS	Subsistence gardening	4.50	8.82	6.7	2.0
		Marketing gardening	2.00	2.98	2.5	1.5
	Total		6.50	11.80	9.1	1.8
	Bena OS	Subsistence gardening	7.00	16.13	11.6	2.3
		Marketing gardening	6.08	4.00	5.0	0.7
	Total		13.08	20.14	16.6	1.5

CS = Coffee Season OS = Off Season

Source: Adapted from Grossman (1984), Sexton (1986), Overfield (1995) & data collected by the PLRG project ACIAR ASEM-2008-036.

⁴² It is difficult to truly separate the two, as there will generally be some excess produce in subsistence gardens which is sold at market, and some market garden food will be kept for the household. Here, the market-oriented production refers to large scale planting which is mostly intended for market sale.

⁴³ Sexton (1986, pp. 147–153) lists “gardening” under “subsistence production” and notes “marketing garden produce” under commercial activities, but does not differentiate that which is sold at market in the production of fresh food.

Grossman (1984) and Sexton (1986) published data which included the percentage of total time estimated for each activity, but for fresh food, Overfield (1995) only published total estimated annual hours. To convert this to percentage of total time I divided by 52 to obtain a weekly estimate, then multiplied by 0.84 to obtain the percentage of daylight hours. As with coffee, only Grossman and the PLRG had data sets for the coffee and off-seasons.

Women consistently spend more time than men on food gardening (Figure 5-4). In relation to non-subsistence food production, Bena was the only site in both accessible and inaccessible areas where men engaged to any significant degree with food marketing, and they were seen to spend more time than women on this activity in the off-season (Table 5-4). This supports findings that where there is an opportunity to earn income which is relatively higher than what is otherwise available, men will not follow the supposed cultural norm described in Chapter 2 of leaving many fresh food production and marketing tasks to women.⁴⁴ This is most likely due to the role that business success has in enhancing masculine identity (Benediktsson, 2002; Curry, 2005; Curry et al., 2019; Sharp, 2012; Spark et al., 2021). Furthermore, the need to provide for and care for families, another core aspect of ideal masculinity, will overcome feelings of shame that men often have when undertaking food marketing alongside women (Barnett-Naghshineh, 2019).

The case study of Jean and Duncan in Chapter 6 suggests that traditionally gendered roles and levels of household cooperation are changing. At the Bena site, the VSLA and other Development projects have contributed to changing gender relations in the household, although these projects commenced after the time allocation data collection and therefore their effects on gender relations are not reflected in this data comparison. Overall, the time spent on food production remained relatively stable for both men and women from the early post-independence period to 2011.

⁴⁴ As with coffee, roles in fresh food production have tended to be gendered, with men responsible for clearing land and building fences, and women responsible for planting, weeding, harvesting and marketing.

5.3.5 Time allocated to leisure and cultural activities

The final area of comparison is that of time allocated to leisure and cultural activities. As with food production, there are differences in the classification of leisure and cultural activities across the different research projects. Certainly, the term ‘leisure’ is culturally problematic. Visiting relatives, for example, may be perceived as leisure time from a Western perspective but may be important in terms of exchange relations and maintaining networks in terms of the socially embedded economy. Gambling is also a common ‘leisure’ activity which circulates money through the village economy, and which some people see as a valid income generating activity (Zimmer-Tamakoshi, 2014). To refine the comparison, I have aligned, where possible, the types of activities included in the category of ‘leisure’, although there are still some differences (Table 5-5). Note that Overfield does not report data for leisure and was therefore not included in the comparison.

Table 5-5 Time allocation for leisure and cultural activities by different research projects

	Location	% Total time			Ratio (W:M)
		Male	Female	Average	
Grossman (1976/77)	Kainantu CS	34.4	23.5	28.9	0.7
	Kainantu OS	31.3	16.2	23.7	0.5
Sexton (1977/78)	Daulo Avg Annual (Leisure)	44.6	32.0	38.3	0.7
	Daulo Avg Annual (Ceremonial)	6.1	5.7	5.9	0.9
	Total	50.7	37.7	44.2	0.7
Curtin Project (2011/12)	Asaro CS	37.86	32.53	35.19	0.9
	Asaro OS	26.67	26.46	26.56	1.0
	Bena CS	41.48	33.66	37.57	0.8
	Bena OS	24.49	20.00	22.24	0.8
	Baira OS	46.77	41.64	44.21	0.9
	Marawaka OS	34.69	27.10	30.89	0.8

CS = Coffee Season OS = Off Season

Source: Adapted from Grossman (1984), Sexton (1986), Overfield (1995) & data collected by the PLRG project ACIAR ASEM-2008-036.

Overall, the findings of the PLRG for time allocated to leisure and cultural activities sit within the range of Grossman’s (1984) and Sexton’s (1986) data (Table . As with Grossman’s data, there was an increase in leisure and cultural time during the coffee season which is most likely due to increased

money available for travel and other social activities such as cultural exchanges. In Bena, visiting and hosting relatives and friends, and general socialising at home, was the greatest contributor to this difference. Of additional note is the narrowing of differences in leisure time for men and women. In earlier research, it seems that women spent around 70% of the same time as men on leisure and cultural activities. In the 2011 time-allocation research, it is between 80% and 100% of the time men spent on these activities (Figure 5-4). This persistence in gender difference may be due to time spent by women on household activities and childcare. Much of women's contribution to exchange in the earlier period was "behind the scenes" (Sexton, 1986, p. 88) and thus may not have been easily detectable in time-allocation surveys. It is also difficult to delineate pig and sweet potato production for the household versus that produced for exchange, and so the time women spent on cultural activities may have been underestimated. The shift towards more church-oriented activities, and the decline of male initiation ceremonies (Knapp, 2017) has also afforded women more opportunities to publicly participate in cultural activities.

Visiting relatives is a large contributor to leisure time, and this may be an indicator that people, and women in particular, are becoming more mobile than in the past. During my engagement with the community, members of my research cohort were frequently visiting relatives in other communities, including other provinces. Many had children in urban settlements with whom they regularly visited. These visits often include economic activity such as marketing of produce or purchasing coastal goods not available in the Highlands for resale. This economic activity is made possible by the networks members have with other friends and relatives in other locations (Benediktsson, 2002), and is a feature of societal embeddedness in the village economy.

5.3.6 Summary – time allocation and household economics

The findings suggest that despite an increase in time spent on cash earning activities, the importance of leisure and cultural activities remained substantial from the early post-independence period to 2011. This supports the core argument of this thesis that life within EHP agrarian communities is still heavily embedded in social and cultural activities which play a role in re-enforcing and recreating

economic as well as social networks. Having said that, engagement in cash earning activities is responsive to the availability of higher returns to labour, as well as cost of living pressures. In this regard, the demucilager has potential value due to the improved labour efficiency and higher available price premium. As will be seen in Chapter 8, engagement in this project is also sensitive to the price of coffee paid through alternate avenues of processing. To build on these findings, I now turn to the results of the household coffee surveys conducted by the PLRG in 2010 and 2018 at the Bena field site.

5.4 Changes in Bena – PLRG household surveys 2010 and 2018

The 2010 (Curry et al., 2017) and 2018 (Curry et al., 2024) PLRG household surveys were focused on coffee production. The 2018 survey attempted to remain consistent with the earlier survey where possible, although there were some changes to questions and sampling differences as described in Chapter 4.5. The interviews were conducted at the household level and, for some questions, at the individual level, enabling data to be disaggregated for men and women. In the following comparison, I present data which show changes in livelihoods and economic prosperity within the community. This includes a review of changes in coffee holdings, barriers to coffee production, sources of labour, household responsibility for coffee marketing, sources of income, asset ownership, and types of house structure.

5.4.1 Household coffee holdings

The 2010 and 2018 survey findings support the time allocation data presented earlier in this chapter which showed an increase in time spent on coffee work. Both surveys indicated that coffee holdings are increasing at the household level, albeit more slowly in the 2018 survey. Over 83% of households in the 2010 survey had planted more coffee, whereas this had dropped to around 48% in 2018 (Figure 5-5). This reduction in the number of households expanding their coffee holdings may be attributable to several factors, including land availability, the high coffee prices available in 2011 (Figure 5-2) or the attraction of other income sources.

The 2018 survey asked respondents what the land had previously been used for, and 42% of respondents indicated they had cleared food gardens to plant coffee. The others had cleared *pitpit* (wild cane, *Saccharum edule*) (12%) or bush (46%). These are likely to have been old food gardens that were allowed to go to fallow. The replacement of food gardens with coffee may be an indicator of higher returns available from coffee as well as reduced land availability, however, respondents in both surveys ranked land availability as low in terms of constraints on coffee production (Figures 5-6 and 5-7). Less than 3% of respondents ranked land shortages as their 1st, 2nd or 3rd constraint in both surveys. It may also be a decision made by men who stand to gain more from coffee than from fresh food income.

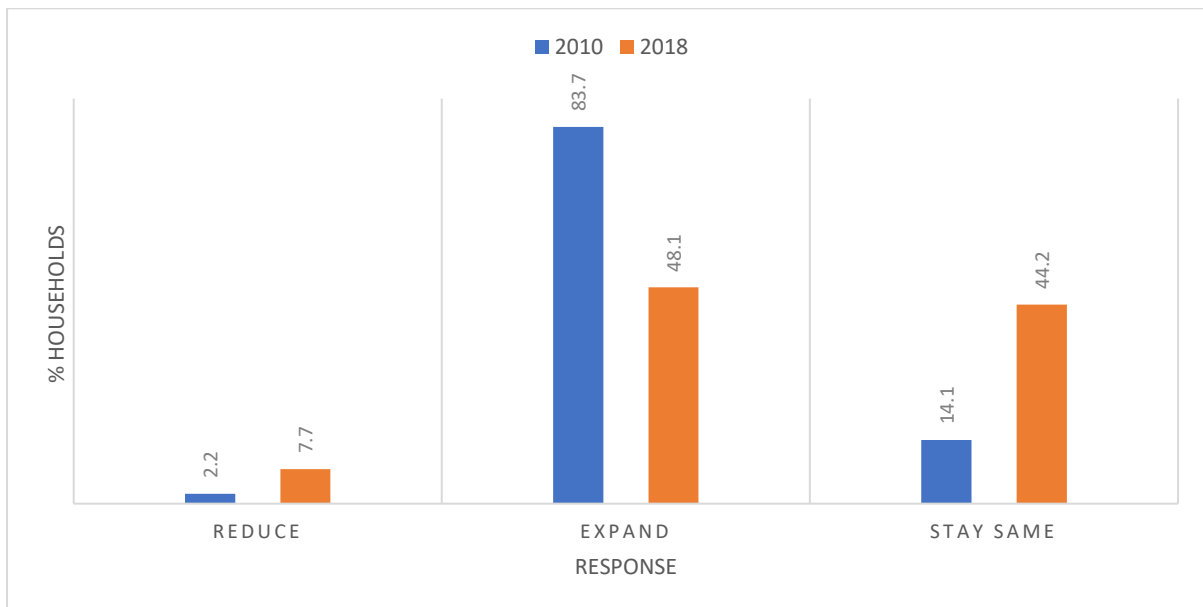


Figure 5-5 Changes in household coffee holdings in previous 5 years

Source: From data collected by the PLRG projects ACIAR ASEM-2008-036 and ACIAR ASEM-2016-100; % of households; n=92 (2010), n=52 (2018)

In this particular community, pineapple has become a significant crop for many families since it was popularised by a local leader starting from 2008 (Inu, 2015), and this may be a detractor from the expansion of coffee. As stated above, of the four sites surveyed in the 2010 time allocation survey, Bena was the only one where men’s time on food production for the market exceeded women’s during the off-season. This may have contributed to the slowdown in the expansion of coffee holdings.

The top three motivations to increase coffee holdings in 2010 surveys⁴⁵ were to increase income, pay for school fees, and provide for basic needs. In 2018, the top three responses were to increase income, provide for children’s future needs and pay for school fees. In the 2018 survey, ‘basic needs’ was not listed as a motivation by any respondent but building a house and utilisation of available land were noted by some as a motivator.

Table 5-6 Number of c.60Kg coffee parchment bags sold in previous season by households in Bena 2009 and 2017

	Number of Bags 2010	Number of Bags 2018
First Quartile	2.4	4.0
Second	4.0	6.8
Third	7.3	10.0
Max	23.0	38.0
Median	4.0	6.8
Mode	4.0	5.0
Mean	5.6	8.0

Source: From data collected by the PLRG project ACIAR ASEM-2008-036 and ACIAR ASEM-2016-100; no. of bags; n= 92 (2010); n= 52 (2018).

Coffee production increased between 2009 and 2017⁴⁶ (Table 5-6). It can take some years for a coffee tree to become productive, and so there would be a lag for production to increase from the increase in holdings prior to 2010. The purchasing power of coffee was lowest in 2009 (Figure 5-2), and this, along with higher prices in 2010, may have motivated farmers to allocate more land to coffee in subsequent years to cover their fixed household costs. During the 2020/21 period, where income from fresh food marketing was restricted due to the Covid-19 pandemic, households were even more reliant on coffee income. Coffee farmers with links to exporters were able to maintain their coffee income through this period (Aroga et al., 2022).

⁴⁵ In both surveys this was an open question, that is, not selected from a list of possibilities.

⁴⁶ Households were asked about the previous production year in each survey.

5.4.2 Barriers to coffee production

The main barriers to coffee production described by Bena farmers in 2010 and 2018 are shown in Figure 5-6. The surveys indicate that lack of adequate fencing/animal damage and labour shortages were the main problems they faced, and this was consistent in both surveys. Labour was seen as a strong constraint in 2010 when coffee prices were high. Labour became even more constrained in 2018 when, as discussed in the next section, more heads of household were working alone. The high price of coffee in 2010 meant it was difficult to source labour from outside the household. In 2018 when the price was not as high, women had withdrawn their labour to other income generating activities leaving the men to do most of the coffee work.

Pests and disease were not noted as a significant challenge in 2018, but it is highly likely that if the survey were held after 2020 it would possibly appear as the top issue due to CBB reaching the field site. The lack of returns and ability to purchase farm equipment (i.e., lack of capital) seen in 2018 possibly reflects the declining global coffee prices since 2010. Damage from animals and lack of adequate fencing are naturally related. It is possible for farmers to produce timber for fencing through inter-cropping shade trees with coffee – a technique which is also useful in low input systems to improve yield (Sengere, 2016).⁴⁷ The labour supply constraint, however, limits the time that can be allocated to erecting and maintaining fences.

⁴⁷ The use of shade in coffee production is complex – many PNG plantations removed their shade trees in the mid-1970s and improved their yields (Sinclair, 1995). However, there is a need to replace nutrients with fertilizer which smallholder farmers often cannot afford, and it can also be more labour intensive due to the increase in weeds (Sengere, 2016).

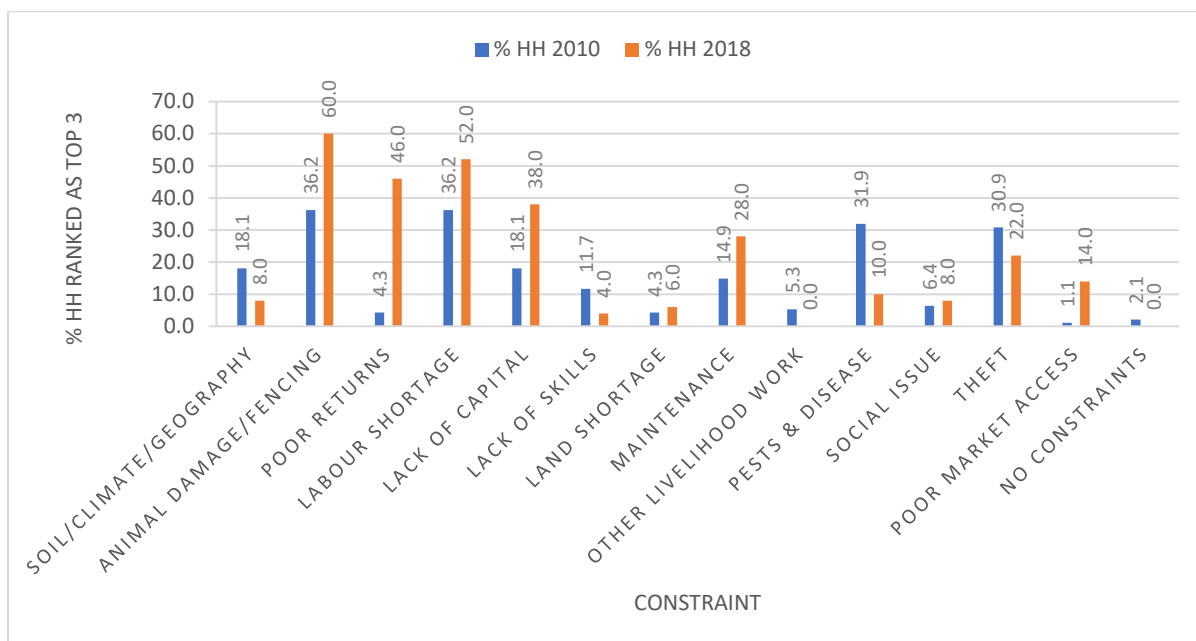


Figure 5-6 Coffee farming constraints in 2010 and 2018

Source: From data collected by ACIAR ASEM-2008-036; % of households; n=94 (2010) n=50 (2018); Calculated as the percentage of households ranking an issue in their top 3.

Labour Sources

The immediate family remains the most important source of labour for coffee work in Bena (Figure 5-7). However, between 2010 and 2018 there was an increase in the number of households (15% to 44%) where the grower, usually the male household head, is reliant on himself for most of the coffee work. The time allocation data presented earlier in this chapter indicates that in 2011 both men and women have significantly increased the time they spend on coffee in accessible sites (Figure 5-3), however the ratio of men's to women's time in accessible sites has also changed from being close to equal, to women spending around half the time as men on coffee (Figure 5-4). The increase in men being more reliant on themselves for coffee work is also increasing pressure to improve returns to labour. The use of herbicides to remove weeds, as well as the demucilager, are strategies which farmers are enthusiastic to adopt as they increase the efficiency of their labour, although the demucilager was not available at the time of the survey.

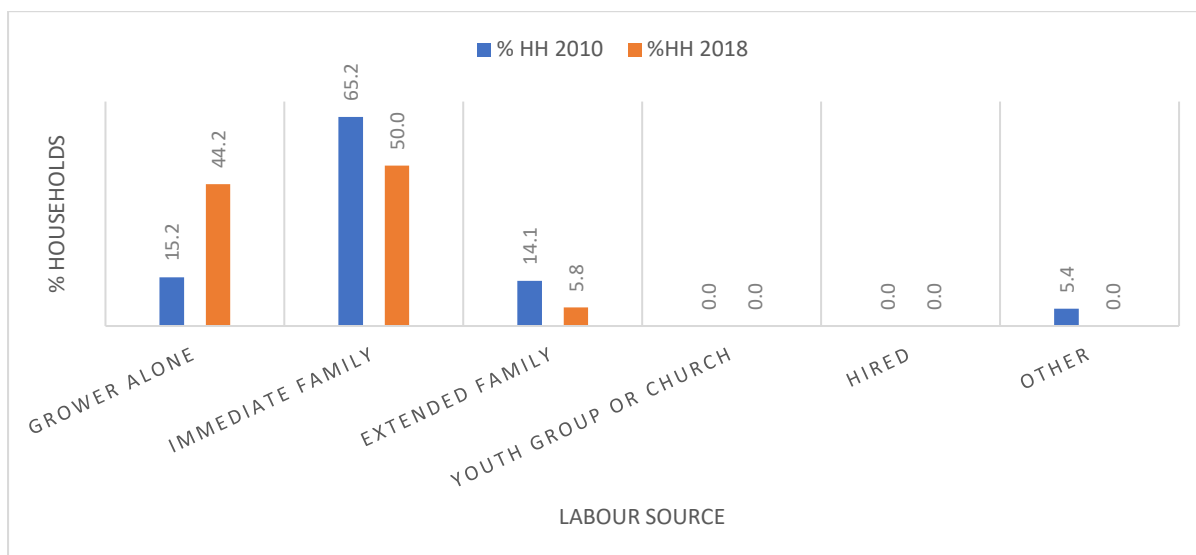


Figure 5-7 First ranked labour source in Bena

Source: From data collected by the PLRG projects ACIAR ASEM-2008-036 and ACIAR ASEM-2016-100; % of households; n=92 (2010), n=52 (2018).

Coffee production on smallholder farms in PNG typically includes the following labour inputs (Aroga, 2015, pp. 70–83; CIC, 2016):

- Clearing of land, digging of drainage ditches, building of fences.
- Planting of coffee and shade trees.
- Maintenance of coffee gardens (e.g., removal of weeds, spraying of herbicides, pest management, pruning, cleaning of drainage ditches, and maintaining fences).
- Harvest of cherry – also potentially sorting by quality although this step has only recently been introduced to the field site as part of the introduction of the demucilager and is not included in this data.
- Processing of cherry to parchment – this involves:
 - Removal of the outer pulp
 - Removal of the mucilage⁴⁸
 - Washing
 - Drying
 - Packing in 60kg bags and transporting to market

⁴⁸ See Figure 3-13 for the difference in process when using a demucilager.

These activities are often gendered (Dickerson-Putman, 1996; Overfield, 1995; Sillitoe, 2006a; A. Strathern, 1979). Data from the 2010 survey⁴⁹ (Table 5-7) shows that at Bena, most tasks are undertaken solely by men, and selling coffee is one of the few activities commonly shared. This aligns with findings in relation to marketing of coffee which shows that men and women often share this task (Figure 5-8), and my own data which shows men and women often share the income from coffee (Chapter 6). Overall, it supports the time-allocation findings that men spend more time than women on coffee.

Table 5-7 Coffee production tasks by gender in Bena (2010)

Activity	Gender Commonly Undertaking Task
Clear new coffee garden	Men
Planting new coffee garden	Men
Harvest	Both (men) ⁵⁰
Pulping	Men
Washing coffee	Men
Dry coffee	Men
Fencing coffee garden	Men
Maintaining drains	Men
Pruning coffee	Men
Pruning shade	Men
Spray herbicide	Men
Apply inorganic fertiliser	NA
Apply organic fertiliser	Men
Tending interplanted crops	Both (men)
Weeding	Men
Sell coffee	Both (even)

Source: From data collected by the PLRG project ACIAR ASEM-2008-036.

5.4.3 Coffee marketing

The 2018 survey included an additional question which asked who was responsible for parchment and cherry sales in the household (Figure 5-8), whereas in 2010 the question only covered parchment sales. In 2018, 46% of respondents indicated that both the husband and wife take responsibility for the marketing of parchment, which makes up most of the household income from

⁴⁹ This question relies on recall of labour inputs in the 2 weeks prior to the survey.

⁵⁰ "Both (gender)" means less than 25% difference in activity between genders, with the dominant gender shown in brackets.

coffee. This aligns to the 2010 data shown in Table 5-7 above showing that parchment sales are shared evenly between men and women in Bena households.⁵¹ Not all people reported selling cherry, which is why the total percentage is less than 100%.

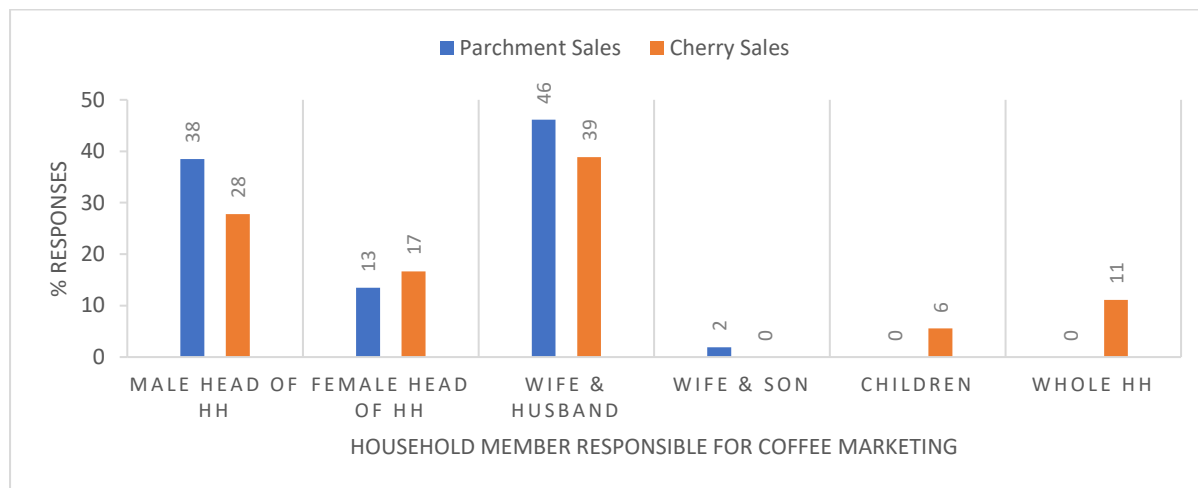


Figure 5-8 Household member responsible for parchment and cherry sales in 2018
 Source - From data collected by the PLRG project ACIAR ASEM-2016-100; total responses; n=52 (parchment) and 18 (cherry).

It is likely that cherry sales are under-reported as it is often used as payment for labour and traded in small lots. Women also will sell small amounts to pay for incidental household needs, and to have money they can have control over (Sexton, 1986). In this sense, women may have been reluctant to report cherry sales in the survey so as not to bring attention to this activity, or thought the amounts were too small to report. The cherry sold by children is often from payment for labour such as for help with harvesting. It is usually sold to a village buyer or may be processed to parchment through a hand pulper if of sufficient quantity. Depending on the amount received, it may be put towards school fees or used to buy small items or treats. The circulation of cherry in the village economy as a cash substitute is discussed in more detail in Chapter 6.

⁵¹ The full data set from other sites (Asaro, Baira and Marawaka) indicates that this task is usually undertaken by men, and so Bena may be an anomaly.

5.4.4 Sources of income

As well as coffee and fresh food production, households engage in a range of income earning activities, including livestock husbandry, bakeries, coffee trading, selling dry coconuts, wage labour, re-selling of store-bought items, and other small business ventures which are discussed in the case studies in Chapter 6. The introduction of the VSLA also provided an opportunity for members to engage in other commercial activities (Koczberski, Sharp, et al., 2021). My own participants have utilised VSLA funds for beekeeping, stocking small trade stores, livestock sales, and bringing coconuts from the coast to sell in Goroka.

This high level of diversification is typical of resource poor communities (M. Allen et al., 2009; Barrett et al., 2001; Curry et al., 2012; Ellis, 2000; Koczberski et al., 2018; Niehof, 2004). It can help smooth the cash flow throughout the year when income from crops like coffee is seasonal, and reduce risk should one crop fail (Koczberski, Inu, et al., 2021). The 2010 data shows that variation in livelihood strategies in the Eastern Highlands context is dependent on access to markets and gender. In accessible sites, women were more engaged in fresh food marketing and less dependent on coffee income (Table 5-8). This survey data supports the findings of the time allocation surveys which show that compared to coffee, women are spending more time overall on fresh food than men (Figure 5-3), except in the off-season (Table 5-4).

The 2018 data for the Bena site indicated these rankings had not changed. It is important to note the geographic differences identified in 2010 between the accessible sites of Asaro and Bena and the inaccessible sites of Baira and Marawaka. Women in accessible sites generally have more opportunities to engage in fresh food marketing and other economic activity, whereas those in inaccessible sites are more dependent on coffee income.

Table 5-8 Top 3 ranked sources of income by gender

	Rank	Asaro (accessible)	Bena (accessible)	Baira (inaccessible)	Marawaka (inaccessible)
Men	1	Coffee (85%)	Coffee (77%)	Coffee (100%)	Coffee (79%)
	2	Garden food crops	Garden food crops	Garden food crops	Livestock sales
	3	Livestock sales	Livestock sales	Livestock sales	Garden food crops
Women	1	Garden food crops (63%)	Garden food crops (56%)	Coffee (98%)	Coffee (65%)
	2	Coffee	Coffee	Garden food crops	Livestock sales
	3	Livestock sales	Livestock/small retail	Livestock/Small retail	Garden food crops

Source: Data collected by the PLRG project ACIAR ASEM-2008-036.

5.4.5 Physical assets

The assessment of physical assets contributes to understanding the resources available to people in the community, as well as differences in wealth distribution amongst the population. These differences become relevant in the investigation of the intersection of Development projects and the socially embedded economy explored in Chapter 7, as they create differences in abilities to engage in wealth creation. In order to make comparisons between community members, I group the assets into three classes: basic, income generating, and other. Basic includes those assets which support a safe and healthy lifestyle such as lamps, mattresses, stoves, toilets and mosquito nets. Income generating include those assets (other than land and crops) which contribute to household income generation and livelihoods such as animals and equipment. Those in the ‘other’ group are those items which indicate progress towards a more comfortable life, and which are less commonly held by households. This group includes ownership of a smartphone or access to electricity. Neither is essential for a safe and healthy life, but they make life easier. Along with additional income generating assets and the type of house structure used by the household, I use these assets to assess economic stratification across VSLA members in Chapter 7. The distribution of these assets is shown in Figures 5-9, 5-10 and 5-11 below.

The questions in both the 2010 and 2018 asked about ownership of specific assets, and then interviewers noted additional assets in an 'other' column. Some assets were added to be specifically included in the 2018 survey; these are marked with an asterisk in the x-axis. Smartphones were not commonly available in PNG in the 2010 survey. The decrease in basic mobile phones in 2018 is likely due to the replacement with smartphones as they became more commonly available. The decrease in radios is also linked to more people getting news through smartphones instead of radio services, and likely reflects increased rather than decreased wealth. Similarly, a decrease in lamps may be indicative of a shift to solar lighting. A PMV is a Public Motor Vehicle which is typically a minivan used to transport people or goods. Electricity through grid distribution systems is generally not available in PNG outside of main centres, and even in Bena, which is relatively close to Goroka, residents must access electricity through solar panels or a generator. Those who do not have solar systems will spend time travelling to charging stations⁵² to charge their small devices, a time consuming activity which detracts from income generating work. There is a charging station next to the village where the demucilager is housed and the VSLA meetings are held. This may be considered a feature of territorial embeddedness which impacts the two Development projects as it attracts potential participants to the site.

⁵² A charging station is an informal small business set up by someone who has access to electricity and who charges a fee per device for recharging. Amounts vary depending on the device, but usually between K2 and K10.

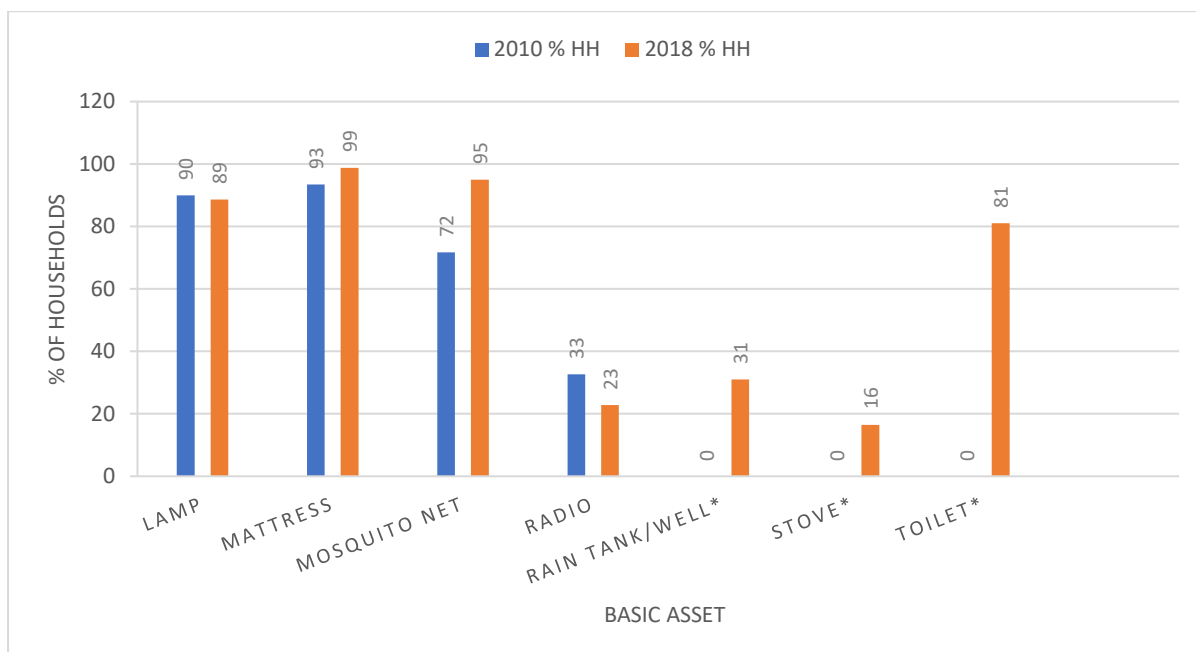


Figure 5-9 Percentage of Bena households with basic assets in 2010 and 2018

*Indicates this asset was not specifically assessed in 2010.

Source: Data collected by the PLRG projects ACIAR ASEM-2008-036 and ACIAR ASEM-2016-100; % of households; n=92 (2010), n=79 (2018).

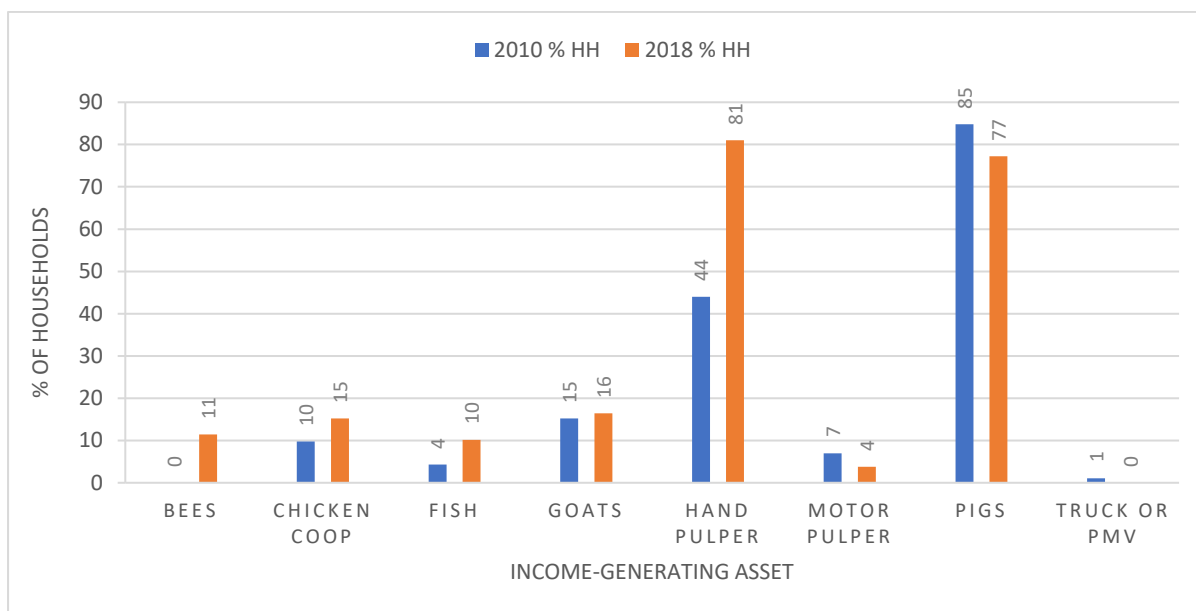


Figure 5-10 Percentage of Bena households with income-generating assets in 2010 and 2018

Source: Data collected by the PLRG projects ACIAR ASEM-2008-036 and ACIAR ASEM-2016-100; % of households; n=92 (2010), n=79 (2018).

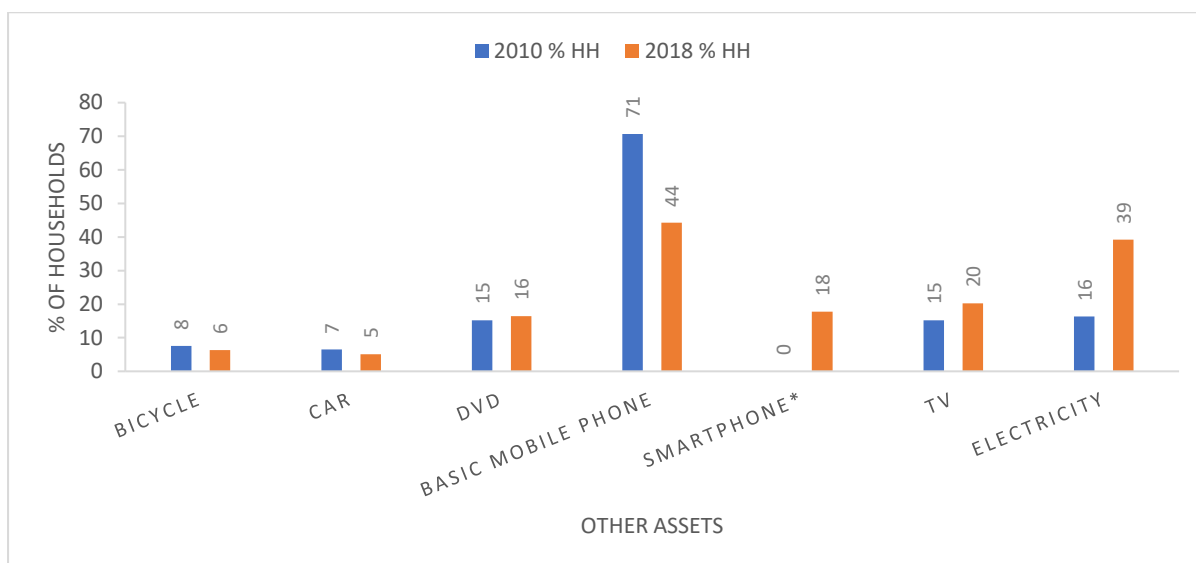


Figure 5-11 Percentage of Bena households with other assets in 2010 and 2018

*Indicates this asset was not specifically assessed in 2010.

Source: From data collected by the PLRG project ACIAR ASEM-2008-036 and ACIAR ASEM-2016-100; % of households; n=92 (2010), n=79 (2018).

These findings show a moderate increase in living standards, as well as income generating assets, for some community members. There is a general increase in income generating assets and, in particular, hand pulpers for processing coffee from cherry to parchment, which may be indicative of increasing wealth in the community. It should be noted that pig numbers are always in flux due to their role in exchange, and a drop in numbers is not necessarily indicative of a drop in wealth.

5.4.6 Housing

Changes in housing quality between 2010 and 2018 indicate that permanent housing is becoming more common. Figure 5-12 indicates whether the main house is made from local bush materials, is a semi-permanent house, or is a permanent house. Some households have more than one type, but I have only counted the most permanent form of dwelling.⁵³ The shift away from bush material houses to semi-permanent and permanent housing is indicative of an increase in wealth in the

⁵³ If they have all three types I only counted their permanent dwelling, if they had a semi-permanent and a bush house, I only counted their semi-permanent dwelling

community as permanent houses are more expensive to build. Some of my participants, notably couples in their middle age and members of VLSA, were building new homes or improving their existing house. Alfred, who I discuss in more detail in Chapter 8, bricked around the base of his existing dwelling which was on stilts to make another room. John and his wife have built a semi-permanent house. Duncan and Jean, who I discuss in the next chapter, are also preparing to build a semi-permanent house.

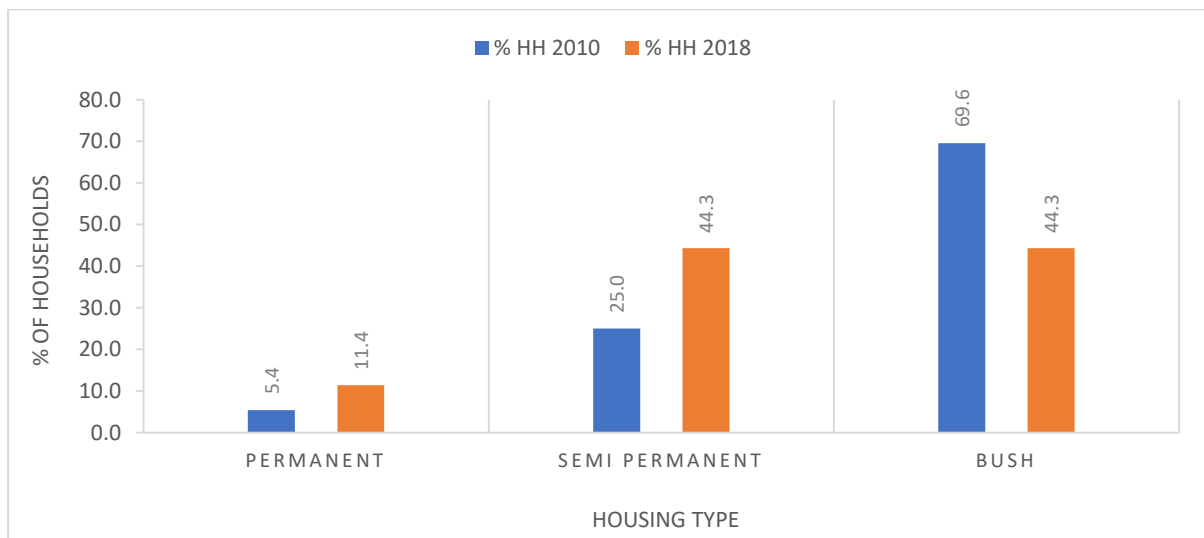


Figure 5-12 Most permanent house type on household land

Source: Data collected by the PLRG project ACIAR ASEM-2008-036 and ACIAR ASEM-2016-100; % of households; n=92 (2010), n=79 (2018).

5.4.7 Summary – changes in coffee production and household assets

The PLRG household survey data shows that coffee production is increasing, as well as engagement in other livelihood activities. Access to coffee labour is, however, becoming constrained and more men are working alone in most coffee tasks. In Bena and other accessible sites, most women are earning more money from fresh food than coffee, although close to half of the women in Bena are sharing responsibility of coffee parchment marketing with their husbands. The overall increased engagement in cash earning activities is increasing the wealth of at least some members of the community, with an increase in asset holdings, as well as permanent and semi-permanent dwellings.

The two surveys used in this section were conducted before the VSLA and demucilager were introduced to the community. In the next chapter, I develop case studies which draw on my own data collection to explore how household members engage in economic activity and Development opportunities. This includes a focus on women's involvement in coffee production and how this has been impacted by the VSLA and demucilager interventions.

5.5 Conclusion

In this chapter, I have addressed my first research question through an exploration of changes in engagement with the cash economy in Bena in the post-independence period. A comparison of time allocation data in different eras suggests that in accessible areas, both men and women allocated more time to coffee production when prices were high, but men more so than women. The increased activity in coffee production was likely to be a response better returns to labour from coffee when prices were high, declining yields, and reduced labour availability. The increase in coffee production is supported by the 2010 and 2018 Bena household coffee surveys which show both an expansion in coffee area cultivated, and the amount of coffee produced. The supply of household labour for coffee work is contracting with the male head of household increasingly solely responsible for production, but around half of households share responsibility for coffee marketing between husband and wife.

Coffee continues to be considered the main source of income for households in Bena, although women earn most of their income from fresh food production. When coffee prices were high in 2011, both men and women increased their time allocation to this activity, but men more so than women. Coffee production is contributing to improved housing and numbers of assets for at least some Bena community members. This includes an increase in income generating assets such as livestock or bees which will further enhance livelihood opportunities. However, evidence of labour constraints suggests that technology such as the demucilager which improves returns to labour may be beneficial.

In the next chapter, I explore the socially embedded nature of the village economy and the role of *gutpela pasin*, as well as an examination of gender relations and opportunities for women's economic empowerment through coffee production. This research utilises my own data collection to develop case studies which examine the lives of community members and the role their social position plays in their economic activity. I also consider the impact the demucilager and VSLA is having in providing opportunities for women's economic empowerment.

6 Exploring the socially embedded economy

6.1 Introduction

In the preceding chapter, I provided an overview of changes in economic engagement in the Bena community during the post-independence era. In this chapter, I continue the exploration of the nature of social embeddedness in Bena which I began in Chapters 2 and 3, and present data in response to my second and third research questions:

2. How does socially embedded decision making in Participatory Development projects influence outcomes in an EHP coffee farming community?
3. How do Participatory Development projects influence the socially embedded economy and cultural institutions?

I first describe the networks within which the economy is embedded and present an overview of the flows of cash and commodities in the community, patterns of exchange, and the complexity of the village economy. I then present case studies which demonstrate the importance of social position in relation to economic opportunities, followed by an examination of women's role in coffee production. These case studies show that while economic activity is embedded in the ideals of masculinity and femininity and *gutpela pasin* described in Chapter 2, these norms are subject to structuration and are therefore mutable. Through this chapter, I argue that while fresh food production is an important source of income for women, they also have access to income from coffee albeit with some barriers as outlined in Chapter 2. Projects such as the VSLA and demucilager have the potential to improve women's financial literacy, access to capital, and returns to labour. They can further support women's engagement in, and their ability to benefit from, the coffee industry.

6.2 Features of the socially embedded economy in Bena

In Chapter 2.2.1, I outlined a conceptual framework of the socially embedded economy based on ideas of proximal, societal and territorial embeddedness (Hess, 2004). Here, I explore in more depth the nature of embeddedness at my field site and the networks of relationships through which economic and social activities operate. Within my research community, there are several features of the localised economy which are relevant to this analysis. Firstly, there is a range of transactions occurring not only within the community but also within the household (Figure 6-1). As discussed in Chapter 2, these transactions form part of the exchange economy in that they create obligations between the two parties. They also form part of the performative nature of *gutpela pasin*. For example, if you have phone credit, you may be expected to share this with others to whom you have a social obligation, and in doing so you are enacting *gutpela pasin*. Secondly, Figure 6-1 also shows that, aside from cash, there is a number of commodities which circulate, and each of these can be shifted from the production to the non-production sphere and attain meaning beyond their commercial value (Sillitoe, 2006b; Chapter 2.2.1). A gift of a pig, for example, will have different meanings and obligations attached to it than a gift of phone credit. A pig which has been caught in the forest and gifted will have a different value than one which has been raised and gifted (Sillitoe, 2006b). Wealth which is used to purchase goods and services can be stored and accumulated in commodities such as coffee parchment or pigs, or in a banking facility such as the VSLA, but objects themselves can increase in value through the ways they are transacted (Sillitoe, 2006b).

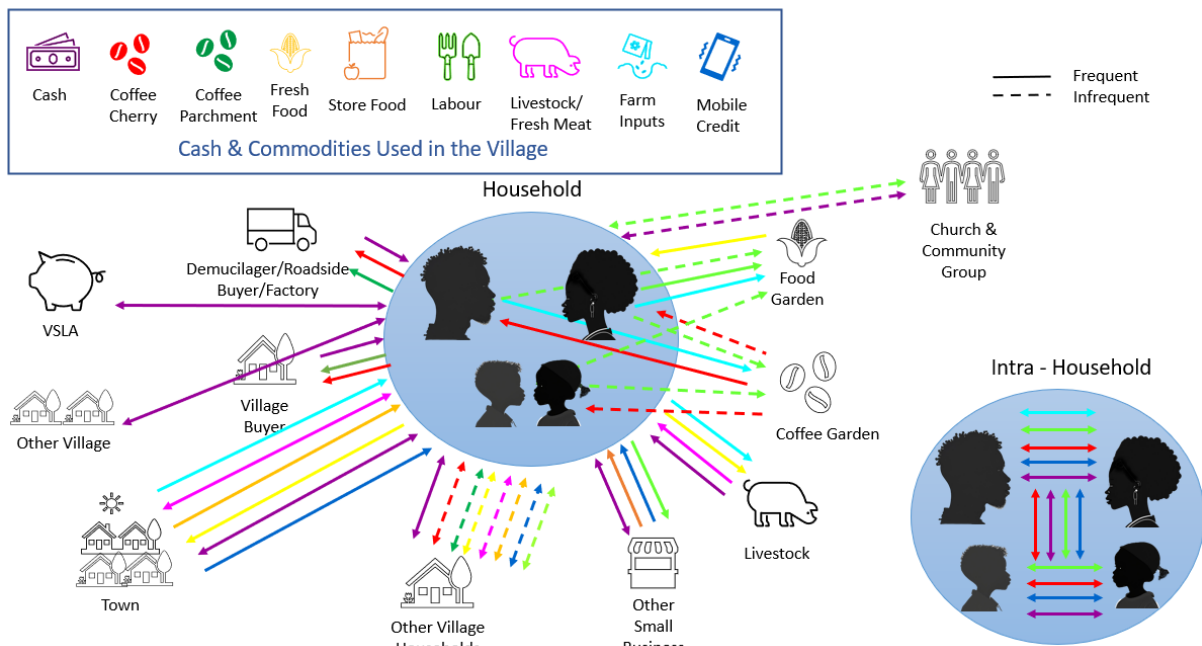


Figure 6-1 Actors and commodities engaged in the village and household economy

Smallholder coffee farmer livelihoods are shaped by aspects of social embeddedness, including proximity to markets, land availability, the structure of households, available labour, and availability of alternative income sources (Dickerson-Putman, 1994, 1996; Koczberski, Inu, et al., 2021). Proximity to markets is a key factor of proximal embeddedness in PNG as it can increase the number of nodes in the economic network, the frequency of transactions, and the types of goods transacted. The network nodes located in urbanised areas include not only commercial stores but also relatives who have access to employment income. This can be particularly important during periods of drought when food production is impacted and reliance on bought food (both imported and local) increases (Bourke, 2001). Several of my participants noted their relatives gave them money to buy rice and tinned fish during these times, and in return they supplied them with fresh food when production conditions improved. This is reminiscent of support that was given between Bena groups in the late colonial period during times of drought. For example, one group may provide aid in fighting, and in exchange, the other group may provide resources such as pigs, salt, and special arrows (Keil, 1974).

The relationship with town relatives can be a combination of both pride and vague disapproval – an emotion perhaps common across cultures. Many of my cohort made sure to point out the career successes of their urban relatives, with one being a doctor, another having a senior diplomatic position. At the same time, they were “all about the money” (Tilly).⁵⁴ They rarely helped with agricultural work, but generally could be counted on for monetary support for school fees, customary obligations, and difficulties.

Participant Angie noted:

Most of my related family is living in Goroka, because our grandparents own so much land, they [are able to] make gardens, rent houses and ... they have their small business too. They do not come and help me with my garden work but only help when I'm in need for school fees and *hevis*. They also gave me some land too in Goroka to build my rental house.

Angie said she gives her town relatives various foods from her garden, and sometimes pigs. She also helps them with school fees, and supplies them with building materials for their rental houses. These exchanges of goods and money form part of societal embeddedness which links households and communities in economic and social relations. The availability of transport and communication technology means that proximal embeddedness is expanding to include spaces where children and other family members have migrated to (Benediktsson, 2002). Alfred, for example, regularly visits his daughter in Lae and takes oranges and onions with him to sell.

In earlier times, women tended to leave their natal homes and lose connection to them (Dickerson-Putman, 1996; Reay, 2014; Sturzenhofecker, 1998; Wardlow, 2006). The PLRG time allocation data indicates that both women and men are spending time in other communities, particularly those who normally live in inaccessible sites, although the proximity of these other villages and the purpose of the visit is unknown (Table 6-1). Women in my own research cohort often visited, and were visited by, their daughters and grandchildren in other parts of EHP and beyond (see Chapter 3.10). Women

⁵⁴ See Table 11-1 Appendix A for question set

are now more able to return to visit their natal family or visit daughters who have moved to their husband's land, thus enabling new economic activity within existing networks which was not previously feasible.

Table 6-1 *Time spent visiting other villages*

Accessible Sites	Off Season		Coffee Season	
	% Time Men	% Time Women	% Time Men	% Time Women
Bena	0.8	1.9	4.3	0.1
Asaro	0	4.7	6	3.1
Inaccessible Sites				
Marawaka	3.8	5.4	NA	NA
Baira	5.6	12.3	NA	NA

Sourcez: Data collected by the PLRG project ACIAR ASEM-2008-036.

The networks which are part of Bena's socially embedded economy are also expanding beyond PNG. Between 2006 and 2016 the number of residents in Australia who were born in PNG increased by 20%, and in 2021 by a further 5% (Australian Bureau of Statistics, 2006, 2016, 2021).^{55 56} In my research community, preparations were being made in 2023 for some of the women, including Mary and Diana who are discussed later in this chapter, to work as fruit pickers in Australia. The choice of Australia is a factor of societal and proximal embeddedness, with the close proximity and colonial history facilitating migration pathways (Köllner, 2022).

Networks of social and economic relations are maintained not only through the buying and selling of goods, but also through social and ceremonial activity. Commercial activity is, at times, difficult to distinguish from the work of maintaining relationships in the PNG village economy (Curry, 2005;

⁵⁵ This data includes all persons present in a household who have been in Australia for longer than 1 year. 2021 data may have been impacted by Covid-19 travel restrictions which were in place between 2020 and early 2022.

⁵⁶ The size of the PNG migrant population in Australia is very small at approximate 0.12% total population, and in 2021 there were 29,984 people living in Australia who were born in PNG (Australian Bureau of Statistics, 2021). For an overview of Australia's migration policy in relation to PNG and other Pacific Nations see Köllner (2022)

Curry & Koczberski, 2012). The time-allocation data comparison in Chapter 5 indicates that despite increased time spent on cash earning activities such as coffee and fresh food production, time spent on leisure and cultural activities remains relatively stable. The time spent on cultural and leisure activities is, however, a feature of societal embeddedness in the village economy, and contributes to both livelihoods and economic prosperity.

6.3 Economic differentiation in the community

A range of factors influence territorial, proximal, and societal embeddedness in PNG coffee farming communities, including proximity to markets and urban centres, land availability, household structures, the age of household heads, available labour, and availability of alternative income sources (Dickerson-Putman, 1994, 1996; Koczberski, Inu, et al., 2021). To explore differences in economic opportunity in more detail, I now turn to three case studies which examine how the dynamics of the household economy are both relational and socially embedded. I include one older couple, a young man, and a young woman who collectively demonstrate the differences that lifestage, gender, and kinship relations have on economic life in Bena. They show that while customary institutions are still important in this community, livelihood strategies are responsive to opportunities made available through interventions such as VSLA and the demucilager.

6.3.1 Duncan and Jean – a couple working cooperatively

The first case study is of a couple who engage enthusiastically with the VSLA and demucilager projects, with both being VSLA members and the husband processing coffee through the demucilager. Duncan and Jean are a couple in their forties who were both previously married to others. When the PLRG project first interviewed Duncan in the 2010 household survey, he was separated from his first wife, and two of his four children were living with their aunts.⁵⁷ In my interview with him, it appeared that it was his wife's decision to leave after 11 years. He had given

⁵⁷It was not recorded whether this was with his sisters, or his wife's sisters, and I considered it too long ago to get an accurate recollection.

K1500 and two pigs as a bride price for his first wife. I asked whether any of this had been repaid after the separation, but my RA said no, as the first wife had earned the bride price through having four children.

By the time of the 2018 survey, Duncan had remarried, and his four children from the first marriage were living with him. Jean had 2 children with her previous partner, who both stayed with their paternal family, but she and Duncan had adopted two children from her family, and a nephew of Duncan's was also living with them with his wife and baby girl.⁵⁸ The return of Duncan's children to the household, and the addition of adopted children, reflects the contribution Jean makes to the running of the household. Indeed, my RA made it clear that Jean had exhibited *gutpela pasin* for the hard work she contributed to the upbringing of the children. As noted in Chapter 3.8, it is common in the Highlands for children to stay with the father's household in the event of a marriage separation, particularly when bride price has been paid. In my interview with him, Duncan noted that he had not yet paid a bride price for Jean, but that he hoped to be able to contribute more than for his first wife as Jean had been such a good wife. Jean's family had received a bride price for her first marriage and this, as well as the fact that Duncan was also caring for two of her relatives, possibly meant that there was less pressure on Duncan to make this payment.

In both the 2010 and 2018 household surveys, Duncan was living in a house made of bush material, which is the simplest and least expensive type of house structure. In 2024, my RA informed me they had cut timber in readiness to build a semi-permanent house. Duncan had few assets in both surveys, although he did have a mobile phone, which was noted as a smart phone by the 2018 survey. They had a mattress and mosquito net, as well as a radio. By the 2018 survey they also had solar power with an inverter, an improved toilet and a bicycle. I confirmed in my research that they use the solar power for lighting and sometimes charging phones, although he also uses the local

⁵⁸ The fluid nature of familial relationships and living arrangements is typical of Highlands culture, and can make it difficult for household surveys to obtain a clear picture of kinship, particularly when tracking households over time (Sexton, 1986)

charging station where he pays K2 to charge his phone and boom box (music player). As well as coffee, pineapple, bulb onion and other food crops, the household keeps pigs. Recently, they acquired four beehives and were planning to sell honey at the market.

Duncan had four coffee gardens; one planted by his father in around 1960, one planted around 1980 by himself, and two planted by himself in 1997. He notes that two were planted on his mother's land, and two on his land, which was passed down to him by his father. In 2010 he planned to increase coffee production, but in 2018 this had not yet occurred. Although he did not expand his holdings, he had sold more coffee in the 2017⁵⁹ season; 7 bags compared to 3 in 2009. While their coffee production has increased, it is close to the community median of 4 in 2009 and 6.75 in 2017. The more than doubling of production is most likely made possible through the increase in available household labour. In both surveys, it was noted that he never hired labour and relied on the household for some of the maintenance and processing tasks.

The biggest constraints to coffee production for Duncan were weeding (2010 only), pests and disease, and fencing and animal damage. In 2018 he reported to only have pigs (from pigs, goats and sheep in 2010) which I thought may have been due to the issues with animal damage to his crops. However, when I visited in 2023 he was back to having goats and no pigs which my RA explained to me was due to Jean's Seventh Day Adventist faith. As with all the farmers I interviewed, Duncan now uses herbicides to control weeds, and Jean also helps with weeding. The coffee was pulped with a borrowed hand pulper in both the project surveys, and during my research period they also sold coffee cherry through the demucilager project. In both 2010 and 2018 Duncan reported to have only sold parchment in the previous twelve months/season, although in their cash flow report they both noted income from both cherry and parchment (Figure 6-2 and Figure 6-4).

⁵⁹ Participants were asked about their sales in the previous coffee season.

In my questions⁶⁰, Jean indicated that coffee income and costs were shared across the household, although herbicide and insecticides were purchased by Duncan alone. She noted that her husband, and sometimes her (adopted) son, helped with digging drains and fencing, and she assisted with weeding for both coffee and food crops. Duncan also assisted with planting, weeding and harvesting of bulb onion. This crop is part of a locally led community project linked to the demucilager project, as the pulp waste is intended to be used as compost on the onion crops. The husband's involvement in planting, weeding and harvesting of the bulb onion is an example of men allocating their time to commercial food production in Bena.

Cash flows in for Duncan and Jean over 39 and 37 days respectively are shown in Figure 6-2 and Figure 6-4, and were recorded early in the 2021 coffee season.⁶¹ The diaries for husband and wife were kept separately, and there was some duplication of recording in relation to the sale of coffee cherry and parchment, indicating this income was shared. The husband had cash inflows of K323 in total, and the wife K503, although when taking out the wife's K200 VSLA drawdown their cash inflows were similar.

As well as the shared income from fresh food, parchment and cherry sales, the husband also earned income from timber sales. Their fresh food sales came from the marketing of cucumber which was sold by both on different days. The sale of coffee cherry corresponded to small purchases of store food. During interviews, Jean noted they were spending less time on fresh food marketing during the coffee season, which is to be expected when harvesting and processing coffee can consume much of the household labour time allocation. The husband gave money to his wife to pay for household expenses, and the wife drew a loan from VSLA for a 'honey box', an expansion of their bee keeping business.

⁶⁰ Refer Table 11-4 Appendix A for questions set

⁶¹ There were five days for Duncan and Jean in the time periods where no data was collected

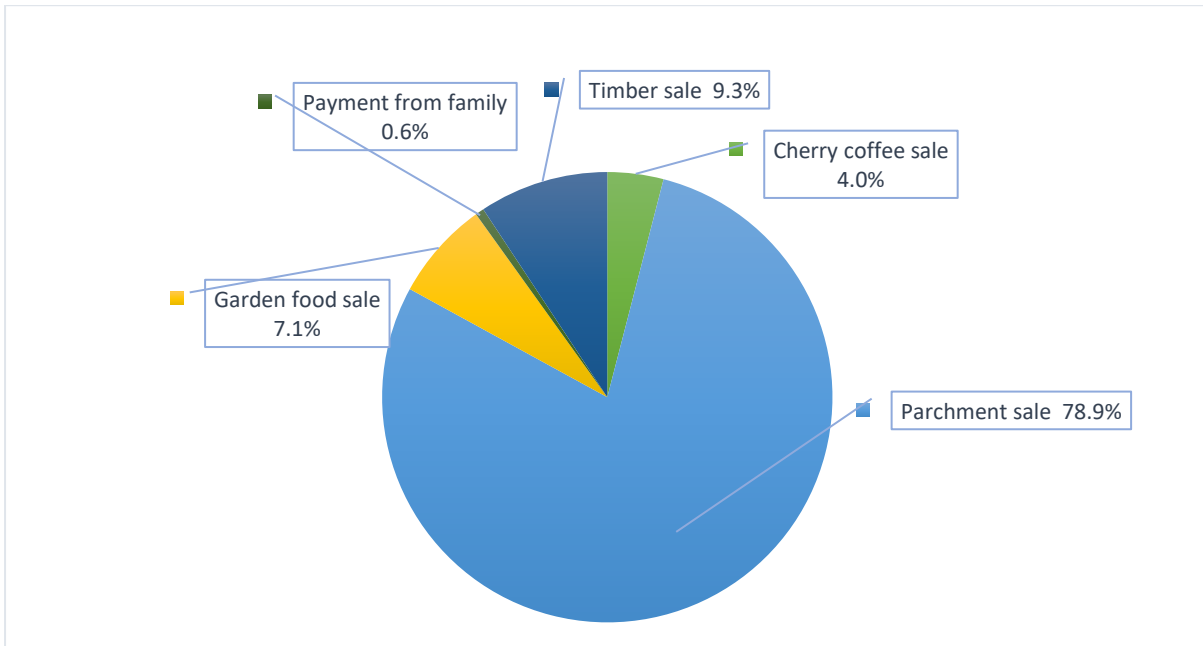


Figure 6-2 Inward cash flows for Duncan 16/3/2021 to 29/4/2021

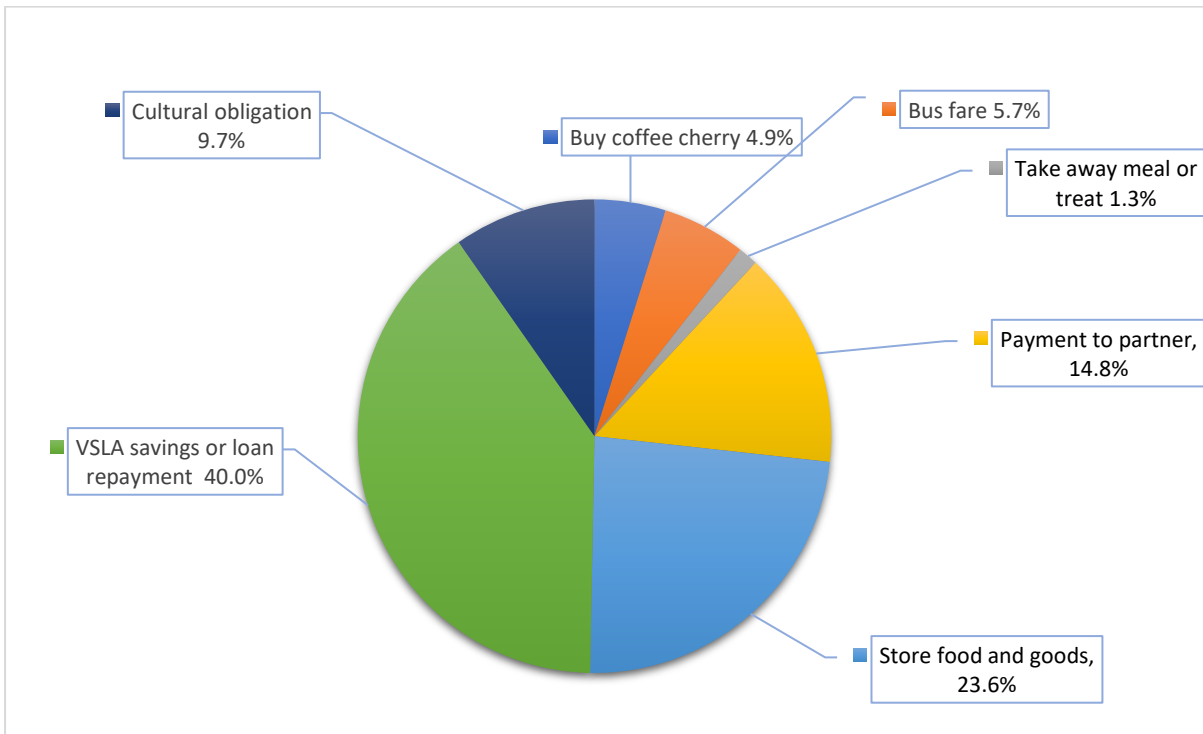


Figure 6-3 Outward cash flows for Duncan 16/3/2021 to 29/4/2021

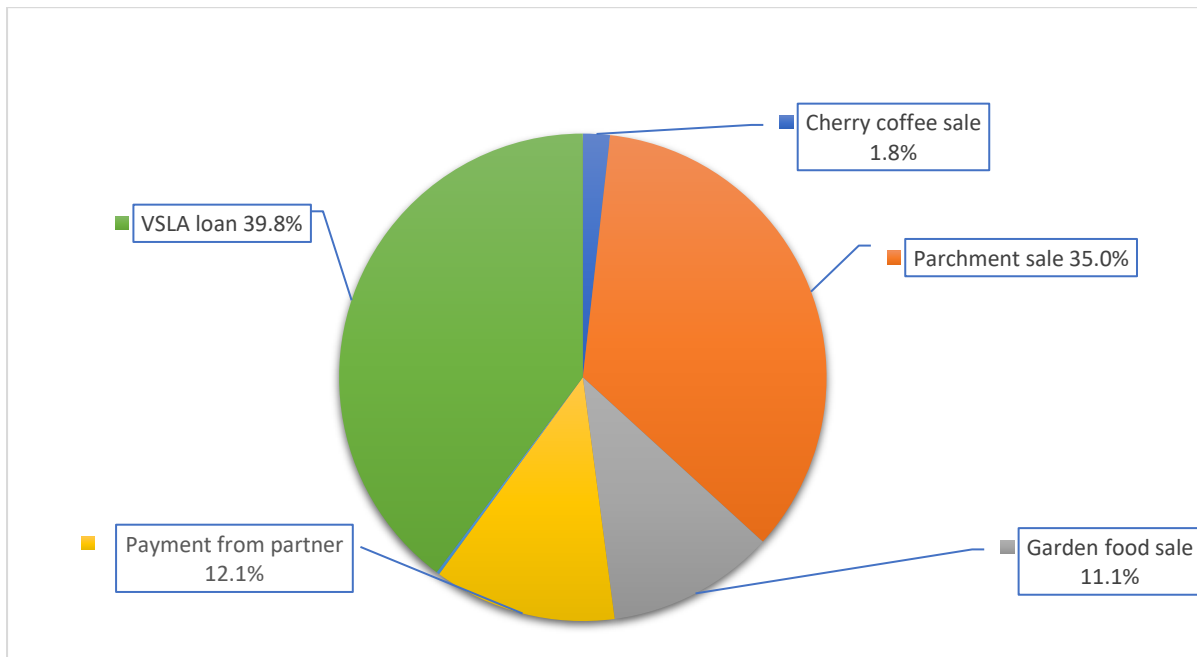


Figure 6-4 Inward cash flows for Jean 16/3/2021 to 25/4/2021

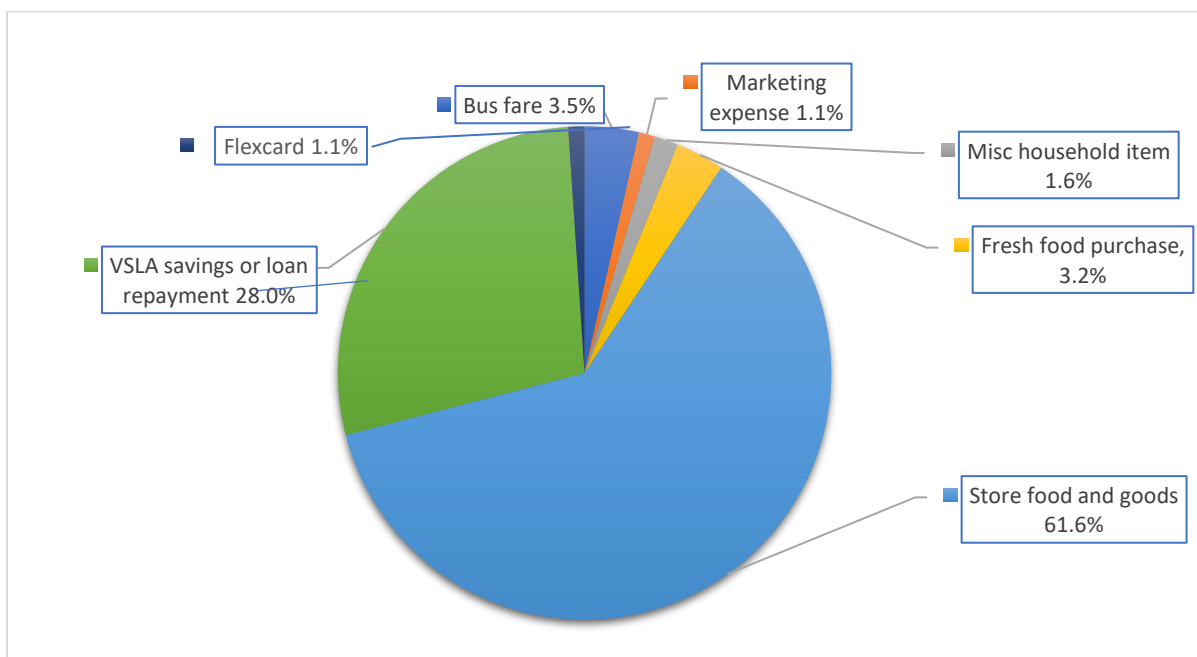


Figure 6-5 Outward cash flows for Jean 16/3/2021 to 25/4/2021

The small transactions of cash and commodities amongst relatives, and especially husbands and wives, were common for my research participants. These payments are usually only a few kina, in contrast to compensation and customary payments such as bride price, which can be many thousands of kina. The smaller transfers are typically made in cash, coffee cherry or phone credit. Parchment, pigs and the VSLA savings group are examples of places where community members

accumulate wealth, otherwise it circulates within and between households and individuals as shown in Figure 6-1. Sillitoe's (2006b) spheres of subsistence and value (Chapter 2.2.1.3), can be used to differentiate these large and small transfers as occurring within different economic contexts. Smaller transactions occurring at the household or subsistence level have little cash value, but they may potentially transform an item with low value to one with sociopolitical value. These transactions also serve to reinforce the societal embeddedness of the village economy, as they reinforce relational ties and obligations. To perform them is also recognised as *gutpela pasin* and part of being a social adult.

Cash flows out for Duncan and Jean are shown in Figure 6-3 and Figure 6-5 respectively. On face value there is a significant difference between the husband and wife's expenditures and savings, with more than 60% (K174) of the wife's total outgoings going to store bought food, compared with close to 24% (97K) for her husband. However, nearly 15% (K61) of his cash flow was to his wife for the purchase of store foods, and his overall expenditure was higher; K411 compared to K289.50. He also made a contribution to another household for a '*hevi*' – often a mortuary or compensation payment, or a contribution towards bride price or other cultural exchange practice. Overall, he contributed 40% (K164) of his total outgoings to VSLA in the form of saving or loan repayments compared to her 28% (K79).

Duncan and Jean might be said to exhibit 'complementary' gender relations (Dickerson-Putman, 1996), although that concept is based on men and women having separate but complementary gender defined social roles (Chapter 2.5). In this case, there is a shift towards what I consider a 'communal' type gender relationship in the household, where tasks are shared, and the household budget is managed as a single unit. However, gender relations operate contextually, and so the household will exhibit features of complementarity as well as communality at different times.

The couple are well respected in the community and, aside from the challenges presented by external shocks like Covid-19, are doing well and building a life together. Duncan's access to coffee holdings from both his father's and mother's side, along with his congenial nature, no doubt made

him a good prospect. His remarriage and the adoption of Jean's relatives helped him to re-establish a household which supported his farming enterprises. The addition of the VLSA savings group and the demucilager have further benefitted the household, enabling them to accumulate capital to invest in beehives and to improve the return to labour from their coffee holdings.

Overall, the couple operate a successful household and enjoy synergistic gender relations. During the period before his marriage to Jean, Duncan's ability to generate income from his coffee holdings was constrained as he lacked labour support. On the other side, after her divorce, Jean lacked access to land for production. Both have demonstrated *gutpela pasin* through the raising of both Duncan's and their adopted children, and successful food and coffee crop production (Dickerson-Putman, 1996). Beyond this, however, the couple have enthusiastically participated in community projects – the VSLA, demucilager and other community projects - through which they have gained additional skills such as working together co-operatively, budgeting and saving. Participation in these projects, as well being successful in other businesses like beekeeping, is socially recognised as a means of achieving prestige, and is therefore recognised as exhibiting *gutpela pasin*. At the same time, the more communal household arrangements represent a shift in gender relations, and possibly an change in what is recognised as *gutpela pasin* and ideal masculinity and femininity.

6.3.2 Luke – working hard to show *gutpela pasin*

Luke's story will be explored throughout the next few chapters, as he has particular circumstances which increase his potential economic vulnerability in the community. Luke and his wife are a younger couple; he in his early 30s and she in her mid-20s. They have one child together who is of early school age. Unlike Duncan, Luke's father is from outside the village and has now returned to his hometown in Morobe Province. His mother, however, is from the community, and her brothers and their families live there too. As such, Luke's position is more precarious as under traditional arrangements his access to land is less assured. In my interview with him, he noted that his maternal uncles felt sorry for him and gave him access to land to establish a coffee and food garden. It is possible, however, that if he were to leave his wife the land might revert back to his uncles.

In the 2018 survey, it was noted that Luke had a bush material house, lamp, regular phone (i.e., mobile but not smart), and a coffee hand pulper. Since that survey, he has acquired a smart phone. The most important source of income for him is coffee, and for his wife it is fresh food – an arrangement which typifies households in the community according to both the 2010 and 2018 surveys. However, in the 2018 survey, the wife is noted as the person most responsible for selling parchment, mostly to roadside buyers. Luke has also sold cherry under his name to the demucilager project, but this did not commence until after the household survey. In my interview with him, bulb onion was noted as the most important food crop for marketing, followed by pineapple – two crops associated with other community projects.

Luke is yet to pay a bride price – an obligation he expressed deep concern about in his interview with me:

[are you worried about the bride price?] *Oh...mi wori! Ol ken, kostim moa than K10,000 and em veri hevi lik lik. Na mi wori, tasol mi tok "em orait".*

Oh...I'm worried! It can cost more than K10,000. I'm worried, but I try to make out like it's ok. (Interview with Luke, 3 Nov 2020).

As a young man living with his maternal kin, his ability to raise resources to contribute to a bride price is more limited than if he was living with paternal kin, and he is more reliant on his own business skills. He and his wife are both educated to Year 10, and the household is occupied with a range of livelihood activities. Aside from the small coffee holding, the couple were engaged in two small business ventures; poultry production and re-selling coconuts at the Goroka market which he purchased in Lae. During the initial period of cash flow diary keeping, they were focused on the poultry business – buying chicks and selling grown birds and fresh meat. It became apparent through other interviews that this business was funded through the wife's VSLA savings and was initially established by his mother, and the loans shown in his VSLA records relate more to the coconut business which I discuss in more detail in Chapter 7. His cash flows (Figure 6-6 and Figure 6-7) cover a 42-day reporting period. The total received was K4665, and outgoings totalled K6359.70. The

difference is attributable to the large transactions related to his business activities, and a single large loan repayment to VSLA close to the end of the reporting period.

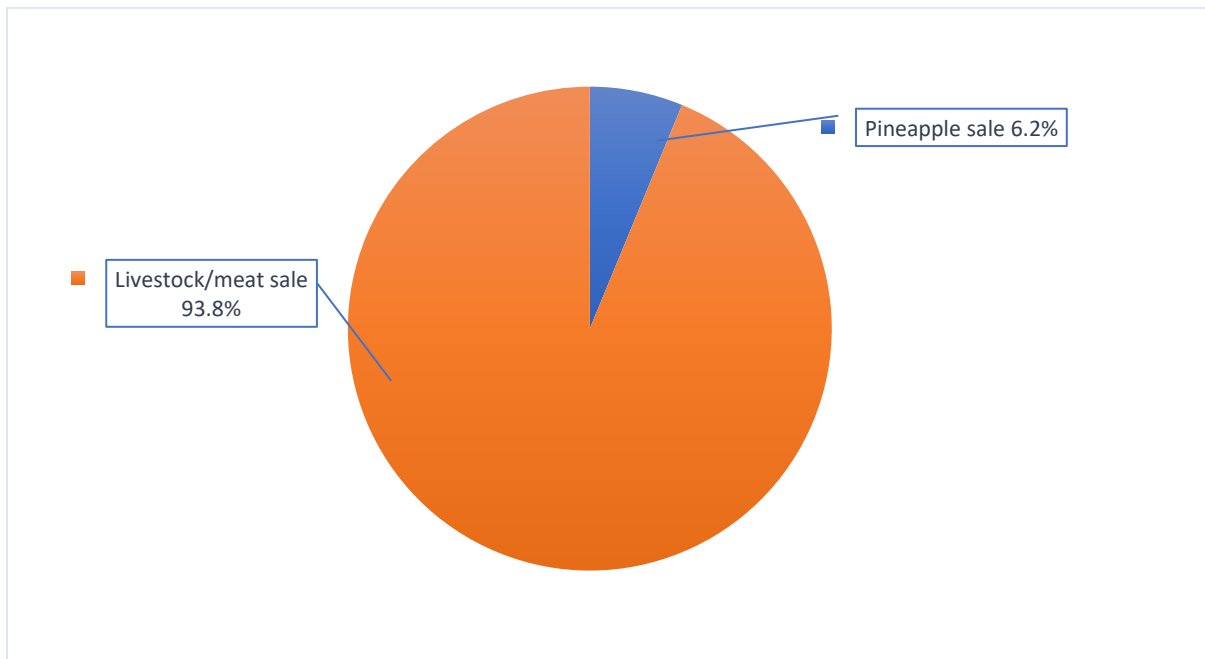


Figure 6-6 Inward cash flows for Luke 16/3/2021 to 27/04/2021

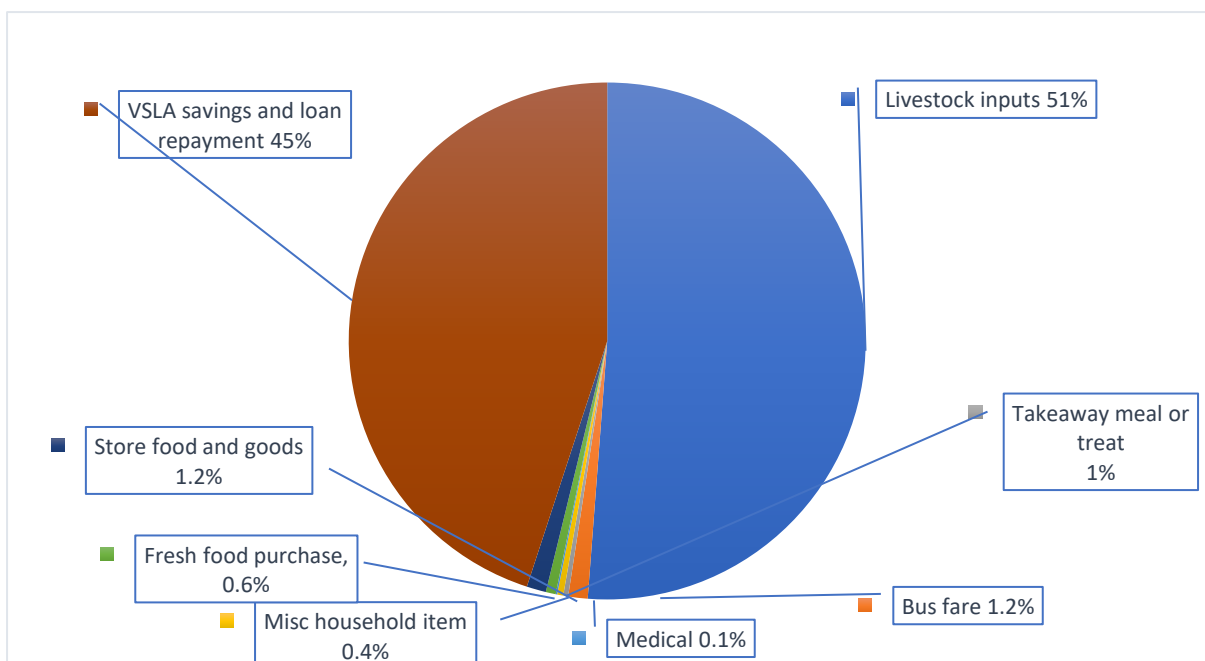


Figure 6-7 Outward Cash Flows for Luke 16/3/2021 to 27/04/2021

The cash flow in during the 42-day period from the poultry business was K4143 with outgoings of K2788, supporting his K2488 contribution to VSLA. This contribution was mostly a loan repayment as

he would have been limited to purchase of K300 worth of shares during this period.⁶² The reporting period did not cover the start of the enterprise, so it is not certain that a profit was generated. The additional income contributed to VSLA must have been generated prior to the reporting period, or else may have been generated by the wife's income earning activities. As noted, the survey indicated she was responsible for parchment sales, none of which were recorded by Luke. Shortly after this reporting period the household changed focus to buying coconuts from the coast and selling them at the Goroka market.

Luke is an enthusiastic participant in community activities, including pineapple and bulb onion production, the demucilager and VSLA. At the December 2021 share-out (see Chapter 7 for a detailed analysis of these events), he participated as an event speaker, reflecting on how during the last year he never gave up, despite Covid-19 having a big impact on his businesses and his debt management. In my interview with him, his life narrative was one of how he is now a responsible family man after a life of idleness in youth, thanks to his participation in VSLA:

Taim bifo mi bin stap, na taim VSLA i kam, mi lukim olsem mi gat planti fri taim. Lo, mi ken raun long ol social life samting... mi nogat save long lukautim moni...na hau long lukautim taim... Tasol ah... taim VSLA i kam insait long ples bilong mi em i helpim mi bikpela tru! Yes, na bikpela, bikpela stret, mi lukim olsem bikpela stret. Yes. Nau mi save mi ken long wokim bikpla stret blo mi, hau bai mi lukautim taim, bai mi yusim taim olsem wanem. Na mi gat planti taim long tupla bilong haus blo mi. Sum taim samting em rong... Gutpela famili mas sidaun na tok tok long stretim.

Before VSLA came, I had plenty of free time. I would go around and spend my time on social activities, and I didn't know how to look after money or manage my time. But when VSLA came to my village it really helped me! Yes. Now, I know how I can do big things, I know how to manage time, and how to use time [more productively]. And I have time for my wife and child. [When there are] issues over something, a good family must sit down and talk to resolve it.

Luke works together with his wife in the food garden. They also employ workers from the church on occasion to help with weeding the pineapple crops, and these church workers are paid with cash. He

⁶² VSLA members make a savings contribution by buying shares. In 2021 the share price was K25 with a limit of 5 shares per meeting. During the diary keeping period there would have been three savings meetings.

noted that his and his wife's family members now help more as they see the payment for external labour as a waste of money.

The views of conflict resolution in the household outlined by Luke are consistent with the comments he made on bride price in Chapter 3.8. There, he noted that in traditional practice, it was *gutpela pasin* for men to be the decision makers and wives to obey their husband in all things. Luke now sees that it is important for husbands and wives to sit down and talk together on household issues. This is not necessarily typical of PNG households, however, as men's encouragement of economic participation by women often aims to increase overall household income and does not necessarily increase women's participation in decision making (Kosec et al., 2021). The training received through VSLA, which includes workshops on co-operative household budgeting and decision making, may contribute to Luke's position on this.

As a younger man in the community without patrilineal rights to land, Luke's position is much weaker than Duncan's. The latter has been engaged in his side business of honey production for over a year now, whereas Luke is still trying to settle on a suitable income generating business that brings with it suitable prestige (Barnett-Naghshineh, 2019). Not having paid bride price also gives him fewer rights over his wife and child. Duncan was able to retain the children of his first wife as he had given a bride price payment, and his coffee holdings helped attract a second wife. Should Luke's wife leave, he may be put in a position where he had to return to his father's land in Lae without his children. On the other hand, he does have strong ties to the community having grown up there and has strong support from his matrilineal kin.

Within this community, bride price is generally not paid until after the birth of the first child, and sometimes not until after the second. This liminal period, when couples are living together but before the payment of bride price, can be a period of vulnerability for both men and women.

Dickerson-Putman (1996) notes that in modern times, couples move in together before the transfer

of bride price, but that this can leave women vulnerable to being left to raise children, potentially without access to land, and for young men to be left without rights to their children.

Overall, Luke's business strategy is focused on maximising his social position. His goal is to demonstrate *gutpela pasin* and gain recognition as both a man who can manage a business as well as a household, and as an adult who can give back to the community. As a result, Luke was willing to take greater risks than someone in Duncan's position would be comfortable with, including taking on a high level of debt to finance a risky business venture. The negative consequences of this appetite for risk will be discussed further in Chapter 7, but for now it is relevant to note that while perhaps not logical in a Neo-classical economic sense, it shows rationality within the context of a socially embedded and relational economic framework which is typical of Melanesian societies (Curry & Koczberski, 2013).

6.3.3 Sarah – dealing with early married life

Sarah is a young woman in her early twenties who recently married and who had her first child, a boy, during the course of my research. Her family is yet to receive a bride price, but now that she has had a child, this may soon be forthcoming. She is not part of the VSLA at present but is thinking of joining. The transition from a relatively comfortable life with her parents, who have many coffee trees⁶³, to early marriage, where she must rely more on her own resources, has been something of a struggle. She noted that when she lived with her parents and grew food for the market, they would help her with purchasing herbicides, food, clothes, and other things. Now she is faced with having to buy these things herself.

As with others in the community, she has planted pineapple as a core food crop for marketing. This, however, takes around 18 months to mature ready for harvesting, and she was only starting to see some income from this crop. Her husband has also recently planted coffee trees, but they, too, will

⁶³ Her father sold comfortably more than the average number of bags in the season before the 2010 and 2018 surveys: 8 bags in season before 2010 (average 5.8) and 16 bags in season before 2018 (average 8).

take time to mature before they can be harvested. In the meantime, her parents have allocated her some coffee trees which she will use for her main cash needs. She has a married sister who lives in Henganofi and runs a takeaway food store, and they help each other with large cash obligations and food marketing.

Her main cash flows in and out during a 2-week period (Figure 6-8 and Figure 6-9) indicate that she is making most of her income from reselling store goods to other villagers. She did not break down the amount for each type of good, but noted she sold beer, rice, biscuits, noodles, tinned fish, cigarettes, and 'trade store food' in various combinations on different days. She indicated that later in the season she would help her parents to harvest their coffee trees, and the cherry she harvests from her allocation of trees will form part of the payment for this labour. In the 2018 PLRG household survey, her parents indicated they pay cash as well as cherry to family members for helping with the harvest, so she may receive this too.

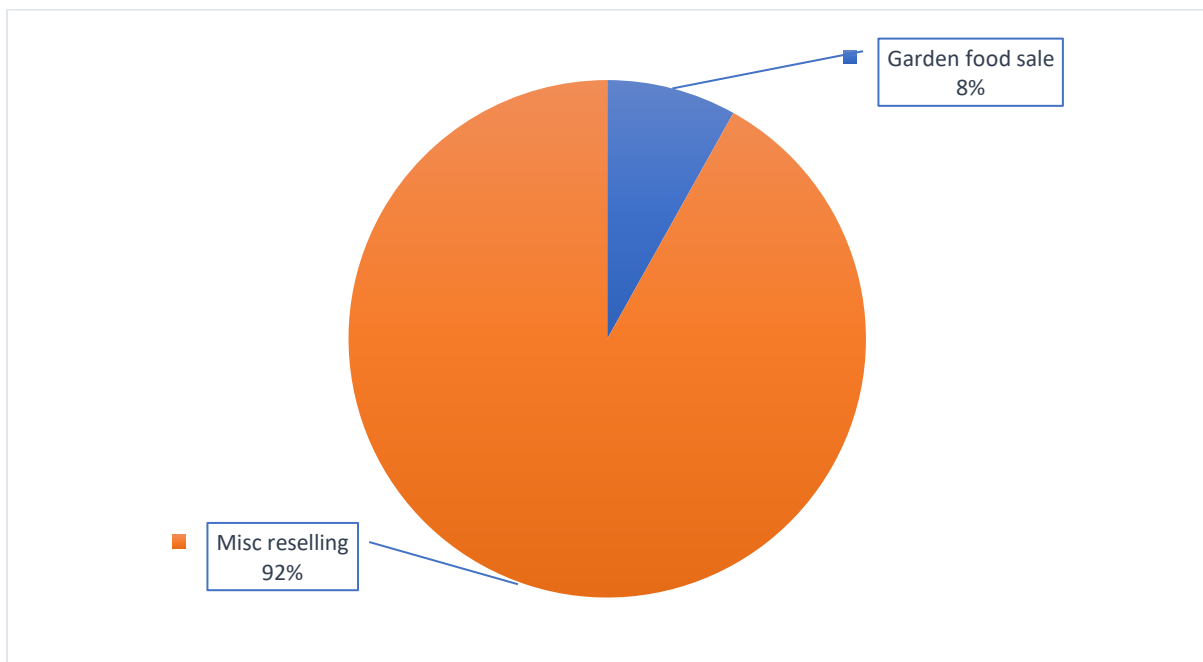


Figure 6-8 Inward cash flows for Sarah 12/4/2021 to 25/4/2021

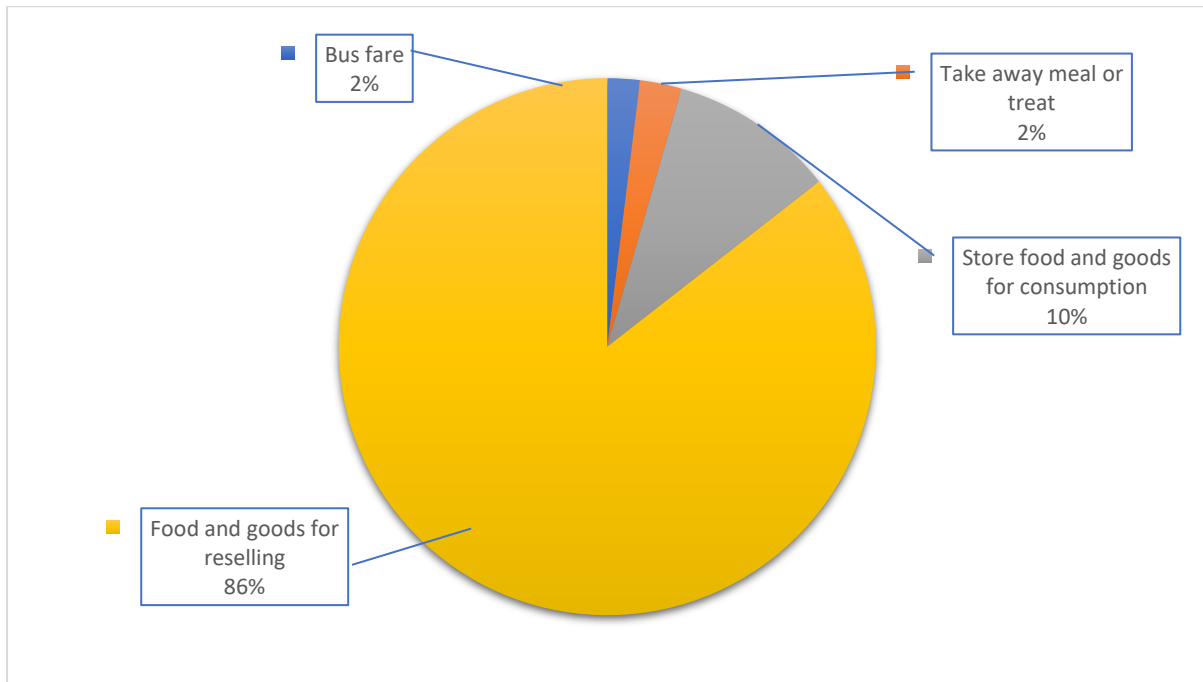


Figure 6-9 Outward cash flows for Sarah 12/4/2021 to 25/4/2021

Sarah currently only trades in coffee cherry with village buyers but indicated in 2021 that she plans to sell cherry through the demucilager or process the cherry herself to parchment using a hand pulper. As of 2023, she had not sold any cherry through the demucilager, possibly because she needs cash faster than the project provides.⁶⁴ She plans to save money from her trade store business to start a cherry buying business. The overall cash movements over this period were low, with around K40 coming in and K512 going out.

As a younger married woman, Sarah faces economic challenges as she sets up her new household with her husband. This can be quite a traumatic period for young women in the PNG highlands who leave their parent’s household to live with their husband’s relatives (Reay, 2014; Sillitoe, 2006a; Wardlow, 2006), although unlike in earlier times, it is likely that Sarah can now return to her natal family and spend time with them if she so chooses. Indeed, her family lives nearby in one of the

⁶⁴ People putting their cherry through the demucilager will not receive immediate payment as there must be sufficient quantity processed to sell as a micro-lot to the buyer. This might not occur until late in the coffee season, but as usage increases, the time lag should shorten. This is discussed further in Chapter 8.

villages included in this research. Sarah is not involved with the VSLA or demucilager projects. Her cash flow position is tight, and so she probably does not see the value in the VSLA as she immediately uses any spare income to purchase goods to re-sell. Compared to Luke, there is less social pressure for Sarah to be seen as successful in business or to establish a *nem* (Chapter 2.6). Her *gutpela pasin* is demonstrated through successful household management, food production and marketing, and through reproduction. However, she does have aspirations to establish a coffee buying business. Mary is an example of a community member who has successfully used the VSLA to do this, and I discuss her situation in the next set of case studies.

6.4 Women's access to coffee income

All the women in my participant group had access to income from coffee in the previous season, except for one who, along with her husband, had chosen to instead focus on pineapple production.⁶⁵ This couple was growing coffee, however, and they were planning on harvesting cherry in the 2021 season. The majority of women participants (7 out of 13) had a sharing arrangement with their husbands for coffee income. Some women were not in a position to access coffee income through a conjugal partnership, either as a result of divorce, widowhood, or because they were newly married and had not established a coffee garden yet. These women either had their own trees on land allocated to them by their parents or had access to coffee cherry from their parents' coffee garden. One woman accessed cherry through her son's coffee garden following the death of her husband. In this case the son had inherited his father's coffee trees.

The women invariably described coffee production as hard work involving planting, weeding, pruning, harvesting and processing. The older women said they earned more from coffee than their mothers, attributing this to improvements in the price, expansion of holdings, and the demucilager

⁶⁵ The data in this section are drawn from questions sets in Table 11-2 and Table 11-3 (Appendix A), and income and expenditure records

(Table 5-3).⁶⁶ Most participants, both men and women, noted the use of glyphosate-based herbicide to control weeds in the coffee garden. This was not utilised in food gardens, and it was paid for by men. Women advised they did not use herbicides but used pesticides and fertilisers on large plantings of broccoli, cabbage and other pest prone crops. Several mentioned the work required to maximise the cherry production per tree, indicating they understood the value of labour inputs to improve returns per tree. One woman, Angie, noted that:

Max is my second husband. My previous husband owned and managed a coffee plantation, so when I first got married to him, we used to do lots of coffee work and we know how to manage and prune the coffee. And when it comes to harvest, we were able to harvest more. When I got married to Max, we applied the same techniques so at least we pick more cherry on a tree and for now we are still ... [continuing] to plant new coffee and aiming to harvest more coffee cherry.

Coffee income was accessible to women through the following mechanisms. It is difficult to comment on the relative importance of each of these, since for some women who do not have access to parchment income through their husbands, small amounts of cherry can be important to their overall economic wellbeing:

1. Processing and selling of coffee parchment from cherry grown by the woman on trees she has rights to, or in a shared arrangement with her husband.
2. Selling of coffee cherry from trees which the woman has rights to, or which she shares her with husband.
3. Selling of cherry gifted by another household (sometimes as labour payment or as a result of a relationship of reciprocity, such as a parent to a child, or a son to a widowed mother)
4. Selling of parchment processed from cherry purchased from another household.

⁶⁶ As shown in Figure 5-2, prices have improved but purchasing power from coffee income (as measured against the cost of rice) has been in a general decline in recent decades, which has at times eroded the value of this increase.

Women accessed coffee income through these mechanisms in varying degrees, depending on their personal circumstances. The following case studies explore this in more detail, as well as the ways in which women have utilised the VSLA and demucilager projects to engage more with coffee production.

6.4.1 Lauren – how coffee income helps a younger woman

Lauren is a young woman in her late twenties. She lived with her parents for most of my data collection period together with her two young boys. She is an important contributor to the household, spending up to 6 days a week at the market selling fresh food, and helping with work in the food and coffee gardens. The children are the result of two failed marriages. Her first husband paid a 'divorce fee' of K1000, but while this is well below the K10 000 which her family might reasonably have expected to be paid as a bride price payment, their child was able to stay with her. This payment was also compensation for the time she spent in hospital during the birth of the child, where a caesarean section was required. This husband was from Goroka, and they lived together for four years before he divorced her, married another woman, and moved to Port Moresby. In her life narrative, Lauren said that the situation repeated itself with her second husband, although he was from a rural area and stayed there with his family after their separation.

The production of pineapple and peanut were described as the main sources of income for Lauren in my interviews with her. She also received coffee cherry from her parent's coffee gardens as payment for helping them with the harvest. This was not recorded in her income data as she was only asked to include cash transactions, but the resale of the cherry for cash was. The cherry was sold for cash back to her mother Mary who operates as a village buyer, and whose case study I discuss next.

Cash flow data were captured for only 21 days, which is around half of the time frame for the other case studies. This was most likely because of her lack of free time, much of which is spent at the market, helping her parents, and raising two young boys. Her total cash flows in and out, K205.30 and K225.90 respectively, were in line with what the older couple received after accounting for the

shorter time frame, but much less than Luke’s who had large lending transactions in VSLA (Figure 6-10 and Figure 6-11).

As with the other two case studies, a considerable portion of Lauren’s income is saved in VSLA. Much more of her income goes towards store food and goods, almost double on an average daily basis of what Luke spends on food (K5.3 versus K2.78 per day). It is also notable that both her and Luke spend more than the older community members on takeaway food – a generational difference which was common across the whole cohort of participants. Going to town and having some takeaway food with friends (usually sausage and chips with a carbonated sweet drink) is a popular activity among the younger members of the community.

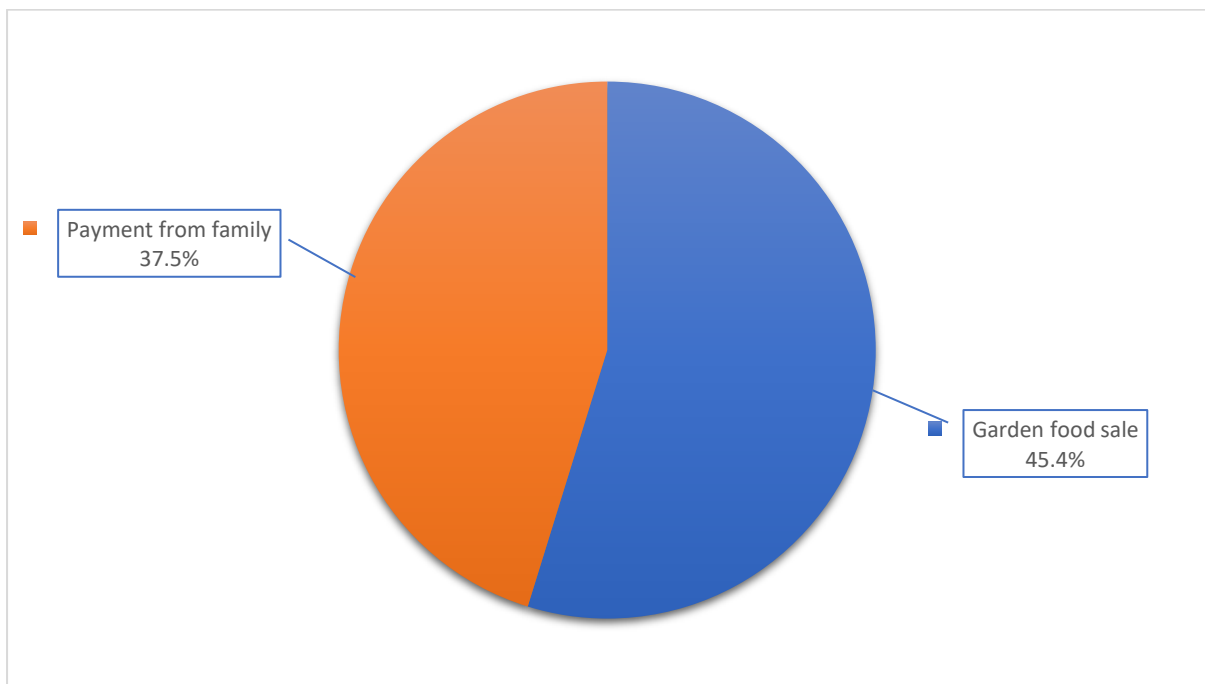


Figure 6-10 Inward cash flows for Lauren 16/3/2021 to 16/4/2021

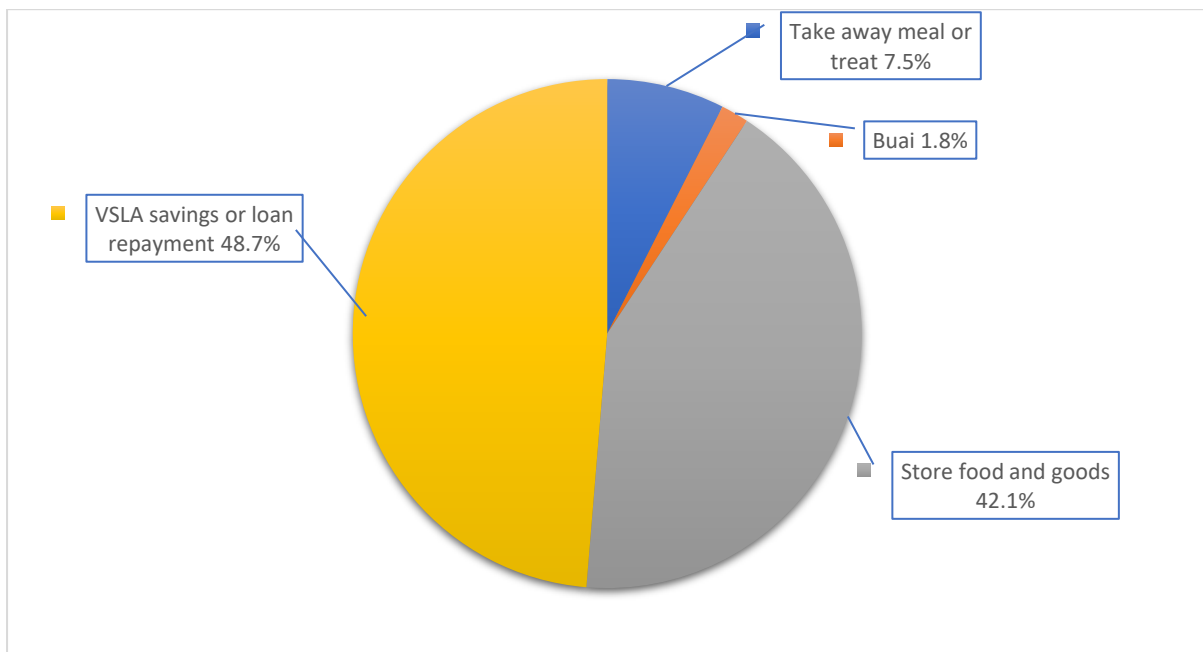


Figure 6-11 Outward cash flows for Lauren 16/3/2021 to 4/6/2021

During the peak of the first wave of Covid-19 in the community, markets were shut down, severely impacting Lauren’s ability to generate the income level she was making before. She moved temporarily to Lae, where her brother and cousins live and where there are better opportunities to make money, but this did not end well. After some months she had to be brought back by her father and uncle after falling seriously ill with an unknown condition. After a precarious time spent sick in the village and in hospital, she has since made a full recovery and has returned to selling fresh food in Goroka as a source of income.

As with Luke, Lauren faces a higher level of vulnerability than the older couple, Duncan and Jean. She faces barriers to economic prosperity due to weak claims to land access. She does, however, have the potential to increase her economic prospects through involvement in the VSLA and demucilager projects, although her access to coffee cherry has been limited to what she is paid by her parents. She could, however, save money through the VSLA to purchase cherry⁶⁷ to process through the

⁶⁷ The Bena VSLA member rules did not permit members to borrow money to purchase cherry. Members could use their own savings received in the share-out for this purpose.

demucilager and achieve a premium price. In 2020 Lauren also processed cherry through the demucilager but hasn't since, as she prefers to get a faster payment from her mother.

The lack of payment of bride price by her two husbands is challenging for both her and her family. However, while it does diminish her position as a socially recognised adult woman, it does mean that she has the right to retain her children, who may provide her with increased financial security when she is older (Curry, 1992; Reay, 2014; Sexton, 1986; Spark et al., 2021). She is fortunate that her family is in a position to be able to provide her with access to land for the production of vegetables, and access to coffee cherry in return for her labour at harvest. As shall be seen in the next case study, her contribution to the household economy in relation to fresh food marketing is more than just the money she earns – it also allows her mother to spend time on her role as a village coffee buyer.

At present, Lauren is living in a liminal state. It is challenging for her to establish her own household without the support of a husband, and this makes it difficult for her to be socially recognised as an adult. I sensed in my interview with her that this was a source of some anguish for her. Her smaller transactions could imply a more precarious position than Luke, however this is not necessarily the case. She has stronger claims to both land and her children than Luke, but, in both cases, there were decisions made to engage in risky business ventures which did not pay off. This appetite for risk will be explored more in Chapter 7.

6.4.2 Mary – saving money, buying and selling coffee

Mary is married and was unclear of her age in my interview with her, although based on the 2010 PLRG household survey she was around 40 in 2023. The survey also noted that she had no formal education. She has five children – two girls and three boys. Her daughter, Tilly, is married with a young child and spends her time between her grandmother's house which is nearby, and her husband's village which can be reached in an hour or so by bus. The other daughter is Lauren, whose situation was described in the previous case study. One of Mary's sons is living and working in Lae,

Morobe Province, and is hoping to undertake further studies in his field of machine maintenance.

The other two boys are young and still living at home and attending school.

Mary's relationship with her husband could be described as complementary in the sense described by Dickerson-Putman (1996; see also Chapter 2.5) and they work together to produce coffee, pineapple, cabbage and other foods to sell at the market. According to 2010 survey data, the household sold 14 bags of parchment in the previous season, well above the area average of 5.8 bags. Only 16% of households in Bena who responded to this question sold over 10 bags. In the 2018 survey, however, only 5 bags were sold in the previous year, which was in the second quartile below the average 8 bags. The 2022 demucilager survey indicated they had sold 10 bags in the previous year. She advised in my interview with her that coffee contributes the most to their large expenses, followed by income from pineapple.

The money her household makes from coffee is not just from their own trees. She also buys coffee cherry from other growers in the area and is therefore what is termed a 'village buyer'. She and her husband own a hand pulper and they therefore have the means on their property to convert cherry to parchment. The value added through processing can be variable. Good quality cherry can potentially be sold at a higher premium to processors than parchment, as village processed parchment is often of a low grade (Curry et al., 2018; Sexton, 1986).⁶⁸ They are also part of the demucilager project, and parchment processed through the this arrangement will earn a premium on cherry as it is likely to be of good quality, provided good cherry is used.

Both of Mary's daughters receive cherry from their parents for helping with the harvest and sorting the cherry for processing. Tilly sells her cherry to her sister, Lauren, who sells the cherry back to her mother Mary (the village buyer) for processing. The reason for Tilly not selling directly to her mother can be understood as an outcome of the socially embedded economy described in Figure 6-1, as

⁶⁸ Cherry buying by large processors stopped during the initial stages of the CBB outbreak but has since resumed.

these small transactions reinforce exchange relations and expectations of reciprocity. As previously noted, Lauren also has some trees allocated to her by her parents, and cherry from these trees is also sold to her mother or processed to parchment using their hand pulper. While Mary's husband has used the demucilager every year from 2020 to 2023, Mary only began using it in 2022 and was planning to use it in 2023.

When Mary first married, the household coffee income remained relatively constant as her husband did not expand their holdings. She helped her husband expand the coffee garden by a further hectare and so the income has increased in the last 5 years, both as a result of the expansion and an increase in the price they receive. The increased price also further stimulated engagement in coffee production. She has also taken over managing the income from coffee, noting that:

Previously my husband used to manage all the coffee income, but then he used to make lots of unnecessary purchases. I took over and I [now] manage the coffee income. I strictly spend the coffee income [based on] a budget because we are seeing the benefits [of this approach] and through coffee our life can change.

The household faces a number of upcoming expenses for which they will rely on coffee income.

Firstly, the son in Lae is wishing to undertake a course of study which will incur incidental costs. He has also recently married a Bena woman so there will be an expectation of a bride price to which they will be expected to contribute. On the other hand, no bride price has yet been received for either daughter, although a small 'divorce fee' of K1000 has been received (bride price can be K10,000 or more) in relation to the eldest daughter for her first marriage. A bride price is expected to be coming in the next year of around K12,000 in relation to Tilly. The household is not the sole recipient of bride price, nor are they responsible for the entire contribution for their son's bride price payments. Nonetheless, these payments can significantly impact household budgets.

As shown in Figure 6-12, 44% of Mary's cash inflows are from the sale of coffee parchment, with income from pineapple making up another third. A further 3% comes from coffee cherry sales. Of her cash outflows, 22% were related to farm investments or production and marketing costs, and a

further 37% was saved or repaid to the Village Savings and Loan Association scheme. The next largest outgoing was store-bought food and goods, with 38% of her expenditure allocated to this.

Over the period, Mary's total cash inflow was K1,987.50, and outflows were K1,969.50. This period did not include large expenses such as school fees or significant contributions to customary obligations such as bride price (Figure 6-13). Money for these may be paid from VSLA share-out savings or paid directly from the sale of coffee parchment or pineapple. Without the ability to save money in the VSLA system, it would be more challenging for Mary to accumulate money for these large expenses, and the "unnecessary purchases", which she described as characteristic of their past approach to financial management, would be harder to avoid.

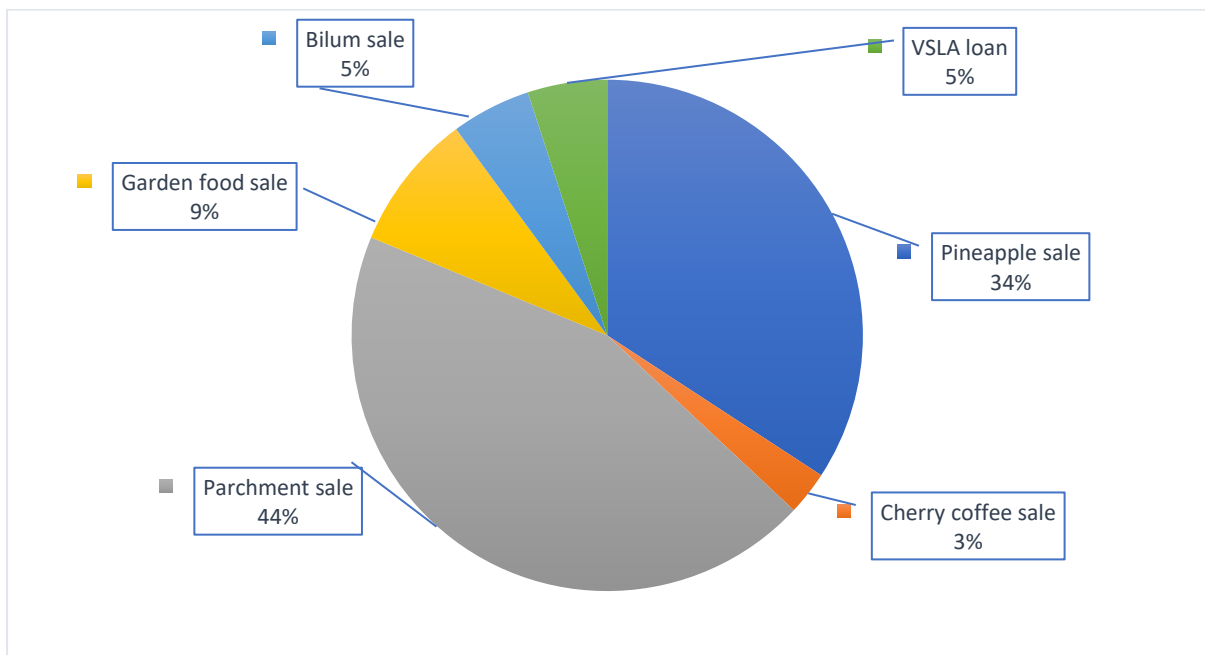


Figure 6-12 Inward cash flows for Mary 16/3/2021 to 27/4/2021

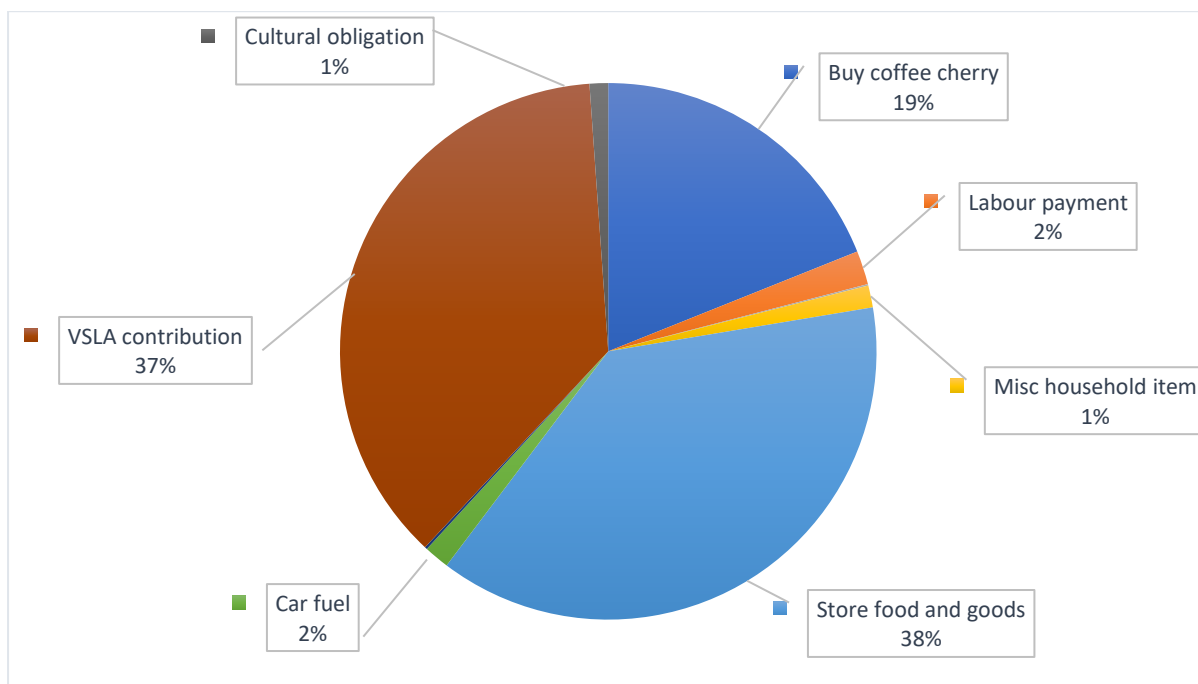


Figure 6-13 Outward cash flows for Mary 16/3/2021 to 27/4/2021

Mary has been a member of the VSLA since it was first introduced to the community, and VSLA data collected in 2020 and 2021 shows she is an above average saver and below average borrower. This indicates she is contributing capital to those who are borrowing more and receiving compensation for the use of her capital at the share-out. These flows of wealth and the returns on her investment through the VSLA are discussed in more detail in Chapter 7.

Mary's ability to control the household income, particularly in relation to coffee, is reminiscent of the 'Bigwomen' described in Chapter 2.6. Dickerson-Putman (1996) identified that older women were more able to control resources as they were less constrained by cultural restrictions placed on younger women, and had had the opportunity to demonstrate *gutpela pasin* over the course of their married lives. Since she has only just turned 40, the latitude given to post-menopausal women in Dickerson-Putman's analysis is not as relevant, and so this is perhaps more related to other catalysts of change such as involvement in the VSLA. The ability to control resources reduces Mary's economic vulnerability in comparison to her daughters, who must continue to enact the *gutpela pasin* expected of younger women. The social and economic structures within which she operates allow her more freedom than her daughters. However, through structuration, or the interaction of Mary's

actions with structures such as VSLA, these expected behaviours are changing, and younger women face fewer constraints. Tilly and Lauren are able to move around with greater freedom than Mary's generation, as demonstrated by Lauren's stay in Lae. Their ability to start a village buyer business, however, is still likely to be constrained by a lack of direct control over land (see Chapter 2.7).

Women in the *Wok Meri* scheme, described by Sexton (1986), were supported by their husbands when they demonstrated the ability to accumulate wealth, as it served to bring prestige to them and their clan. Support from husbands and other men in women's personal networks can be a crucial factor in women's economic empowerment in PNG (Spark et al., 2021). Mary's husband has strong aspirations for development in the community and the betterment of his family and is supportive of Mary's contribution to the household. However, not all women are empowered to control the household finances in the manner demonstrated by Mary (Eves & Titus, 2020).

Mary benefits from the introduction of the VSLA and demucilager projects which, along with her age and established social position, have enabled her to engage in economic activity which moves outside traditional complementary gender roles. Her involvement with the VSLA has given her a level of financial literacy which is enabling her to manage a household budget and the family cherry buying business. In this sense, there is a tension between how *gutpela pasin* is perceived at the individual and group level. Mary brings prestige to the group through her exemplary participation in the VSLA, but also transgresses ideal feminine behaviour by controlling coffee income.

The financial position of Mary appears robust, but her situation could deteriorate. Uncertainty in relation to land access is a problem facing many in PNG, particularly women. Sexton (1986, p. 26) noted at her field site that, "because people are starting to fear the possibility of overcrowding of their land, a woman's right to return home [in the event of divorce, for example] is not automatically honoured". The women in my research cohort – even those demonstrating financial independence like Mary - are dependent on the men in their lives for ongoing access to land to support their economic empowerment (Spark et al., 2021; Wardlow, 2006). This vulnerability can be overlooked

on measures of current access to resources, which would indicate that Mary is in a strong position. As noted by Spark et al. (2021, p. 1150), “women’s empowerment is always unfinished”, and “gains made can be impermanent”. This vulnerability is outlined in the next case study.

6.4.3 Diana – how coffee income helps an older woman

When I interviewed Diana, the sister of Mary, she was in the process of divorcing her husband of 30 years after he took a second wife. The divorce was not yet finalised as her husband was yet to pay a divorce fee which was compensation for her 30 years of labour contributions. Her husband took the second wife ostensibly because Diana was unable to have children, and he has had children with his second wife. Until the divorce payment is completed, Diana was able to continue growing food on her ex-husband’s land. This is indicative of the rights to land entailed with marriage, and the exchange relations which socially recognise a marriage or divorce.

When she first married, Diana says her husband did not have any coffee trees, but they helped his parents with their coffee holdings and started to grow their own. These coffee trees were passed on to him once her parents-in-law were too old to manage them. Her income over the last five years increased while they were building the coffee livelihood together, but after the divorce she lost coffee income other than that she could get from her own trees. She noted:

When I was still with my husband, at least we helped each other and [did] some coffee work. After we divorced, I own my own coffee trees which were planted at my place so as an individual I need help to make coffee work. But for the last year I am happy because [the] demucilager cut down some of my labour to process the cherry coffee.⁶⁹

Diana used the demucilager in 2020 but has not used it since, even though she said she had concentrated on coffee production during the Covid-19 lockdown period in 2021 when marketing was restricted. She was planning to use it in the 2023 season.

⁶⁹ See Table 11-3 Appendix A for question set

While Diana never had her own children, she raised two of her husband's elder brother's daughters to adulthood. As my RA noted, "To raise such adopted children is very hard, so when people heard about this, then they said that she has taken on a great responsibility/challenge.⁷⁰ In this way, Diana enacted *gutpela pasin* and ideal femininity, which was recognised by the community. My RA stressed that the relationship was very much that of mother and daughters, and that while both daughters are now grown and married, Diana visited them regularly. Despite this close relationship with her adopted daughters, her lack of children (notably sons) was cited as the reason her husband took a second wife.

Diana gets most of her regular income from food production and marketing fresh food including pineapple, greens, sweet potato and ginger. She also gets income from coffee through selling both cherry and parchment which was processed through a hand pulper, although in 2020 she was selling her cherry to the demucilager project. She noted that before she only received *liklik moni* [TP a small amount of money] from selling cherry and parchment, but now she gets good money processing through the demucilager.

The cherry she processes is from her own trees, grown on land allocated to her by her father, as well as from her mother's trees. Diana notes:

When I was still with [ex-husband], it was lucky that my father gave us some land so we could plant coffee. When we separated, all his coffee garden [i.e., what was given to him by his father] was taken by his second wife and the coffee that was planted at my place was now owned by myself. I also help my mum with the coffee work too so I share some of her coffee income. I sell my coffee to the demucilager, and my mother's, along with my low-quality coffee, to the village buyers.⁷¹

Her brothers and sisters help with labour in the coffee and food gardens, and she pays for this with cooked food. At least some of the cherry is sold to her sister Mary, the village buyer described above. She is also a member of the VSLA and is able to use this to smooth her income and expenditure. She

⁷⁰ Via Whatsapp conversation.

⁷¹ Refer Table 11-2 Appendix A for question set.

does not have the expense of school-aged children, but the right to access land comes with an expectation she will contribute to family expenses, which may include bride price payments and educational costs of her other family members.

Unfortunately, I was not able to obtain cash flow data for Diana, as she was not confident recording it, and then she and family members became very sick with Covid-19 during the 2021 outbreak. Data collected in 2020 and 2021 showed she was an active participant in VSLA, and although she saved less than the average in 2021, she was still able to make a modest profit at the share-out due to her conservative borrowing practices. She also noted that she contributed to VSLA through her daughter's account.

Having divorced her husband, Diana's situation is more precarious than for her sister, Mary. She is currently entitled to access land for food crops from her ex-husband but any entitlement to coffee income from his land has now been transferred to the second wife. It is interesting that Diana describes it as such, rather than as belonging to the husband. She notes her good fortune in having been granted coffee trees by her father, and access to cherry from her mother's trees as well. While in the past this benefit only amounted to a small income, the demucilager has the potential to boost the value of her coffee income relative to the income she earns from fresh food.

Both Diana and Mary exhibit good household and economic management skills, but the former has been economically disempowered due to her inability to produce sons. Her livelihood dependence has shifted from her husband to her natal kin, who support her through access to land for food and coffee production, and access to coffee cherry. Diana married within her local area and was able to maintain ties with her natal family. If, for example, she had married a man from a more distant village, the relationship with her kin may not have been as strong and her position could very well have been worse.

Despite having some access to land, Diana is unlikely to ever have the income earning capacity her sister enjoys, as she is unlikely to be able to produce coffee on a large scale. The contribution coffee

makes to her income is significantly enhanced, however, through utilisation of the demucilager. This technology reduces her labour inputs, enabling her to focus on other income generating activities, and improve her returns through the higher quality output. In this way, the demucilager has a higher marginal value for women than for men, who have larger holdings and may not value the additional income potential that the demucilager provides.

Overall, Diana continues to access income from coffee in various ways, despite being in the process of divorcing her husband. She is fortunate in having continued access to land through her natal family. The importance of the income from her coffee holdings may increase if she eventually loses the right to produce crops on her ex-husband's land. Her social and kinship networks are therefore essential to her ongoing economic well-being, and innovations such as the VSLA and demucilager enable her to improve her returns on land and labour.

6.5 Women, coffee, and the village economy

Women share not only the income from their husband's coffee trees, but also trees which they have been given harvesting rights to. The cherry from these trees forms part of the network of economic exchange within the community described in Figure 6-1. Through this network, cherry exchanged as a cash substitute for 'payment' of labour (Sexton, 1986). This type of exchange is similar to that seen in oil palm in West New Britain province of PNG (Curry et al., 2019). Schemes such as *Lus Frut Mama* have supported women in oil palm to negotiate access to income which has historically been controlled by men (Koczberski, 2011; Koczberski et al., 2022). The VSLA and demucilager may offer similar opportunities as seen in Figure 6-14. Buying cherry and selling parchment can be a profitable business which may be an avenue of economic empowerment for women. Women aspire to operate as village buyers and are able to access capital (through savings and credit) and the skills to do so through the VSLA. However, social position and access to land still constrains women's access to this form of economic empowerment, and so Mary, as an older married woman, is more likely to access this opportunity than younger women or those who are newly married.

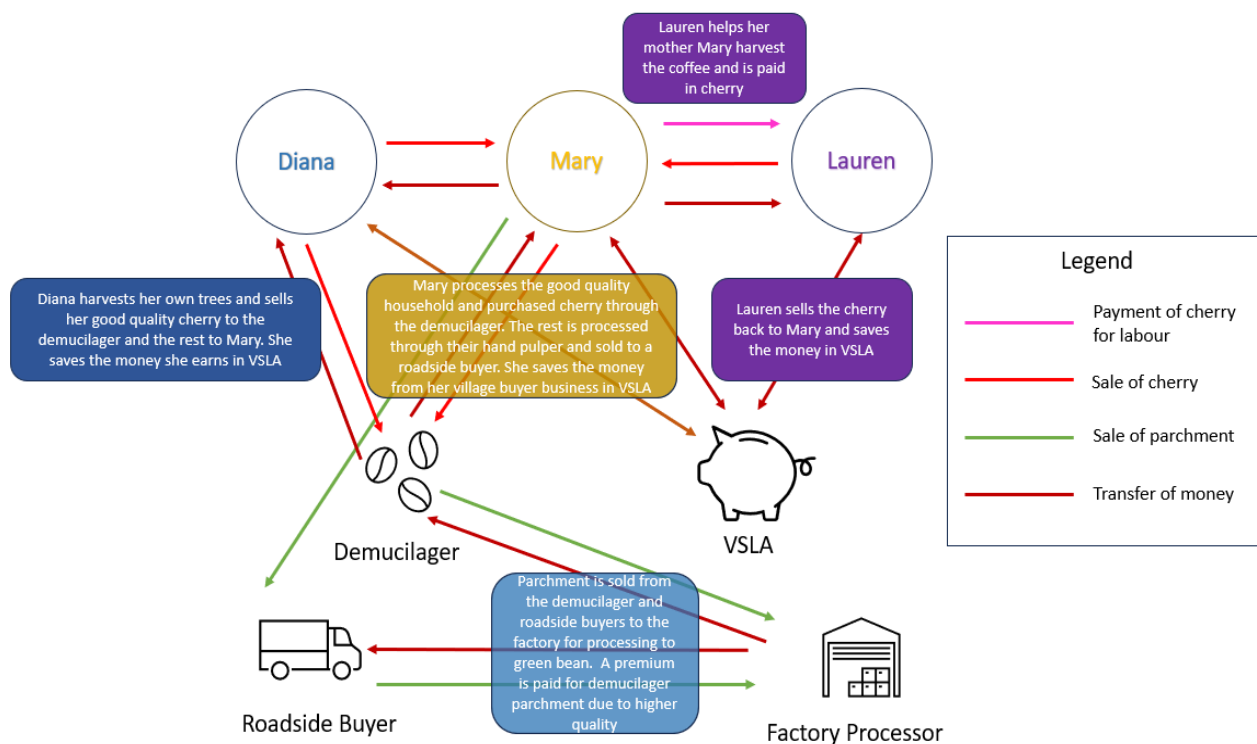


Figure 6-14 The role of the VSLA and demucilager in Women's coffee business

6.6 Conclusion

This chapter explored the networks of societal embeddedness which both enable and constrain economic activity in the PNG Highlands. I examined how the circulation of cash and commodities both within and between households creates and reinforces these networks. The case studies demonstrated the impact of age, marital, and social position on economic opportunity. Younger, less socially secure men may be willing to take on a higher degree of risk to prove themselves. Younger women are reliant on their husbands or fathers for economic prosperity and may be vulnerable in the event of marriage breakdown. The VSLA and demucilager projects help to mitigate these vulnerabilities by providing opportunities to both demonstrate *gutpela pasin* and to accumulate economic wealth. As will be shown in the next two chapters of this thesis, these features of societal embeddedness also influence how people engage with Development projects.

The women in my research group are all involved in coffee production in some way, either through a shared household income arrangement or through tree or cherry allocations provided by their

parents or other kin. The buying of coffee cherry from other growers in the community is a cottage industry which some women participate in as both buyers and sellers. Women are able to access coffee cherry through rights granted to them by their husbands, fathers and sons. They control the income from this coffee, but access rights are not necessarily permanent, particularly when it is shared with their husband. Nonetheless, as demonstrated in Chapter 8, the demucilager has the potential to improve returns to labour and income from their small holdings, and thus increase coffee income as a relative proportion of their total income.

The VSLA also has an important role to play in supporting access to savings and credit facilities, as well as financial literacy. Women such as Mary, who are recognised as having achieved social adulthood, are able to take on more economically empowered roles in the household such as management of the coffee business. The financial skills she learned as a VSLA participant have enabled this change in domestic economic arrangements and are evidence of how engagement with Development projects can change domestic arrangements. Similarly, Jean and Duncan, and Luke and his wife, demonstrate changes in attitudes to household decision making and work allocation which are not clearly aligned to ideas of ideal masculinity and femininity described in Chapter 2.

In the next two chapters, I explore the social embeddedness of the VSLA and demucilager Development projects. I demonstrate how community members adapt these schemes to enable displays of *gutpela pasin* and ideal masculinity and femininity. I also explore the ways in which Development projects change, through structuration, the cultural institutions and the ways the community works together. Furthermore, I show how they become cultural institutions and drivers of identity creation in their own right. This has implications for the ways in which participatory Development projects are structured and implemented, which will be considered in the final chapter.

7 Engaging with Development – VSLA

7.1 Introduction

In the previous chapter, I continued my exploration of the nature of economic activity in the Bena community with a focus on societal embeddedness. I demonstrated how cash and commodities move around the community in transactions which build and reaffirm networks of relationships, both between and within households. Economic opportunities were shown to be influenced by age, gender, marital status, and access to the VSLA and demucilager. Through the process of structuration, engagement in Development projects has an impact on gender relations, with some households sharing decision making and work and women gaining financial literacy skills which support them in businesses which have been traditionally dominated by men.

In this chapter, I examine the VSLA pilot intervention in the Bena community as a case study of the intersection of the socially embedded economy and the work of Development. This review covers the 2020-2021 period which allows for consideration of the impact of the Covid-19 pandemic. This created adverse market conditions which would, if using a Neo-classical market logic approach, be expected to result in more conservative borrowing approaches. However, the need to demonstrate *gutpela pasin* conditioned decision making in the VSLA which resulted in poor outcomes (both socially and economically) for some more vulnerable community members. The majority of members, however, continued to benefit from this intervention. I conclude the chapter with a consideration of the implications for VSLA members and how they might reduce the risk of over-indebtedness. Through this case study, I continue the exploration of my research questions two and three:

2. How does socially embedded decision making in Participatory Development projects influence project outcomes in an EHP coffee farming community?
3. How do Participatory Development projects influence the socially embedded economy and cultural institutions?

To explore these issues, I will first provide a brief overview of the role financial inclusion projects such as the VSLA have in development before outlining the mechanics and decision-making processes associated with this particular VSLA. I then present quantitative data which explores changes in outcomes for two of the savings groups over the 2020 and 2021 savings cycles and bring together PLRG data from the 2018 household survey with the savings and loans data for the 2021 savings cycle. This enables a comparison of financial outcomes for VSLA members with different socio-economic profiles. Data from my interviews are then used to further explain the findings of the quantitative analysis and the socio-economic drivers of saving and borrowing decisions. I then discuss the role of other projects in driving successful outcomes for the VSLA and reducing the risk of what I term 'beggar thy neighbour', whereby money shifts from those with fewer assets in comparison to the community average, to those with more.

Through this case study I develop my argument that the socially embedded nature of the village economy, whereby motivation is driven by the need to demonstrate *gutpela pasin*, is a significant factor in determining the outcomes of Development projects. I further argue that through a process of structuration (Giddens, 1984, Chapter 2.2.2), where interactions between people and institutions both modify and reproduce cultural norms, Development projects change people's attitudes and beliefs. In a reverse flow of this process, people adapt Development projects to suit their own social, political, and economic needs. Development projects also trigger changes in other cultural institutions which may be unintended consequences of the intervention. This process, described in Figure 7-1, is reproducing and changing both institutions and the way *pasin* is enacted. In this process, *pasin* is the framework which shapes action, and the site of cultural change. When what is understood to be *gutpla pasin* changes, then institutional change is likely to occur. The green pathways represent encounters between people and institutions which provide opportunities for change or for existing norms to be reinforced. It is important to note the difference here in terms of contribution versus attribution when examining the impact of interventions. As noted in Chapter 1.6,

it is not my intention to claim that all changes in cultural institutions can be attributed to Development projects, but rather that they contribute to change.

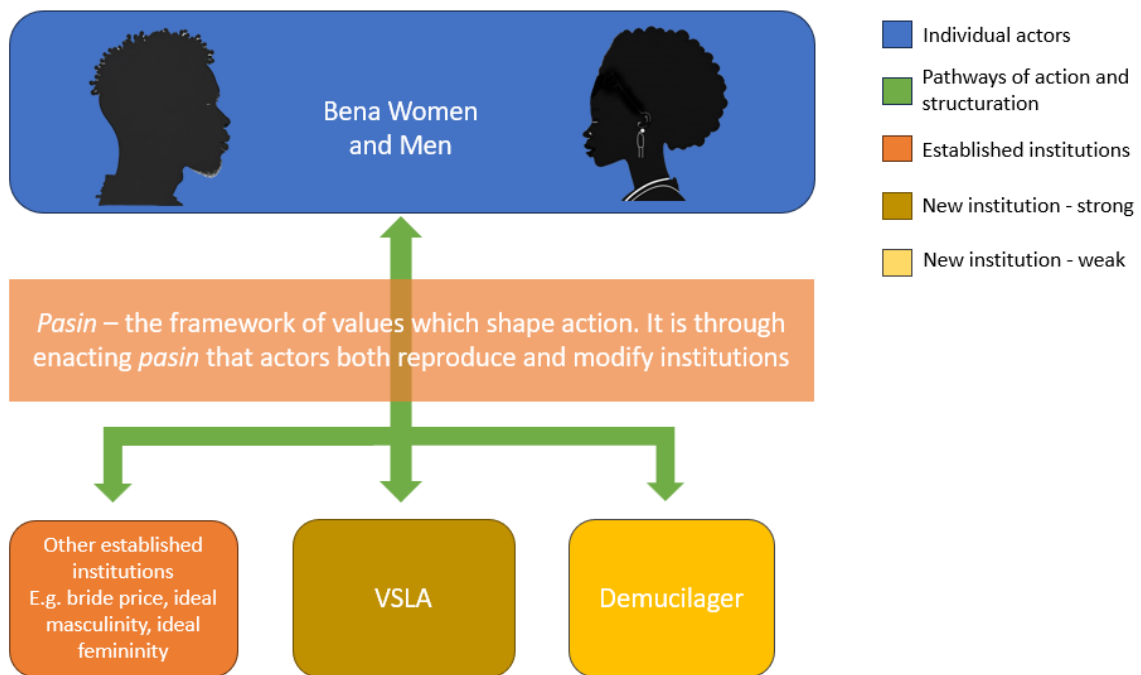


Figure 7-1 Overview of the process of structuration in the Bena community

7.2 The role of financial inclusion in Development

Within the macro environment of development led by the United Nations and its agencies, financial inclusion is a feature of the flagship Sustainable Development Goals (SDGs). Financial inclusion, defined by the World Bank (2022 para 1), is when:

...individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable way.

The SDGs set the agenda for development at the global level (United Nations, 2016), and financial inclusion is an enabler of 7 of the 17 goals (World Bank, 2022). Goal 8 (economic development) includes the specific target indicator “Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider” (United Nations, 2023

para 10.2). The attention drawn to financial inclusion by the SDGs has translated to policy which focuses on the expansion of formal banking facilities to marginalised communities, although evidence of the efficacy of this policy as a Development intervention is lacking (Goedecke et al., 2017).

Much of the global discourse surrounding financial inclusion refers to the need to overcome barriers – physical access issues, lack of financial literacy, cost, and administrative complexity (for example, Demirgüç-Kunt & Klapper, 2012; Diniz et al., 2012; Fan & Zhang, 2017; Pearce, 2011; Yasir et al., 2022). Interventions are thus designed to remove these problems, with the expectation that 1) use of banking facilities would increase; 2) savings and loans would increase; and 3) this would stimulate economic activity leading to development. In PNG, a multi-pronged approach to remove these barriers and increase the use of savings in formal banking facilities was implemented in Wewak, East Sepik Province (Hoy et al., 2022).⁷² It incorporated training, reduced administration through an easy account set up without the need for the usual identification documents, and included a follow-up to encourage saving. Attendance at the initial training was extremely positive, with around 25% of the target population engaging in the program, and 70% of these participants opening a bank account at the end of the training. The end result saw significant drop off, with only 20% of accounts opened (3.5% of original cohort) being used in the 9 months after they were opened (Hoy et al., 2022). The researchers noted no evidence of positive downstream effects from the program after the 9 months, other than an improved understanding of the benefits of saving. This benefit was seen in the more remote East Sepik communities, who showed most interest in the program (Hoy et al., 2022). The need to travel to Wewak was, however, a barrier to continued saving, which demonstrated the need for mobile banking services or other localised interventions (Hoy et al., 2022).

⁷² Funded by the Australian government and the Asian Development Bank, and implemented with the support of the Bank of PNG (Hoy et al., 2022).

The push for inclusion in the formal banking system can be contrasted to community banking facilities such as the VSLA described in this chapter. This approach not only focuses on the removal of barriers, it also builds on the social ties within the community to encourage savings and discourage loan defaults (Biggart, 2001). The participatory nature of these facilities results in a more socially and culturally aligned service which is described later in this chapter. As a result, retention in the Bena VSLA groups is much higher than in the Wewak project (Table 7-1). Group WC, which has the lowest retention, tends to be a recruitment pool for new members who move up to the more established groups when a space becomes available, and when they have demonstrated *gutpela pasin* in relation to saving and borrowing. In what follows, I examine some of the outcomes and impacts for community members who have engaged in the program, which is intended to be supplementary to the formal project review conducted by the PLRG (Koczberski et al., 2022).

Table 7-1 Percentage of Bena VSLA members who had previously been a member of any VSLA group in any year

Group	2019	2020	2021	2022
Men's A	73	87	93	96
Women's A	81	100	100	96
Women's B	NA	73	84	82
Women's C	NA	NA	73	65

Note: Shading indicates inclusion of members who had previously been a member and taken a break for at least one cycle. MA and WA started in 2018, WB in 2019 and WC in 2020. There were two members in the inaugural WC group who were members of previous groups.

7.3 VSLA overview

A brief overview of the VSLA as a form of revolving savings and credit association (ROSCA) was given in Chapter 3.11.1. Here, I provide detail of its workings both globally and in the Bena group in particular. While the VSLA is a relatively new Development project in PNG, savings and credit

initiatives such as the *Wok Meri* movement emerged endogenously in the 1980s.⁷³ Sexton (1986, pp. 1–2) described *Wok Meri* an avenue for women to “enhance their rights to property and to take on prestigious statuses for which only men [had] been eligible”. In economic terms, this indigenous innovation served as a means for women to control income in the post-independence era, when men had jural rights to the main sources of wealth creation: land and coffee. In women’s view, men frittered this wealth away through gambling and drinking (Sexton, 1986). Warry (1986, p. 4) argues that *Wok Meri* was also a reaction to women’s marginalisation from political institutions, giving them an avenue to control the “wealth that will be used for development”.

Sexton (1986) describes how *Wok Meri* participants achieved financial empowerment not only through engaging in a Western style savings scheme, but also through ritual which appropriated the power to attract wealth from other traditional exchange ceremonies and symbolic acts of marriage and reproduction. ‘Daughter’ groups of women learned *Wok Meri* from their counterpart ‘Mothers’ and were presented coins in string bags (TP *bilums*). Sexton (1986, p. 100) notes that *bilums* are a potent symbol of femininity and motherhood (Figure 7-2) and that:

Wok Meri women already know how to earn money through vegetable and coffee gardening. What they need to learn from their “mothers” is the ideology and the rituals necessary to participate successfully in *Wok Meri*.

This exemplifies the integrated nature of social and economic life in the PNG context, and the belief that money can be attracted through magic – a power usually reserved for men (A. Strathern, 1979).

⁷³ Sexton (1986, p. 132) describes the distribution of *Wok Meri* in 1981 as being from Simbu Province in the west to Goroka District in EHP in the east. It is not clear if it ever spread as far east as Bena. It should be noted that I am not arguing that VSLA is an evolution of *Wok Meri*, but rather that these types of savings institutions are not incompatible with indigenous practices.



Figure 7-2 Bilum holding a sleeping baby

Like traditional exchange ceremonies, the “washing hands” ceremony at the end of the *Wok Meri* cycle was timed to occur in the coffee season, thus maximising available cash. It also took several weeks to prepare. The prestige of the community was at stake, and so both men and women contributed to the success of the ceremony (Sexton, 1986). The share-out ceremony of the VSLA produces a similar sense of pride and prestige for the Bena community, and much labour goes into its preparation. It also provides an opportunity for women to publicly participate in the prestige of the community.

However, while end-of-cycle distribution ceremonies for both *Wok Meri* and VSLA bring prestige to the community and provide a space to enact *gutpela pasin*, the VSLA share-out differs from traditional exchange ceremonies in two respects. Firstly, the exchange occurs within the community rather than with other external groups. Secondly, there is no future obligation of repayment established. Borrowing fees are pooled and distributed according to the number of shares purchased, however, as I demonstrate later in this chapter, there are individuals who contribute more, and individuals who profit more, depending on their saving and borrowing behaviour. A

person who contributes more to the share-out pool may not receive a future reciprocal payment as the end of the cycle is a closed position, unlike traditional exchange which sets up future obligations. The financial benefit for borrowers lies in the use of that capital for a short time and the earnings from any investment (e.g. business activity) made with that capital. There is also a social benefit which comes from recognition of the *gutpela pasin* of having participated in the community project. As will be shown later in this chapter, the motivation to accumulate wealth in order to increase the size and prestige of the share-out may financially disadvantage some members, particularly when access to external sources of income is restricted.

The VSLA operating in the Bena community was implemented according to a program developed by CARE International. The program began in 1991 in Niger (CARE International, 2011) and has since spread to various countries in Africa and Asia (CARE International, 2022b). The rules of each savings group are developed by the members, but the framework is an established methodology which outlines how shares are purchased and loans made and recorded, the safe keeping of money, and the governance roles. CARE (n.d. point 8) notes that, “each Savings Group determines its share price, loan interest rate, loan duration options, social fund contribution, and a system of fines for violations of group policies. These are defined, agreed by all members and documented in the group’s constitution. The elected management committee of the group ensures these policies are adhered to”.

The Bena VSLA and the *Wok Meri* movement of the 1980s and 90s have similarities, but also some important differences. Firstly, the *Wok Meri* movement was an entirely bottom-up movement, instigated by women in an attempt to improve property rights, community status and political power (Sexton, 1986; Warry, 1986). It was modelled on men’s customary pig and shell money exchange ceremonies, and thus the savings cycle could take several years, in contrast to the 9 to 12 months taken for a VSLA savings cycle.

The sizeable nature of the *Wok Meri* washing hands ceremony brought prestige to the entire community, so men generally supported the *Wok Meri* movement (Sexton, 1986) despite being excluded from savings and ceremonial participation. Men did, however, take the administrative roles of record keeping and money counting (Sexton, 1986). In the Bena VSLA, the groups are organised along gender lines, and as of 2023 there was one group of men, and three groups of women. Furthermore, administrative work is only undertaken by group members. This enables both women and men to develop financial literacy skills, as seen in the case of Mary in the previous chapter.

The meetings and washing hands ceremonies of *Wok Meri* included mystical elements, in a simulation of men's pig and shell ceremonies. The ability to successfully attract wealth in the form of pigs, shells, or, in later times, money is associated with competence in the art of magic (A. Strathern, 1979). As described above, a significant cultural aspect of the groups was the transfer of knowledge between 'mother' and 'daughter' groups. The blood ties of kin relations were emulated by ties between savings groups. The all-night meetings of *Wok Meri* are not evident in VSLA, which instead is structured around fortnightly day-time meetings which follow Western meeting rituals outlined in the CARE VSLA framework.

As part of the governance process of the VSLA, each member has a record book within which all share purchases and loans are recorded. Figure 7-3 is an example of a member's passbook which shows a stamp for each share purchased at a meeting. The design is intended to support low levels of financial literacy. Members can purchase up to 5 shares at a meeting, with the share purchase price set at the beginning of the cycle. As well as savings, the members may borrow up to three times their accrued savings as a short-term loan. Borrowing and repaying of debt is allowed at every second meeting, which in the case of Bena is every 4 weeks.⁷⁴ Additional records of attendance, share purchases and loans are kept at a group level, and these records are used to acquit the cash on

⁷⁴ The Bena groups meet fortnightly, but the VSLA guidelines allow for weekly or monthly meetings (CARE International, n.d.)

hand. Members also contribute a small amount at each meeting – usually around K2 – to a social fund which is used to support members experiencing financial hardship.

The VSLA governance rules also require a periodic audit of savings, and this is done through a share-out of accumulated funds to members at the end of the 9 to 12 month saving cycle. The final share-out pool is comprised of member savings and interest⁷⁵ charges, as well as any fines. The cost of borrowing in the 2020 and 2021 cycles was set at 30% of the loan amount and was required to be repaid after three loan meetings (12 weeks). The Women's A group applies a K10 late payment fee if loans are not repaid in the prescribed time. The other groups, however, introduced a system in 2020 whereby the loan is reissued with another 30% charge on the outstanding debt (which includes previous interest charge) and another 12 weeks to pay. The amount received by each member at the share-out is based on the number of shares they have purchased during the savings cycle. There is a profit component to the share-out pool, which is sum of loan interest and fines contributed by members through the savings cycle. Large savers will receive more of this profit pool due to the number of shares they hold.

⁷⁵ Also known as a service fee to avoid cultural prohibitions on charging of interest.



Figure 7-3 Member passbook showing share purchase record from Bena VSLA

Like the washing hands ceremonies of *Wok Meri*, as well as other exchange ceremonies such as bride price or mortuary payments, the VSLA share-out plays an important role in publicly demonstrating the wealth and collective success of the group. It provides new avenues for demonstrating and observing *gutpela pasin*, as well as facilitating the formation of new collective identities and networks of societal embeddedness described in Figure 6-1. The share-out provides opportunities to promote the prestige of the community, with some members sharing pictures of the event and large pools of money on Facebook and other social media channels. People who were posting the pictures of money were aware of the risks, but the desire to share the group's collective success was too enticing. As I discuss later in this chapter and the next, this was not only an act of demonstrating the *gutpela pasin* of the group, but also the *gutpela pasin* of Alfred, the VSLA community project leader.

The group members are drawn from the four villages as shown in Figure 7-4. Villages A and B are close to the site where meetings are held, whereas village C is around 30 minutes' walk and village D is over an hour away. Close proximity is not necessarily a factor in engagement as seen with the

strong representation from the furthest village. This was also the case with the demucilager as will be discussed in the next chapter. The research on enrolment in formal banking in Wewak (Hoy et al., 2022) suggested that those furthest from access to savings and credit facilities showed the most interest in the project, but the distance was too far to maintain usage. In the Bena case, the distance to the farthest village is much closer than the Wewak case, and so distance is less of a barrier. It is possible that there is a threshold of distance where engagement would drop off and proximal embeddedness is less impactful due to weak inter-community relations. This hypothesis, however, could not be tested as there were no villages of further distance included in either the VSLA or demucilager projects.

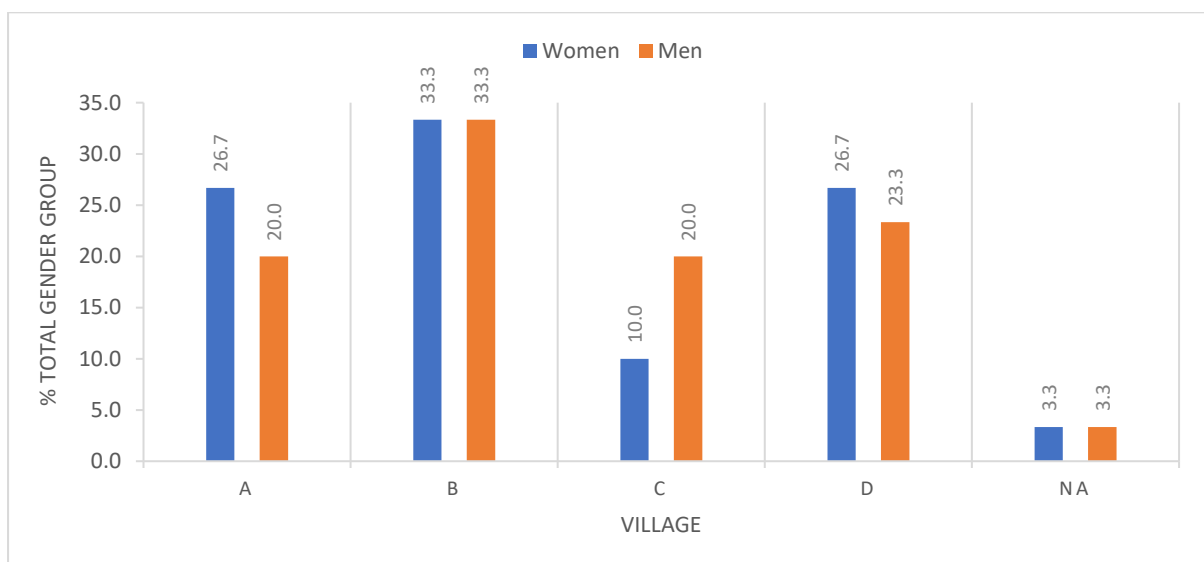


Figure 7-4 Village composition of Men's A and Women's A groups in 2020 (% total; n=30 both groups)

Note: Villages are in order of proximity to VSLA meeting site, with village A being closest.

7.4 VSLA as a tool of economic empowerment

This review is not a comprehensive evaluation of the VSLA project, but rather an examination of some aspects of the intervention in relation to group and individual decision making during the Covid-19 period of 2020 and 2021. The broader evaluation indicates positive benefits from the VSLA (Koczberski, Sharp, et al., 2021), including development of a strong savings culture and easier access to credit for farm inputs. Its role in the development of financial literacy skills, particularly for

women, was exemplified by the case study of Mary in Chapter 6.4.2. It also plays an important role in establishing co-operative working relationships, which will be discussed later in this chapter.

The following data shows the impact of a decision taken by the Men's and Women's A Groups to increase the share price from K5 per share in the 2020 cycle, to K20 per share in the 2021 cycle. It draws on data from the VSLA record books, the 2018 Household Survey conducted by the PLRG, and my own case study data. The analysis focuses on two issues – the financial benefits which accrue to members and the impact of Covid-19. Following this analysis, I consider the social benefits that accrue to members through participation in the VSLA and the share-out.

7.4.1 Summary of changes 2020 to 2021

The Bena VSLA has increased, both in terms of size and value, since its inception in 2018 as new groups were added, and the price of a share was increased in some of the groups. The share price for the Men's and Women's A group started at K2 in 2018 and increased to K5 for 2019 and 2020. In 2021, both of these groups increased the share price to K20 (Figure 7-5). The share price is determined by the group at the beginning of the savings cycle and is supposed to be set at a level which can be afforded by the poorest group member (CARE International n.d.). The steep increase in 2021, combined with the effects of the Covid-19 pandemic, exposed differences in villagers' capacity to save and service debt. Success in the Bena VSLA is measured by members through the increased pot of money to be shared out at the end of the cycle. This is reminiscent of the prestige associated with large bride price and other customary exchange ceremonies of the PNG highlands (Stewart & Strathern, 1998, 2005).

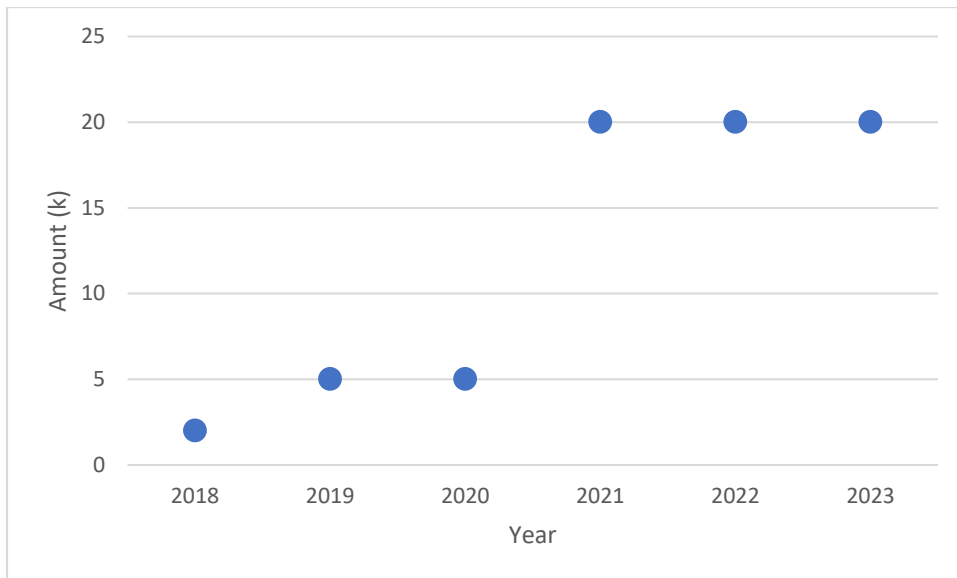


Figure 7-5 Share price (K) for Women's A and Men's A VSLA savings groups 2018 – 2023

The increase in share price in 2021 had an impact on the average number of shares purchased each week by members in both groups. Figures 7-6 and 7-7 show deposit and loan totals for the Women's A group in 2020 and 2021. There were some member changes between each cycle – one woman who dropped out midway through 2020 was replaced in 2021 by a woman from the Women's C group. Two women did not continue in 2021 and were not replaced, leaving only 28 members participating in the 24-week cycle. In 2021, there was effectively an extra week of savings as members were permitted to prepurchase shares.

When shares were at the lower price of K5, most members were able to purchase their full allocation (a maximum of 5 shares per meeting). In the following year, fewer women were able to purchase a full allocation of shares, but the average amount saved increased from K580.20 to K1676.40. Those grouped in the red areas in Figures 7-8 and 7-9 were contributors to profit in the final share-out pool through the interest on their loans. If they are also large savers, they had also contributed capital for borrowing, and they received part of their profit contribution back through their purchased shares. Those in the green groupings contributed capital but did not contribute as much to the profit portion of the share-out. As large or moderate savers, they received an allocation of profit as compensation

for the use of their capital. Members who exited early contributed to profit if they took out loans but did not receive any profit distribution as they did not participate in the share-out.

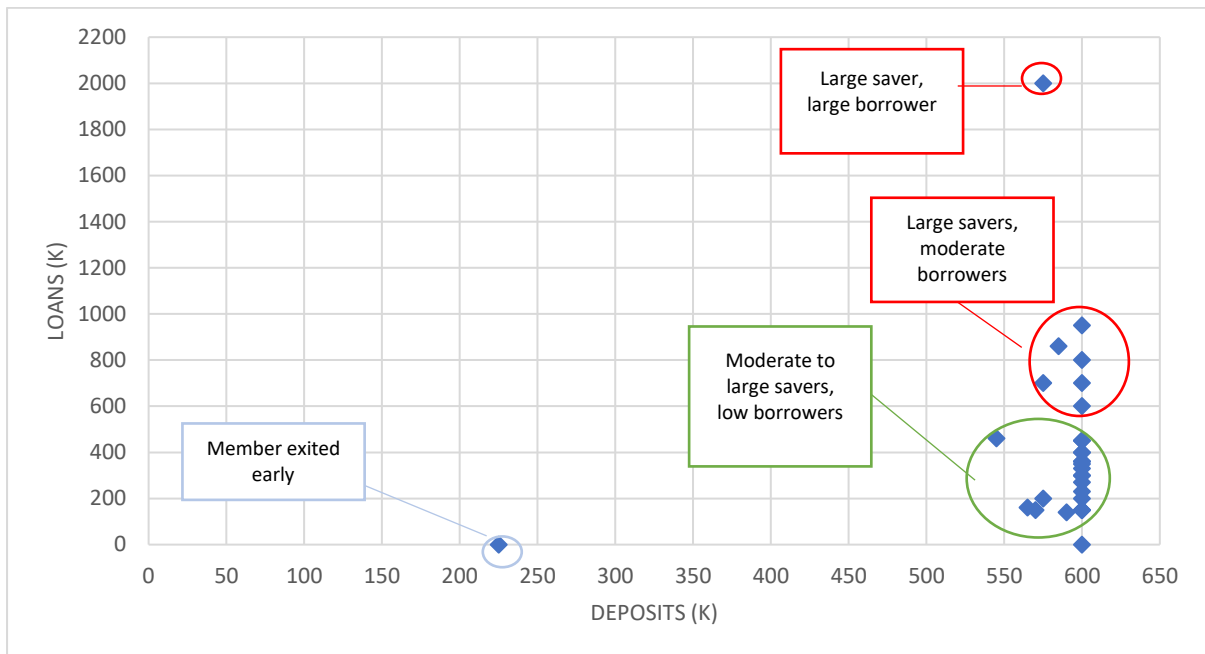


Figure 7-6 Women's A 2020 deposits and loans (K)

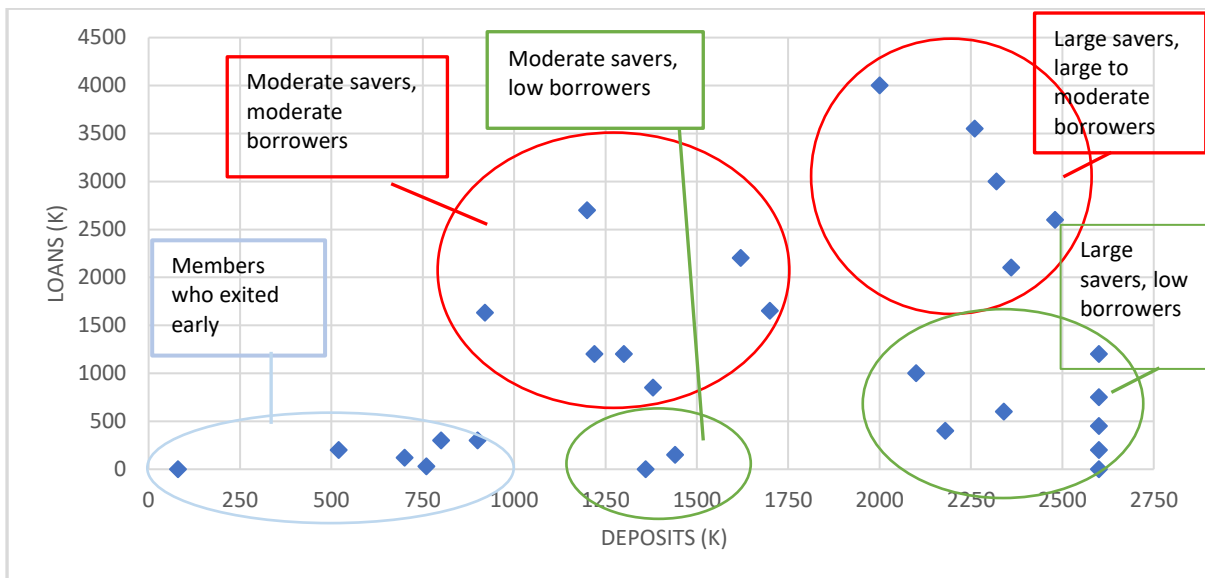


Figure 7-7 Women's A 2021 deposits and loans (k)

The following Figures 7-8 and 7-9 show the deposits and loans for the Men's A group for 2020 and 2021. In this group, three members dropped out from the 2020 cycle and were replaced by new participants, resulting in a full complement of 30 participants in each 24 week cycle. As with the Women's A group, fewer men in 2021 purchased a full allocation of shares when the share price

increased from K5 to K20, although with this group not all members purchased a full allocation in 2020. The average amount saved per member increased from K564.50 to K1486.20.

Of the two large savers/large borrowers in 2021 (Figure 7-9), one did not receive a payment in the share out as he had shares cancelled to repay his debt. He was therefore a significant contributor to the share-out pool, but he did not receive any of the profit. The circumstances surrounding this case are explored later in this chapter. Failure to repay is discouraged by the VSLA groups, and in 2020 three women were taken to the village court by their group for non-repayment of loans. This low tolerance for loan defaults is a feature of the social embeddedness of community-based lending groups, and helps to ensure the sustainability of their lending pool (Biggart, 2001).

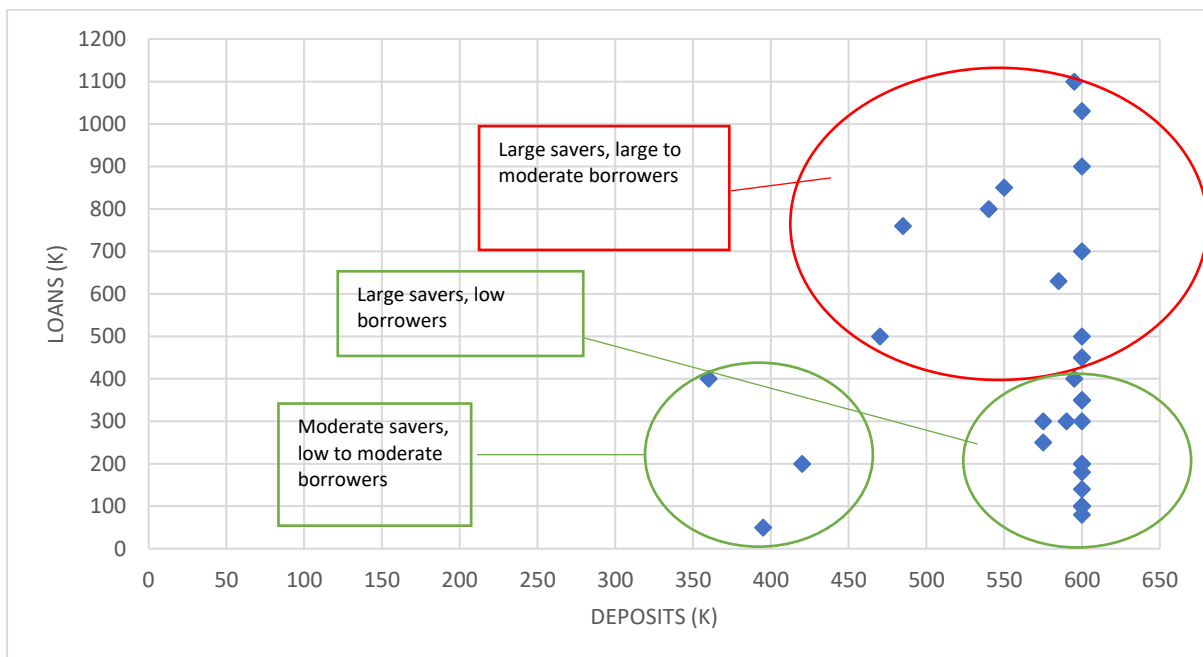


Figure 7-8 Men's A 2020 deposits and loans (K) excluding reissued loans

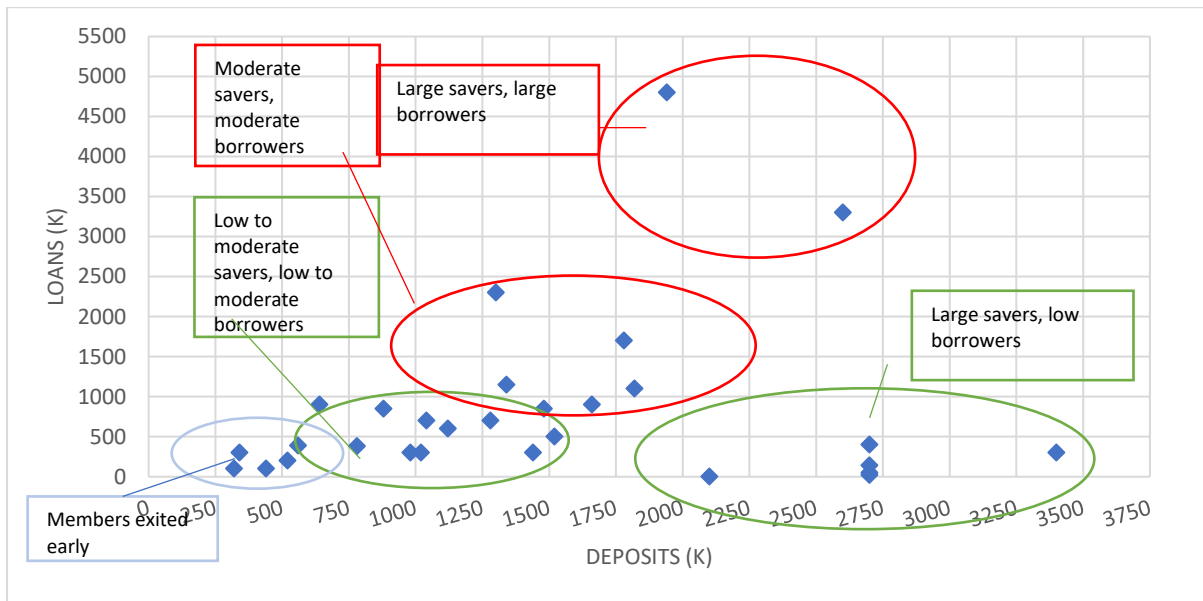


Figure 7-9 Men's A 2021 deposits and loans (K) excluding reissued loans

The number of shares a member has at the end of the cycle is not only relevant to their overall savings, but also to their distribution entitlement. When most members can afford a full purchase allocation on most weeks, the distribution of profit at the end is relatively even across all members. As previously noted, profit arises from the accumulation of interest payments on loans and fines. The distribution of profit may be skewed towards those who have been able to purchase the most shares (i.e., save the most), if some members cannot afford a full allocation of shares each week. This is not a problem, per se, but rather reflects a shift in the pattern of profit sharing when the share price increases to a point where not all members can afford to purchase a full allocation of shares each week. The ability of some members to pre-purchase shares (as occurred in 2021) further increases the unequal distribution of profit. Pre-purchasing of shares is not discouraged in the VSLA guidelines, but the guidelines are ambiguous on how this should be set. The field guide used to establish the Bena groups notes:

If the group wishes to establish seed capital to initiate the next cycle, they should now do [at the beginning of the cycle]. All members may contribute whatever amount they wish, and it can be more than 5 shares on this one occasion, denominated at the new value (H. Allen & Staehle, 2015, p. 31).

In Bena, this was allowed in 2021 for anyone who could afford to do so, and the offer was taken up by one woman (5 shares) and 7 men (1 purchased 40 shares, 5 purchased 5 shares, and 1 purchased 4 shares). The CARE International (n.d. Point 70) online guide to VSLAs notes that “The upper limit of five shares prevents certain members from dominating the group by contributing disproportionately a lot of money”. The purchase of 40 shares by one member is perhaps not in the spirit of the pre-purchase allowance.

The distribution of profit should not necessarily be even across all members. There is a need to supply capital for lending, and it is reasonable that those who supply the capital be compensated for the risk they are taking. In some VSLAs the supply of capital can be an issue, particularly when the membership includes a high number of ultra-poor participants (Burlando et al., 2021; Burlando & Canidio, 2017), and a reason to allow pre-purchase of shares. There can also be issues when the group is comprised of members with homogenous livelihoods, as this can result in periods of poor cash flow which limits available funds for lending (Cassidy & Fafchamps, 2020). Research by the PLRG has shown that supply of capital has not been an issue in the Bena groups (Koczberski, Sharp, et al., 2021). This may be due to the diversified nature of people’s livelihoods which enables access to cash throughout the cycle. This is a feature of proximal embeddedness in the Bena community, and therefore issues with credit availability may occur in more remote communities where the seasonality of coffee income may have a greater influence on saving and borrowing behaviour.

The need for capital should be balanced with the risk of ‘elite capture’, which H. Allen and Panetta (2010) describe as a risk associated with VSLA where better-off community members come to dominate resources to the detriment of more vulnerable members. While the uneven purchasing of shares is not necessarily problematic, an issue arises when a member’s shares are cancelled due to the non-payment of loans and their ability participate in any profit sharing is limited to their remaining shareholding (in some cases this may be nil). This issue and the distribution of profit at the share-out is examined later in this chapter.

Overall, while the change in share price did skew the distribution of share purchases, it did not necessarily leave members worse off. A lower share price can also inhibit members' ability to save. As shown in Figure 7-10, the total amount saved by both groups increased substantially through 2021, which is likely to have provided a much-needed buffer through the economic challenges presented by Covid-19. To fully consider outcomes for members, however, it is necessary to also examine the data on loans and the cost of borrowing, which are the other factors driving the net benefits for members.

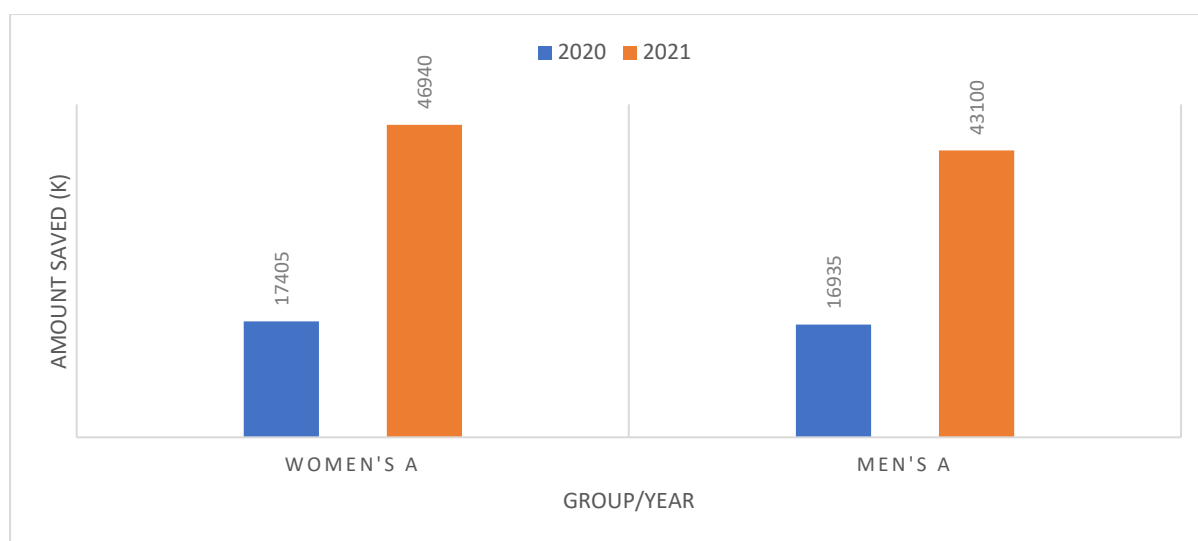


Figure 7-10 Savings totals for VSLA Men's A and Women's A groups (K) (2020 and 2021)

7.4.2 Loans

Based on the rules of this VSLA, members can borrow up to three times their savings, and so the 2021 increase in share price resulted in an increase in the amount most members could borrow. The Bena VSLA groups allow 12 weeks for loans to be repaid. Initially, the consequence for late repayment was a fee of 10% of the original amount, which was later changed to a K10 fee prior to the 2020 cycle. The high number of late repayments in the Men's A group saw a new rule introduced mid-way through 2020. If a payment was late, the outstanding balance was reissued for another 12 weeks with another interest charge. The interest charge across all the Bena groups in 2020 and 2021 was 30%, so the cost of having a loan reissued is significant. The Women's A group have continued with the K10 fee.

In viewing the loan distribution across the two groups in Figures 7-6 to 7-9 it can be seen that in both years most members took out loans. Figure 7-11 shows a substantial increase in the amount borrowed by both groups in 2021, with women taking more advantage of the increase in available credit than men. The amounts which were reissued in the Men's A group due to late payment are also shown in Figure 7-15. The total amount borrowed by women in 2021 was 30% higher at K32,380 versus K24,030 for the men. It is possible that men might have borrowed more if the re-issue penalty was not applied, as when including this the amount borrowed exceeds that of the women's group. The reissued amounts, however, are not new capital. In 2020 the difference between the two groups was only K150, suggesting that both groups had perhaps reached a ceiling of what they were willing to borrow, despite having a higher level of available credit. Calculations by the PLRG indicate that the group had not reached its maximum lending limit in 2020 (Sharp, T L M, personal communication, 18 March 2024), which indicates a conservative borrowing approach.

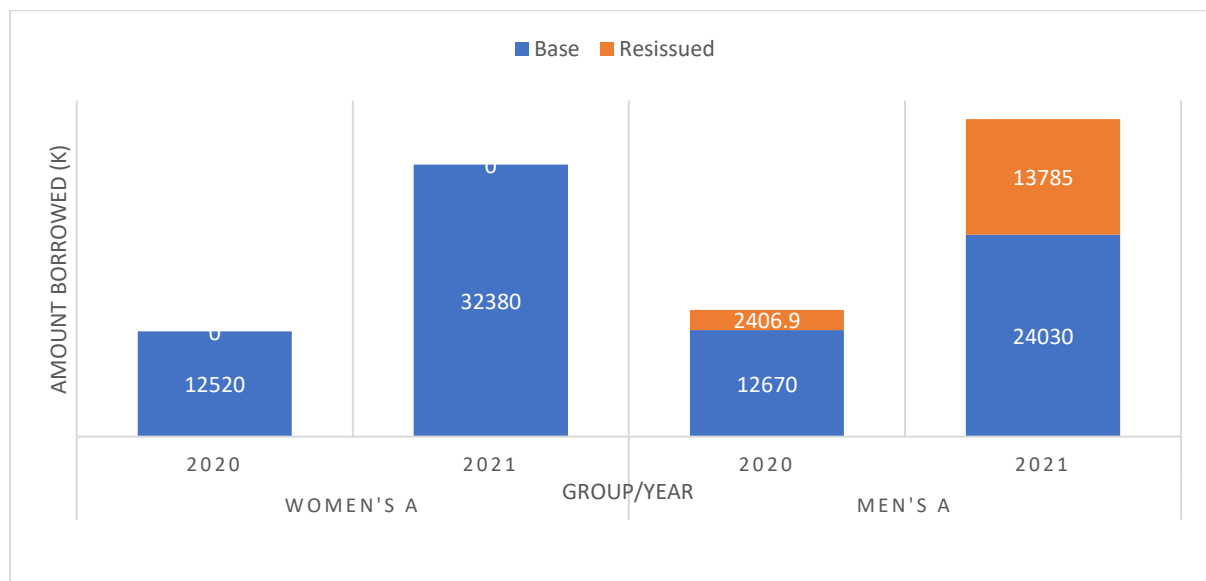


Figure 7-11 Loan totals (new and re-issued) for VSLA Men's A and Women's A groups (K) (2020 and 2021)

Table 7-2 shows measures of central tendency for the total amount borrowed over each cycle by members in each group. While one member of the men's group borrowed K4800 in 2021, 75% of the amounts borrowed were K900 or less. For the women's group, the highest total loan amount was K4000, but in this group the 3rd quartile level was over K1700, indicating more women taking

higher loans. The mean and median loan amounts for the women’s group was also substantially higher in 2021, again indicating that women were taking advantage of this access to credit, albeit concentrated in fewer loans. Women and men both took out fewer loans overall in 2021 (Table 7-3), despite the overall increases in total amounts borrowed. This again suggests a conservative borrowing approach by some members.

Table 7-2 Summary of loan totals for Women's and Men's groups for 2020 and 2021 (K)

Metric	WA 2020 Loans	WA 2021 Loans	MA 2020 Loans	MA 2021 Loans
Min.	0	0	50	0
1st Qu.	170	200	201.6	300
Median	340	800	372.2	400
Mean	417.3	1156.4	502.6	828.6
3rd Qu.	457.5	1762.5	790.8	900
Max.	2000	4000	1310	4800

Note: Calculations are based on the total amount borrowed over the course of a cycle by each member, not individual loans. It does not include re-issued loans.

Table 7-3 Loan, late repayments, and share cancellation frequency for each group for 2020 and 2021

	WA 2020	WA 2021	MA 2020	MA 2021
Total number of base loans	57	48	66	57
Total number of reissued loans	0	0	13	20
Total number of all loans	57	48	79	77
Number of late loans	0	18	25	35
% Late loans	0	37.5%	31.6%	45.5%
% of members with cancelled shares (excluding early leavers)	0	21.4%	13.3%	27.6%

The increase in amounts borrowed would generally be considered a good thing if the return on investment exceeds the cost of borrowing. It is difficult to ascertain the return on investment as the data on the use of funds is not available.⁷⁶ However, we can see from Table 7-3 that the rates of late

⁷⁶ The PLRG collected interview data on loan usage, but this was not available at time of writing. There was a general sense that loans had been used for farm inputs for which a return on investment calculation may still be difficult to undertake. No data was collected on the success of businesses or business turnover.

repayment increased between 2020 and 2021.⁷⁷ The large increase in late repayments for both women and men may be attributable to the higher levels of risk some members were willing to take on, as well as the difficult economic conditions arising from the Covid-19 pandemic. In any case, this deterioration indicates that some members in both groups were experiencing increased difficulty in repaying loans and may not be achieving a good return on investment, particularly if late payments are reissued as a new loan. Furthermore, loans in default at the end of the cycle will have shares cancelled to repay the debt which substantially reduces the return on investment due to reduced share-out participation. This will benefit other members who are low borrowers and high savers, as they will receive a higher distribution at the share-out.

The cost of borrowing remained consistent at 30% of the loan amount across the 12-week loan period for both years for the women’s group. For the men, however, the summary statistics for cost of borrowing presented in Table 7-4 indicate a significant increase with the introduction of the loan re-issue rule. This was exacerbated by the increase in late repayments through 2021. The change of rule in the men’s group indicates a willingness to adapt the rules mid-cycle if an issue is identified. There were, however, no changes made in response to the increased market constraints experienced in 2021 due to Covid-19 which is an issue I discuss later in this chapter.

Table 7-4 *Cost of borrowing for Men's group in 2020 and 2021 (% of total amount borrowed for initial base loan)*

	MA2020 (% of principal)	MA2021 (% of principal)
Minimum	30	0
1st Quartile	30	31
Average	35	44
Median	30	39
3rd Quartile	38	53
Max	58	92

⁷⁷ A late repayment in this analysis is any loan that takes longer than 12 weeks to repay. In some instances, the loan was not repaid by the end of the cycle, even when shares were cancelled to repay the debt. The majority of loans are eventually repaid either through the normal meeting cycle or through having shares cancelled. In 2020 when the demucilager project was operational, it appears that payments were withheld from that project to repay VSLA loans.

Despite the introduction of the punitive re-issue cost for late payment in the men's group in 2020, the number of late payments and defaults continued to increase in 2021, indicating that this was not an effective strategy in addressing late payment. When presenting these findings to one of the leaders of the women's A group, it appeared that this was a point of contention between the men's and women's groups, and she felt vindicated with her position. On the other hand, the community project leader, who is a member of the men's group, thought that stronger punitive measures may be necessary. This is demonstrative of the differences in approach taken by the men's and women's groups in establishing operational rules.

It should be noted that the VSLA provides a one-size-fits-all approach to credit and does not match loan terms to borrower needs. This can be contrasted to a formalised banking system which offers a range of products to suit different borrowing needs. The Bena VSLA is similar to either a credit card or overdraft facility which charges high rates for an unsecured loan. However, it should be remembered that the group sets the interest rate at the beginning of the cycle, and in the case of the Bena group they have been happy to keep it at 30% of the amount borrowed. These types of loans are most suited for managing short term cash flow rather than the establishment of new businesses. The loan data here, as well as the profit analysis and case study presented later in this chapter, suggests that using VSLA loans to start a business carries a high cost burden and risk to both borrower and lender. Evidence of this risk is supported by other research on small business operations in PNG (Curry, 1999, 2005; Curry & Koczberski, 2013). As previously noted, members in a VSLA are both borrower and lender, and theoretically should not be disadvantaged by higher costs of borrowing as this should in part be returned to them at the share-out. This, however, does not hold true when members' share-out payment is reduced due to cancelled shares.

Another contrast to Western style banking is the collectivised approach to credit approval. At this VSLA, borrowers are expected to explain to the group what they plan to use the funds for before the loan can be approved, and this aligns to VSLA recommendations (CARE International, n.d.). A review of lending decision making in savings groups in the DR Congo indicated that while group debate

surrounding loan approval could be intense, it rarely related to credit history or efficient allocation of capital. Rather, the following criteria were most important: a) that all members had a right to access credit and (b) that all members had a duty to take out a loan in order to contribute to the end share-out (le Polain et al., 2018, p. 167). Members of the Bena VSLA were encouraged to take out loans in order to contribute to the end share-out pool, without consideration of the ability to repay. As my RA noted:

Only some people save a lot, borrow money, and struggle to repay their loans. Most people just want to come and save and they don't want to get loans, while others struggle to make a profit for the whole lot (WhatsApp 10 Sept 2022).

The data indicates that the failure of members to take out loans is an exaggeration, at least for the Men's and Women's A groups,⁷⁸ but it is indicative that members understand that the profit pool comes from loans and that all are expected to contribute. Some members will take out small loans of 100 to 200 kina and pay them back at the following meeting, which demonstrates their *gutpela pasin* in contributing to the share-out.

The simplified approach to credit approval used in VSLA is suitable when the capacity to incur debt is limited. However, the increase in share price, made by the members, greatly increased the potential amount which could be borrowed to levels which, in some instances, were beyond the capacity of borrowers to repay. The low financial literacy in the community (Chapter 3.6) suggests that specific training and support may be necessary to understand the management of larger debts for both borrowers and the community as lenders. This recommendation is discussed further in Chapter 9.

In summary, the change in the share price, and consequent ability to borrow more, led to larger loans being drawn down in the 2021 cycle. Subsequently, there was an increase in late payments, and an increase in members having shares cancelled. When shares are cancelled, it means that these members will receive less of the fines and interest charges to which they have contributed through

⁷⁸ My RA was a member of one of the other Women's groups which may have had fewer loans dispersed.

their borrowing behaviour at the share-out. Changes to the way defaults are managed in the men's group also led to higher costs of borrowing and appeared to limit the ability of members to borrow new funds. To further understand the implications of this change in share price, I now consider the redistribution of wealth through the share-out, and who the beneficiaries were.

7.4.3 Wealth redistribution

An important distinction between VSLAs and microfinance schemes is the redistribution of interest/service fees back to members rather than to lenders outside the community (H. Allen & Panetta, 2010). This keeps the flows of wealth within the community, while relying on community members to provide capital. This system provides an opportunity for members to profit⁷⁹ through the redistribution of these fees in the final share-out. Excluding the return from investment of loans in businesses, the highest return for an individual from the VSLA account can be achieved by saving the most (i.e., buying a full allocation of shares each week) and borrowing the least (i.e., contributing the least in interest/service fees to the final distribution pool). Table 7-5 provides an overview of profit/loss achieved by individuals in both groups across 2020 and 2021. Where the amount is negative, the borrowing costs (interest and penalties) exceeded what they received in the share-out distribution, although they may have received a payment which consisted of their original share purchase capital. In most cases, however, the negative result is due to having shares cancelled to pay off debt.

The spread between first and third quartile profit increased substantially for both groups in 2021, with the majority of members in the Men's A and Women's A groups better off in 2021 than in 2020. There were, however, some significant losses experienced by a few members which matched profits on the high end. To understand the characteristics of those experiencing losses, I utilised PLRG data

⁷⁹ I am specifically referring to profit here as the amount received in the distribution less deposits, fees and interest costs, or return on savings. It is not a full return on investment which would include the profit made from investing the funds borrowed elsewhere.

from the 2018 household survey to assess members based on their housing and asset ownership. Members were segmented based on their profit quartile ranking (Q1 low to Q4 high). For this analysis, I am only examining those in the Q1 and Q4 2021 men’s and women’s A groups. Flows of wealth may include income from outside sources which, for this community, is primarily coffee and fresh food income (Chapter 5.4.4), but which for some participants was constrained by the Covid-19 pandemic in 2021, as discussed later in this chapter. The flows of money were therefore circulating more within the village economy than in the non-Covid period when there was greater engagement with external network nodes (Figure 6-1).

Table 7-5 Individual profit (K) for Women’s A and Men’s A group 2020 and 2021

	WA2020	WA2021	MA2020	MA2021
Minimum	-466.8	-1200.0	-155.1	-1440
1st Quartile	-8.8	-15.8	-69.3	-68
Average	7.5	314.3	30.3	283
Median	32.5	281.2	67.4	304
3rd Quartile	77.6	720.7	112.6	530
Max	139.0	1262.1	152.4	1432

Note: Adjustments have been made to include outstanding repayments for loans still in default at the end of the 2021 cycle.

The 2018 PLRG survey assessed whether households were living in bush material, semi-permanent, or permanent housing. For each of these house categories, I assigned (respectively) a ranking of 0, 5 or 10. The decision to use a 0, 5 and 10 ranking was arbitrary as any even scale could have been used for this purpose. The assigned weighting of a higher number for higher permanency is based on cost of construction – more wealth is required for semi-permanent homes, and more again for a permanent home.

In relation to assets, 1 point was given for ownership of each of the following:

1. Hand pulper
2. Motor pulper
3. Car
4. Truck or PMV
5. Smartphone
6. Rain tank
7. Livestock e.g., Pigs, Goats, Sheep, Fish, Bees (ownership of each type was assigned one point)

The household type rating for Quartile 1 and Quartile 4 profit levels for both the women’s and men’s groups in 2021 is shown in Table 7-6. There were 7 men and 6 women who could be matched to survey data in Q1, and 7 men and women who could be matched in Q4. The score for asset ownership for these groups in 2021 is shown in Table 7-7. Across all households surveyed in 2018 (n = 79), 44% had a bush house and 44% semi-permanent, with the remainder having a permanent house. The average number of assets across all households surveyed within the community was 2.44. It should be noted that the survey was conducted before the establishment of the VSLA, and so the data provide an indication of financial position prior to the intervention.

Table 7-6 Average type of house score for high and low profit quartiles in Men's and Women's A 2021 groups

	Average Type of House Ranking	
Group	WA2021	MA2021
Q1 Low Profit	3.33	2.86
Q4 High profit	5.71	5.71

Note: A rank of 5 or higher indicates more likely to have a semi-permanent or permanent house

Table 7-7 Average number of assets for high and low profit quartiles in Men's and Women's A 2021 groups

	Average Number of Assets (community avg 2.44)	
Group	WA2021	MA2021
Q1 Low Profit	2.33	2.14
Q4 High Profit	3.57	3.00

The data indicate that for both measures, the Q1 low profit group were, on average, below the community mean in terms of asset numbers, and were more likely to live in a bush house. The high profit earners in Q4 had more assets than the community average of 2.44 and were more likely to live in a semi-permanent or permanent house. As previously noted, it is important for VSLA groups to have members who are able to provide capital, however, in 2021 there appears to have been a

wealth redistribution from the asset poor to the asset rich which may have been exacerbated by share cancellations to repay debt. This aligns to findings from a sample of 104 savings groups in Uganda⁸⁰ which found that in any given group, those with more wealth tend to save more than those with less wealth, but they don't necessarily borrow more, and that the comparatively rich are lending to the comparatively poor. There was a slight negative correlation between initial wealth and the net borrowing position across all wealth levels, indicating that households with less wealth tend to borrow slightly more than those who are slightly wealthier. Furthermore, factors like gender, income, and other personal traits had no significant correlation with the net borrowing position (Burlando & Canidio, 2016).

The higher borrowing needs of poorer community members is not necessarily an issue since, as Burlando and Canidio (2016, p. 1394) put it, "the poor have better use of funds than the rich". It does, however, become problematic when debt cannot be repaid, and shares are cancelled. Neo-classical market logic might suggest that this risk is minimal, since it has been suggested that:

In the presence of severe credit-market frictions, only sufficiently wealthy households borrow and engage in high-return projects requiring large upfront investments. Poor households self-insure against income shocks by saving, or are not active in the credit market, preferring to deploy their own resources in activities requiring little or no initial investment (Burlando & Canidio, 2016, p. 1381).

Later in this chapter I present a case study which explores this assumption during the challenging environment of Covid-19. It shows that conservative approaches are not always followed during difficult periods, and that there may be a need for rule adaptation through these periods to protect those with a high appetite for risk as well as the group members who are lending money.

⁸⁰ This research used a similar methodology to that used in this chapter, drawing data from passbooks for analysis and comparing to household survey data.

7.4.4 Share-out at Bena

One of my earliest engagements with the Bena community was when I attended a share-out for the second round of the VSLA in 2019. I was struck by the degree of planning and work that had gone into the event. A stage had been built, as well as new wooden benches for seating arranged in a triangle to accommodate the three savings groups.⁸¹ Additional seating was built to serve invited dignitaries and other guests. This was done according to a detailed, documented plan drawn up by Alfred, who was the community-based project leader involved with setting up the VSLA. The women VSLA participants were dressed in the uniforms they had designed and sewn themselves in the early stages of the first round (Figure 7-12). The decision to wear uniforms was taken by the women members after one wore hers to a meeting and others took up the idea. The incorporation of the PNG flag colours into the design reflected the fact that the CARE VSLA model first came to PNG in this community. The style of the uniform is most commonly a variation of the *meri blaus* (women's blouse), the ubiquitous garment worn by women throughout PNG. The men chose to wear shirts in the colours of the EHP flag (Figure 7-13), which highlighted the fact that VSLA had come to EHP first. The wearing of the *meri blaus* is itself a form of performative femininity (Spark, 2015). In the community, younger women often wear Western attire, purchased from one of the many second-hand clothes stores in Goroka, although the *meri blaus* is still common. At ceremonial events, the *meri blaus* is worn as a marker of *gutpela pasin*. At the share-out, one woman wore a 'bilum dress' made in the same looped yarn fashion used to make its namesake (Figure 7-12). The production and selling of *bilums* is a commercial activity for women around Goroka, and their use is practical, ceremonial, and a commodity representative of Highlands culture which is produced in the informal sector and sold to tourists and urban elites. It is also an important exchange item and is given to women at significant milestones in their lives, such as marriage or menarche, and is included in many

⁸¹ In 2019 when I attended the share-out there were one men's and two women's groups. An additional group was added in 2020.

ancestral stories (Barnett-Naghshineh, 2018; Cochrane, 2005). The wearing of a *bilum* dress is not only a statement of group membership, but also a display of skill in this important arena of feminine production.

When welcoming us, the group sung a song created by Alfred which named the organisations (including Curtin University) which have supported VSLA, as well as the name of the community group which is a portmanteau of the four village names. This type of identity creation through combining names has been described elsewhere in PNG (Maclean, 2013) and was also used to create the name of Jiwaka Province (from the Jimi, Wahgi and Kambia groups) (Kau, 2014). The uniforms, group name, and the song serve to create an institutional identity outside of existing family and clan lines. The relative stability of the groups since inception suggests an attachment to these new identities, and there is certainly a sense of pride and prestige associated with membership in the Women's A and Men's A foundational groups. Members also feel pride in being part of the Bena group as a whole, as it was the first site in PNG to have a VSLA. Aside from its economic function, the VSLA plays an important role now in the social life of the community, with community members spending around half a day per fortnight in meetings, and the alternate week doing collective farming and building projects.



Figure 7-12 Women participating in the 2019 share-out in their PNG flag uniforms with bilum style dress in foreground



Figure 7-13 The 2019 share-out, with men in their EHP flag uniforms

The success of co-operatives in the PNG Highlands can be hampered by inter and intra-clan rivalry and fighting (Sengere, 2016; Sinclair, 1995; Thompson-Orlegge, 2010). The formation of new group identities can both bridge these differences and create new sources of conflict. This has been

described in other PNG contexts, such as co-operation and rivalry between members of the United Church and Seventh Day Adventists in the south coast of PNG (Goddard & Van Heekeren, 2003), or when people claim a clan affiliation to access benefits from mining (Dwyer & Minnegal, 2018). New networks of social embeddedness create opportunities for people to work together on other projects such as the demucilager, but they can also create avenues for resentment and jealousy which group leaders must manage carefully, an issue I explore in more detail in the next chapter.

The concept of *wanbel* is also useful in understanding the importance of group harmony and purpose. Literally translating to ‘one stomach’, it is a Tok Pisin term which refers to being in a state of agreement, living well with others and having happiness and social harmony (Steven, 2020). It is also a process used for conflict resolution and so, like *pasin*, it is also performative (Troolin, 2018).

Creating *wanbel* is achieved through a range of processes, including exchange and face to face meetings, and has conceptually been used to explore issues such as the dynamics of business groups and conflict resolution in PNG (Steven, 2020; Troolin, 2018).⁸² *Wanbel* is considered to be a powerful state, without which misfortune may arise. Participation in the VSLA, which involves much group work and decision making, provides an ideal opportunity to create *wanbel*. The share-out is also a time when the group’s state of *wanbel* is made evident to observers.

The share-out events have been used not only to showcase the success of the savings groups, but also to showcase other areas of skills and comparative economic advantage in the community. Pineapples, which are a key source of income in this community after coffee (Inu, 2015), featured heavily in the event I attended. Guests walked down a row of the participants and were given leis in the colours of the group, and as many pineapples as they could carry. The 2021 share-out included a display of *bilums* for sale (Figure 7-14), which, as previously noted, are a demonstration of ideal feminine skill. The women understand that *bilums* are a potential source of income and would like to

⁸² For a detailed overview of the concept and associated practices see Troolin (2018)

see the community's connection to external organisations leveraged to develop this business opportunity.



Figure 7-14 Bilums on display at the 2021 share-out
Source: From photograph supplied by Ukaiya, A. Copyright 2021 Ukaiya, A.

The bilums shown in Figure 7-14 are emblematic of the new identity formed through VSLA participation. The colours of red, blue, green and gold are part of the logo of the co-operative (Figure 7-15) which members of the VSLA are a part of, and each colour has a special meaning. Red symbolizes the co-operative's income-generating activities, as does the red carpet they will walk on. Green represents the group's agricultural work, encompassing all their efforts. Yellow, or gold, is the wealth generated through the group's endeavours. The last colour represents the good life (TP gutpela sindaun) that will come from their hard work and is the sky blue of heaven. Bilums, which historically were used to identify a person's membership of a particular clan, are now used to publicly identify membership of a co-operative (G Koczberski, personal communication, 20 February 2024).

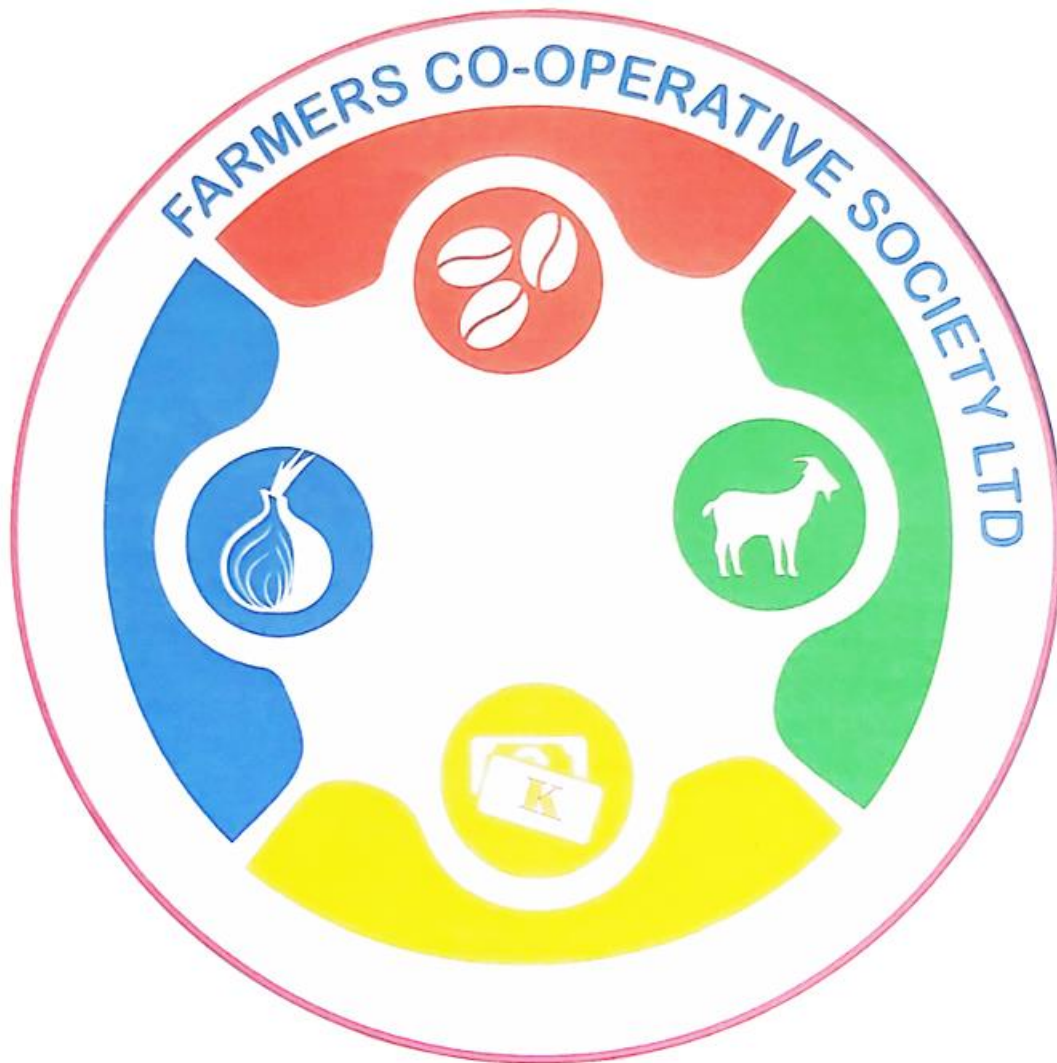


Figure 7-15 The logo of the co-operative associated with the VSLA and other Development projects (group name removed)

The VSLA governance requirement to conduct a periodic distribution does not require groups to incorporate any degree of ceremony into the process (CARE International, n.d.), and so the inclusion of additional activities is at the discretion of the group. It is unclear whether the Bena share-out ceremony is unique in the global context of VSLA operations, but a review of public videos of share-out's from VSLA groups in Ghana indicates that while it is viewed as an important achievement, there is not the same effort put into the event there as in Bena (Mpuntusem TV, 2020; PDA TV, 2020; Seidu, 2021). The same appears to be the case in an example from Uganda (Invisible Children, 2024).

A share-out at another Goroka town group in 2023 appeared to have similar levels of public recognition attached to the event, although this group was mentored by Alfred, the same

community leader that co-ordinated the Bena groups. Of particular note was the attendance at the event by members from the Bena group, as well as another group from Simbu province. This witnessing of *gutpela pasin* is an important aspect of the social value of the share-out, and was also part of the washing hands ceremonies of *Wok Meri* groups (Sexton, 1986). The project community leader Alfred often spoke to me of the importance of the social aspects of VSLA and how it taught people to work together towards a common goal. The witnessing of this event may have been of value to the Simbu group in this respect. However, the attendance of the Bena group, who are well versed in the ways of VSLA, is more likely to have been to support and recognise the achievement of the Goroka group.

The Bena share-out follows a similar format each year. Alfred manages the programme, which starts with him providing an acknowledgment of guests and a rousing speech in a manner akin to the oratory practices of Bigmen and religious leaders (Chapter 2.6). A testimonial is then given by a group member. This is an opportunity for men to display their own oratory skills, although women sometimes speak too. In 2021 the testimonial was presented by Luke, the subject of my case study in Chapters 6 and later in this chapter. As discussed in the case study, he is a young man who lacks paternal relations in the community and is thus more insecure in terms of access to land and support for bride price. The narrative core of his speech in 2021 was perseverance no matter what. His business had been significantly affected by Covid-19 lockdowns and the community as a whole had either suffered illness or lost family members to the disease, yet he persisted with making contributions and attempting to repay his loans.

In 2019 the speaker was an older man, reflecting on his journey as a VSLA member from the beginning. A standard element of the CARE model is a box with three padlocks used to keep the money, the keys for which are held by three different group members. At the initial presentation of this box, the man reflected that when he opened it, he expected it to be pre-filled with money. This thinking is perhaps to be expected, as the VSLA project is associated with the world of white people who operate outside the bounds of traditional concepts of exchange. It took several meetings and

encounters with the box for him to realise that it was the community that had the role of filling the money box.

The testimonies given at the share-out offer a range of moral lessons which both create and reinforce ideas of what constitutes *gutpela pasin*. These include the value of hard work, the responsibility of the community to work together and be the driver of its own development, and the benefits of being a part of this particular network which has formed outside of traditional clan lines. Other speakers included the community leader as well as research partners, CIC, NGOs and politicians. There were a number of women from partners and NGOs who presented at the 2019 share-out, and this presents an opportunity for women to be seen in leadership and oratory roles.

Overall, the share-out is a time for the community to make visible their unity and economic prowess, and for the community project leader to show his efficacy at drawing followers to his projects. Both the production of monetary wealth and entrepreneurship are on display with the showcasing of the share-out, pineapple production, and *bilums*. Through acts such as wearing uniforms, singing songs, the display of the group *bilum*, and naming the group, identities which transcend clan lines are established and the cultural institution of VSLA is created. The creation of new group identities outside of traditional clan lines has been seen in other PNG contexts in order to reduce conflict and work collectively towards a common purpose (Dwyer & Minnegal, 2018; Goddard & Van Heekeren, 2003). The work done to create this identity is an important component of the success of VSLA and should be part of any plan to expand the concept elsewhere in PNG.

The share-out provides opportunities for both women and men to perform acts which may be recognised as *gutpela pasin*. Women show their skill at *bilum* making and food production, and men have an opportunity to display their oratory skills and ability to accumulate wealth and followers. Women also have an opportunity to modify traditional gender roles when they too speak at the share-out and display skills at managing money. At a group level, VSLA members are able to show to observers their skill at attracting money. These social benefits of the share-out complement the

economic benefits which may be achieved through access to savings and credit. These encounters between individuals and institutions initiate the process of structuration, where tradition is both replicated and modified to incorporate new ideas.

I now turn to a consideration of the impact of Covid-19 on the Bena VSLA and people's ability to save and repay debt. The pandemic provided an (unwelcome) opportunity to investigate the response of VSLA members to adverse market conditions. I utilise data from questions to my participant cohort to show the impact of Covid-19 on their livelihoods, as well as a case study of one of the members of the Men's group who was left with significant debt at the end of 2021. This case study shows that Neo-classical economic logic which suggests that poor households will rather use savings than credit during income shocks (Burlando & Canidio, 2016) is not followed when there are social motivations to engage in risky business ventures.

7.5 The impact of Covid-19 on the village economy

As I described in Chapter 3.10, the Covid-19 pandemic impacted the lives of community members in both 2020 and 2021 not only due to lockdowns and market closures, but also due to a generalised fear which kept people in their own homes and gardens for periods outside official restrictions. The impacts became acute in 2021 when new variants caused higher infection rates. Many people in the Bena community became sick, and some died. Interviews with my sample households indicated a number of them experienced financial hardship of some kind, but the impact across the group was variable. Four of the 15 respondents indicated they had to reduce their contributions to family for school fees and customary obligations. Nine respondents had to reduce their VSLA savings, whereas two kept up the same level and six actually increased their saving rate. Overall, the impacts were experienced differently across the community.

With regard to impacts on labour allocation, my research indicated that people's strategies were variable, with some favouring coffee over garden work, and others the reverse (Table 7-7 and Table

7-8).⁸³ There were 11 women respondents and 4 men, and the weighting towards women may have influenced the responses, although the 4 men were split evenly between increasing and decreasing time spent on coffee work, and all men increased their time on food garden work. Participants noted that they wanted to avoid other people, even outside times of lockdown. One man indicated that he chose to “focus on planting foods in the garden to have enough food for the next pandemic rather than spending money again”. The one person who was making money elsewhere was Lauren (Case Study 6.4.1) who tried fresh food marketing and re-selling in Lae but came back when she got sick. Increased costs of store foods and other financial pressures motivated people to either spend more time in coffee or fresh food, depending on their situation and preference.

Table 7-7 Change in Time Spent on Coffee Work (n=15)

			Totals
Reasons for Increasing Time Spent on Coffee	Avoiding other people	3	8
	Restricted movement	2	
	Replace food income	1	
	Wanted coffee maintained	1	
	Increased expenses	1	
Reasons for Decreasing Time Spent on Coffee	Spend more time on food production	3	6
	Coffee disease	1	
	Too sick	1	
	Making money elsewhere	1	
Stayed same	No coffee	1	1

⁸³ See Table 11-5 Appendix A for question set.

Table 7-8 Time spent on Food Garden Work (n=15)

			Totals
Reasons for Increasing Time Spent on Food Garden	Avoiding other people	2	10
	Decrease dependence on store food	4	
	Increase future income	2	
	More available time	2	
Reasons for Decreasing Time Spent on Food Garden	Too sick or nursing others	2	5
	Making money elsewhere	1	
	Focused on coffee	1	
	Pigs/lack of fencing	1	
Stayed same		0	0

7.5.1 Luke – taking on risk through Covid-19

The following case study explores the impact of socially motivated risk-taking in the context of difficult economic conditions. I previously described Luke and his situation in Case Study 6.3.2. To summarise, he is a young married man with one child, and he was an active member and supporter of the VSLA as it represented a pathway to social recognition through demonstration of *gutpela pasin*. Luke’s standing in the community is limited as his father is from Lae on the coast and he is living on his mother’s brother’s land. He has yet to pay a bride price – an obligation which burdens him greatly.

After the 2021 cycle, Luke was left with considerable debt which was not fully repaid by cancellation of shares. His wife and his mother are also members of the Women’s A group. As noted in Chapter 5, the chicken business that drove most of the financial flows I presented in his earlier case study was initiated by his mother and managed by him and his wife in their household. At the time of the diary keeping, it is my understanding that he had not yet embarked on his own venture to bring coconuts up from the coast for resale. The distinction between his and his wife’s business is not clear cut as the finances are managed at a household level. From a loan perspective, however, it appears that

the wife's loans were used for the chicken business and his were used as capital for the coconut business.⁸⁴

The selling of dry coconuts is an increasingly common and potentially lucrative livelihood strategy for those willing to transport them to the Highlands (Sharp, Tilden, et al., 2022). Like betel nut, coconut is brought from the coast by specialist traders in large lots (Sharp, 2012), although in contrast to betel nut, it can be sourced much closer to the Highlands and thus involves less risk. Barnett-Naghshineh (2019) describes a young male seller of coconuts in the Goroka market place whose circumstances are similar to Luke's. Her ethnographic fragment shows that unlike other fresh food crops, coconuts are less feminised in the marketplace. Men are comfortable selling the crop in the market, possibly as it is not something that women in the Highlands grow themselves.

Luke's decision to embark on a business selling coconuts was under-pinned by societal embeddedness and the networks he has with his father's family on the coast. These networks created an awareness of the potential for profit and a familiarity with coconut as a traded commodity. The returns can be high, but the risks associated with bulk trade between the Highlands and the Coast can be substantial. Loss of life as well as money is a very real possibility (Benediktsson, 2002; Sharp, 2012).

For Luke, the environment he began his business venture in was even more hostile than usual. The Covid-19 pandemic had imposed limited marketing opportunities, and many people were suffering financially as a result. Additional financial pressures were arising due to sickness and death. People found it difficult to work through periods of illness, and they were having to find additional money for mortuary payments when family members died. My conversations with my research assistant from August through to October in 2022 were filled with visits to hospital to visit her sick father-in-

⁸⁴ This is an example of both the challenges of remote data collection, and also the value of long-term engagement with the community which has enabled me to validate results.

law who, sadly, eventually passed away. Much time was spent on funeral arrangements for him and many others in the community.

Despite the challenging market environment, no changes were made to VSLA lending rules to accommodate Covid-19 related disruptions during this period. The increase in share price at the beginning of 2021 instead increased access to credit. This increase occurred before any significant impacts from the pandemic were felt by the community. In April of 2020, CARE International had issued a learning brief with recommendations for VSLA adaptations to the pandemic. As well as suggested measures to prevent the spread of the disease in meetings, it also noted:

Many savings groups are focusing on getting cash into the hands of members who will need it to fall back on it to weather this crisis. That includes accelerating share outs, suspending lending, creating “Covid-19” funds, and/or using the social fund to cover costs for group and/or member adaptation (CARE International, 2020, p. 1).

It is unclear if these recommendations were presented to the Bena group. The long delay in PNG feeling the impacts of the pandemic (Day, 2022) may have meant that they were issued too early to be taken seriously. The need to change strategy part way through a savings cycle is also something the group had not previously had to contemplate and may therefore not have been thought of as a possibility.

Interviews with my cohort conveyed a consistent message; people were unable to borrow from their family to meet expenses as everyone was experiencing the same pressures. As noted above, individual responses to the situation varied among the people who were interviewed. For most, it meant cutting back on costs, including school fees. These responses are similar to those seen after the Cocoa Pod Borer (*Conopomorpha cramerella*) impacted the incomes of cocoa farmers in East New Britain, PNG (Peter, 2021). Others in the Bena community, like Luke, tried to continue as though nothing had changed and persisted with business ventures. He explained how this went for him:

My wife took a loan to raise chickens, and I took a loan [from VSLA] to do coconut sales so that in one way or the other we can help each other in each business. However, the car I hired to transport the coconut cost K1500, and on the first trip the supply of coconut was very low because people were

scared of Covid, so I did the sales, but I made a loss. I tried with a second trip with some money borrowed from the chicken business but again I made a loss. I tried again a third time and then I made a very big loss... almost K5000 to K6000 went to transport and I lost it all. I was unable to pay the money back for two round trips. All the savings from VSLA goes back to their loan and we still have some outstanding loan yet to repay.⁸⁵

Luke's desire to take on risk during this difficult time runs counter to the Neo-classical logic described above, whereby those less well-off will avoid credit and taking on business risk during difficult times.

While Luke's case was the most significant in terms of poor credit management, the increase in late loans in both groups shown in Table 7-3 indicates that others also experienced challenges with loan repayments. In Luke's case, it is possible that his desire to demonstrate his skill at business management and his ability to provide for his family (a feature of ideal masculinity (Barnett-Naghshineh, 2019; Dickerson-Putman, 1996)), combined with inexperience in debt management, led to his poor financial outcome. Unfortunately, Luke's inability to repay the debt by the end of the cycle may have had negative social outcomes as well. I was advised that he was permitted to join the 2022 cycle but only so that he could repay his loan. His record book indicated that he was only buying one or two shares each week⁸⁶. During this cycle, my research assistant said he was helping his wife with her garden food marketing. I was unable to speak to him during my final field visit in 2023, but I did speak to his mother who told me he was only doing garden work at the moment and avoiding other business ventures for the time being. The general sense I had from people was that he was working hard to try and recover. His mother was continuing the work with her chicken business which was supported by her VSLA savings. She told me that the money she was making from that exceeded income from coffee and fresh food, so she was concentrating on chickens. Luke's business failures are likely to have caused him some social shame and may be a reason why he did not want to see me. The shame that is associated with not repaying a debt to your fellow community

⁸⁵ See Table 11-5 Appendix A for question set.

⁸⁶ The data relating to record books for the 2022 is incomplete and I am unable to determine if he participated for the full year or paid off his loan from 2021. The loan was still outstanding in the data that was collected in October 2022.

members is one reason that ROSCAs like the VSLA have a lower default rate than microfinance schemes (Biggart, 2001).

In summary, the VSLA provided Luke with an opportunity to display *gutpela pasin* through his engagement in this community project, as well as his business activities. The increased share price in 2021 was beneficial for him in terms of savings, as he accumulated K1940 during the course of the year. However, this also allowed him to borrow more; K4800 in loans, with K3850 of the original loan reissued which included an additional 30% fee due to late repayment. All of his savings went to repayment of this debt, and he therefore received no share-out. As his savings did not cover all of what was owed, his participation in 2022 appears to have been focused on loan repayment rather than saving. Luke's position as a young married man living on his mother's brother's land, who is yet to pay bride price, led to a high appetite for risk despite the adverse business environment. It is possible that in favourable market conditions the risk may have paid off, but in this case, he was left in both an unfavourable social and economic position as he undertakes food marketing from the household garden (what might be viewed as women's work) to repay his debt.

7.5.2 Responsiveness to external market conditions

The data presented here indicates that the Covid-19 pandemic had a negative impact on at least some VSLA participants' ability to save and repay debt. In both the women's and men's groups, five members incurred losses of more than K300. Late or defaulted loan payments also impacted members whose money was not repaid in a timely manner. My findings indicated that members should potentially give consideration to external factors when setting the parameters of each savings and loans cycle, and to also perhaps reset these parameters should market conditions change through the cycle. Care should be taken to ensure that any resets do not disadvantage members. This may be challenging, given that the increase in share price was, overall, a benefit in terms of increasing savings. This recommendation was shared with the VSLA community leader during my final visit to the site and he agreed that this should be undertaken in the event of any future adverse market conditions.

On the other hand, the VSLA was an important source of support for most of the members through the difficult conditions of the pandemic, and overall the group was able to achieve record deposit levels. This was evidenced by a 169.7% increase in deposits in the Women's A group and 154.5% increase in the Men's A group in 2021 after increasing the share price. Evidence from Nigeria and Uganda indicates that members of women's savings groups were more resilient during the Covid-19 pandemic than non-members, and that the groups provided an opportunity for women to display leadership during this difficult time (de Hoop et al., 2022). For most Bena members, this was also likely the case, particularly as opportunities to borrow from friends and family were limited and community members indicated they had to be more self-reliant during this period of widespread calamity. Other research in Zimbabwe, where lockdowns were extensive, indicated that savings groups were put under considerable strain, and that their informal nature made them susceptible to shocks (Chineka & Mundau, 2021). The recommendation in the Zimbabwe case was to make savings groups more adaptive to specific contexts. The fact that over a third of the Women's A group and more than half of the Men's A group had late or defaulted loans in 2021 indicates that changes to group rules may be necessary during difficult external conditions to ensure members do not financially overextend themselves. In the following section, I model the impact of different market conditions on members' ability to repay debt.

7.6 Modelling the impact of change in external market conditions

The impact of change in external market conditions and different loan to savings ratios is modelled in Figure 7-16. The current lending ratio is set at a maximum of 3 (K1 savings = K3 available as a loan) and is not varied, although this is a decision of the group rather than a VSLA guideline. It is possible for a group to have a lending ratio of 1, and for members to borrow less than the limit. The horizontal lines shift upwards in unfavourable market conditions, reducing all members' capacity to repay. When market conditions are good the line shifts downwards, increasing all members' capacity to repay. The introduction of the demucilager, for example, may improve market conditions through increased returns to labour. The member lines diverge as the share price increases, as the cost of

borrowing increases as a percentage rather than a flat rate. The cost of borrowing in Bena is currently a factor of 0.3x, where x is the amount borrowed, leading the capacity to repay to widen between high and low risk borrowers as the amount that can be borrowed increases.⁸⁷

Based on the model in Figure 7-16, a person with constrained income prospects (high risk borrower) is able to repay debt at a lending ratio of 'A' in an unfavourable market, and 'B' in a favourable market. For someone with good income prospects, their repayment capacity points are 'a' and 'b' respectively. A high-risk borrower is one with limited income resources and/or having a record of previously being late in repaying loans. In this case, risk is considered from the perspective of the lenders, which are the members supplying capital. Luke might be considered a high-risk borrower now due to his defaulted payments, but previously he may have been a moderate risk since he had a good credit history, but his income was reliant on new business ventures rather than coffee. A low-risk borrower would be one with access to income from one or more coffee gardens and/or large-scale fresh food marketing and a good credit history.

The potential remedy for a scenario of negative external economic conditions may vary depending on the capability and experience of the group. In the case of Bena, where the Women's A and Men's A groups have been operating since 2018 and members have developed some financial literacy, it may be possible to introduce more complexity in relation to access to credit. The group may, for example, reduce the amount able to be borrowed from three times the amount saved to two or less during periods of increased uncertainty. This might be applied to all members to maintain a sense of equity, or else to new members or those with a poor track record of repaying loans. The imposition of overly punitive measures for late payments exacerbates rather than helps the problem, particularly during poor market conditions. The reissuing of loans in the Men's group, which began in 2020, did little to deter late payment in 2021 and most likely resulted in some members defaulting

⁸⁷ 0.3 relates the service/interest charge in Bena which is determined by the members. This would change if the service charge were different.

by the end of the cycle and reducing the ability of some to take out new loans. While it may be viewed as a deterrent, this approach may negatively impact the long-term sustainability of the group.

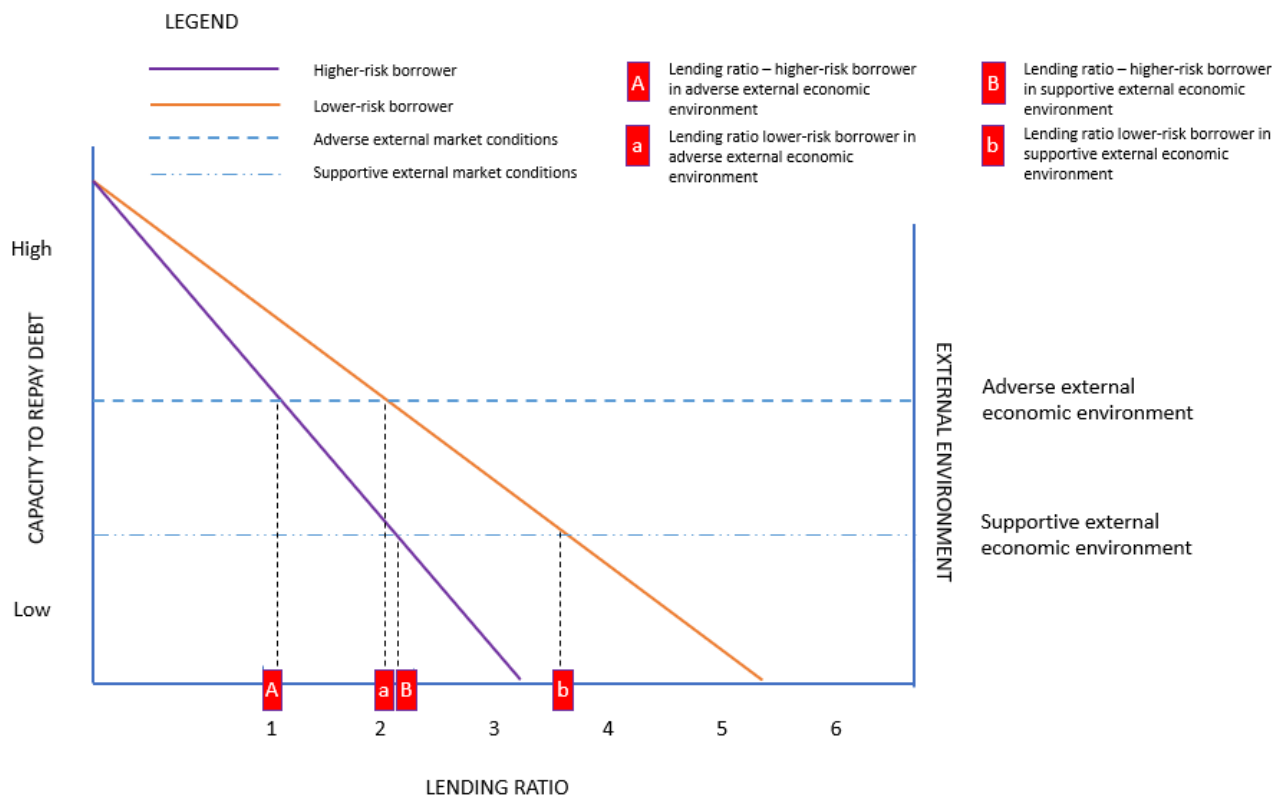


Figure 7-16 A model of the impact of different market conditions on ability to repay for low and high-risk borrowers

7.7 External income generating projects

The negative effects of Covid on the VLSA program highlights the importance of access to income generating opportunities which bring cash into the village economy from external sources. Research from Tanzania suggests that it is important for VSLA group sustainability that any income generating projects target outside sources of income, rather than production of goods which are sold mainly to community members (Moret et al., 2021). Without the external flow of capital from coffee, fresh food, or other livelihoods, the transfer of wealth seen in 2021 from the relatively less wealthy to the relatively more wealthy is more likely to occur. Compounding this issue is the challenge of starting

and maintaining a new business in PNG. Sexton (1986) noted that a serious flaw with the *Wok Meri* savings groups was the investment of accumulated capital on assets such as transport vehicles (which have high maintenance costs) or trade stores (which lose stock to relatives and friends as a result of societally embedded exchange relationships and obligations). Asset dependent businesses need to ensure that there is sufficient reinvestment of operating surplus to enable long term sustainability (Curry, 2005; Curry & Koczberski, 2013).

Proximal embeddedness also influences outcomes in the Bena VSLA. Market accessibility enables livelihood diversity, and this reduces the impact of seasonal lumpiness in income from a single cash crop. Research from Malawi suggests that issues with credit availability can arise in this scenario, as there are periods in the savings cycle when cash flow is too low to support lending (Cassidy & Fafchamps, 2020). Communities with poor market accessibility may need to carefully manage seasonality in funds for lending and repaying debts if they are, for example, mainly reliant on coffee income. This issue is considered more closely in the recommendations in Chapter 9.

Within this community, the demucilager project (Chapter 8) assists in increasing the flows of wealth from the external economy into the village. Coffee and fresh food have always had a significant part to play in this regard, but the increase in returns to labour, which are possible with this technology, enables members to offset their VSLA borrowing costs with external money. It is important to recognise that this intervention is not just the introduction of the demucilager – it also includes the development of linkages to an exporter, training of farmers, and research and evaluation which feed into a continuous improvement process.

At present, the demucilager is available to community members who have access to coffee cherry and are willing to do the work to harvest it at optimal ripeness. This has potential limitations for women's participation, but as I demonstrated in Chapter 6, women do have access to coffee cherry and some are active buyers and sellers of cherry and parchment, as well as growers. There has been some discussion within the VSLA about using savings to form a cherry buying group. This approach

should be considered carefully to ensure equitable access to the benefits of both the demucilager and the VSLA program are maintained for all members, and that those who have sufficient capital do not crowd out more vulnerable members.

7.8 Conclusion

In this chapter, I have provided an analysis of outcomes for the VSLA project in the Bena community during the period of 2020 to 2021 when Covid-19 was affecting the community. This showed that there were social as well as economic benefits and risks involved in VLSA participation. I explored the links between VSLA and existing cultural institutions such as prestige and ideal masculinity which influenced both group and individual decision making. These features of societal embeddedness led to both positive and negative outcomes for group members, as the push for a larger and more prestigious share-out also enabled people to save and borrow more. The VSLA also facilitated the creation of new group identities which transcended existing clan affiliations, and the share-out provided an opportunity for public demonstration of both *gutpela pasin* and *wanbel*. Men were able to demonstrate ideal masculinity through speeches and accumulation of wealth. *Pasin* and norms of femininity were changed through the women giving speeches and being successful savers.

Community members' encounters with the VSLA Development project have created a new institution, but the new institution has also changed the ways in which those members act. These are examples of Giddens' concept of Structuration (1984) and how actors and institutions work to both reproduce and change each other.

The VSLA is an alternative approach to financial inclusion projects which aim to enrol people in the formal banking system. Overall, it can be seen that the project was beneficial for the majority of participants and provided an avenue to manage uncertain cash flows with savings through the Covid-19 pandemic. However, there appears to have been a transfer of wealth from the relatively asset poor to relatively asset rich members when the poor economic conditions from Covid-19 made it difficult to repay loans. The increase in share price, and the borrowing behaviour of some members,

can be linked to social as well as economic factors which motivated risky behaviour in a market environment not conducive to income generation. Furthermore, while participation in the VSLA can be seen as contributing to the status of the group and an avenue to enact *gutpela pasin*, it can also result in negative social outcomes if loans are not repaid. In this sense, what constitutes *gutpela pasin* has been adapted to incorporate VSLA values and ideal behaviours.

I presented a model which outlines the impact of external market conditions on capacity to repay debt and how this could be used to determine an appropriate lending ratio in different market conditions. It is recommended that groups consider market conditions when setting a lending ratio at the beginning of each cycle, and also consider reducing the ratio during the cycle if market conditions become unfavourable. I also discussed the need for income-generating activities which bring in money from outside the village to reduce the risk of wealth transfer from most to least economically vulnerable. The demucilager project has the potential to provide these synergistic benefits as it links the community to an external exporter.

In the next chapter, I examine community engagement with the demucilager project and how it links to the VSLA. I discuss the challenges faced by the project through the period of 2021 and 2022 and how, despite these, the project is recovering and demonstrating that the objective of improving returns to labour is being met. I also consider how Development projects provide opportunities for community members to display *gutpela pasin* through leadership, and how critical local leadership is for the success of interventions. While leadership style is embedded in Bigmanship and existing cultural norms, it is also adapted to incorporate opportunities made available by new Development projects.

8 Engaging with Development - demucilager

8.1 Introduction

In the previous chapter, I explored both the social and economic outcomes of the Bena VSLA during the period of 2020 to 2021, demonstrating that economic activity is greatly influenced by concepts of *gutpela pasin* and the desire to demonstrate both group and individual success. Conversely, what constitutes *gutpela pasin* is also modified by my member's actions as part of the VSLA through a process of structuration.

In this chapter, I explore the demucilager project which has been running in conjunction with the VSLA project and explore the ways in which both projects can provide synergistic support for economic empowerment in the community. Despite facing numerous challenges and a downturn in usage in 2021 and 2022, community engagement with the project has recovered, which can be in part attributable to the community-based leadership evident in this project. I examine the socially embedded motivations for engaging in project leadership, and how important these social motivations are for the success of the intervention. I also demonstrate that the VSLA and demucilager projects influence the ways in which community members enact and engage with leadership and bigmanship. As with the previous VSLA case study, this chapter considers my research questions two and three:

2. How does socially embedded decision making in Participatory Development projects influence outcomes in an EHP coffee farming community?
3. How do Participatory Development projects influence the socially embedded economy and cultural institutions?

To begin with, I provide an overview of the demucilager project which expands on the summary provided in Chapter 3. I then consider some of the quantitative and qualitative findings from the demucilager survey conducted by the PLRG in 2022, as well as data collected through processing records which cover who is selling cherry through the group. I then present some of the challenges

experienced through the implementation of this project and how these have been addressed.

Finally, I consider the important role community leadership has played in the success of this and other Development projects in Bena, and how leadership, as a cultural institution in the Highlands (Chapter 2.6) is adapting to incorporate engagement in Development projects.

8.2 Demucilager overview

The findings of the first PLRG project in EHP suggested that the livelihoods of coffee farmers could be strengthened by improving returns to labour (Curry et al., 2017). To achieve this, a demucilager was trialled at the Bena community as part of a follow up project (Curry et al., 2024). This technology removes the fermentation stage and shortens the time for cherry to be processed to parchment (Figure 3-13). In addition to reduced processing time, the demucilager also improves the quality and consistency of coffee parchment compared to common village processing methods (Chapter 3.11.2). The intention of the project has been to produce higher quality coffee parchment which could be on-sold through a pre-arranged partnership with a factory buyer. As a result of these interventions, it was expected that the farmers would increase the returns to labour from their parchment sales (Curry et al., 2018).⁸⁸

The focus on quality meant that only good quality cherry would be accepted by the group. This cherry must be fully ripe and brought for processing on the same day it was picked. This was a potential issue, as it meant that farmers had to introduce an additional step and sort their cherry by quality. However, farmers adapted to this requirement with many adopting a two-bag sorting system during harvesting. Once submitted for processing through the demucilager, the quality of coffee cherry is assessed through a visual inspection, followed by a float test. Cherry which floats in a large

⁸⁸ The earlier PLRG project identified that farmers selling low quality parchment can actually receive a higher premium selling cherry (Curry et al., 2017), however, this is not intuitive for farmers. The demucilager project aimed to increase the price received for parchment to incentivise usage. The original project scope included the sale of cherry to the exporter, but this was dropped due to the spread of CBB and restrictions imposed on the movement of cherry. These restrictions have since been removed.

container of water is either immature, too old, or is infested with CBB, and is diverted from the demucilager for processing through a hand pulper and fermented or sold elsewhere.

In the first few processing runs in 2020 there was a high number of lots brought to the demucilager which had not been properly sorted and were rejected. Farmers quickly learned what was acceptable and rejection rates dropped significantly in following processing runs, with 34 out of 37 households surveyed in 2022 harvesting only red cherries or using a 2-bag system to sort cherries at the time of harvest.^{89 90} The two-bag system, whereby coffee cherries are sorted at the point of harvest, was developed by the farmers themselves.

Once the cherry has been processed through the demucilager, it must still be dried to parchment stage. It is then bagged and transported to the exporter who, for a fee, grades the parchment and processes it to green bean. The exporter then pays the community based on the weight and grade of the green bean, less the cost of grading. The individual payment to farmers is determined by weight records kept at the time the cherry is accepted for processing through the demucilager. This means that there is a time delay between coffee cherry accepted into the project for processing and receipt of payment. This and other potential barriers to participation are discussed later in this chapter.

In addition to coffee processing, the project also sought to encourage re-use of the pulp waste from the demucilager (and other coffee processing) to improve soil nutrition on food gardens.

Intensification of food farming, including reduction of fallow periods, has resulted in soil nutrient depletion in areas surveyed by the project (Curry et al., 2024).⁹¹ The waste from coffee pulp can be used as fertiliser on food crops to remediate this issue (Figure 8-1). The community project leader Alfred worked with VSLA members to establish bulb onion plots near the proposed site of the

⁸⁹ The changes in approaches to managing cherry quality were discussed at the final project review held in the offices of CIC in Goroka 8-10 August 2023, as well as the 2022 demucilager survey.

⁹⁰ New guidelines recommending frequent picking of ripe and over-ripe cherry to manage and minimise CBB infestations were introduced after the 2022 demucilager survey (Newton et al., 2023). This may result in wider adoption of the two-bag system.

⁹¹ This component of the research was undertaken by the CSIRO and CIC.

demucilager, which were a demonstration of this nutrient recycling approach. The plots were in wooden beds constructed in a citrus grove near the demucilager (Figure 8-2), and VSLA members contributed K10 towards purchase of the seeds for the project.



Figure 8-1 Banana trees and a food garden grown in coffee pulp waste (Aiyura 2020)



Figure 8-2 Bulb onion plots in citrus grove with demucilager site in background (Bena 2020)

8.3 Demucilager usage

The data I present here comes from the records kept by Alfred, the community leader for this project, who noted the weight of cherry received, the weight accepted after a float test, a general comment on the quality, and the farmers' details. The data were used to determine the payment of money once the parchment had been processed to green bean by the coffee processor. After a large initial volume in 2020, processing dropped off before picking up again (Figure 8-3). The reason for this dip is explained in the next section, but at this point the important thing to note is that despite facing several initial challenges, usage is recovering.

An analysis of gender shows that the majority of demucilager users are men (Figure 8-4). This is to be expected given that in 2018, 38% of households were recorded as the male head being solely responsible for coffee marketing, and in 46% of households the role was shared (Figure 5-8). What is noticeable is the drop off by women during the Covid period of 2021, despite an increased need for cash to replace that lost from food marketing due to lockdowns and self-imposed isolation (Chapter 7.7). This may be due to the high price available from roadside buyers during this period and the

increased need for immediate cash payment, which I discuss later in this chapter. Women generally have a greater responsibility for household provisioning (Eves & Titus, 2020, p. 64) and so may have felt greater time pressure than men to get cash to meet immediate household supply needs. It may also be the result of women’s lack of financial literacy as over 40% of women in the community had no formal education in 2018 compared to 28% of men (Chapter 3.6). One of my women participants noted she gave up on coffee during 2021 due to CBB. Encouragingly, women’s participation is returning to pre-Covid levels in 2023.

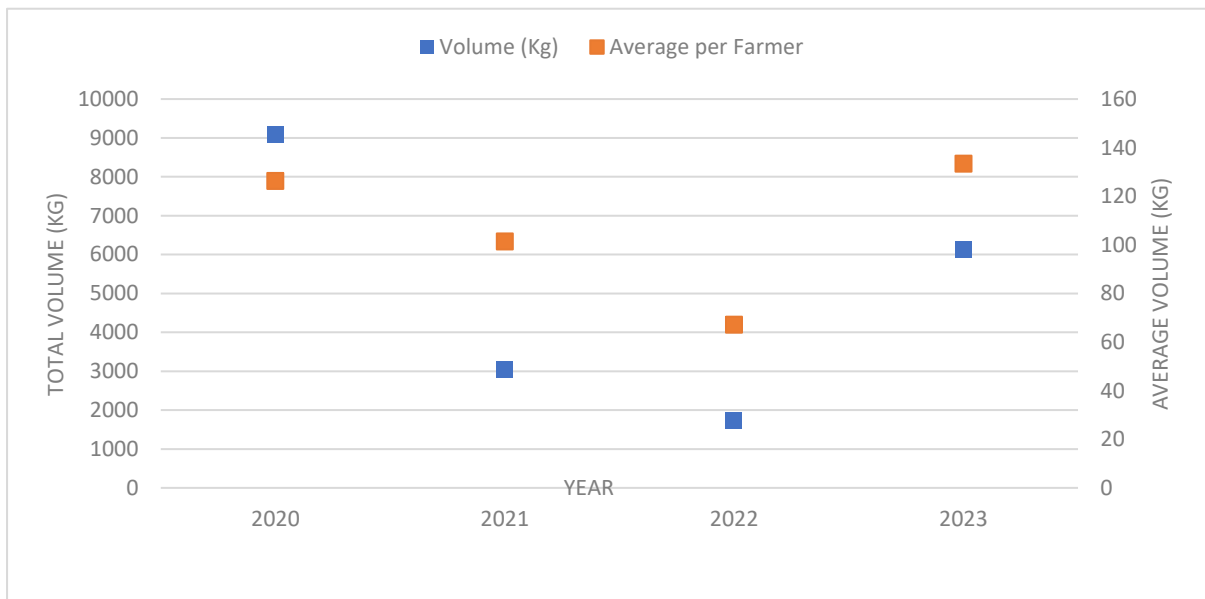


Figure 8-3 Volume of cherry processed through the demucilager (kg) 2020 to 2023
 Source: Data is from ACIAR ASEM-2016-100.

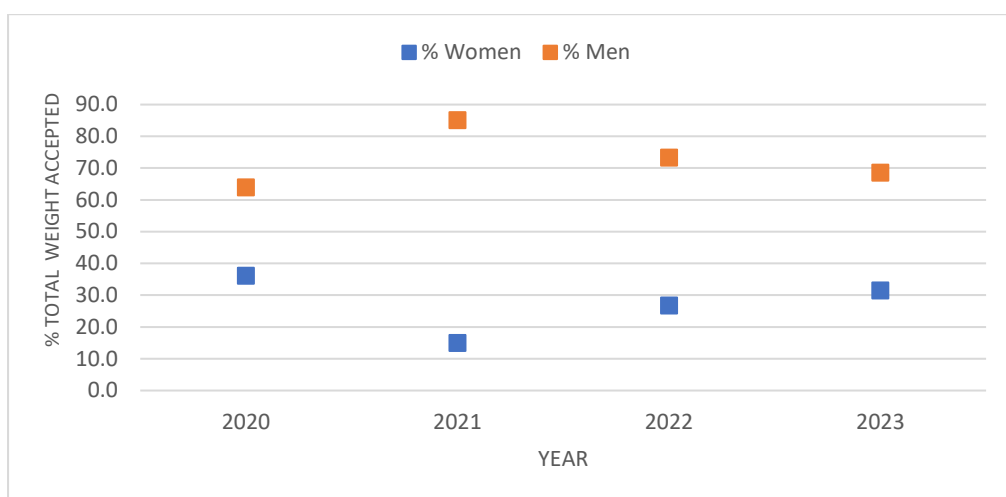


Figure 8-4 Proportion of coffee cherry supplied to the demucilager processing by gender
 Source: Data is from ACIAR ASEM-2016-100; % of total.

An examination of the proportions of total weight of cherry brought to the demucilager from each of the four villages is presented in Figure 8-5. The villages are labelled according to distance from the demucilager, with Village A being the closest, and Village D being the farthest. Other than 2021 when the machine was only partially operational, the village which is furthest from the site was the largest contributor by weight. The number of farmers from each village contributing varies over time, but that there is still a high number of farmers in the most distant village bringing cherry to the processing site (Figure 8-6). Distance from the demucilager is therefore not necessarily a barrier to usage, and it is likely that the price incentive offered by the demucilager is sufficient to encourage usage. It is unclear why usage from Village C has not recovered. It is possible that there are issues with social cohesion which discouraged participation from this village, but further investigation would be necessary to confirm.

Membership in the VSLA in 2020 was associated with use of the demucilager (Table 8-1). More than 70% of members who processed cherry through the demucilager were VSLA members in 2020 when the technology first became operational, and this increased to 87.5% and 95.3% during the low use years of 2021 and 2022 respectively. This is indicative of the importance of the VSLA in encouraging usage of the demucilager. Members of the VSLA were introduced to the concept of the demucilager at their meetings, and the machinery is located in the garden next to the meeting rooms. Several of

the Men's A VSLA group also assisted with construction of the shelter which houses the machinery.

While involvement in the scheme is not limited to VSLA members, there were more opportunities for VSLA members to hear about how it worked and the potential benefits.

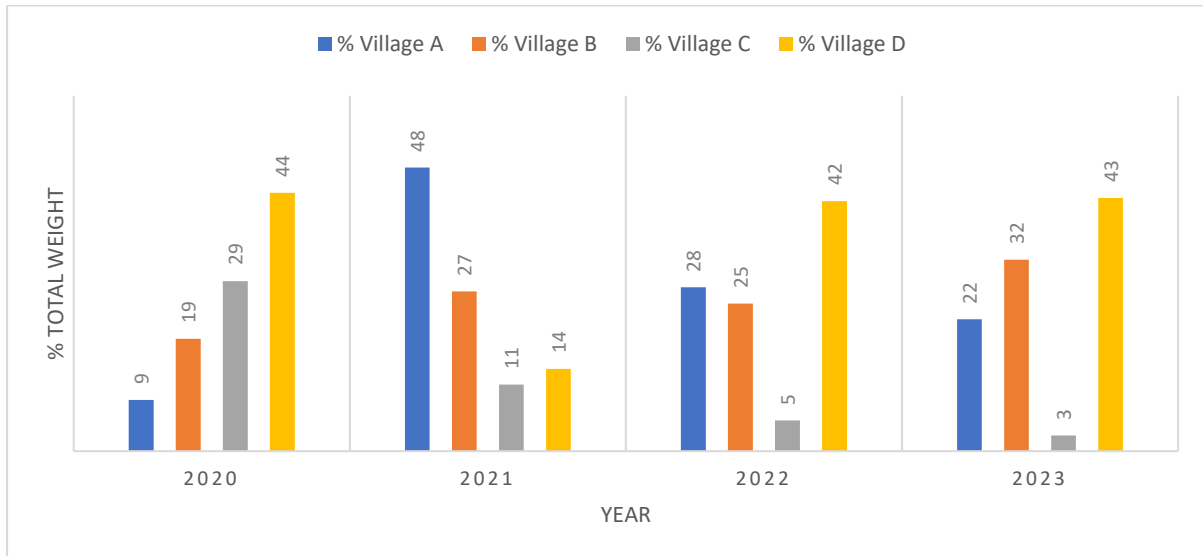


Figure 8-5 Cherry accepted by the demucilager by village

Source: Data is from ACIAR ASEM-2016-100; % of total weight supplied in each year.

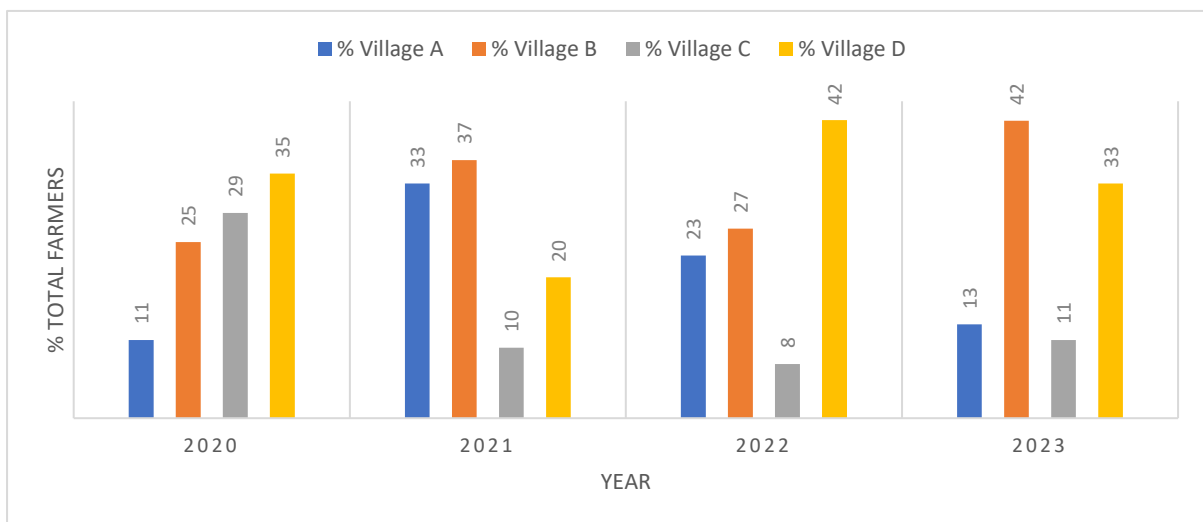


Figure 8-6 Farmers supplying cherry to the demucilager by village

Source: Data is from ACIAR ASEM-2016-100; % of all farmers supplying cherry in each year.

Table 8-1 Proportion of cherry processed by the demucilager according to 2020 VSLA membership

	Proportion of Cherry Processed by Year (%)			
	2020	2021	2022	2023
Non 2020 VSLA Members	25.1	12.5	4.7	27.9
2020 VSLA Members	74.9	87.5	95.3	72.1
Total	100.0	100.0	100.0	100.0

Source: Data is from ACIAR ASEM-2016-100

There has been a core group of 6 men and 2 women, all VSLA members, who have processed cherry through the demucilager each year. This group has played an important role in keeping the project going through the years of 2021 and 2022 when there were significant challenges (see below). Of the two women, one is a member of the Women’s A group and the other, who did not join VSLA until 2020, is a member of Women’s B. All of this core group except the Women’s B participant were surveyed by the PLRG in 2018. Age, gender, education level, house type, asset ownership, and VSLA profit quartile ranking are shown in Table 8-2. The age of participants is as at 2023 (i.e. 2018 survey age plus 5) and the number of assets is based on the criteria used in the VSLA analysis presented earlier in this thesis (Chapter 7.6.3). Of note is the maturity of the group – the youngest group member (sadly now deceased) was 40 in 2023. Four of these demucilager users, which include Alfred and his brother, have more community assets than the average household of 2.44, and all but one of the group members have higher levels of education than the community average (5.29 years for men and 3.67 years for women). Three of the men, including two who were in the second quartile of 2021 VSLA profit, had leadership roles within the 2021 VSLA Men’s group (i.e., Chairperson, Treasurer or Record Keeper). This indicates that for the Men’s group at least, there is some overlap between strong engagement in the VSLA and the use of the demucilager. The relationship to Alfred is also a factor which is discussed in the case study later in this chapter.

Table 8-2 Details of core demucilager user group

Survey No.	Gender	Age	House Type	No. Assets ⁹² (community average 2.44)	Years of Education ⁹³	VSLA Profit Quartile 2021
2	M	48	Permanent	4	10	Q4
13	M	40	Semi-Permanent	1	11	Q4
24	M	60	Semi-Permanent	2	6	Q2
32	M	54	Permanent	7	10	Q4
37	M	51	Bush	4	8	Q2
52	M	50	Semi-Permanent	4	0	Q1
53	F	45	Bush	2	4	Q4
Average		49.7		3.4	7.0	

Source: Data is from ACIAR ASEM-2016-100

Over 40% of 37 farmers surveyed in 2022 by the PLRG were happy with how the group operated. Three or more farmers made suggestions to accept lower quality cherry, to give greater clarity on the payment system, and to promote the project to other farmers. These first two issues are discussed in more detail in the next section. In relation to the last suggestion, Duncan, whose case study was described in Chapter 6, noted:

I saw that the ex-members of the group are jealous of the work of our leader. Such an issue must be sorted out so that all past and present members will work together for the good and sustainability of our group as a whole.

Duncan is a close neighbour and supporter of Alfred, the community-based project leader for both the VSLA and demucilager interventions. In Chapter 6, his case study showed that he and his wife work co-operatively and exemplify *gutpela pasin* through their engagement in the two Development projects. They also recognise the *gutpela pasin* of the community project leader and see that leaving the group is displaying poor judgement, and potentially inhibiting a state of *wanbel*.

⁹² Community average = 2.44

⁹³ Community average for men = 5.29 years. Community average for women = 3.67 years.

In relation to the bulb onion plots, 74% of 31 members surveyed indicated they had taken three plots in 2020, and 76% of 29 members indicating the same in 2021. However, harvesting rounds were low for each year (Figure 8-7). The decreased number in 2021 is likely due to poor access to markets through the Covid-19 pandemic and people choosing to self-isolate, as well as the lack of activity at the demucilager site while it was shut down. When I visited the site in 2023, the onion boxes had been removed and coffee seedlings were being planted in their place. Alfred advised me that farmers were now planting bulb onion crops on their own properties and fertilising using the waste material from their coffee hand pulpers.

Overall, it can be seen that households from each of the four villages have used the demucilager in the period 2020 to 2023. Men consistently use the technology more than women, but the gender gap widened in 2021 when the price available from roadside buyers was high. This may be related to women’s lower financial literacy which may make it difficult to appreciate the financial benefit of continuing to use the demucilager, but it may also be due to the need for immediate cash to deal with urgent household expenses. Membership in the VSLA is positively correlated with usage of the demucilager. The community-based project leader and his supporters have played an important role in keeping the project going during the pilot phase when challenges were encountered.

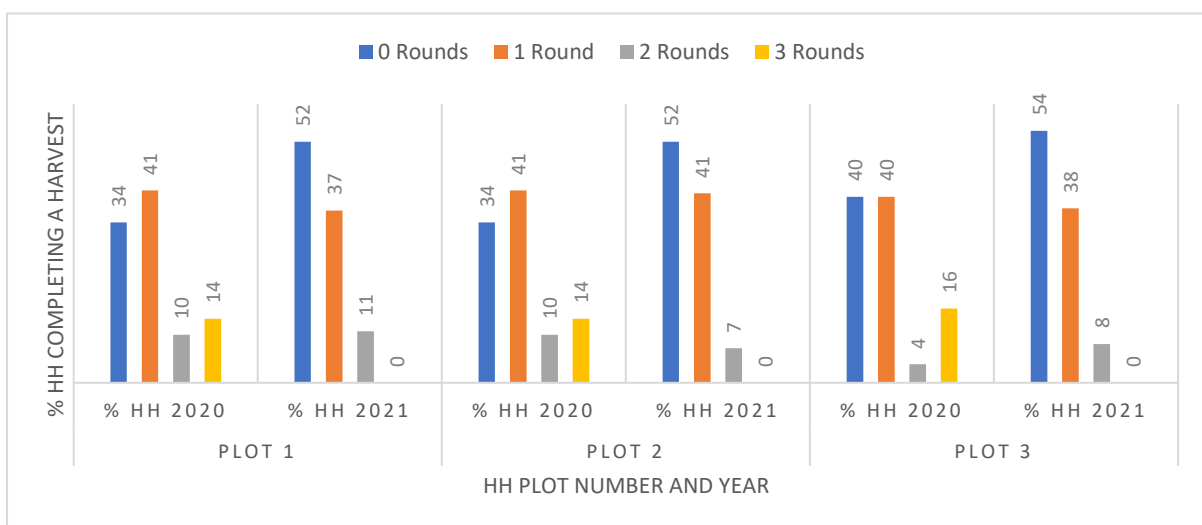


Figure 8-7 Completion of bulb onion harvest rounds in 2020 and 2021

Source: Data is from ACIAR ASEM-2016-100; % of households; n= 31 (2020) n=29 (2021)

8.4 Demucilager challenges

The project experienced barriers to participation during 2021 and 2022. Firstly, the spread of Coffee Berry Borer (CBB) into the community's coffee meant that farmers felt that their coffee quality would be reduced and so not be accepted into the project. Since 2022, EHP farmers have become aware that CBB tends to affect only one of the two coffee beans within the cherry (Newton et al., 2023), and the remaining bean can potentially be processed through to parchment. In 2021, however, CBB had only just arrived in the area and farmers were unclear of the impact on their coffee. The PLRG has worked with entomologists and other agricultural experts to develop protocols for managing CBB during harvesting and processing, and is looking at how CBB affected crops can be processed through the demucilager without affecting clean harvests (Newton et al., 2023).

Another external issue was Covid-19. The pandemic impacted the ability of the project team to resolve technical issues in a timely manner. When the demucilager broke down, there was confusion at the community level around who had authority to arrange a repair, and the CIC engineer was unable to travel to the site due to a lockdown. Under normal circumstances, the PLRG team and CIC would have been able to visit the site and resolve these teething issues in a timely fashion⁹⁴, but the PNG and Australian governments imposed travel restrictions through 2020 and 2021. Curtin University remained cautious and only began allowing some travel for staff from 2022. As a result, the machine was unavailable during much of the 2021 harvest season. These technical issues have since been resolved and the machine was used for part of the season in 2022, albeit with low volume (Figure 8-4). The low volume in 2022 may have been due to the National elections which were a

⁹⁴ The demucilager used in this project was a machine that had been with the CIC for over 10 years prior to being used for this pilot project and was therefore expected to potentially have maintenance issues. It was noted at the final review workshop held in August 2023 in Goroka that newer models are easier to maintain and manage locally due to more availability of parts. This would make maintenance easier for other sites using newer machines.

significant distraction (see Chapter 2.6), as well as timing of both the demucilager availability and cherry ripening at different altitudes within the community.⁹⁵

There are additional factors which some members indicated discouraged them from using the demucilager. Firstly, the machinery is too large to be moved around and is therefore at a fixed location to which people transport their cherry for processing. For some participants this meant additional labour to transport cherry to the processing site. Despite this, one of the more distant villages has processed the largest proportion of cherry through the demucilager (Figure 8-5). The second issue is that farmers do not receive payment immediately on delivery of cherry to the demucilager. The introduction of the link to the exporter means payment may be delayed several weeks or even months as the scheme must have sufficient quantity of parchment accumulated to sell as a micro-lot, and so farmers sometimes opt for '*kwik moni*' (TP fast money) which can be achieved through sale to a village or roadside buyer. In the PLRG demucilager survey conducted in 2022, participant 13 (male) noted:

[We are] happy with the way the group operates. They take [the cherry] and we forget about it as it is another [way of] saving as opposed to coffee processed at home. When a situation arises at home, [we] quickly take [cherry or parchment] to be sold [to a village or roadside buyer] to contribute.

The propensity to use the demucilager may vary over time, depending on the needs of the farmer for immediate cash, as well as the price available from roadside buyers. The more people who use the technology, however, the faster the micro-lot quantity can be achieved and the shorter the time to payment. During the years impacted by Covid-19 lockdowns, when cash requirement pressures were greatest, the proportion of cherry processed by the VSLA demucilager participants increased, suggesting they were more able to cope with the payment delay. In the 2022 PLRG demucilager survey question which asked for suggested changes to the group, participant John noted that:

⁹⁵ For a full overview of this issue see Curry et al. (2024)

I would like to see [us] continue with VSLA, because VSLA helps us to get money [loans] to help us with coffee work. For example, my wife got a loan in her name under the women's group, and I got loan in my name under the men's group. These loans have helped us greatly.

John, who is also one of my research participants, uses loans from the VSLA for a scone selling business he operates with his wife. This contributes to their financial resilience and helps to smooth income. It also enables them to wait for the demucilager payment and receive a higher premium for their coffee.

As noted above, another factor which impacted participation was the price available from roadside buyers. When an increase in global coffee prices flowed through to increased payments for parchment sold to roadside buyers, there was less incentive to bring cherry to the demucilager and achieve a higher premium. This suggests a threshold roadside price above which farmers are disincentivised to use the demucilager. Furthermore, in 2021 the government implemented a coffee price support through the Covid-19 period (Aroga et al., 2022) which also disincentivised processing of cherry through the demucilager project. In 2023, as the price of coffee and the available roadside price dropped, the incentive to sell to the demucilager increased. This suggests that coffee supply to the demucilager will decrease when there is a comparable substitute available which meets household budgetary needs, and which can provide immediate payment.

Figure 8-8 provides an overview of the barriers to demucilager usage reported by a 2022 survey of participants. The quality of the harvest and the need for fast cash were the most significant barriers, although price incentive appears to overcome the latter issues when roadside coffee prices are low. Low quality/yield, largely driven by the impact of CBB, appears to be an issue which will need further education and the adoption of new harvesting and processing practices (Figure 8-8).

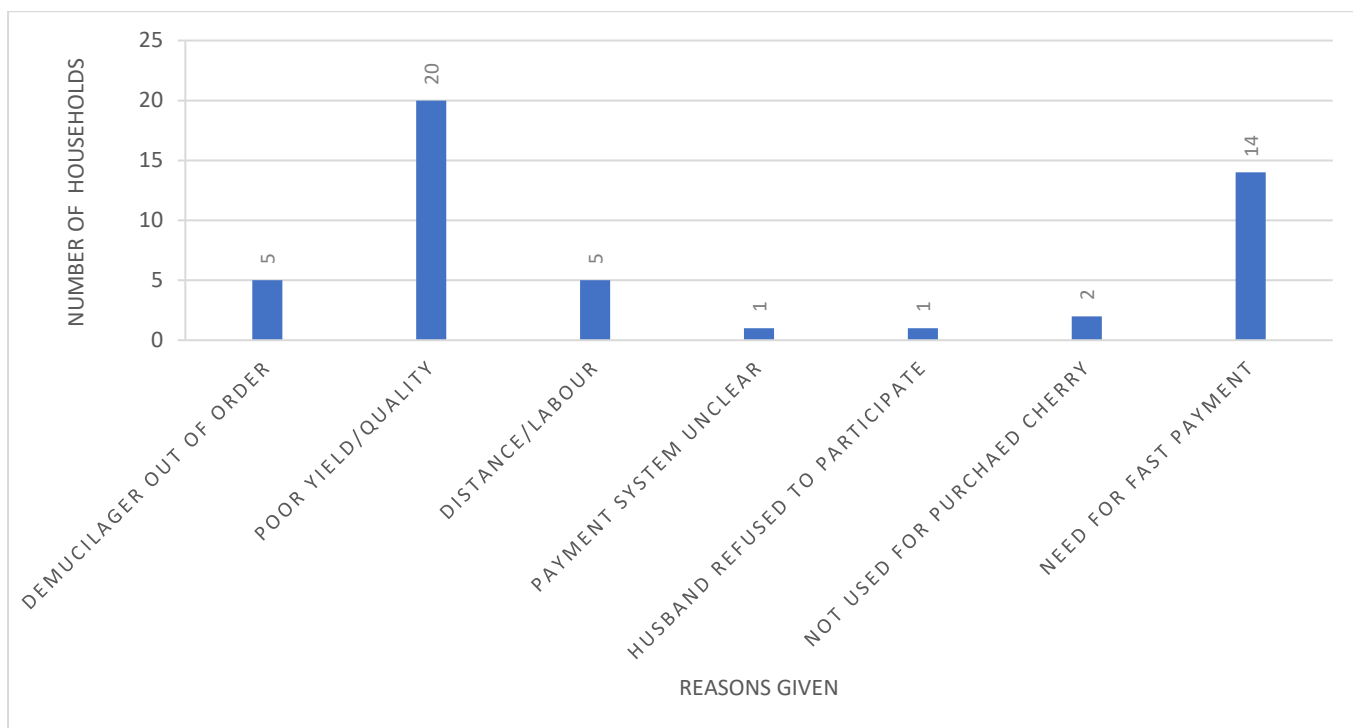


Figure 8-8 Reasons given for under-utilisation of the demucilager

Source: Data is from ACIAR ASEM-2016-100; Number of households, n=28; Households could give more than one response.

The challenges described above meant that after a promising start in 2020, total volume processed declined in 2021 and 2022, but encouragingly picked up again in 2023 (Figure 8-1). This rebound in usage is due to a number of factors. Firstly, the need for fast cash is likely to have reduced as the impact of Covid-19 has lessened, although high prices on imported goods, caused by a strong US dollar, have still been an issue (Genia, 2023). Secondly, the demucilager is again fully operational and processes for accessing any future repairs are clearly understood. Next, the global coffee price has fallen, meaning the price incentive available through the demucilager is stronger. Finally, the challenge of CBB is also better understood. Although not reflected in the data presented here, processes are being established to accept CBB infested coffee through the demucilager as it has been demonstrated that the undamaged bean in a CBB-affected cherry can still be processed to quality parchment which will therefore attract a price premium (Curry et al., 2024). In the following discussion, I examine the extent of this financial benefit to users of the demucilager.

8.5 Price and labour benefits available from using the demucilager.

Benefits from using the demucilager were seen in the targeted area of returns to labour. In the 2010 and 2018 PLRG surveys, most farmers indicated they sold their coffee parchment to roadside buyers, who typically on-sell the coffee to factories for processing to green bean (Figure 8-9). Farmers can also sell their coffee to the factory and receive an ungraded price or pay to have the coffee graded.⁹⁶ As roadside prices are highly variable and difficult to track, I use the average factory price paid for ungraded coffee for the prior two months to the demucilager grading date as a proxy for the roadside price. This is compared to the price paid for the demucilager coffee in 2020-2022 to indicate the premium received (Figure 8-10).

At the time of writing, the payment for the 2023 supply to the coffee processor was not known. The previous years, however, indicate that a premium was consistently achieved above what would be received at the factory gate for parchment. This difference is higher than if the farmer sold to a roadside buyer, as these prices are discounted to include transportation and the profit margin of the buyer. While this premium is important to support improved returns to labour, it will not necessarily guarantee use of the demucilager. As seen in Figure 8-10, Class 1 Factory Gate prices for 2021 and 2022 were high which disincentivised use of the demucilager, particularly during a time of increased cost of living pressures (Genia, 2023).

⁹⁶ Unlike village and roadside buyers, there is usually a minimum lot requirement for selling to the factory.

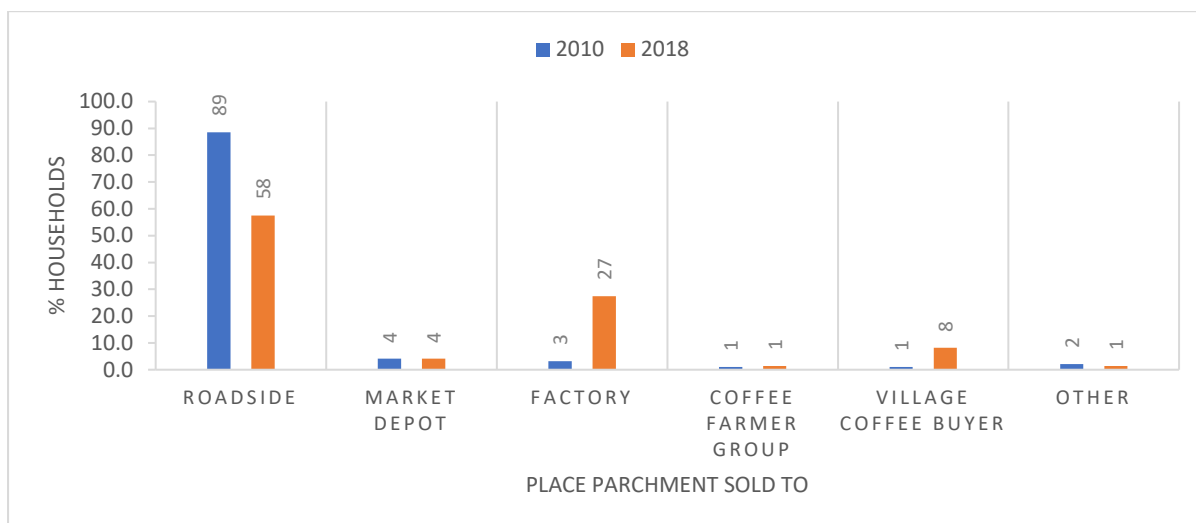


Figure 8-9 Where households sell coffee parchment to

Source: Data is from ACIAR ASEM-2008-036 and ACIAR ASEM-2016-100; % of households, n=96 (2010), n=73 (2018).

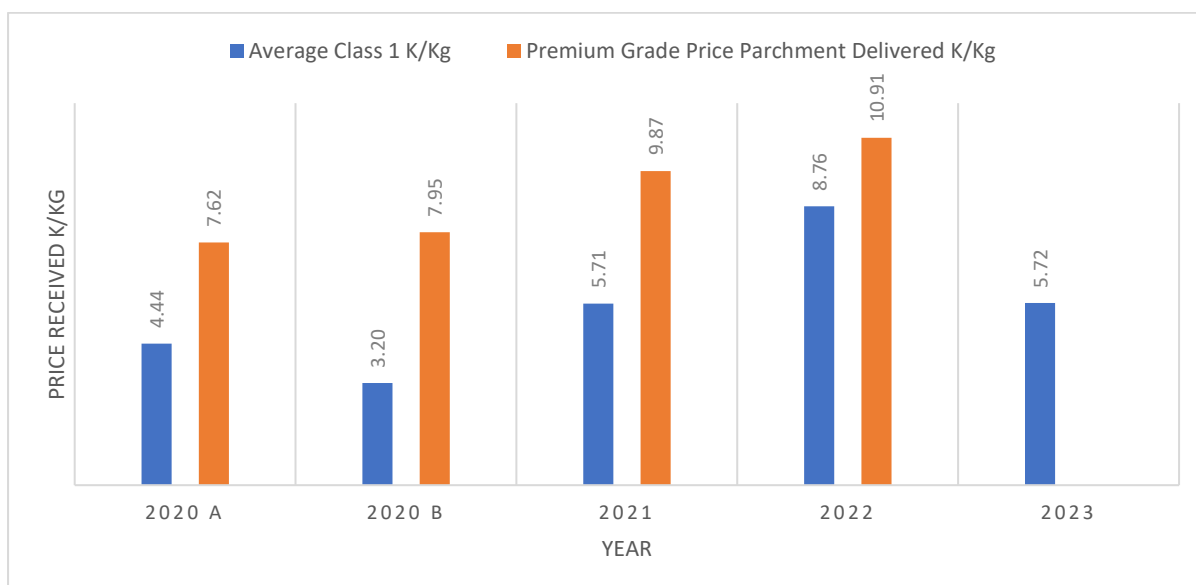


Figure 8-10 Price differential between Class 1 coffee and demucilage parchment

Source: Data is from ACIAR ASEM-2016-100.⁹⁷

In addition to the improved returns, both wives and husbands noted a decrease in labour required for most processing tasks (Figures 8-11 and 8-12). The increase in time spent on picking and sorting

⁹⁷ 2020A - average prices calculated for period 27/7/2020 to 17/08/2020; 2020B - average prices calculated for period 24/8/2020 to 5/10/2020; 2021 - average prices calculated for period 6/4/21 to 17/5/2021; 2022 - average prices calculated for period 9/5/2022 to 11/7/2022; 2023 - average prices calculated for period 1/5/2023 to 25/7/2023

was expected due to the focus on quality and need to submit only ripe, good-quality cherry to the demucilager. This meant that farmers needed to harvest more than once, taking only ripe cherries in each round, or conduct a strip harvest and then sort the cherries. In informal discussions and free form responses to the 2022 demucilager survey, some farmers indicated that they adopted a two-bag sorting method and gave their best cherries to the demucilager, while the rest was processed either to parchment through their own hand pulper or sold to a village buyer. Some of my participants indicated that they paid their family members who helped with the harvest with the poorer quality cherry, which is what occurred in the earlier case studies of Lauren and Mary. The harvesting of ripe and overripe cherries and raisins on a regular basis is an essential component of the CBB suppression strategy. It is likely that farmers will incorporate the additional work required to control the pest into the demucilager harvesting process without need for more labour and achieve the benefit of improved returns as well as better control of CBB.

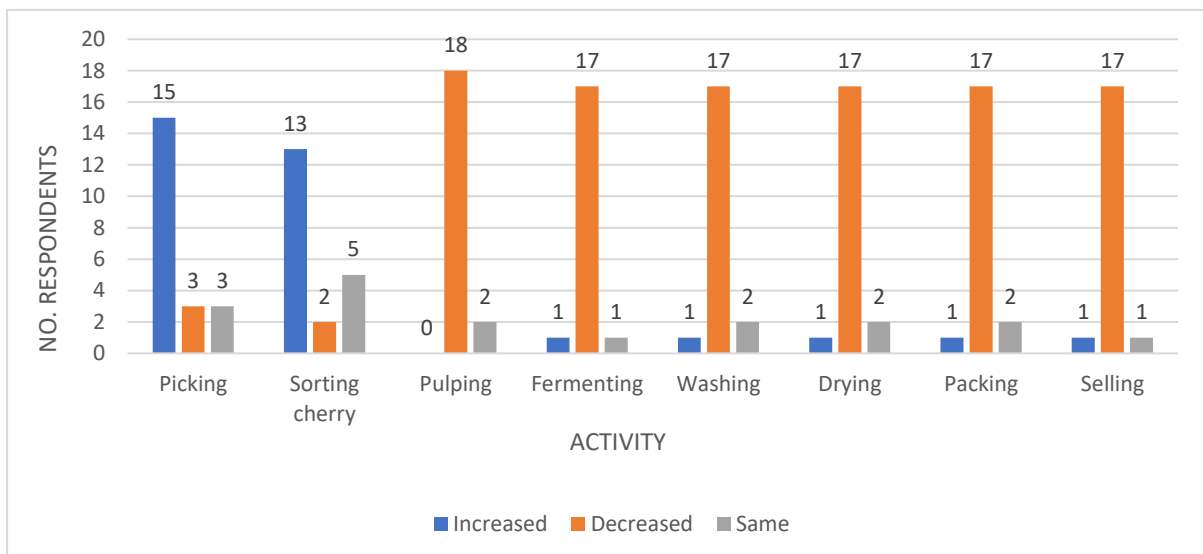


Figure 8-11 Changes in time allocated to coffee processing tasks for women
 Source: Data is from ACIAR ASEM-2016-100; number of women who are heads of household; n=21.

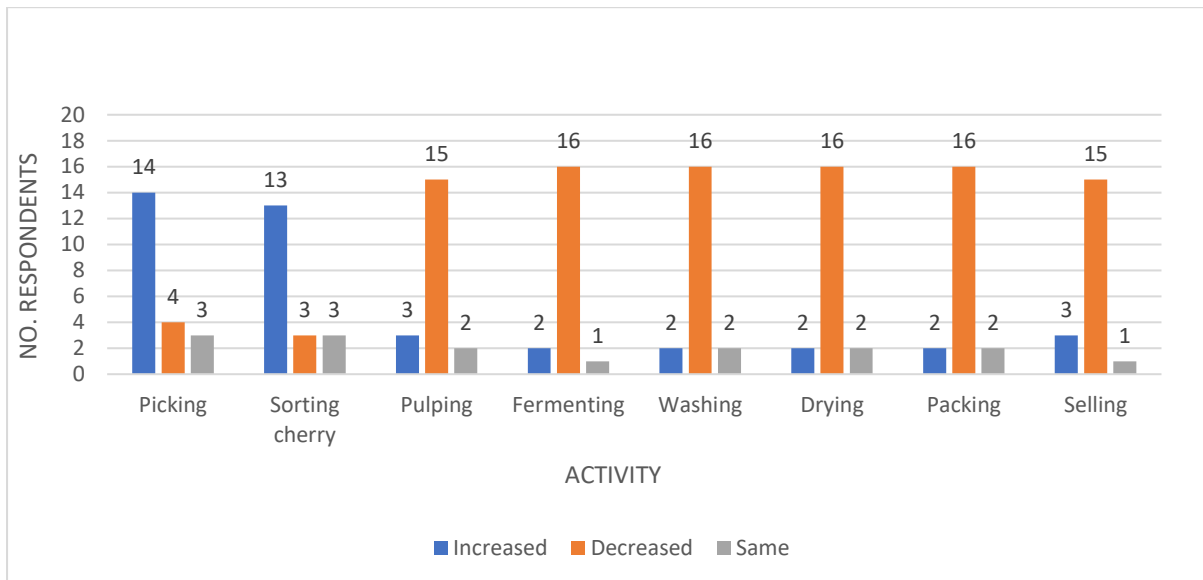


Figure 8-12 Changes in time allocated to coffee processing tasks for men
 Source: Data is from ACIAR ASEM-2016-100; number of men who are heads of household; n=21.

Having considered the financial and labour benefits of the demucilager, I now turn to the social benefits which can be gained from the demucilager project. In the following case study, I explore the relationship between leadership, *pasin*, and Development projects in the Bena community. I argue that the ability to successfully manage Development projects contributes to the *pasin* of both the individual and the group, and that this has synergistic benefits for long term sustainability and success of the demucilager as well as other Development projects.

8.6 Alfred – community leadership and Development work

As with participation in the VSLA, the demucilager provides social benefits as well as financial and labour efficiencies. In this case study, I focus on the visible demonstration of leadership of this and other Development projects which have contributed to the recognition of the project community leader as having *gutpela pasin*. The support of community project leaders is an important contributing factor to the success of Development projects and can also be a reason for not engaging if they were perceived to be acting without *gutpela pasin*. Cadiz (2005, cited in Hermann, 2007, p. 37) notes that “personality traits, such as diligence, trustworthiness, commitment, service-orientation and dedication, especially of leaders, play a big role in the potential success of a

development project". In the PNG context, ideal masculine traits such as the ability to attract wealth and be successful in business (Barnett-Naghshineh, 2019; Dickerson-Putman, 1996; Sillitoe, 2006a; A. Strathern, 1979) can be added to this list.

Alfred is a married man in his early fifties who enacts ideal masculinity and *gutpela pasin* through his community work and engagement with Development activities. His children are grown and living elsewhere with their own families, but he usually has younger school aged children stay with him who are either grandchildren or children of his extended family or neighbours. Adoption of children is yet another marker of his *gutpela pasin*. In Bena, the adoption of children strengthens the community and establishes new opportunities for exchange (Knapp, 2017). Indeed, I am an adopted 'child' of Alfred and his wife and refer to them as Papa and Mama even though I am older than both of them.

One of his daughters lives in Lae and he and his wife regularly visit and stay with her while they market bulb onions and oranges. Another son lives in Port Moresby and is completing university studies related to the mining industry. Alfred finished school at year 10, but in my numerous conversations with him, he demonstrated a depth of business acumen, political savvy, and understanding of project management which extends well beyond his formal education. Through his engagement with the VSLA and demucilager Development projects he has completed numerous short courses, including:

- Facilitation Skills (7/10/2019 to 11/10/2019)
- Financial Literacy Training of Trainers (21/10/2019 to 24/10/2019)
- Family Business Management Training of Trainers (11/11/2019 to 15/11/2019)
- VSLA methodology training (18/11/2019 to 21/11/2019)
- Organisational strengthening training (25/11/2019 to 6/12/2019)
- Start and Improve Your Business Micro-Enterprise Workshop (29/6/2020 to 10/7/2020)

In my conversations with Alfred about his work as a leader, he was always deeply conscious of how he was perceived by the community and understood that he held a position of leadership through the recognition of his *gutpela pasin* by other community members. In addition to his community Development work he is also a spiritual leader, with the title of Pastor, and gives sermons on his property in the same building where the VSLA meetings are convened. He is not closely affiliated with any particular Christian denomination, which gives him freedom to engage with this aspect of his leadership in a way that fits with his other commitments.

Alfred is a coffee farmer who, like Luke, lives and works on the lands of his mother's brothers. After marrying, he settled down and started looking at alternative ways for him and his community to improve their livelihoods. One of his earliest projects was to develop pineapple as a crop of significance in the area, and so he collected discarded pineapple tops from the Goroka market for replanting, and now this crop is a leading source of income after coffee in the area (Inu, 2015). As well as coffee, Alfred has a citrus grove and grows various other fruits and vegetables for marketing both in Goroka and Lae.

Over the years, Alfred has developed skills to work with the various agents of Development who come to Bena, including PNG based NGOs, INGOs, researcher groups including the PLRG, local governmental organisations like CIC, members of parliament, and the PNG government, who in 2023 were trialling a solar dryer for bulb onions project in the Bena community (Figure 8-13). He has also worked with a superannuation⁹⁸ fund to establish retirement savings accounts for community members who wish to have one. The benefit of this is unclear at this point in time, as it is usually only used by people who have a salaried income, and account holders will generally only be able to access funds once they meet the government mandated retirement age (Nambawan Super, 2020).

⁹⁸ Superannuation is a type of contributory pension scheme whereby people can save money on a regular basis and invest in a range of different asset classes. The money is preserved until retirement age. In Papua New Guinea, salaried workers have compulsory contributions paid by their employers to their superannuation fund (Nambawan Super, 2020).

However, there is some status associated with having such an account and it also provides people with a form of identification which many villagers do not have.⁹⁹ Another recent project involving community members is the raising, maintaining, and distribution of young coffee tube stock to community members in partnership with CIC (Figure 8-14). Here, the objective is to distribute 10,000 tube stock plants to farmers in the district to replace older or damaged trees, or for farmers to increase their holdings.

The solar dryer, demucilager, VSLA meeting hall, the coffee nursery, as well as the residence built to house me and other PLRG researchers, are all on Alfred's land in close proximity to each other. He has established a co-operative which includes members who participate in these projects, and who also work collectively on community projects on the alternate weeks from the VSLA meetings (Figure 8-15). Alfred's strength as a leader and his ability to attract followers and resources are traits associated with ideal masculinity (Chapter 2.6). He passionately believes in the development of not only of his own community, but of PNG in general, and encourages engagement with these projects as part of *gutpela pasin*.

⁹⁹ Lack of identification can be a barrier to financial inclusion in PNG (Hoy et al., 2022), and indeed when I transferred payment to my RA from Australia it had to go through Alfred as she had no suitable identification which would enable her to collect the money.



Figure 8-13 Solar dryer for bulb onions (Bena 2023)



Figure 8-14 Coffee tube stock nursery (Bena 2023)



Figure 8-15 Community members working to clear ground for planting (Bena 2020)

The large amount of time Alfred commits to Development projects is indicative of his passion for this type of work. Kean (2000) found similar levels of enthusiasm for Development projects among community members of an oil palm settlement scheme in the PNG province of West New Britain. He suggests that post-Development theories, which argue that local engagement in Participatory Development is a form of colonisation of the mind, fail to recognise the desires and ambitions of local peoples. The interest in Development projects in Bena, not only by Alfred, suggests that regardless of what the project is, Development is an influential cultural institution in its own right. As such, ideas of *gutpela pasin* to include participation (or non-participation for those with *nogut pasin*) are subject to structuration.

Alfred is playing an active role in expanding the VSLA to other communities. In 2023 he had mentored 6 new groups, to varying degrees of success. Some groups have been through several rounds successfully. One group's leader reportedly absconded with the group's money, an unfortunate but rare occurrence in VSLA groups (H. Allen & Panetta, 2010; Biggart, 2001). Alfred's

time is increasingly spent on these Development projects, while also encouraging others in the community to take on some of the work of the Bena projects. In 2022, for example, he encouraged the group to nominate people to collect information from members on how the different projects could be improved. I suggest that this approach is an adaptation of the action-research approach used by the PLRG, which Alfred has been regularly exposed to for over a decade. Despite this sharing of some of the work of managing the groups, the projects are still firmly under his leadership.

Alfred also understands that people learn by doing. Like the man speaking at the share-out who thought that the locked box would come pre-filled with money (Chapter 7.4), Alfred understands that people who participate in the VSLA and other community projects will learn how to save their own money once they have been through a savings cycle. Most importantly, according to Alfred, people also learn how to work together on projects, a factor which can sometimes be absent in PNG co-operatives and can result in their downfall (Sengere, 2010; Sinclair, 1995; Thompson-Orlegge, 2010). Alfred told me that this non-financial outcome of the VSLA is a base requirement for the success of other projects, and thus he feels strongly that VSLA (and the training associated with VSLA such as household budgeting) should be the first step in any village economic Development program.

Alfred has achieved a high level of both social and economic success in his coffee and food farming activities. Like Luke, his farm is on the land of his mother's brother rather than his patrilineal kin. This has perhaps motivated him to be a socially driven risk taker and to exhibit *gutpela pasin* through his engagement with Development projects which benefit the community. Unlike Luke, however, Alfred is the head of a more mature household and has demonstrated other forms of adulthood, including payment of bride price for his wife, and the successful parenting of his children and grandchildren. These actions give confidence to his followers that Alfred exhibits *gutpela pasin* and is worthy of their support and respect.

All three forms of societal, proximal, and territorial embeddedness are relevant to Alfred's engagement with the work of Development. His societal networks within the community form the

basis of his followership, and he also uses his connections to help with the sale of produce from community projects. His proximity to Goroka enables him to engage with NGOs and project partners on a regular basis and hear of new projects when they arise. The availability of these Development institutions also forms part of territorial embeddedness. He also has access to mobile technology, through which he can promote his community's successes.

Alfred been pivotal in keeping the VSLA and demucilager Development interventions going, particularly during the challenging years of 2021 and 2022 when both the projects and the community faced setbacks. His motivation to be both socially and economically successful through the various Development projects he engages with supports the longer-term success of the demucilager and VSLA projects. In this sense, Alfred exemplifies Sahlins' (1992) "Develop-Man", as he embraces the work of Development on his terms, and in a way which furthers the social as well as practical needs of the community and his family. Alfred's leadership of both projects is both an asset and a risk. The loss of a leader can be the end of successful enterprises in PNG (Benediktsson, 2002). There is a challenge, however, in encouraging divestment of responsibilities. In an examination of entrepreneurs in Gorokan businesses, Finney (1990, p. 46) noted that:

One factor, however, is striking: the way in which these [business leaders] have limited group participation in their enterprises. As majority shareholders in companies that they have organized, these men are firmly in charge. While they may at times stress the group support behind their enterprises, they really consider their respective organizations as being truly theirs.

The need to consider this issue in more depth is discussed in the next chapter.

8.7 Conclusion

In this chapter, I have examined the ways in which the introduction of the demucilager has contributed to improved returns to labour in the Bena community. The project experienced several challenges in the 2021 and 2022 period, including the spread of CBB, equipment issues, and Covid-19 travel restrictions which limited the capacity of the project team to rectify problems in a timely manner. Despite these challenges, community usage of the demucilager is returning to the levels

seen in 2020. This can be at least partly attributed to the continued involvement of the community project leader and his supporters, which is linked to his motivation to enact *gutpela pasin* through Development projects and to drive development in the community.

Members who had already participated in the VSLA were more likely to bring their cherry to the demucilager. As well as proximity of the VSLA meetings to the machine, members were used to working co-operatively together and had developed trust in the project leadership. Members were also potentially able to better tolerate the delay in payment as the VSLA provided greater financial security. Finally, the linkage to the coffee processor, who was able to grade and pay a premium over roadside and factory gate parchment prices, provided a price incentive for farmer participation. However, despite the higher premium, the incentive to bring coffee to the demucilager diminishes when the price available from roadside buyers increases to a point which meets household needs. Roadside buyers also offer a further incentive of immediate payment, which is preferred by some community members.

The findings in this chapter indicate that profit maximisation is less of a motive to participate in Development projects than the goal of meeting social and households needs. These needs include the desire to be recognised as having *gutpela pasin* through participation in the demucilager and other Development projects, and, as demonstrated in Chapter 5, having sufficient time to engage in other cultural and leisure activities which may also be expected of someone who acts with *gutpela pasin*. This demonstrates that interventions which meet the social, as well as economic, needs of the community will have a greater chance of long-term sustainability.

In the next and final chapter of this thesis, I consider the implications for the VSLA, demucilager, and other Development projects of the findings in this and earlier chapters. After first summarising the features of embeddedness in the Bena community, I then consider my findings in relation to my research questions. I also outline recommendations which might be considered by community members and external project stakeholders to ensure long-term sustainability of these and other

Development interventions. Finally, I provide a summary of my argument which demonstrates the socially embedded nature of Development project participation in the Bena community, and how it is linked to the demonstration of *gutpela pasin*.

9 Summary of findings and recommendations

9.1 Introduction

The preceding chapter provided an overview of engagement with the demucilager as a pilot Development project. In this chapter, I summarise the findings of this thesis and outline recommendations for future Development work in PNG, and potentially elsewhere. I first describe my findings in relation to the nature of embeddedness in the Bena community, and how this influences the outcomes of Development projects. I then consider the usefulness of embeddedness and structuration as analytical approaches for Development projects. My findings in relation to the research questions posed in Chapter 1 are then discussed. To conclude, I present recommendations both for VSLA and demucilager projects, and for Development projects in the PNG highlands in general. In this concluding chapter, I argue that recognition of the ways in which the village economy is socially embedded, and the ways in which actors, institutions, and Development projects intersect to produce change, can facilitate project design which better meets both the economic and social needs of community participants.

9.2 The embedded economy in Bena

9.2.1 Features of societal embeddedness

Societal embeddedness refers to the relationships and cultural norms and institutions which shape economic activity (Hess, 2004). As outlined in Chapter 2, the cultural institutions of *pasin*, bride price, sorcery, and ideal forms of masculinity and femininity underpin exchange relations and economic activity in Bena and elsewhere in PNG. In Chapter 5, I demonstrated that community members continued to spend a considerable amount of time on leisure and cultural activities, which exceeded time spent on coffee or fresh food production. This is indicative of the importance of social and exchange networks and the work required to maintain them. These networks are described in Chapter 6 (Figure 6-1), where I also explored the influence of age and marital status on economic opportunity. Women of all ages, particularly those who are not married, face economic vulnerability

as their access to land is reliant on their husbands or natal family. In Bena, nearly half of households share responsibility for marketing coffee between husband and wife. In the case of Duncan and Jean (Chapter 6.3.1), both coffee and food production are undertaken cooperatively and earnings are managed communally. This is a shift from antagonistic to complementary gender roles described by earlier researchers such as Dickerson-Putman (1994), and it is likely that engagement in the VSLA has contributed to this change.

There are cash and cash substitute transactions occurring between and within households, as well as with nodes outside the village network, as shown in Figure 6-1. The case studies of Lauren (Chapter 6.4.1) and Mary (Chapter 6.4.2) demonstrated this in relation to intra-household labour payments, and the use of coffee cherry as a cash substitute. Bena community members are linked to other communities in Goroka, Lae, Port Moresby, and elsewhere in PNG through family migration and fresh food marketing. As a globally traded commodity, coffee links Bena to the world, but important resources for farmers such as CIC extension officers and coffee buyers are in Goroka. Other resources such as NGOs which support Development projects are also in Goroka. The community also has embedded links to researchers at Curtin University in Australia which influence livelihoods and engagement in the work of Development. These networks help to develop trust and shared values that form part of societal embeddedness, and which underpins the ways in which Bena community members engage in economic activity and Development projects.

9.2.2 Features of proximal embeddedness

Proximal embeddedness describes how the proximity of actors within the economy to each other and to economic resources creates a particular *habitus* in economic action. The close proximity of Bena to Goroka means that it has access to markets, internet services, and a diverse range of livelihood opportunities. This has an impact on women's livelihoods, as they are less reliant on income from coffee compared to women in inaccessible sites (Table 5-5). It also has close proximity to the highway and thus transport to and from larger centres such as Goroka, Lae, and Madang. The

access to these markets is embedded in livelihood approaches as it drives a willingness to engage in a greater range of economic activities and, for some, to take on more risk.

The Bena community's proximity to Goroka also makes it accessible to outside agents involved in Development work such as NGOs, researchers, and CIC extension officers. The site has become a preferred place for trialling Development interventions and undertaking agricultural research. This enables community leaders such as Alfred the opportunity to pick and choose the projects he brings to the community and the organisations he engages with. Leaders in more remote areas have far fewer choices, if any at all. Sexton (1983) described a similar situation of proximal embeddedness when she examined a women's business development organisation operating out of Goroka and found that the shareholders were all living in or close to the town. Alfred's developing role, as a trainer of new VSLA groups, may help to spread these opportunities away from the provincial urban centre as he is willing to visit more remote locations.

The proximity of the four villages to Alfred's residence makes it feasible for them to participate in both the demucilager and VSLA projects. Data indicated that farmers in the furthest village were willing to bring cherry to the demucilager, but the need to transport cherry from the site where it was harvested to the processing site was a discouragement for some. Both men and women from the most distant of the four villages had good engagement with the demucilager and VSLA projects. Participation in both projects was lowest for the third most distant village, suggesting that there may be other factors of social embeddedness in either this community or the most distant which impact the strength of motivations to engage in the Development projects.

9.2.3 Features of territorial embeddedness

Territorial embeddedness refers to the available physical infrastructure and natural resources which shape economic life (Hess, 2004). The geographic conditions at the Bena field site, including soil, climate, rainfall, and altitude make it ideal for coffee growing and various forms of fresh food production. However, within the four villages, conditions can be variable. Generally, Bena

households are able to engage in a range of livelihood activities as they have not only a supportive physical environment, but also access to markets to sell their produce. The nearby road also gives farmers access to the coast via the Highlands Highway to buy products such as dry coconut and betel nut to sell in the Highlands where the physical conditions do not support their production.

Land availability is not yet a significant issue in the Bena community, but it may arise as a problem in the future as the population grows. Land constraints can give rise to conflict and/or the need for more intensive crop production. This may in turn exacerbate land loss through soil degradation, which is already occurring in Bena to some extent (Curry et al., 2018). The availability of land is something that may require monitoring in the future, as land pressures have the potential to disrupt prevailing social and economic relations (Anderson, 2014).

Smart phone technology and access to internet service providers is increasingly enabling the Bena community to expand their networks of societal embeddedness. New connections can be made through social media, and existing relationships may change as a result of increased contact. Through a process of structuration, this will inevitably change *pasin* and other cultural institutions. Already it has enabled a change in the ways in which people engage with the work of Development, including my own approach to data collection and Alfred's use of it to promote his engagement with Development projects.

9.3 Development, embeddedness and structuration

This research has shown that using societal, proximal, and territorial embeddedness as a framework for understanding the Bena community has been a useful approach. Hess's (2004) approach to embeddedness, which I have adapted for this research, deliberately brings attention to the issue of 'space' and how this impacts economic relations. It is complementary to other bottom up Development research methods such as the Sustainable Livelihoods Approach (SLA) (Serrat, 2008) which focuses on assets and deficits at a community level. In my analysis, the use of embeddedness as an analytic framework has highlighted the influence of proximity to the resources of an urbanised

centre such as Goroka, the local and global connections which influence economic activity, and the local institutions within which decision-making is embedded. It helps to build a picture not only of the resources available to a community, but how these resources are likely to be accessed and deployed.

Notably, using this approach has demonstrated that as well as economic factors, social factors are also important in driving engagement in Development projects in the Bena community. The need to publicly demonstrate *gutpela pasin* contributes to the need to have a large share-out, both in terms of amount saved and event visibility. The need to show ideal masculinity may also encourage risk-taking in borrowing decisions. Leadership of Development projects is another avenue to demonstrate *gutpela pasin*. The significant amount of time allocated to leisure and cultural activities also indicates the importance of this aspect of people's lives. From a neo-classical market logic, some of these actions and decisions may seem irrational when profit is not clearly maximised. However, an approach which focuses on the socially embedded nature of the Bena economy highlights the social benefits derived for both individuals and the community by these actions.

The societal, proximal, and territorial factors of embeddedness are all relevant when considering the design and evaluation of Development projects. Bena's proximity to Goroka supports complementary relations between farmers and wage earners, livelihood diversification, access to additional training, and other Development opportunities. This form of embeddedness is not just about access to resources through proximity, it is how this access supports a particular type of engagement with Development. In Bena, this is a culture which embraces new Development opportunities and sees participation in them as *gutpela pasin*. The community's enthusiasm for the VSLA and other Development interventions, often led by Alfred, is similar to that seen in West New Britain oil palm Development projects (Kean, 2000). There, despite continued lack access to basic services, communities remain enthusiastic towards Development projects as they are seen to deliver "benefits or opportunities, ... political and economic empowerment, and/or [freedom] from traditional obligations" (Kean, 2000, p. 154). These benefits are wide-ranging and may not

necessarily be obvious with an evaluation which focuses primarily on changes in asset ownership and access to resources.

The cultural support for Development projects may not present in more remote communities, where there has been less opportunity for participation in Development projects to be incorporated in *pasin*. This may also have implications for local trainers such as Alfred, who may be frustrated by a perceived lack of *gutpela pasin* in communities which do not wholeheartedly embrace Development initiatives such as VSLA. More attention may be required to ensure the project delivers social as well as economic benefits, and that these are clearly communicated.

The VSLA and, to a lesser extent, the demucilager, are now incorporated as new institutions in their own right within the Bena community. As people engage with these institutions, all three aspects of embeddedness change as new networks of societal embeddedness are created, the built environment is altered through the introduction of new equipment, and the livelihoods of people who are proximate to these resources are changed. The availability of the demucilager and the VSLA may also act as an attraction for younger family members to stay in the community rather than migrate to urban centres. This is a possible avenue of future investigation.

9.4 Findings in response to research questions

The following is a summary of the findings presented in this thesis in relation to the research questions posed in Chapter 1.

1. What economic changes have occurred in the socially embedded economy in Papua New Guinea's coffee farming communities in Eastern Highlands Province in the post-independence period.

In Chapter 5, I presented an overview of changes in time allocated to coffee, fresh food, and leisure and cultural activities. I compared the work of earlier researchers in EHP in the period 1976 to 1993 with time allocation data collected by the PLRG at the accessible sites of Bena and Asaro in 2011. During this period, time allocated to coffee production increased substantially for both men and

women, albeit more so for men (Figure 5-3). The PLRG data was collected during a period when coffee prices were high, indicating that people are sensitive to the price of coffee and will allocate time towards this activity when returns to labour are greater than for other available income-generating activities.

Whereas in earlier time periods men and women spent an approximately equal amount of time on coffee work, the PLRG data indicated that men were spending more time than women on coffee (Figure 5-3). It is important to recognise the distinction here with the work of earlier researchers which noted women's withdrawal of labour from coffee (Curry et al., 2019; Inu, 2015; Overfield, 1998). In this analysis, both men and women had increased the time spent on coffee in 2011, but men more so than women. In periods where the price is lower such as in 2018, women were likely to turn their attention to other sources of income, leaving men to do much of the work themselves. Survey data from the PLRG indicated that while almost half of households in 2018 shared responsibility for marketing coffee parchment (Figure 5-8), the male head of household is increasingly working alone (Figure 5-7). This could be seen as indicative of a 'dis-embedding' of the village economy, where women are allocating their time to activities which provide them with the most income. However, it could also be argued that women achieve more recognition as performing ideal femininity and having *gutpela pasin* through food marketing than through coffee work.

Time allocated to fresh food production remained comparable between the earlier research and the PLRG time allocation study (Figure 5-3). There was a slight drop for women, which indicates a shift to coffee production during a time of high prices. Despite this, women in accessible sites ranked fresh food as their primary source of income, in contrast to women in inaccessible sites who were more reliant on coffee income (Table 5-5).

The time allocated to leisure and cultural activities remained high for both genders, with men decreasing the time they allocate to these activities from 41% to 32%, and women continuing to spend around 28% of their time on this. Maintaining networks of relationships continues to be an

important aspect of societal embeddedness and could be considered an economic activity rather than 'leisure' in the Western sense of the word. For non-locally managed Development interventions, it is important to recognise the importance of this and allow sufficient time for project participants to undertake this work.

An increase in wealth in the community was demonstrated through more people building permanent housing and acquiring more assets. The 2010 and 2018 surveys indicate that coffee and fresh food production are the main contributors to this. The community engages in a wide range of other livelihoods which is enabled through access to markets, a feature of proximal embeddedness. This enables smoothing of cash flows in the off-season from coffee, which in turn enables savings and the provision of credit throughout the VSLA cycle.

2. How does socially embedded decision making in Participatory Development projects influence project outcomes in an EHP coffee farming community.

This question was explored in Chapters 6, 7, and 8, with findings based on the research context presented in Chapters 2 and 3. My research suggests that in the Bena community, Development projects such as the VSLA and the demucilager are opportunities to demonstrate *gutpela pasin* at both an individual and group level. *Gutpela pasin* is an expression of the socially embedded nature of the village economy, and shapes decision making and economic outcomes. Interventions which align with the social as well as economic needs of the group are more likely to have long term sustainability. In the case of the VSLA, for example, members are able to share in the prestige of the group at the share-out, even if they did not achieve as strong an economic outcome as others. On the other hand, the socially driven logic of VSLAs (Biggart, 2001) can have negative social outcomes for participants who do not conform to the new forms of *gutpela pasin* associated with VSLA membership, such as when debts are not repaid. In this sense, the social benefits of participation can be experienced differently at the group and individual level.

The outcomes of the VSLA are influenced by proximal embeddedness, as diversity in livelihoods enabled by access to markets helps with income smoothing on a seasonal basis. This lessens the need to match borrowers with lenders from outside the community during periods of low income, an issue experienced by some rural VSLAs in Africa (Cassidy & Fafchamps, 2020). This may, however, be an issue in remote and inaccessible sites in PNG, and linkages to other groups or the formal banking system may be necessary. Different approaches have been tried elsewhere to resolve this problem with varying degrees of success, and solutions appear to be context dependent (CARE Uganda, n.d.; Seel, 2018). As VSLA expands in PNG, this may be an area where further research is needed to determine the most suitable approach.

The opportunity to engage in different livelihoods means farmers can, to some extent, be flexible with their income-generating strategies and allocate their time to activities which provide a higher return to labour. When coffee prices are good, the availability of family labour for coffee farming is likely to increase as was seen in 2011 when returns to labour were high and more women were willing to commit their time to coffee work. In 2018 when coffee prices were lower, labour supply for coffee was more constrained and more male heads of household were working on coffee alone. The incentive to sell cherry through the demucilager is higher when coffee prices are low and farmers are less able to meet household needs by selling to a village or roadside buyer. When prices are high, the demucilager experiences competition from roadside buyers, indicating a substantive approach to household economics which aims to meet household needs, rather than a formalist approach which seeks to maximise profit (Polanyi, 2001).

3. How do Participatory Development projects influence the socially embedded economy and cultural institutions?

Participation in the VSLA appears to have contributed to changes in gender relations, with evidence of both younger (Luke) and older members (Jean and Duncan) operating more cooperatively in relation to household work and decision making. This differs to the sexual antagonism described by

earlier researchers such as Read (1952), Meggitt (1964), Langness (1967), and Reay (2014), and even the complementary relations described by Dickerson-Putman (1994), where women and men work towards shared goals but through a gendered labour approach. This is not to say that labour is still not gendered. The findings of time allocation and household survey data suggest that there are still tasks predominantly undertaken by men or women alone. However, there appears to be instances where men and women work co-operatively on shared tasks, and instances where women are transcending traditional gender roles. For example, the VSLA has provided Mary with financial literacy skills which she is using to work as a village coffee buyer – a role which has been historically dominated by men.

The VSLA and demucilager projects are also opportunities for community members to engage in new forms of leadership. Women take leadership roles in the running of the VSLA, and also have an opportunity to speak at public events. Alfred has developed much of his leadership identity through association with Development projects. He and his followers played an important role in overcoming challenges faced by the demucilager project during its pilot phase and have contributed to the long-term sustainability of both this and the VSLA, although his important role in these projects also presents a key person risk. That is to say, if Alfred were to leave or remove his support from the projects in Bena, their long-term viability may be at risk.

Participation in the VSLA has contributed to changes in *pasin* because the VSLA is, in itself, a new cultural institution. Members have an identity associated with the Bena VSLA which they proudly display through their uniforms, special *bilums*, and the share-out celebrations. On the other hand, there is less group identity and cohesiveness associated with the demucilager project, as it does not have the regular meetings and procedures associated with it where a group identity can be forged. The demucilager also faces competition from village and roadside buyers, particularly if the price offered through these channels meets household budgetary needs. The group identity created through the VSLA has, however, encouraged participation in the demucilager project, and VSLA members were the majority of demucilager users.

9.5 Recommendations

This research has highlighted a number of opportunities both in relation to the design of Development interventions in general, as well as, in particular, the VSLA and demucilager projects which are currently operational in Bena. There are also areas of understanding which require further investigation. Some of these modifications may require the support of donor funding, but they should be considered an investment in program effectiveness and sustainability. The following section outlines all three areas of recommendations, noting that the suggestions relating to areas within the control of the Bena community have already been discussed with some community members. Furthermore, this research will be shared with the broader group following acceptance of this thesis.

9.5.1 Changes to VSLA which support access to and management of credit

The passbook level analysis used in this research has highlighted issues in relation to management of debt which might not have been made visible with a macro view of the Bena VSLA outcomes. As was found with a similar research approach used in Uganda on a larger scale, the benefits from allocation of capital within the VSLA tend to move from the relatively poor to the relatively well off (Burlando & Canidio, 2016). This level of analysis, however, does not consider all benefits of participation in the VSLA, such as demonstration of *gutpela pasin* and *wanbel*, and the ability to save money which reduces vulnerability to external shocks such as Covid-19. It also has provided participants, and in particular women, with a place to save money, skills in financial literacy, leadership opportunities, and training in co-operative household management. Furthermore, the availability of members who can provide capital negates issues identified in other VSLA contexts which result in insufficient capital for loan demand (Cassidy & Fafchamps, 2020). Nonetheless, there are some features of the Bena VSLA which could be adjusted to improve outcomes.

The first adjustment could be the removal of the punitive approach taken by the Men's group in relation to late payments. Under this approach, the unpaid amount of a loan is reissued with another

service fee, and the evidence indicates that this is ineffective in reducing late payment and potentially constrains issuing of new loans for worthwhile purposes. It also indicates that late payments are more due to an incapacity rather than an unwillingness to pay. A flat fee, as currently used by the Women's A group, is a better option in that it acts as a disincentive but is not so onerous as to inhibit repayment of existing loans and future borrowing. The more effective deterrent is the social aspect and shame of not repaying a loan (Biggart, 2001) – a demonstration of *nogut pasin*. An alternative may also be to apply an incentive for on-time payment of large loans (e.g. over K500), such as a reduced interest cost/service fee for future large loans. This would need to be trialled to evaluate its effectiveness. There could also potentially be more public recognition for large borrowers who repay on time during VSLA meetings or at the share-out, which would socially recognise their contribution to the share-out. Members who are habitually late could potentially have the amount that they can borrow limited to two times their savings instead of three.

The removal of severe consequences for late payment and incentivisation of on-time payment may not be acceptable to members, as these measures have the potential to reduce the pool for share-out. However, members could be made aware that the overall volume of larger loans may potentially increase which would counteract the loss from punitive interest charges. More funds would also be potentially used for investment and support of local businesses, which may also be of economic and social benefit to the community.

Additional training in relation to debt management and budgeting may also be needed for groups who graduate to high share prices. While initial training and support of VSLA groups appears to be robust and effective, there perhaps needs to be greater support for groups who have been operating for longer periods of time (e.g. more than 3 years) to support their more complex needs as the groups evolve.

9.5.2 Increasing demucilager usage

The demucilager demonstrated that with strong leadership and a committed followership of a core group of people, interventions which introduce new technology can overcome formidable implementation challenges. There is still a need, however, to increase usage of the demucilager. Increased usage will reduce the time taken for the micro-lot quota to be achieved and therefore shorten time to payment. Delayed payment was identified as a barrier to usage, so increased usage will create a virtuous circle and attract even more users. One approach to attracting new participants is to develop a clear process for accepting CBB affected cherry. Farmers who are receiving low prices for their CBB affected cherry would welcome the opportunity to achieve a higher premium. Another initiative to increase usage would be to communicate the benefits outside of the VSLA group, perhaps through church groups. Co-ordinating transport and processing days may also be helpful; however, the additional cost of transport would need to be factored into the additional margin received through demucilager processing.

9.5.3 Recognition of price sensitivity and substitution thresholds

The findings from Chapters 5 and 8 demonstrated that price and returns to labour are significant factors driving engagement in coffee production. High prices incentivised coffee production, but farmers were also more accepting of roadside prices and less willing to wait for payment from the demucilager. This behaviour suggests that profit maximisation is less of a motive than meeting household needs and timeliness of payment. This difference may be less noticeable if the time between demucilager acceptance and payment is reduced, as is likely to happen when volumes increase. VSLA members appear to have been more willing to accept delayed payments, indicating that they were potentially more financially resilient. The implementation of VSLA as a pre-cursor to other projects may have synergistic benefits. This is discussed further below in relation to identity creation.

9.5.4 Empowering women

The findings from Chapter 6 demonstrated that most women have access to income from coffee, and many have rights to harvest trees. The work of Hamago (2019) highlighted the need for more women extension officers in PNG. There also needs to be training to support not only women coffee farmers, but also those who wish to engage in work further along the coffee supply chain. The case study of Mary demonstrated that the VSLA has an important role in developing women's financial literacy skills. This could be further harnessed through business training and mentoring in other parts of the coffee industry and elsewhere.

Participation in the VSLA was shown in Chapter 7 to provide a forum whereby women could transgress normative femininity and gender roles, through public speaking and demonstrating their savings skills. These actions, through a process of structuration, create new gender norms. Development projects which provide these opportunities for women to publicly demonstrate their capabilities have the potential to support women's economic empowerment.

9.5.5 Leadership succession planning

As noted in Chapter 8, Alfred's leadership of both projects is both an asset and a risk. He has clearly played a pivotal role in ensuring ongoing community engagement with both projects and is now actively disseminating the VSLA model to other PNG communities. While the VSLA would most likely continue if he was for some reason absent, the demucilager may struggle to gain the momentum it needs to be sustainable. As noted by Finney (1973, 1990), in the context of business in the PNG Highlands, leaders prefer to maintain a tight control of their operations. Succession planning is not an easy concept to introduce in a culture of competitiveness. Nevertheless, the strong institutionalisation of both Development work in general and the VSLA in particular in Bena offer pathways to modify cultural norms associated with leadership and incorporate models which support project sustainability. Training which is incorporated into VSLA and other Development projects may therefore be effective in initiating change.

There are already leadership programs in place in various sectors in PNG, such as training for vocational educators (Australian High Commission PNG, n.d.; The National, 2017) and youth community workers (Australian High Commission PNG, 2024). The latter program notes a curriculum covering “leadership, governance, community engagement, effective communication and decision-making, project management, conflict and dispute resolution, working in partnerships, and stakeholder collaboration” (Australian High Commission PNG, n.d. para 2). Training which incorporates the need for succession planning as part of the long-term sustainability of Development projects could be developed and included in such programs.

9.5.6 Creating cohesive groups

One challenge Alfred faces when introducing VSLA to other communities is that Development work will not necessarily be embedded as a cultural institution in the way that it is in Bena, and so participation and behaviours which contribute to the success of the project may not be incorporated as part of *gutpela pasin*. The success of the VSLA in the Bena community is supported by the enthusiasm of the community for Development projects, the involvement of Alfred as a community leader, and the identity created by the group through wearing of uniforms, the use of group colours, and the creation of songs and *bilums* which are associated with the group. The high number of VSLA members supplying cherry to the demucilager suggests that this identity carried through to this project too.

As suggested by Alfred to me in my last field trip, the group cohesion developed through VSLA is a pre-cursor for success in other projects. It should be noted that the extent to which group identity was created at Bena is not necessarily typical of VSLA, although it would likely occur in all groups meeting regularly to some degree. The approach taken by the Bena community, which is to incorporate group uniforms and colours, and develop a recognisable group *bilum* would, however,

help this identity to develop. This could be incorporated as part of the introduction of VSLA (or other projects) to new PNG communities.¹⁰⁰

9.5.7 Dissemination of information

During Covid-19, CARE issued a brief in 2020 suggesting that groups make changes to lending rules (CARE International, 2020). This was either not received by the Bena community or issued too early as the effects of the pandemic were not felt until 2021. As access to the internet increases, there is an opportunity to improve dissemination of information during critical periods. Information was spread via social media during the pandemic, but it was mostly disinformation which led to strong vaccine hesitancy (Day, 2022). While access to technology is lagging in PNG, particularly in remote areas, uptake is increasing in areas such as Bena which are proximate to larger centres, as evidenced by the ownership of smartphones discussed in Chapter 5.4.5.

The increased use of technology presents opportunities to change the nature of embeddedness in Bena and other communities. It has enabled this research to progress, despite the disruption of Covid-19, and will enable new approaches for future research. There is also an opportunity to change the ways in which Development projects are implemented, such as the incorporation of well moderated online communities of practice which link community leaders such as Albert with others and provide forums for both sharing ideas and demonstrating the success of their communities. This is an opportunity which could be explored further in future research.

9.6 Conclusion

Through this thesis, I have examined features of societal, proximal, and network embeddedness in the Bena community which influence economic activity and engagement with Development projects. It has been demonstrated that Bena is a site which is supportive of Development interventions which

¹⁰⁰ The *bilum* is a feature of the PNG Highlands, and so other culturally relevant representations could be used elsewhere.

provide an opportunity to enact *gutpela pasin*, and which align to social as well as economic goals.

Existing cultural institutions such as *pasin* and ideal forms of masculinity and femininity influence the ways in which people engage with Development projects, but through a process of structuration, Development projects also influence *pasin* and the ways in which people engage with other embedded cultural institutions.

The findings of this research indicate that the general economic prosperity of Bena community increased moderately in the period from 2010 to 2018, with more households living in permanent dwellings and having more income-generating and other assets. The analysis of VSLA savings and loans shows that while most members benefit from the project, a small number have not. Further research is needed to understand the experience of more vulnerable members, particularly younger or unmarried members who may have limited access to land. Participation in Development projects are pathways to changes in gender relations, with evidence of households operating cooperatively and women engaging in aspects of coffee business management which are usually dominated by men. More support is needed to leverage the financial literacy skills women are gaining through the VSLA and expand the opportunities available to women in other parts of the coffee value chain.

The spatially focussed approach to understanding embeddedness used in this research has highlighted the features of Bena which support engagement with the work of Development. The analysis has also identified areas where the community might consider changes to strengthen the sustainability of their Development projects. Attention has also been drawn to the possibility that communities in other contexts may not achieve success in the same way that Bena has, and ways in which this risk may be mitigated. A consideration of the features of societal, proximal, and territorial embeddedness is therefore a useful approach to assessing communities for preparedness to establish new interventions such as a VSLA, as well as identifying opportunities to strengthen existing projects. Furthermore, recognition of how actors and institutions interact and change each other through structuration facilitates greater attention to the processes which trigger change. These

approaches to Development interventions are useful not only in the context of PNG, but in all contexts where change is an objective.

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11 Appendix A – Question sets

The following are questions asked of my research cohort. Questions were created by me and asked by my RA:

Table 11-1 *Goroka Relatives*

Number	Question
1 a	Do you have family living in Goroka?
b.	Who comes to help? Eg brother, female cousin, aunty - specify man or woman
2	Does the family help with
a	coffee garden?
b	food for market garden?
c	food for household garden?
3	How are they paid?
a	Food from the garden? i.e. uncooked that they take home
b	Cooked food from the garden?
c	Store food (e.g. rice, tin fish)?
d	Money?
e	Help at another time? E.g. labour, money for school fees or hevi
4	How often do they help?
a	Most days
b	at least once per week
c	a few times per month
d	every few months
e	a few times per year
f	never

Table 11-2 *Women's access to coffee income*

Number	Question
1	Did you get any money from selling coffee in the last season? If yes then:
2	In the last season, did you make money selling:
	Coffee cherry?
	Parchment?
3	Do you have coffee parchment that you plan to sell later? If yes then
4	When do you plan to sell the parchment?
5a	Who owns the coffee trees that you got the cherry from?
	You
	Your husband
	Both you and your husband
	Parents
	Narapla man or meri (explain)
	Son
	Daughter
5b	How did you get access to the coffee cherry?
	The coffee trees are jointly owned by me and my husband
	The coffee trees were given to me by my husband
	The coffee trees are on land given to me by my parents
	The cherry was given to me by my parents
	I buy coffee cherry from other people
	I am given cherry by my son
	I am given cherry by my daughter
	Other (explain)
6	If you sold cherry, who did you sell it to?
	Ecopulper
	Lain
	Village buyer
	Coffee processor (eg New Guinea Highlands Coffee)
	Other
7	If you sold parchment, who did you sell it to?
	Eco pulper
	Lain
	Village buyer
	Coffee processor (eg New Guinea Highlands Coffee)
	Other
8	How did you process the parchment?
	Hand pulper
	By hand (eg using stones)
	Eco pulper

Table 11-3 *Changes in coffee income*

Question Number	Question
1a	Thinking back to when you first got married, has your income from coffee
	a) Increased?
	b) decreased?
	c) stayed the same?
1b	What has caused this change?
2a	Do you think women get more or less money from coffee now than 5 years ago?
	a) more
	b) less
	c) stayed the same
2b	What has caused this change?
3a	Do you think women get more or less money from coffee now than their mothers did?
	a) more
	b) less
	c) stayed the same
3b	What has caused this change?
4a	Do you think it is easier or harder for women to get money from coffee now compared to 5 years ago?
	a) Easier?
	b) harder?
	c) stayed the same
4b	What has caused this change?
5	Do you have any stories on how things are changing for women working with coffee?

Table 11-4 *Inputs to fresh food production*

Question No.	Question
1a	Who in your household or lain helps with preparing land (e.g. clearing, making banis, making baret, drainage etc) for growing food for marketing?
1b	Explain who does what? If it is different for different crops, explain for bikpla crops tasol.
2a	Who in your household or lain helps with planting food for marketing?
2b	Explain who does what? If it is different for different crops, explain for bikpla crops tasol.
3a	Who in your household or lain helps with weeding the marketing food garden?
3b	Explain who does what? If it is different for different crops, explain for bikpla crops tasol.
4a	Who in your household or lain helps with harvesting the marketing food garden?
4b	Explain who does what? If it is different for different crops, explain for bikpla crops tasol.
5a	Who in your household or lain helps with getting garden food ready for market?
5b	Explain who does what? If it is different for different crops, explain for bikpla crops tasol.
6a	Who in your household or lain helps with transporting the crop to market and selling it?
6b	Explain who does what? If it is different for different crops, explain for bikpla crops tasol.
7a	Who pays for seed? (circle one or explain)
7b	Who pays for Karati?
7c	Who pays for roundup?
7d	Who pays for fertilizer?
7e	Who pays for transport costs?
7f	Who pays for market entry fee?
8	Do you have any story you want to tell me about any of this? For example, have things changed over time?

Table 11-5 *Experience through Covid-19 in 2021*

Question No.	Questions
1a	Did you have a bad illness over the last year which stopped you from working for more than a week?
1b	Did anyone in your household or close family have a bad illness in the last year that stopped them working for more than a week? (Note down who)
2	Has the Covid pandemic caused you to change:
a	How much time you spend on coffee work? Increase, decrease, or stay same?
b	How much time you spend on garden work? Increase, decrease, or stay same?
c.	What types of crops you planted? Explain
d.	The amount of store food that you buy? Increase, decrease, or stay same?
e.	How much money you save in VSLA or elsewhere? Increase, decrease, or stay same?
f.	Your ability to pay for large expenses, e.g. school fees? Explain which fees
g.	Your ability to pay for farm inputs, e.g. seeds, fertilizer, marasin, marketing costs. Explain which affected and impact on crops.
3	Did losses from Covid cause you to borrow money from lain to cover expenses you could normally pay yourself? Explain
4	Do you have outstanding loans as a result of Covid? Explain
5	Were there any other impacts from Covid you want to tell me about?

Table 11-6 *Bride price and gender relations*

Question No.	Question
1	How much does the bride price payment give the husband control over his wife?
2	How has this changed since earlier times?