



The Gendered Dynamics of Contract Farming

Exploring impacts of shifting intra-household
labour allocation patterns on the role of women

- A case study of contract farming in the oil palm sector of Pará, Brazil.-

C.J. Stam
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“At first I thought I was fighting to save rubber trees, then I thought I was fighting to save the Amazon rainforest. Now I realize I am fighting for humanity.”

-Chico Mendes-

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Conducting research in the Amazon has been a dream coming true. *Saudade*.

Renée Stam

Utrecht, the Netherlands.

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Abstract

This research explores changes of intra-household labour patterns, as a result of the introduction of oil palm cultivation under contract framing, and the effect thereof on the role of rural women. The purpose of this research is to contribute towards a deeper understanding of the socio-economic impacts of contract farming to theorize if these farming schemes could potentially form a solution towards socially and environmentally sustainable oil palm. A case study has been conducted in a Brazilian agrarian settlement, Calmaria II, where inhabitants cultivate oil palm under contracts, (partially) as part of the sustainable oil palm production programme (Programa de Produção Sustentável de Palma de Óleo, PPSPPO). The research concludes that the introduction of oil palm contract farming has changed labour patterns thus far that it decreased the allocation of time, task and work burden for women; and hereby consequently influenced existing social norms and gender roles regarding labour in such a way that it strengthened the role of women as active intra-household decision-makers.

Resumo

Esta pesquisa explora as mudanças nos padrões trabalhistas intrafamiliar, como resultado da introdução do cultivo de óleo de palma sob agricultura contratada e seu efeito no papel das mulheres rurais. O objetivo desta pesquisa é contribuir para uma compreensão mais profunda do impacto socioeconômico da agricultura contratada e se esses esquemas agrícolas podem potencialmente ser uma solução para a produção social e ambientalmente sustentável do óleo. Um estudo de caso foi conduzido em um assentamento agrário brasileiro, Calmaria II, onde os habitantes cultivam óleo de palma sob contratos (parcialmente) como parte do programa de produção sustentável de óleo de palma (Programa de Produção Sustentável de Palma de Óleo, PPSPO). A pesquisa conclui que a introdução da agricultura por contrato de óleo de palma mudou os padrões de trabalho até agora, o que diminuiu a alocação de tempo, tarefa e carga de trabalho para as mulheres; e, conseqüentemente, influenciou as normas sociais existentes e os papéis de gênero em relação ao trabalho de tal forma que reforçou o papel das mulheres como responsáveis a tomar decisões internas.

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Abbreviations

AMOPARACAP	Association of Residents and Small Rural Farmers of the Calmaria II settlement and the Água Preta Community
CIFOR	Centre for International Forestry Research
CRAI	Companhia Real Agroindustrial
CTP	Carteira de trabalho E previdência a social de emprego esalario
IBRA	The Brazilian Institute for Agrarian Reform
ICRAF	World Agroforestry Centre
INCRA	National Institute for Rural Settlement and Agrarian Reform
INDA	National Institute for Agricultural Development
ITERPA	Instituto De Terras Do Pará
OECD	The Organisation for Economic Co-operation and Development
PPSPO	Programa de Produção Sustenstável de Palma de Óleo
SSTR	Union of Rural Workers and Workers
ZAE	Agroecological Zoning

1. Introduction

Since the global food crisis in 2008, there has been an increasing trend in large-scale land deals (Behrman, Meinzen-Dick, Quisumbing, 2012). Food security, increasing global oil prices and the interest in biofuels were just a few of the many drivers that drove foreign investors to search for new investments (ibid). Within the international community, these large-scale land deals have been heavily discussed due to their positive and negative impact on local communities. Some scholars see them as a development opportunity, because of their promise of employment, infrastructure and technology transfers. While others press on the negative impacts such as environmental degradation, forest loss and the exclusionary dynamics of these deals (Behrman, Meinzen-Dick, Quisumbing, 2012; Hall et al., 2015). These exclusionary dynamics, “*where peasant farms are outcompeted by subsidized agro industrial enterprises*”, often result in the loss of livelihoods, displacement of populations, and the loss of decision-making power of local smallholders; making these deals part of a large international ‘heated debate’ (Hall et al., 2015, p.470; Focus on land in Africa, nd; Kusiluka et al., 2011; Behrman, Meinzen-Dick, Quisumbing, 2012).

In order to minimize the negative effects of these large-scale land deals, there has been an upcoming of more inclusive business models, providing inclusive business schemes. Contract farming has been identified as one of these potential inclusive schemes that include smallholders into the expanding agro-industry, providing them with access to international markets and facilitating them with technology, credits and learning opportunities (Vicol, 2017; Key and Runsten, 1999; Glover and Kusterer, 1990; Von Bülow & Sørensen, 1993). As a result, growing numbers of smallholders are incorporated globally into larger agro-industries through the use of such contracts (Raynolds, 2002).

Yet, while the use of these contracts increases, not much is known about the exact impact of these farming schemes on household dynamics. Traditional literature argues that the introduction of contract farming typically heightens demand for women and child labour; consequently increasing the risk of exploitation of these vulnerable groups (Carney & Watts 1991, Collins 1993, Dolan 2001, Jaffee 1995, Katz 1995, Key & Runsten 1999, Watts 1994, as cited in Raynolds, 2002 p. 784; Raynolds, 2002; Key and Runsten, 1999). But whilst most literature solely mentions the use of family labour, there has been little research investigating the further social impacts of these changing patterns of family labour within the household, especially focussing on gender dynamics and social roles (Raynold, 2002).

Most studies on contract farming perceive families as a single entity, by which the whole household acts as one (Doss, 1996). Yet, in reality, household labour resources and gender roles and norms regarding labour are often allocated differently among various members (ibid; Ilha, 2000). Investigating these roles is important since they differ per household member. Changes in labour resources influences allocation patterns and associated gender roles, but the impact of these changes differs per household member. Traditional theories and models often do not clearly address these differences (Ilha, 2000). Yet, its these differences that make intra-household labour dynamics so important to consider with such large-scale land deals, since both the men and women of the contracted families will be affected differently when the allocation of labour resources change (Raynolds, 2002; Boserup, 1970).

This study addresses this knowledge gap by investigating changes in the allocation of labour resources within the household, as a result of contract farming, and its effect on the role of women. A more complete understanding of intra-household labour allocations can lead to more efficient development policies and programmes, with an increased likelihood that the people who were initially targeted, actually benefit from these farming schemes; while protection the those who are most vulnerable (such as women and children) (Haddad et al., 1998). In order to do so, the research analyses the use of contract farming schemes within the oil palm sector¹ in Pará, Brazil.

¹ Oil palm refers to the oil palm tree, while palm oil refers to the oil derived from the fruits of the oil palm. The oil palm sector thus refers to the sector that cultivates the oil palm trees.

While contract farming already existed in Brazil, in 2010, Brazil started to use these contract-farming schemes on a large scale as part of the Programa de Produção Sustentável de Palma de Óleo (PPSPO)²; a major incentive for both oil palm agriculture and the use of contract farming (Kottusch, 2016; Brandão & Schoneveld, 2015; Bissonette and de Koninck, 2015). This programme was set up in order to produce more socially and environmentally sustainable oil palm. The programme restricts the expansion of oil palm cultivation and proposes instruments to ensure that this is done on a sustainable environmental and social basis (Kottusch, 2016; Brandão & Schoneveld, 2015; Larcher, 2011). In order to comply with these standards, the programme tries to avoid new deforestation and, more specifically, now includes small-scale farmers into the agro-industry by using contract farming schemes (Kottusch, 2016).

The PPSPO presents a promising case study of an intervention model that tries to make oil palm cultivation more inclusive and sustainable; a crop that's often linked with major land acquisitions due to its rapid expansions (Kottusch, 2016; Brandão & Schoneveld, 2015; Bissonette and de Koninck, 2015). Yet, one of the neglected aspects of this programme is the in-depth analysis of the impact of changes in the allocation patterns of intra-household labour dynamics that comes with the introduction of these farming schemes.

The Brazilian programme introduces an interesting case since it both addresses environmental degradation and social exclusion and could therefore be of both theoretical as well as social relevance. Theoretical relevance, on the knowledge gap of the impacts of changes in the allocation of intra-household resource labour, looking beyond mere oil palm interventions alone but presenting a case for all contract led interventions; and of societal relevance, since the experiment could provide the basis for a promising tool towards both socially and environmentally sustainable oil palm cultivation, applicable for the larger oil palm sector in other environmental fragile regions such as South-East Asia.

This research investigates to what extent these inclusive business models, such as contract farming under the PPSPO programme, change the allocation of intra-household labour and consequently influence socially constructed gender roles. In this way, the research contributes to a deeper understanding of socio-economic impacts connected to the farming schemes used in the cultivation of oil palm in Brazil (Kottusch, 2016).

In order to do so, the research first presents a theoretical framework that introduces related concepts and theories of the research. After, the research objectives and questions are revealed in chapter three. In chapter four, the regional framework of the area will be given as an introduction to the study area. Chapter five presents the methodology of the research. Thereafter, results and analyses are explained in chapter six, seven and eight. Subsequently an in-depth discussion will critically review the research; followed by the conclusion of the research in chapter nine.

² Also referred to as the Sustainable Palm Oil Production Programme (SPOPP)

2. Theoretical Framework

The research illustrates that more inclusive contract farming schemes have been arising in order to minimize the negative, often exclusionary, effects of large-scale land deals. However, the research points out, these schemes often both do not consider labour and gender dynamics when incorporating such contracts. This research therefore presents a knowledge gap on the effects of contract farming on patterns of intra-household labour, and the gendered effect thereof. This chapter provides insight in these relevant concepts, such as large-scale land deals, contract farming, labour allocation, and the gender dynamics of these approaches. Moreover, the chapter explains relevant theories, such as the framework for intra-household labour allocation and the operationalization of its variables.

2.1. Large-scale land investments

Land acquisition as an economic asset has become a popular trend over the years (Cotula, 2012). These land investments consist of land purchase or long-term leases and generally refer to *“large-scale, cross-border land deals or transactions that are carried out by transnational corporations or initiated by foreign governments”* (Cotula, 2012; Zoomers, 2010, p.429).

Foreign investments and the acquisition of land are not particularly new, but the drivers behind these land deals are complex and changing (Behrman, Meinzen-Dick, Quisumbing, 2012). These land deals were a result of the 2008 global food crisis that drove investors (especially those with little arable land, such as the Gulf-states) to a search of new opportunities for crop export to their own homes (ibid). Next to that, increasing global oil prices and interest in biofuels, drove international governments to seek out for other options and investments opportunities (ibid). According to Behrman, Meinzen-Dick, Quisumbing (2012), *“the magnitude of this current wave of land deals is also unprecedented”* (p.50).

Recently, these large-scale land deals have become a *“key development issue”* since they promote development but often also bring exclusion (Zoomers, 2010, p.429). Large-scale land deals generally bring both economic prosperity as well as poverty, and do not always provide local communities with the great opportunities that have been promised; affecting livelihoods and introduce new barriers such as social inequality (Colchester et al. 2006 and Sirait 2009 as cited in White, J and White, B, 2012; Behrman, Meinzen-Dick and Quisumbing, 2012). In the most extreme cases, smallholders have been driven of their lands and denied access to resources (Christian Aid 2008 as cited in Hunt, 2015, p.4). But foremost, large-scale land deals and acquisition of land by the agro-industry has created unfair competition towards smallholders and therefore lead towards direct or indirect *“impoverishment and exclusion of rural populations”* (Roudart and Mazoyer, 2016, p. 22).

It is therefore that large-scale land acquisition has become the subject of a ‘heated’ scientific and political debate for the controversy they provide (Behrman, Meinzen-Dick and Quisumbing, 2012). Due to this growing trend, literature has rapidly emerged about the topic (Cotula et al. 2009, Smaller and Mann 2009, Ullenberg 2009, Braun and Meinzen-Dick 2009, Cotula 2010 as cited in Behrman, Meinzen-Dick and Quisumbing, 2012). Yet, literature about the effects of these large-scale land deals on rural men and women is limited (Cotula et al. 2009, Germany 2009 and De Schutter 2011 in Behrman, Meinzen-Dick and Quisumbing, 2011, p.51). Making research towards the social impacts of large-scale land deals even more important.

2.2. Contract farming as an inclusive business model

In order to minimize the negative effects of these large-scale land deals and tackle the exclusion of smallholders, more inclusive farming schemes have been emerging around the world. One of these approaches is contract farming, which has been established as a way to explore inclusivity of smallholders. These models support family farms by *“modernizing smallholder production systems and addressing rural market failures”*

(Brandão & Schoneveld, 2015, p.1). They include smallholders into the expanding agro-industry through the use of 'production contracts' (Raynolds, 2002). These contracts allow smallholders to retain ownership over their land, and in return, obligating households to commit land, labour and other resources to the production chain of the large agro-industry (Vicol, 2017; *ibid*). As stated by Raynolds (2002) the term 'contract farming' "is typically used to describe production by family farm units for private corporations (Raynolds, 2002, p.784).

A more comprehensive definition for contract farming is given by Little and Watts (1994, p.9 as cited in Oya, 2012, P.1):

"forms of vertical coordination between growers and buyers-processors that directly shape production decisions through contractually specifying market obligations (by volume, value, quality, and, at times, advanced price determination); provide specific inputs; and exercise some control at the point of production (i.e.a division of management functions between contractor and contractee" (Oya, 2012,p.1).

Contract farming is a way to 'overcome traditional problems', such as: competition from technically evolved producers; weak input supplies (such as fertilizers etc.) in the area; weak agriculture expansion possibilities; difficulties to access credit; thin, volatile, market for high value goods; and inaccessible international markets (Glover and Kusterer, 1990). Through the contract, farm resources and production are controlled by a central enterprise, providing advantages to both the firm and smallholders (Glover and Kusterer, 1990). Local farms provide land and labour while the agro-industry can facilitate and provide technology adoption and assistance, credits, information and other service such as planting material and learning opportunities (Key and Runsten, 1999; Glover and Kusterer, 1990; Von Bülow & Sørensen, 1993). Because standards for pricing and quantities are often preset, contracts reduce risks and uncertainties (Glover and Kusterer, 1990). Moreover, contracts can be a guarantee for banks to provide smallholders with loans, while agro-firms can provide the access to lucrative international markets. Contract farming has the "potential to incorporate low-income growers into the modern sector" (Key and Runsten, 1999, p.381). Besides, the social impacts of these contracts often precede the smallholders in contract and benefit local communities, the local economy, income generation and infrastructure (Glover and Kusterer, 1990; Key and Runsten, 1999). Moreover, firms have a direct interest in the flourishing of their contract farmers, providing them with all services needed. As Glover and Kusterer (1990) state, these "results will be directly reflected in growers' yields and quality and thus in the firm's profits" (Glover and Kusterer, 1990, p. 9).

Some evidence does suggests that these schemes are in favour of smallholders, by preventing negative social and environmental impacts through the creation of employment opportunities and carbon sequestration (Brandão & Schoneveld, 2015). Yet, as Brandão and Schoneveld (2015) illustrate, this scientific debate is "highly normative, polarized and insufficiently evidence-based, reflecting the conflicting interests and ideological perspectives of the agribusiness lobby and the agrarian change and agro-ecology schools" (*ibid*, p.3). Moreover, most of these studies focus on Africa, a completely different socio-economic context than South America.

Other literature highlights the negative impacts of these deals, for example, the chance for exploitation and room for conflict of interest (Glover and Kusterer, 1990). Studies have highlighted that the local population only experiences limited gains, or even have been "directly or indirectly harmed by contract farming" (e.g., Glover and Kusterer 1990, Little and Watts 1994, as cited in Key and Runsten, 1999, p. 381). Moreover, as a result of the flexible and cost-saving nature of these schemes, advantage is often taken of the "flexible, dedicated, and often skilled labour of multiple family members and typically heightens demand for women's and children's labour"; using contract farming as a tool for exploitation (Carney & Watts 1991, Collins 1993, Dolan 2001, Jaffee 1995, Katz 1995, Key & Runsten 1999, Watts 1994, as cited in Raynolds, 2002, p. 784; Reynolds, 2002; Key and Runsten, 1999). Other research suggest that social inclusion aims "were failing short", as incorporation of more family farms was becoming difficult and farmers lost the power to make decision over their own plantations (Wilkinson and Herrera, 2010, p.758 as cited in Potter, 2015, p.73; and De Smet, 2010 in Schrijver, 2012 as cited in Potter, 2015, p.73). While contract farming is the foundation of many scientific and political debates regarding production arrangements and marketing of agricultural commodities in developing

countries, these contracts seem to become most popular around the world as a tool to incorporate smallholders into large agro-industries (Oya, 2012, p.1; Raynolds, 2002); making the need for more research on contract farming schemes even more pressing.

2.2.1. Gender and contract farming

While contract farming has been originally set up as a means of inclusion, this inclusion, while applying to smallholders, seem to lack gender consciousness; and by doing so contract farming indirectly has various effects on different household members, depending on their gender.

Gender comes with certain social roles, responsibilities and identity, given to men and women by societies, which are key determinants of the distribution of responsibilities and resources (Raynolds, 2002; Quisumbing et al., 2014). These social roles, rights and opportunities are different per gender and are therefore critical to truly understand the impact of these contract farming schemes (Quisumbing et al., 2014).

Men and women will be affected differently during land transfers, transitions to modern agro-technology and major changes in tenurial regimes (Raynolds, 2002; Boserup, 1970). Shifts to large-scale commercial agriculture often change gender roles and household dynamics, at the expense of women or exacerbate already existing poor conditions (Quisumbing 1998 as cited in Behrman, Meinzen-Dick and Quisumbing, 2011). Yet, despite the growing interest in contract farming, studies regarding the impact of these contracts on gender dynamics are rare (Raynolds, 2002; Julia and white 2012 as cited in Li, 2015; Behrman, Meinzen-Dick, Quisumbing, 2012; Quisumbing et al., 2014). Often studies on contract farming focus primarily on the technical and organisational problems of the contracting firm itself, but generally overlook problems of the growers at the household levels, let alone focus on gender perspectives (Von Bülow & Sørensen, 1993). Yet, as Von Bülow & Sørensen (1993) state, *“is particularly with regard to labour-intensive crops”..... “that the gender division of labour and gender relations of production play an essential role in the adoption of a new production system and its integration into the farming system”* (Von Bülow & Sørensen, 1993, p.39). Only a few authors mention gender as a concept of greater importance.

2.3. Intra-household labour allocation

Labour patterns and the allocation of task and time use within these patterns is a very important aspect to study in developing countries, since time and labour is one of the most important resources in the developing world (Ilahi, 2000). As Ilahi argues, there has been little research done towards addressing the issue of intra-household time and labour allocation partners, since most of the research solely focuses on the allocation of consumption goods across family members (Ilahi, 2000). Moreover, most studies have been conducted in Asia and Africa, while Latin America still largely remains undiscovered in current literature (Ilahi, 2000).

Furthermore, labour allocation partners appear important in analysing contract farming, since it is through these contracts that *“the domestic and production relations intersect in negotiations over access to household resources”* (Raynolds, 2002, p.785). As Carney and Watts (1991) and Watts (1994) describe on contract farming in West Africa: *“the external contractual relation between grower and company demands that labour allocation and work obligations be distributed, and resolved, within the family”*; emphasizing the importance of intra-household dynamics within contract farming (Watts, 1994, p. 67 as cited in Raynolds 2002 p. 785).

2.3.1. Gender and labour allocation

Due to change in and increase of labour opportunities (as a result of contract farming possibilities) and demands that the allocation of labour and work responsibilities are resolved within the family, large-scale land deals often lead to changes in the quantity and the distribution system of intra-household resources (Reynolds, 2002; Watts, 1994, p. 67 as cited in Raynolds, 2002, p.785; Quisumbing 1998 as cited in Behrman, Meinzen-

Dick, Quisumbing, 2012, p.51; Engle, 1990). However, changing resource allocations are not always benefitting the whole family; often the transfer and distribution of its benefits depends on the identity (including gender) of the recipient (Haddad et al., 1998).

Most contract farming research assumes that individual welfare often increases the welfare for the household (Haddad et al., 1998; Reynolds, 2002). This model is known as a unitary model of the household, controlled by a male household head (ibid). In this unitary approach, it is often assumed that the household acts as a single entity and that therefore both *“women and men equally benefit from development schemes through their membership in households”* (Doss, 1996; Li, 2015 p.7). In this view, men and women are seen to have ‘complementary roles’ and support the idea that contracting is a ‘mutual beneficial’ relationship (ibid; Reynolds, 2002). However, research about intra-household dynamics shows that the allocation of household resources (such as labour) are not always done in a unitary manner, nor are jointly allocated, and mostly differs significantly per gender, age, social status, wealth, etc. (Alderman et al. 1995 as cited in Behrman, Meinzen-Dick, Quisumbing, 2012, p.51; Njuki et al., 2011; Ilahi, 2000)

In this way, contracts that benefit ‘the grower’ may not always mean benefitting those who provide the labour resource, which are often women (Glover and Kusterer, 1990). According to Ilahi (2000) technical change in agriculture that often comes with the introduction of contract farming *“is hardly ever gender neutral”* (p.25). This is often the result of existing gender roles and social dynamics, where men tend to spend most of their time in agriculture and women in home-based activities (Ilahi, 2000). In this way, changing resource patterns within the household simultaneously changes *“socially constructed meanings and identities”* that are tied to specific genders (Hart, 1991 as cited in Reynolds, 2002, p.785). Contract farming changes labour patterns but at the same time provides a new way to contest these changes; hereby revealing *important “negotiations over traditional gendered activities and obligations”*, and consequently changing traditional gender roles (Reynolds, 2002, p.783).

Yet, according to existing literature, these changes in social dynamics exacerbate already existing gender roles; often at the expense of women (ibid; Quisumbing 1998 as cited in Behrman, Meinzen-Dick, Quisumbing, 2012). According to Reynolds (2002), this intrusion of intra-household dynamics increases gender exploitation *“as men appropriated land traditionally farmed by women and increased their demand for wives’ agricultural labour”* (Reynolds, 2002, p. 785).

An example of these situations can be found in a research, conducted by Porter and Phillips-Howard (1997); where the researchers found evidence for the potential of gender conflict among sugar scheme plot holders in North Pondoland. In this case study, women tended to be the main farmers on the plots but often men held title to the land, which is essential for credit access; or men collected the check at harvest, and therefore contained control of the assets and funds (Ibid). In another research, women explained they found it hard to fulfil labour task, while also taking care of domestic tasks, interfering with intra-household labour allocations. Often women could only get by, by working more hours or receiving help from family members and/or friends or acquaintances (Von Bülow and Sørensen 1988 as cited in Von Bülow and Sørensen, 1993, p.43).

In this case it becomes clear that gender and intra-households labour dynamics are inevitably intertwined and that there is a profound necessity to consider these household dynamics when implementing contract farming schemes, in order for contract farming to be socially sustainable and somewhat gender conscious (Porter and Phillips-Howard, 1997). Yet, despite the need for considering intra-household labour dynamics within contract farming, to date there has been *“relatively little research which explores the intra-household labour dynamics of contract farming”* (Reynolds, 2002, p. 783).

2.4. Framework of intra-household labour allocation

Intra-household allocation of resources has been defined by the Organisation for Economic Co-operation and development (OECD) as:

“The processes by which resources..... are allocated among individuals and the outcomes of those processes” (Alexander and Baden 2000 as cited in OECD, 2005).

In order to analyse the changes contract farming brings for labour allocations among family members and the outcome of this process, the research adapted the intra-household resource allocation framework, borrowed from the field of psychology. (Engle, 1990). The adapted framework, the intra-household labour resource allocation model (figure 1), focuses on how a socio-economic change (such as the initiation of oil palm contract farming schemes) affects both the availability of resources within the area, and as a result changed allocation patterns of labour over time, within the intra-household system and the existing social systems associated with this resource (Engle, 1990). The framework tries to understand existing patterns of labour resource allocation within the household and their patterns of change, in order to *“avoid unexpected consequences of long term changes brought about by a project”* (ibid, p.63).

Using this framework can provide insight in changing labour resource allocation patterns and decision-making structures within the household, and eventually reveal the consequences of these changes on rural women. As Haddad et al., (1998) state, individual welfare mostly depend on *“complex interactions within that individual’s family or household”* (Haddad et al., 1998, p.71). A comprehensive understanding of factors that influence decisions made within the households about labour resources, could help to understand the further social impacts of contract farming for individual well-being, especially focusing on women.

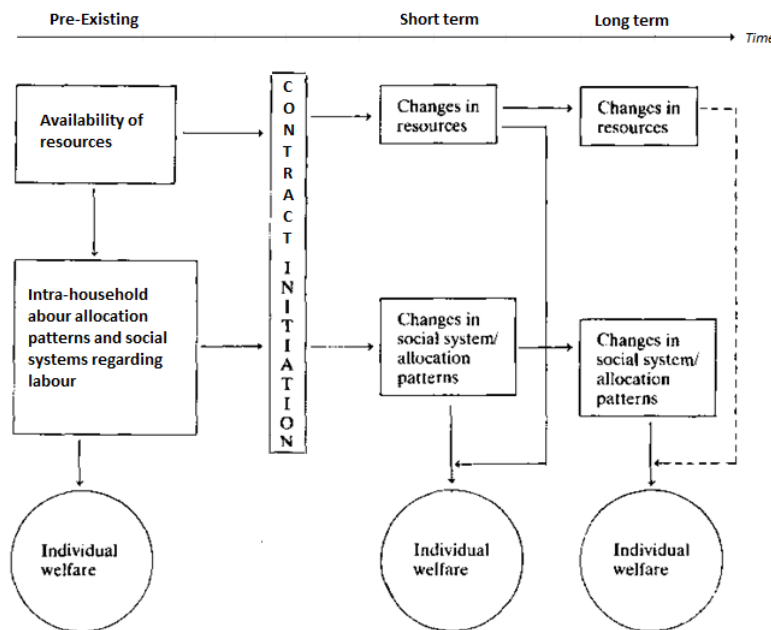


Figure 3: Framework for evaluating the effects of contract farming on intra-household labour allocation and individual welfare (adapted from Engle, P.L., 1990, p. 73).

2.4.1. Operationalization of variables

The research will hold on to the adapted framework to explain changes in intra-household allocation patterns and social systems regarding labour. Therefore, the paper firstly presents the change in availability of resources. Because of the introduction of oil palm cultivation under contract farming schemes, the availability of cash income and human capital resources have increased tremendously. This change enabled smallholders to invest in oil palm cultivation that, consequently, altered intra-household labour allocation patterns and social systems regarding labour; which will be explained in the second part.

In order to ‘measure’ these changes in intra-household labour allocation patterns and social systems, the research uses a framework presented by Beatrice Lorge Rogers (1988). In this framework, Rogers presents “*an approach for incorporating intra-household analysis into development planning*” (Rogers and Schlossman, 1990). The research has chosen for this framework since it provides a hands-on tool for development programmes and policies. The following table shows an overview of the variables associated with labour (table 1). These variables will be the basis for the operationalization of this research. The research will focus on different types of data and variables to measure changes within these types of data.

1. *In order to establish an overview of the changes in intra-household activities the introduction of contract farming as brought, the research created an inventory of all major tasks performed; and tried to analyse the their changes over time.*
2. *The research focuses on restrictions of location, time and organization of tasks, to identify dominant tasks (which tasks have to be done on a certain time, at a certain location, etc.), which influences the freedom of allocation of time and labour.*
3. *The research tracked which activities individuals of a particular gender and age performed. This information enabled the research to really grasp the extent and influence of the change to contract farming for specific genders.*
4. *To analyse a possible change in social norms regarding labour, the research investigated which restrictions regarding labour were present (based on indicators such as gender, age, etc.); to what extent these restrictions were actually respected and observed; and the consequences thereof on the allocation of intra-household labour. Moreover, the research is interested towards social norms and gender roles regarding the governing of earnings and decision-making processes within the household.*
5. *The amount of time spend on specific tasks, the freedom to allocate time and the work burden of individuals, were important to identify changes in resource allocation patterns, the flexibility of allocation patterns and results thereof on individual work burden (and thus adding to individual welfare).*

Type of data	Variables
Task allocation and time use	
<i>Inventor y of tasks</i>	a. Major task of -Household maintenance; -Home-board production; -Work outside the home. b. Range of time required for each task
<i>Organiza tion of tasks</i>	a. Which tasks can be done together b. Which tasks must be done together or in a fixed sequence c. Time restrictions on tasks (e.g. done only at certain times of day, week, year) d. Location restriction on tasks.
<i>Task allocatio n</i>	a. Which tasks are performed by individuals of particular age, sex, status, what proportion of the time
<i>Social norms regardin g work</i>	a. Restrictions on types of work or place of work based on sex, age, status, religion b. Degree to which these restrictions are observed c. Social norms governing earnings by age, sex
<i>Time burden of individua ls</i>	a. Amount of time spent in each of various tasks identified by methods in previous four sections b. Time constraints on individuals (available leisure; amount of time spent sleeping; working; in recreation; flexibility in allocation of time) c. Work burden of individual

Table 3: *Framework: incorporating intra-household analysis into development planning. Data to be collected: variables, uses, and methods. (Rogers, 1988; Rogers and Schlossman, 1990).*

3. Research objectives and questions

The objective of this research is to analyse the effect of contract farming within the oil palm industry on intra-household labour distribution, the consequence thereof on the role of women.

The research tries to contribute towards a more complete understanding of the interactive effect between household system and existing gender dynamics. A deeper understanding of intra-household resource allocation could lead to more efficient and effective development programmes and the protection of women and children, whom are considered to be one of the most vulnerable social groups.

For this, the research proposes the following research question:

To what extent do contract farming schemes, in the oil palm sector in Pará (Brazil), influence the allocation of intra-household labour patterns, and hereby influence the role of rural women?

To support the main research question, four sub questions have formulated:

- *How did the introduction of contract farming changed the availability of resources in the area?*
- *How did the change in the availability of resources influenced intra-household labour allocation patterns?*
- *To what extent does this change affect intra-household labour and gender dynamics?*
- *What impact do these changes have on the role of women?*

4. Regional framework

This chapter presents the regional framework. The chapter provides a short introduction towards oil palm cultivation in the state of Pará and the PPSPPO programme, to shed some light upon the development of oil palm cultivation in the area and the way in which Brazil tries to do this sustainably. Moreover, the chapters present an historical context of the amazon frontier in order to understand the background of our case study.

4.1. The state of oil palm cultivation in Pará, Brazil.

Palm oil is one of the most consumed and produced vegetable oils in the world and, per unit area, “the highest-yielding vegetable oil crop” (UNDP, 2011 as cited in Kottusch, 2016; Donald 2004 as cited in McCarthy and Cramb, 2009, p.113). Globally palm oil³ accounts for over 38% of the major vegetable oil production and consumption between 2012 and 2017⁴, and shows a rapidly growing trend over time (United States Department of Agriculture, nd; 2017). It is therefore not surprising that oil palm plantations are expanding rapidly and on a large scale, making oil palm a large-scale land deal ‘issue’ (Li, 2014).

The most used oil palm species in Pará is the African oil palm (*Elaeis guineensis*) “due to the comparatively low productivity of the indigenous *caiaué* (*Elaeis oleifera*) variety” (Brandão & Schoneveld, 2015, p.18). With producing 0.5% of the global palm oil, Brazil (comparatively) only plays a minor role in this growing world of palm oil commercialization (Kottusch, 2016). Within Brazil, the state Pará is the largest producer of palm oil, counting for around 85%-90%⁵ of the national palm oil production (Kottusch, 2016; Brandão & Schoneveld, 2015; biodieselbr, 2011 as cited in Pinheiro do Prado & Block). Other important states are Bahia and Roraima (biodieselbr, 2011 as cited in Pinheiro do Prado & Block; Brandão & Schoneveld, 2015) (figure 2).

Company	Total planted area (in ha) (LIFFE data)	Total planted area (in ha) (SAGRI data)	Year of first planting
ADM	7,530	3,000	2012
Agropalma	50,356	45,000	1982
Biopalma	62,099	42,000	2007
Denpasa	2,250	6,000	1968
Dentauá	13,000	4,000	1980
Marborges	8,980	5,000	1981
Palmasa	6,530	3,000	1985
BBB	40,272	4,000	2010
Mejer-Yossan	15,000	16,000	1994
Guanfeng Group	906		2010
Other		12,000	
Total	206,923	140,000	

ADM = Archer Daniel Midlands; BBB = Belém Bioenergia Brasil.

Table 4: Oil palm total planted area per company in 2014 (Brandão & Schoneveld, 2015, p.16).

It was in the Bahia region that the cultivation of oil palm was first introduced, as a result of the slave trade in the 16th century (Brandão & Schoneveld, 2015; biodieselbr, 2011 as cited in Pinheiro do Prado & Block; Villela et al. 2014). Yet it was not until 1974 that the first power plant was established in Pará (ibid). Dendê do Pará (Denpasa) was established in the north eastern region of the state and marked the beginning of commercially produced oil palm (Brandão & Schoneveld, 2015; Villela et al. 2014). In 2014, the companies with the most area under oil palm in Pará were Agropalma, Biopalma and BBB (Table 2) (Brandão & Schoneveld, 2015); with Agropalma and Biopalma counting for 49.6% and 29.2% of the output by company (as proportion of total), respectively (Brandão and Schoneveld, 2015).

Currently owned by the Alfa Group, as part of the Aloysio de Andrade Faria legacy (a Brazilian billionaire), Agropalma marked its beginning in the sector in 1989, when the first company, *Companhia Real Agroindustrial* (CRAI) (established in 1982), took over the Agropalma company (ibid; Agropalma, nd). Later that year the group also acquired *Companhia Agroindustrial do Pará* and *Amapalma*; together forming AGROPAR (ibid). Currently Agropalma owns twelve oil palm plantations, containing around 39.000 hectares and one refinery (ibid).

Three former Agropalma employees established Biopalma in 2007, through the MSP Group (ibid). In 2009 and 2011 large parts were sold to mining imperium Vale (to a total of 70% in 2011) (ibid). Currently Biopalma holds about 56.000 hectares of oil palm plantation on its own and 6.800 hectares in partnership with smallholders working with family agriculture (Biopalma, nd).

³ Palm oil here has been measured as the sum of Palm Oil and Palm Oil Kernel.

⁴ Measured between 2012/2013 and March 2016/2017

⁵ Depending on the source

Growing economic perspectives in the biodiesel market, confidence in the long-term economic prospects of the crop, increasing demand from international markets and increasing global prices gave the (relative young) oil palm industry the helping hand to expand (Brandão & Schoneveld, 2015). Yet, it was the initiation of the SPOPP programme in 2010 that stimulated the fast growth of the sector, almost doubling the oil palm cultivation area and including most of the local smallholders (ibid).

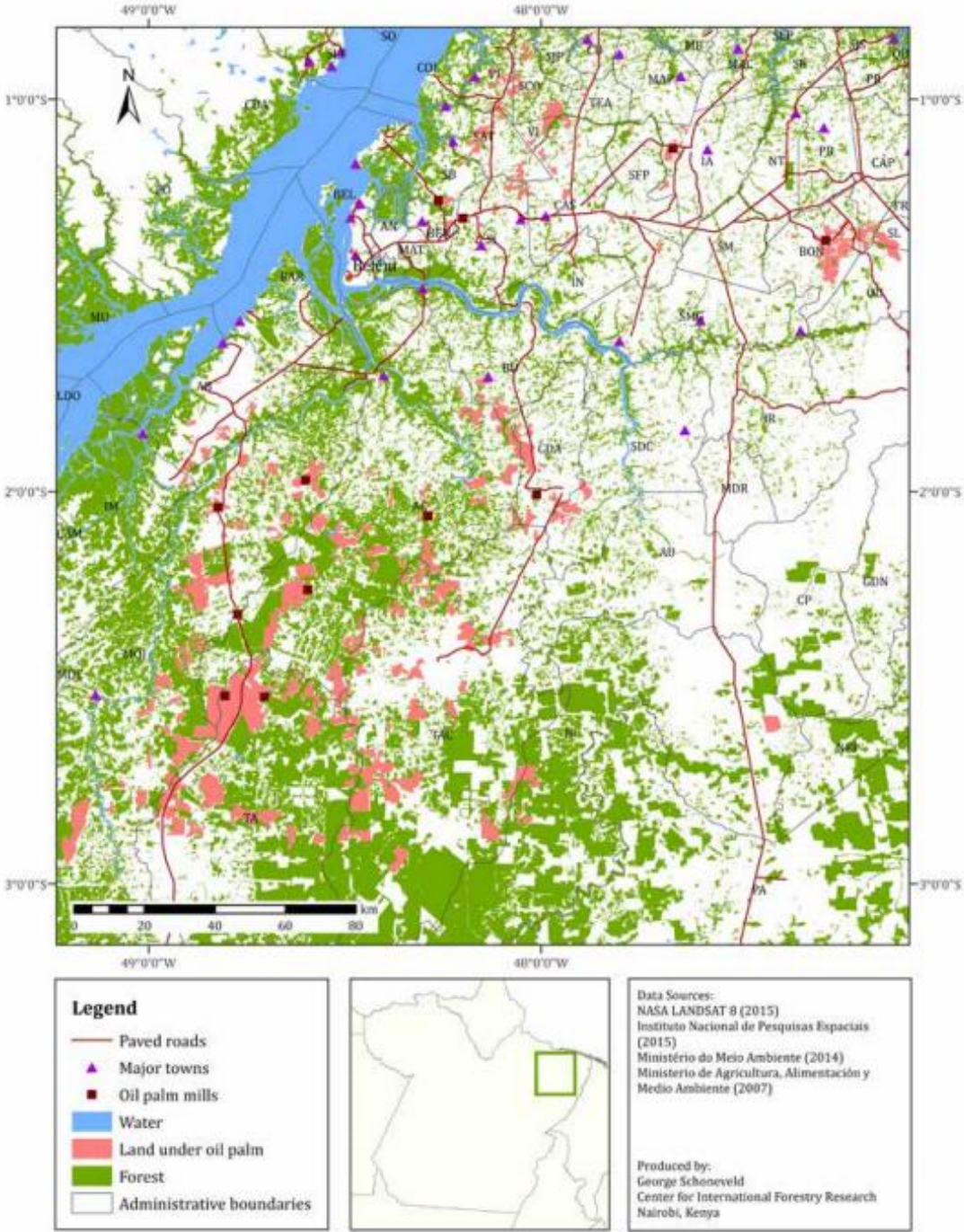


Figure 4: Brazil: Distribution of oil palm plantations in Pará (adopted from Brandão & Schoneveld, 2015, p.14).

4.2. PPSPO programme: Sustainable mechanism and incentives for oil palm cultivation

In May, 2010, President⁶ Lula da Silva launched the new sustainable oil palm production programme: *Programa de Produção Sustentável de Palma de Óleo (PPSPO)*⁷, which included three initiatives: the oil palm Agroecological Zoning (ZAE), which identified possible regions for oil palm expansion (without clashing with forest and titled lands); a congressional bill to regulate environmental aspects of oil palm plantations (which was eventually never approved); and (3) Programme incentives that would promote sustainable oil palm production; such as PRONAFECO, a line of credit for farmers under the National Family Agriculture Program (MDA); through which a large number of smallholders were incorporated in oil palm companies (Potter, 2015; INCRA, 2010; Brandão & Schoneveld, 2015). In order to ensure sustainable production the programme stated that no more than 86.4% of the area suitable for planting the oil palm, and 96.3% of the total Brazilian territory could be used for oil palm cultivation (INCRA, 2010).

According to Brandão & Schoneveld (2015):

“These initiatives have produced guidelines for sector expansion by, for example, restricting oil palm cultivation to deforested areas and introducing credit incentives to promote the adoption of business models that are more inclusive of the rural poor and that generate greater shared-value” (Brandão & Schoneveld, 2015, p.2).

Therefore, these models support family farms by *“modernizing smallholder production systems and addressing rural market failures”* (Brandão & Schoneveld, 2015, p.1). They include smallholders into the expanding agro-industry through the use of ‘production contracts’; therefore obligating households to commit land, labour and other resources to the production chain of the large agro-industry (Raynolds, 2002).

4.3. Historical context

The amazon frontier struggles with a long history of unequal land distribution and conflict over land rights. Reform was, according to many, the only answer to deal with this violent history. As a response, resettlement programs were set up to redistribute agricultural plots in Amazonian states; an immense and costly undertaking. It are the events and occurrences during this historic road that shape the amazon frontier as we know it today. This short overview of the Amazonian history reveals the historical context of our case study.

4.3.1. Land reform and land occupation

Uncontrolled land occupation in Brazil dates back to the arrival of the Portuguese; and even after Brazil’s independence, no land regulations and laws were in place; permitting large landowners to freely expand their farming land (Alston, Harris and Mueller, 2012 as cited in Albertus et al., 2013, p. 10). It was not until 1850 that Law 601 was instituted, which ordered lands to be purchased instead of uncontrolled land occupation without legal permission, as an attempt to stop private land possession (Albertus et al., 2013; Reydon et al., 2015). However, after Brazil became a republic (1889) *“large landowners gained substantial influence over state-level land policy”*, ignoring. While law 601 was adopted, in reality, these powerful landowners absorbed more and more of Amazonian frontier lands (Osório, 1996 as cited in Albertus et al., 2013, p. 11). It was not until 1900 that land registry first entered the stage, which was *“probably the first step towards the current system of notary land registration”* (Reydon 2011 as cited in Reydon et al., 2015, p.510.). But without supervision, the system remained fraudulent (ibid).

In the 1950s social movements and peasant unions demanded radical agrarian reform and land redistribution under the threat of violence (Albertus et al., 2013; Reydon et al., 2015). President Goulart (elected in 1961) finally incorporated agrarian reform, but these were rejected and Goulart was eventually set aside by the military coup of 1964 (Simmons et al., 2007; Albertus et al., 2013). It was during the 1960s that uncontrolled land occupation was performed on a large scale as a result of the *“rapid expansion of the*

⁶ At that time; Luiz Inácio Lula da Silva was president of the federative Republic of Brazil between January 1st, 2003 and January 1st 2011.

⁷ Also referred to as the Sustainable Palm Oil Production Programme (SPOPP)

economic frontier”, driven by both grants and economic incentives of SUDAM (Superintendence of Development in the Amazon) and investments in infrastructure by the military regime (Brandão and Schoneveld, 2015, p. 7). These investments attracted many cattle ranchers whose large-scale ranches evicted smallholders from the area, which contributed to social conflict and violence (MacMillan, 1995 as cited in Brandão and Schoneveld, 2015, p. 7). Land reform eventually commenced under military rule (Simmons et al., 2007; Albertus et al., 2013). As a result the Land Statute, the Brazilian Institute for Agrarian Reform (IBRA) and the National Institute for Agricultural Development (INDA) were set up 1964; to be replaced by the National Institute for Rural Settlement and Agrarian Reform (INCRA), a federal agency charged with the redistribution of agrarian land, in 1971 (ibid; Peres and Schneider, 2012); yet social inequality and violent around access to and ownership of land, remained. Under the newly returned democratic rule, pressure for agrarian reforms was undeniable. Yet, *“despite ambitious plans”*, as Brandão and Schoneveld (2015) explain,

“it was not until the Fernando Henrique Cardoso administration (1995–2002) that the government began to make real advances in resettling landless and land poor peasants and titling their landholdings (Pacheco 2009); on federal lands this was realized through the Brazilian Agency for Agrarian Reform (INCRA) and on state lands through the State Land Agency of Pará (ITERPA)” (as cited in Brandão and Schoneveld, 2015, p.7).

4.3.2. Amazonian frontier: INCRA settlements and violent conflict

Resettlements were performed in the Cardoso and Lula administration (1995-2002 and 2003-2011 respectively) (Brandão and Schoneveld, 2015). According to INCRA data, a total of 924,263 families were resettled in the Amazonian states during between 1995 and 2010 (INCRA, 2010 as cited in Peres and Schneider, 2012, p. 67); from which in 2009 almost a third (of the total up to that year) was relocated in Pará (respectively 214,923 of the 584,678 families) (Pacheco, 2009 as cited in Brandão and Schoneveld, 2015). Resettled by INCRA, these families were, according to Peres and Schneider (2012), mostly farmworkers and landless poor from southern and south eastern Brazil *“displaced by the emergence of mechanized agriculture”* (Peres and Schneider, 2012, p. 66). Large areas of lands, including landholdings and unclaimed public lands, were redistributed under the reform program (ibid). Which entailed, according to INCRA (2010) data, *“a total of 8763 INCRA resettlements encompassing a land area of 85.8 Mha”* (INCRA, 2010 as cited in Peres and Schneider, 2012, p. 67); an expensive operation, costing billions of dollars (Peres and Schneider, 2012). As a result of the migrant influx, the Amazonian population grew by 225% to 25 million people in only four decades (since 1970) (ibid) *“the fastest population growth rate according to the last national census”*(IBG, 2011 as cited in Peres and Schneider, 2012, p.67); a transformative shift when compared to the mere 102% influx for the rest of Brazil (Peres and Schneider, 2012). For example in Pará, *“lands earmarked for agrarian reform are occupied by 1.3 million people or half of the rural population”*(Peres and Schneider, 2012, p. 67). This shift often resulted in rural violence and social conflict with death threats and even killings, due to densely populated areas (ibid). As Peres and Schneider describe, *“In 2010 alone, 450 events of armed conflicts involving 42,161 families were registered across the nine Amazonian states of Brazil, most of which in resettlement areas* (CPT, 2011 as cited in Peres and Schneider, 2012, p. 67); making the agrarian settlements part of a violent history, formed under government leadership.

5. Methodology

This research has been conducted over a period of 21 weeks, with a fieldwork period of approximately 12 weeks; starting at the end of April until the beginning of September. An extensive analysis of the roles and resources of women (focussing on female household heads) within the research area has been conducted using quantitative and qualitative collection methods. The next section provide an overview of the data collection methods and the corresponding typology that have been used for this research; an insight in the research are; and the ethical considerations which were important during this research.

5.1. Research area

Research has been conducted within the Calmaria II community; which is located within the Moju municipality (Pará state), in the North of Brazil. The next subsection will provide a brief overview of the study area.

Calmaria II has been chosen as a case study for multiple reasons. First, due to convenience and due to the existence of previous data. In 2015, a research towards contract farming has been carried out by researcher, Frederico Brandão who has gathered multiple sets of data during his four year of Ph.D. research in Calmaria II (Utrecht University), as a part of a research towards oil palm cultivation and contract farming for the Centre of International Forestry Research (CIFOR). His connections allowed the scientist of this research to easily access the community as a result of a strong relationship of trust between Brandão and the community. This allowed the researcher to access the community fast and without difficulties; something that was necessary for the short time amount, and otherwise not possible.

Moreover, the research has been established to contribute towards a more in-depth analysis of gender dynamics within contract farming, as a supplement to the existing research of CIFOR under supervision of F. Brandão. Furthermore, the paper is also part of a preliminary research towards gender dynamics in the area for the Brazilian based World Agro Forestry centre (ICRAF) under supervision of A. Miccolis.

5.1.1. Calmaria II

Research has been conducted within the Calmaria II community, located in the Moju municipality (Pará state), in the North of Brazil (photo 1; figure 3).

I. General characteristics

Calmaria II had been established as a settlement on November 13 (1998), through INCRA, as part of the agrarian reform programmes (as explained in chapter 4.3). Currently, there are 350 households in the settlement, which each around 10 people a family, estimating the total population around 3500 people; according to the formal president of the Association of Residents and Small Rural Farmers of the Calmaria II settlement and the Água Preta Community (AMOPARACAP) and delegate of the Union of Rural Workers and Workers (STTR) of Moju (Andrade, 2009). In 2009, the settlement had an area of approximately 13,487,0000 hectares (ibid, p.77).

The settlement exists out of five different villages: Vila Agua Preta (with approximately 114 families), Vila Monte Sinai (approximately 27 families), Vila Israel (approximately 57 families), São José and Vila Fumaça⁸. Some villages have their own elementary schools that fall under the administration of the municipality of Moju; others go to schools in the neighbouring province of Tailândia (Andrade, 2009). Older children often go to school at night (by bus) to the nearby town of Palmaris; so they can help their families with agricultural work in the daytime. Currently, the whole settlement has access to electricity as part of the “Luz para Todos” (Light for all) programme launched under the Lula da Silva administration, to provide universal access to electricity (Slough et al., 2015).

⁸ Vila Fumaça, or ‘smokey village’, has been given the name by surrounding villages (and their residence), since the smoke, derived from the process of making charcoal, often was seen from miles away, sometimes for days in a row; giving the village its famous name.

The Settlement has 'modern' access to water using piped water systems that pumps up water with the use of electricity. Other access points to water are the Água Preto River (also known as the Turi or Água Branca river) and "Amazonian wells" (Andrade, 2009, p.81).

Religion, and the practice of religion, is very important in the community. There are multiple different churches such as the Catholic Church, the Assembly of God (evangelic) and the church of the veil (evangelic), and more.

Almost all families are smallholders. The most common crops are oil palm, corn, manioc/cassava, rice, green beans, coconut, pepper, açai berry, vegetable garden, small animals such as poultry and pigs, and cattle. According to a study by Andrade (2009) "The cultivation of medicinal plants is not verified even though the most well-known resources are in the region, such as *Andiroba* (*Carapa guianensis*), and herbs commonly used by the population in general" (Andrade, 2009, p.83). Most of the families also used to work in timber and charcoal production, but with the arrival of oil palm cultivation these practices are not commonly used anymore. Some people are employed in the oil palm companies, working as tractor drivers on the companies' plantations. Other wage labour is the work of 'Casa de Farinha', small factories producing flour. Some women of the settlement are employed as schoolteachers.

One of the main access points towards Calmaria II is Highway PA 150, connecting the village to Moju, Tomé-Açu and the South of Brazil. One the larger towns in the area is Palmaris; often used as a gateway to supplies by the community. Roads often become muddy and slipper, making it difficult to pass with both cars and motorbikes (Andrade, 2009). Calmaria II is described as a peaceful village and very safe. However, small assaults do happen, especially on the access roads to the settlement or in Palmaris. This mostly happens at night, when kids returns from school in Palmaris (and all have their mobile phones with them), or in the periods when retirees receive their payment from the municipality (and return back home with a lot of money on them) (Andrade, 2009).



Photo 1: Map of the Calmaria II settlement (photo by author).

I. Oil palm cultivation

Agropalma first entered Calmaria II as part of a pilot program for smallholders, which has been established in cooperation with the Municipality of Moju, Agropalma, ITERPA (state land agency of Pará) and Banco da Amazônia, in 2002 (Brandão and Schoneveld, 2015). As part of the pilot program, according to Brandão and Schoneveld (2015), the following agreements were made (2015):

“Agropalma would make a non-refundable contribution of 40% to smallholder land preparation, conduct topographical surveys, ensure property delimitation, provide seedlings and fertilizers, and purchase all FFB at a guaranteed minimum price; The state government would provide technical support and oversee smallholder environmental management⁹; Banco da Amazônia would provide loans for other start-up costs and make a payment of one minimum wage every 2 months over the first 3 years; ITERPA would donate and regularize land to the smallholders in projects I–III”. (Brandão and Schoneveld, 2015, p.19).

In 2006, 35 families of Calmaria II were involved in the pilot programme, of a total of 192 families, distributed over several communities in the area) (ibid). Each family received around six hectares of land for oil palm cultivation, making a total of 210 hectares for the cultivation of oil palm under the farming scheme (Andrade, 2009). The agreement entailed different programs with various arrangements. The main change was that the first three programs consisted of farming blocks, where families resided in other areas; while in the fourth project, farmers cultivated their own individual plots of land, where the plots were close by the family home (ibid). It was the success of this pilot program that became the basis of PPSPO in 2010 (ibid).

Most contracts with Biopalma in Calmaria II start in 2014. While there is not much difference between the contracts of the companies, farmers do perceive to have more ‘agricultural freedom’ when it comes to Biopalma. According to the smallholders, Agropalma restricts the farmers in terms of intercropping the oil palm with other agricultural crops, and cultivating the land with the help of cattle and other animals. Moreover, Agropalma does not allow underage children (below eighteen years old) to work on the oil palm plantations; changing the allocation patterns of labour in the families. Furthermore, Agropalma is rather difficult with the outsourcing of work to members whom are not part of the direct family; making it sometimes hard for families to meet the required labour (for example when family members are sick, out of time, underage, etc.).

According to the formal president of the Association of Residents and Small Rural Farmers of the Calmaria II settlement and the Água Preta Community (AMOPARACAP) and delegate of the Union of Rural Workers and Workers (STTR) of Moju, currently 37 families own an contract with Agropalma and 72 with Biopalma (with the possibility of families holding more than one contract, for more than one company).

⁹ “Additionally, the Agropalma Smallholder Programme was developed under the assumption that the state government, through the Rural Extension and Technical Assistance Company (EMATER), would contribute with technical support. However, with the government failing to deliver in this respect, Agropalma took over all technical responsibilities at their own expense” (Brandão and Schoneveld, 2015, p.19). As a result, Brandão and Schoneveld, 2015 continue, “within SPOPP, the government no longer plays any explicit role beyond its traditional mandates, with technical support now undertaken directly by the company” (Brandão and Schoneveld, 2015, p.20).

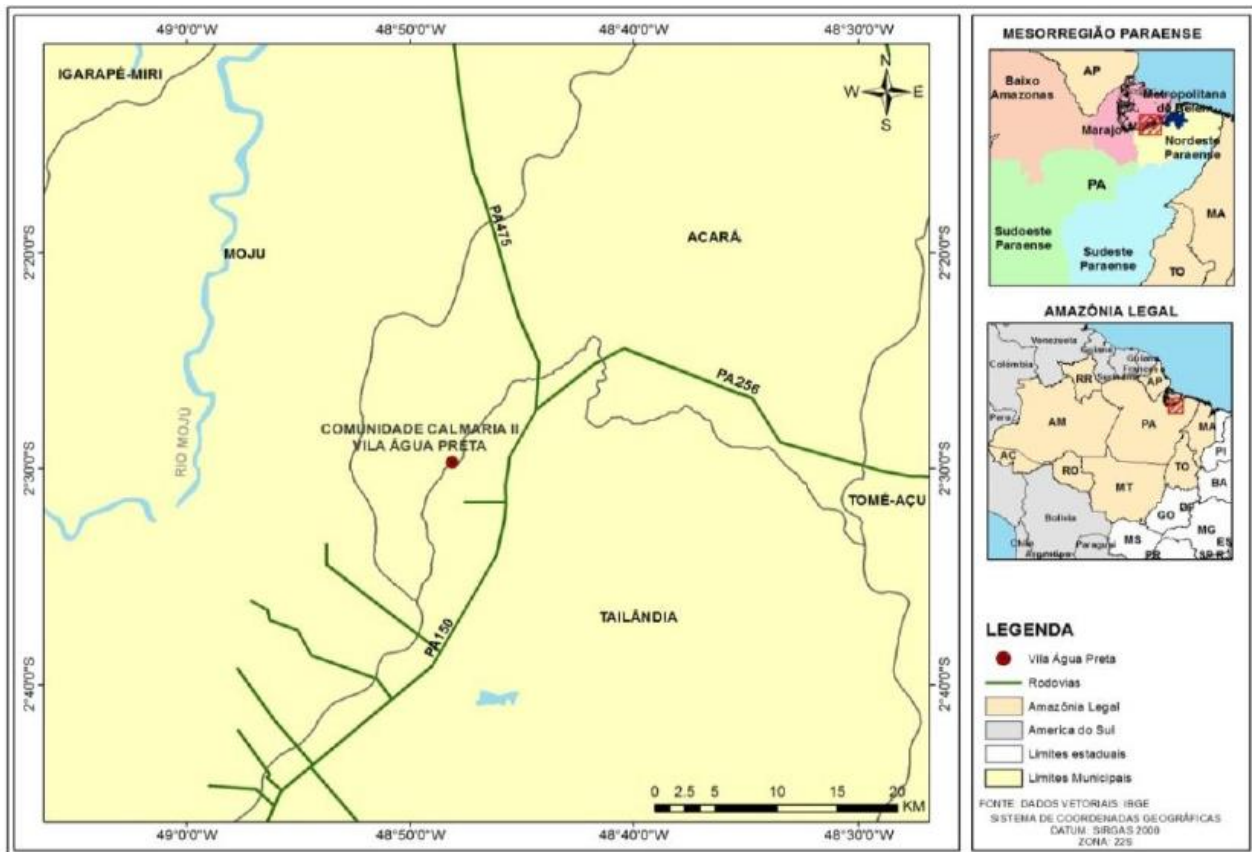


Figure 3: Map of the research area: Calmaria II (adopted from da Silva Gemaque, et al., 2015, p.86).

5.2. Sampling & Data collection methods

For this research, both quantitative and qualitative methods have been used. The research has conducted: Participant observation in a sample of households; Recorded labour activities from female household heads in the same sample a families; Semi-structured interviews and survey sampling with family members of the selected households, and key-informants; and a focus group discussion with selected members. In order to collect this data a few data samples were established: A sample of households of families who own a contract and thus participate in contract farming (participants); and families who do not own a contract and therefore do not participate (non-participants). Of these selected households, female household heads were the main focus of participant observation; and a small sample of participants was selected for a focus group discussion. The main analysis of this research will therefore be about the comparison between female household heads of participating and non-participant families. The next sections will provide an overview on these sampling and data collection methods.

5.2.1. Sampling

For data collection, a main sample of households were chosen of both participating and non-participating families, and from participating families from both the companies Agropalma and Biopalma, in order to make an analysis about the introduction of contract farming, and contract farming over time. Moreover, the research wanted to evaluate the effect of contract farming on labour allocation patterns and the impact thereof on women, therefore a sample of women were selected to record labour activities and time spend on these activities; consisting out of the female household heads of the (priory chosen) family samples.

In order to analyse the impact of contract farming, the research focus both on families who participated in oil palm cultivation (and owned a contract) and those who did not participate (and thus did not own a contract). These families are now called respectively 'participants' and 'non-participants'. Moreover, the research

captures changes over time, analysing the status quo both before and after the introduction of oil palm cultivation under contract farming. This is demonstrated by the words 'before' and 'after'.

Furthermore, there was an interest in the differences between companies, therefore both families from two of the present oil palm companies in the areas were chosen (from both Agropalma and Biopalma). The difference between the companies is very interesting since they differ in approaches; especially regarding age and labour (for example: Agropalma does not allow children below eighteen years old to work on the oil palm plantations, which shifts allocation patterns).

Family members were identified using a predetermined list. This list has been established using an existing data set of informants created during the previous research in Calmaria II (led by F. Brandão). This existing data set has been used for convenience purposes (in this way it was most easiest to detect families that met certain characteristics to make the sample comparable) and for time constraints (it was theorized that families who worked with researchers in the past, would be more willing to also work with other researchers). Characteristics for potential families were established with the help of key-informants, that were familiar with the area and communities or worked in other researches regarding gender dynamics in the Brazilian context (University professor, and two NGO employees) The list was established, using the following characters:

1. **Age:** 3 to 4 family members are between 18 and 65 years old;
2. **Active/passive:** 3 to 4 family members are considered to be active according to the researcher (active here means contributing a considerable amount of labour for the household);
3. **Gender ratio:** >0 and <1 (Number of female household members between 18 and 65 divided by total number of household members between 18 and 65; with 0 meaning no female family members and 1 meaning a family consisting out of only females).
4. **Marital status:** The household head has to be married;
5. **Family members:** The total family consists out of 4 to 6 members.

These characteristics were important in order to create a somewhat comparable research sample. (1) The age of the members were important since very young children or very old members are too young to contribute any labour of significance to the household. While children younger than 18 and older than 65 can indeed contribute to household labour, these numbers were chosen since some companies (like Agropalma) do not allow children below the age of eighteen to work within oil palm industry, affecting the research data. (2) Active or passive members are important to consider since some members, while being of working age, do not contribute towards family labour. (3) The gender ratio has been included since it was necessary to obtain both male and female perceptions of labour, social roles and norms, etc. (4) Marital status was important to consider since the overall household had to comply with the 'traditional' standard of family (husband, wife, children), since single household heads (unmarried or widow/widower) distribute labour resources in a significant different way. (5) It was necessary to take into account the total number of family members of the household since more family members means more ways to divide labour. The identification of households were decided upon after an interview with the the formal president of the Association of Residents and Small Rural Farmers of the Calmaria II settlement and the Água Preta Community (AMOPARACAP) and delegate of the Union of Rural Workers and Workers (STTR) of Moju, who helped decided to choose the families which were willing, able and available; making this research part of a convenience sampling.

Local recording of the allocation of labour was performed from a sample of female household heads. This sample was the chosen from the same sample of families. Eventually per household, one female house head was chosen (often there was only one present). The research regarded the female household head as the female member of the family with the most decision-making power besides the male head of the household, often the wife of the male household head.

Members for a focus group were selected using a snowball technique. The second to last family invited people of the village to participate in the focus group discussion. The only requirement was that the total amount of more or less four to six focus group respondents, divided equally regarding gender (two - three males, two - three females).

5.2.2. Participant observation

The main method for data gathering existed out of: Participant observations, whereby the researcher observed behaviour, listen to conversations and asked questions (Bryman, 2012). Participant observation could be defined as follows:

“Research in which the researcher immerses him- or herself in a social setting for an extended period of time, observing behaviour, listening to what is said in conversations both between others and with the fieldworker, and asking questions” (Bryman, 2012, p.714).

This type of the method is important to establish trust and to understand complex social dynamics, cultural context and local norms and values (ibid). Moreover, it allows for some important advantages like: *“Seeing through others eyes”* and *“Learning the native language (not only verbal)”*(ibid, p.494). By being in a social context for a longer period of time. Participant observation in this research existed out of informal conversations with key-informants (household members, visitors, workers, important societal figures, etc.) and the registration of task and time allocation of the female household head through the use of a diary method.

In order to establish a comprehensive overview of the allocation of intra-household labour, it is necessary to create a detailed list of time use. As Ilha (2000) argues *“The analysis of time use is essentially an analysis of the allocation of time to various activities such as work for wages, work on the family farm or enterprise, “inside chores” in the household (childcare, cooking, washing etc.) and “outside” chores (fuel and water collection etc.)”*(Ilha, 2000, p.3). These activities can be observed in a time frame ranging from *“the last 24 hours to time spent in various activities over a year (usually measured in terms of months or weeks)”* (Ilha, 2000, p.3). For this, a diary method was used whereby individual charts were created that kept track of the specific activities of the female household heads, the begin time; end time; minutes spend on each activity; work burden; individual task or shared with others; and the description of the activity itself. Charts were analysed periodically and formed input for additional interviews. An example page of the charts and codes are included in annex 1 and explained in the typology section. The diary method was chosen due to its detailed nature. Surveys regarding time are easily misreported since they are prone to misinterpretation of time use and allocation by the responded (over or underreporting of time), or respondents give socially accepted and/or expected answers. Moreover, most labour activities by women are not regarded as work, making time surveys with retrospective estimation of time mostly inaccurate (Ilha, 2000). This, as Ilha (2000) suggest in her literature overview of intra-household allocation of time and tasks through the years,

“existing evidence suggests that time diaries overcome a number of problems of the traditional survey method.....By focusing on a chronology of events over a relatively short reference period, the time diary method tends to capture well a lot of non-routine activities that would be missed by the traditional [survey] approach” (Ilha, 2000, p.4).

Eventually, two and a half days (allowing the researcher to travel to different households the last half of the third day), with random selected starting days, have been selected per family to conduct participant observation (approximately sixty hours). From the moment of waking up to going to sleep at night, all activities regarding the female household head were documented. In total, 204,5 hours were documented; counting 127,7 for participating families and 76,8 for non-participating families. On the average for participating families this was 32 hours and non-participating families 38 hours.

5.2.3. Interviews, Surveys & focus group

Complementary to the participant observation and diary method, were the use of semi-structured interviews and survey questions. For this research, two kinds of interviews were conducted: family interviews (with the whole family, including male and female family members) and female interviews (with only the female heads of the households). Topics touched upon all research questions regarding: family characteristics, income, social norms, decision-making processes, and agricultural and domestic activities; especially focussing on the differences between men and women, and their perceptions. These interviews were based upon

questionnaires presented in a similar research from CIFOR in Indonesia, led by scientist Bimbika Sijapatie Basnett (PhD), in order for a potential comparable research output, and have been included in annex 2 and 3.

In order to create a more general picture of the community, the research conducted a focus group to identify how many families work within the oil palm sector under contracts; which companies they work with; what the role of men and women are within contract farming, the influence of the contract farming schemes on men, women and families; to analyse the social context around the socially assigned roles of women and to make a general map of the community. This was done using a survey that has been developed based on existing surveys as part of a comparative research on oil palm cultivation in Indonesia, by CIFOR (led by scientist Bimbika Sijapatie Basnett (PhD)). The survey consisted out of a community profile regarding social norms and roles; and a general map of the community. Both are included in the annexes (annex 4 and 5).

Totally, six families, six female household heads, four key-informants, and one focus group were interviewed using (semi) structured interview and survey questions; and unaccountable informal conversations with household members and key-informants were part of the data collection.

5.2.4. Ethical considerations

While conducting this research, confidentiality of the data and trust between the researcher and respondents was very important. Participating in the research was completely voluntary and people had the right to say no at any time, which was clearly explained when approaching possible respondents and repeated before starting interviews and surveys. In the course of the research rejection of participation happened once, when a family was not able to host the researchers. Before starting the research, an informal conversation was set up with the participating family members to inform them of the purpose of the research, the intend goal, the outline of the activities which would be performed (interviews, participant observation, etc.) and for which purposes the study was used; in order to acquire informed consent. Respondents had the freedom to ask questions at any time and the researchers answered these honestly and to the best of their knowledge. All respondents were asked for permission to publish their names in advance, and all agreed. In the final product, names of respondents are not fully displayed, nor are answers traceable to certain individuals. In the case of taking photos or making recordings, permission was always asked upfront; the same applies to the publications of these files. Colleagues and other researchers working within this study were also aware of these arrangements.

In the case this study, most of the subjects were fairly openly discussed. Yet, for privacy purposes, women were often interviewed alone (when possible) to ensure confidentiality and to prevent the individual for possible future harm as a result of participating in the research. While the main focus of the research involved female household heads, other family members and especially male respondents were included as much as possible to prevent exclusion.

It was decided with the research organization that families who participated in the research were paid a very small amount for covering expenses. The researcher team stayed up to two nights and three days, eating the families' food, drinking their water and often were offered a ride (costing fuel) to the next family. This was only for covering the costs, not for making profit. During the research the research team acted respectfully towards the family and their natural environment; and respondents were profusely thanked at time of leaving, in order to leave the door open for future studies and researchers. Moreover, the research team was very carefully not to exploit their position (generally perceived) as 'special guests'. Often, special meals were prepared for the researchers or things were bought. For example, special poultry was slaughtered to show off wealth or to indicate a special occasion (mostly only done with holidays). Cultural appropriateness and humbleness were therefore very important for the research.

Throughout the research, data was handled with care. The researcher made sure data was never in reach of nor shared with unauthorized people. Data was only shared with supervisor and carefully stored away both manually as digitally.

Results: Introducing oil palm cultivation under contract schemes

This research states that the introduction of oil palm cultivation under contract farming has enabled smallholders to increasingly invest in the crop; this happened, as a result of changes in the availability of resources, brought by the introduction of these contracts. This has changed the agricultural landscape in the area towards predominantly oil palm. This change has shifted labour patterns thus far that it decreased the allocation of time, task and work burden for female household heads; and consequently influenced social norms and gender roles regarding labour in such a way that it strengthened the role of female household heads as active intra-household decision-makers. The next chapters will explain and support this statement based on collected data in the research area among families who participate in oil palm cultivation under contract farming (participating families) and families who do not own a contract, and thus do not participate in oil palm cultivation (non-participants).



Photo 2: Farmer on oil palm plantation (photo by author).

6. Changing the availability of resources

With the introduction of contract farming, both the companies Agropalma and Biopalma have changed the availability of resources within the Calmaria II area, in two ways. First, it has evoked a change in the availability of cash income in the area by introducing contracts that created the possibility for farmers to extract great sums of money from the bank, in the form of loans; greatly influencing cash income resources. Secondly, the introduction of contract farming in Calmaria II has had a great impact on the development of human capital in the area, by providing technical support as part of the work agreement; thereby greatly affecting the expansion of local human capital. These changes in available resources has created an opportunity for farmers to invest in oil palm cultivation and learn from the company. Which, on its turn, influenced local patterns or labour allocation and social norms regarding this labour.

6.1. Cash Income

Farming contracts created opportunities for smallholders to extract loans from the bank in order to invest in oil palm cultivation; increasing cash income possibilities for investment purposes.

As part of the smallholder integration, contracts are being signed by both farmer and company as an attempt to promote smallholders in the oil palm sector (Brandão and Schoneveld, 2015). Following these contracts, farmers are contracted to a company for a period of 25 years and loans are provided by Banco da Amazônia (ibid). However, these loans are administered on a “*full cost recovery basis*”, which means that all costs (related to preparation and inputs) are born by the smallholder, providing a great risks for the farmer (ibid, p.19). Instalments Smallholders receive standard loans around USD 25,600 (for a 10 ha plot) (ibid). Loans for agriculture are given the first three years of cultivation in three different instalments, which are eventually paid back after a redemption period of 6 years (ibid).

The original pilot programme (not under the PPSPO programme), however, differentiates from these new contracts, for it provided a large grant from Agropalma to new smallholders, and starting loans were only between USD 4,800 and USD 7,040 (for a 10 ha plot) (ibid); reducing the financial risks. But while the financial risks of the earlier projects (which entered Calmaria II in 2006) differs from the newer contracts; most farmers entered the oil palm sector with the use of these modern contracts (making these higher financial risks the focus point of this research).

6.2. Human capital

The introduction of oil palm contract farming in the area also increased human capital. Because the local companies Agropalma and Biopalma provide technical support and educational opportunities (such as meetings and trainings) to smallholders and family members, people extended their skills and knowledge regarding oil palm cultivation. As a result, they collectively increased human capital in Calmaria II; providing farmers with the opportunity to invest in oil palm cultivation with (relative) low risks and high productivity, and attracting other farmers and companies, so that opportunities of these available resources increased even further.

Besides men, also women sometimes attend meetings and trainings regarding oil palm. Women stated that they liked to listen and get involved when there is an information gathering regarding the crop. Some of them explained: “*I like to participate to know what they are talking about*” (female participant, Vila Fumaça); indicating a sense of involvement.

Interviews with farmers revealed that after the introduction of oil palm contract farming in the area, farmers often acquired new knowledge about the crop. Farmers stated: “*yes, we have learned a lot, because everything is new*” (farmer, São José); and use this new knowledge in cultivation: “*The oil palm has a right way of taking care of it*” (female participant, Vila Fumaça); “*.....it [the cultivation of oil palm] has to be done right, if not, it does not produce*” (farmer, São José). This influx still seems to expand with technical officers still visiting the farmers monthly and other personnel with oil palm knowledge: “*There are always people here, for example*

people that participated in a documentary about oil palm organized by the company Agropalma, etc.” (female participant, Vila Israel).

This accumulation of human capital in the area is known by the oil palm companies: *“Biopalma wants to be here, in Calmaria II, since here they know how to handle oil palm because Agropalma has been here for a long time already”* (Nilton, tecnico agrícola, Biopalma); and even new companies such as Marborges (which were scouting the area at time of research).

Changes in the availability of cash income and human capital resources in Calmaria II, as a result of the introduction of oil palm contract farming, has pushed local smallholders towards the cultivation of oil palm; and as a result, transforming the agricultural landscape of the area. Consequently, this transformation changed the livelihood activities that people perform. The outcome of this change in activities has been shifting allocation patterns of intra-household labour resources to meet the requirements of these new livelihood activities; which will be presented and explained in the next chapters.



Photo 3: Oil palm plantations, Calmaria II (photo by author).

7. Shifting allocation patterns: reducing the need for female labour

The increased availability of resources in the areas has pushed many smallholders into oil palm cultivation under contract farming. This shift reallocated labour patterns towards oil palm cultivation and consequently reduced the need for female labour in two ways: first, because oil palm cultivation is mostly considered to be a male agriculture; and secondly, due to its high profits, there is less need for other, mostly female dominated, income generating activities. The data presented in the next chapters will support these statements.

7.1. Shifting towards a male agriculture

As a result of the large time requirements, dedication and risks related to oil palm, most family labour shifted towards the cultivation of the crop. At the same time this crop is predominantly considered to be a male agriculture due to its dangerous, physical limitations and even time restrictions. As a result not everyone can participate in the oil palm agriculture; mostly female family members. Shifting to oil palm cultivation therefore means shifting towards a predominantly male agriculture.

7.1.1. Family Labour redistributed towards oil palm cultivation

In order to analyse changes in shifting labour patterns, the research first presents an overview of the inventory and allocation of tasks. The main tasks performed by families are activities performed inside the house, domestic tasks such as food preparation/ cooking, child rearing and cleaning; or personal activities, such as eating and personal hygiene. Outside the house activities are mostly focused on agricultural farming, both for subsistence and commercial output.

The main change in the allocation of labour within the family, has occurred due to the changes in livelihood activities. As a result of the introduction of contract farming in the area, smallholders have increasingly invested in oil palm cultivation; changing their agricultural landscape. Because this shift happened on a large scale, most of the livelihood activities of smallholders changed from main agricultural tasks such as corn, manioc/cassava, rice, green beans, coconut, pepper, açai berry, vegetable garden, poultry and cattle to predominantly oil palm cultivation.

This shift in landscape consequently shifted allocation patterns of labour reserved for agriculture. After the introduction of contract farming, most reserved labour for agricultural tasks went towards oil palm cultivation. This was due to multiple reasons: first, because there are high risks associated with oil palm cultivation, there is a need for a lot of dedication towards the agriculture; and secondly, because oil palm cultivation requires lots of activities with a large work burden which are performed throughout the year, and is not limited to certain seasons.

I. Risks and dedication

Oil palm cultivation under contract farming requires loans and investments. Yet, with high loans comes great risk. Both men and women have specific risk perceptions when it comes to oil palm cultivation. They are both fully aware of the risk the agriculture brings. While both men and women often share the same concerns, men tend to be more aware of the financial problem: *“There is a risk of non-production and consequently no sale”* (Farmer, Vila Fumaça). Or, as a farmer in Monte Sinai explained: *“There is a problem if someone can’t work because of disease or a family without access to male labour. Then the palm is there, yet it does not produce”* (farmer, Monte Sinai).

On the other hand, women often tend to have concerns about the precision of work and work knowledge: *“You have to keep everything tidy. You can’t miss anything, you have to manure, cleaning and crown”* (female participant São José). *“There is only a problem if you neglect the crop, do not fertilize, do not work”* (female participant, Vila Israel). They both recognize that they rely completely on the company. Mistakes at the company side (such as the delay of fertilizer) also affect them: *“Normally you have to fertilize around 3*

times a year. But there was a delay and there was no fertilization in the year 2016". (female participant, Vila Fumaça).

Moreover, the monopoly of the company on the contract and the cultivation restricts the family to one buyer. When something goes wrong with the company, they are not entitled to sell to others; making them dependent. One of the farmers, not participating in oil palm contract farming, gave exactly this reason for not participating; he explains: "The company will always want to win over the farmer"... He said that a lot of participant think they will earn a lot of money with the project, but according to him, this is not always the case. He stated: "in the end you are stuck in that project for 25 years" and he continued..."in the end you will always have to listen to the demand of taxes and costs" [meaning that the benefits as not as high as people think, while you are completely dependent on it] (farmer, Monte Sinai).

II. Activities and work burden

Moreover, the cultivation of oil palm requires a range of activities with a heavy work burden that are performed the whole year through and are not limited to certain seasons. Table 3 presents an overview of activities performed as part of oil palm cultivation. These tasks are considered to have a high work burden. Task burden tend to be higher when regarding agricultural tasks. When observations were made, agricultural tasks were mostly given the value of work burden between 2-3 (as part of the diary method), which represents proportional to large; in contrast to domestic task values, which were often between 0-1 (very small to small). This is mainly as a result of heavier physical work and work outdoors, in the warm weather. Moreover, agricultural tasks, in general, often require a longer period of dedication towards a certain task than domestic tasks, which are easier to allocate towards convenience.

Activities				
Part of cycle	Oil palm activities	Hours of work	Description of activities	When to carry out the activities
Preparation	Preparation of the area	12 hours per day (1 week)	Mowing of the grass for the seedlings to be planted.	Only at the beginning of planting
	Demarcation of seedling plant areas (Piqueteamento)	12 hours per day (1 week); Preferably during hours with little sun.	Placing the wooden pickets to mark the planting of the seedlings. Difficult, since the alignment needs to be correct. Holes are created with a hoe; sometimes with the help of animals (donkeys).	Only at the beginning of planting. Only once.
Planting	Planting of seedlings	12 hours per day (1 week); Preferably during hours with little sun.	Scatter fertilizer in a pit in the ground (that measures 40x40 cm) and placing the seedlings in the pit. This requires a lot of people (at least 3 to 8 people) to support the oil palm.	Only at the beginning of planting
During growth	Cleaning (cleaning of the field area);	Arranging from 10 – 12 hours a day for 3-7 days straight. Preferably during hours with little sun.	<ul style="list-style-type: none"> - The use of a sickle of brush cutter to remove tall vegetation around the palm tree. A tractor carries this away. Sometimes cattle is used to eat the tall vegetation. - Crowning of weed is part of this process: which is the removing of weed by hand (with gardening material such as a hoe or scythe) or with the use of a chemical - Area cleaning sometimes also includes empilhamento. 	Ranges from 2 to 6 times a year - sometimes different per company - (in the first three year); to only 1 time a year after the first three years.
	Empilhamento - clearing of the 'roads' on the plantations.	1 week	The process of cleaning up the natural waste of the cleaning process. This waste is often stacked on beacons, creating streets of natural waste. At the same time this stacking makes sure that other streets (free of waste) are created for people, animals and machines to move freely on the plantation.	1 time a year
	Ploughing	1 week	Starts after three years of cutting. Done with the use of a sacho (tool similar to a hammer)	1 time a year
Harvest	Harvest of the nuts and cutting of the curls.	2 people work in 2 days.	Harvesting the fully grown nuts. This is done with the help of a sickle. To be able to reach the nuts, the surrounding palm tree curls have to be cut as well. This is done in the same process.	3 times a month

Table 3: Activities performed during oil palm cultivation

Besides, the cultivation of oil palm requires a lot of dedication in both time and commitment. Oil palm cultivation is a very time consuming crop as seen in tables 3 and 4. Table 3 describes which activity has to be carried out, which proportion of the time and shows a very busy schedule; especially regarding the harvest. Table 4 shows that, besides sowing, oil palm cultivation requires a year-round commitment for all activities, while other agricultural crops are mostly bound to specific seasons. And even if other agricultural crops do require year-round activities, work burden and time required depends on the amount of cultivation or animals, and which crops are planted (as part of the vegetable garden); which, next to oil palm cultivation, is often kept small. Oil palm, on the other hand, is mostly planted on large plantations in order to be profitable and worth the risks and should be, according to respondents, the only concern. As female farmers from São José and Vila Israel stated: besides oil palm cultivation, *“there should be no other concern”* (female respondents, São José and Vila Israel). Meaning that most labour is reserved for oil palm cultivation; not for other agricultures.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Oil palm	Busy	Busy	Busy	Busy	Busy	Busy	Sowing	Busy	Busy	Busy	Busy	Busy
Açaí	Harvesting	Harvesting	Harvesting	Harvesting							Harvesting	Harvesting
Coconut	Sowing	Sowing	Sowing	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting
Pepper	Harvesting	Sowing	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting
Green bean				Sowing	Sowing	Sowing	Sowing	Sowing	Sowing	Sowing	Sowing	Sowing
Cassava (winter)	Sowing	Harvesting			Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting
Cassava (summer)				Harvesting	Harvesting	Harvesting	Harvesting	Sowing		Harvesting		Harvesting
Rice*	Sowing	Sowing	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting
Corn**				Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting	Harvesting
Vegetable garden	Busy	Busy	Busy	Busy	Busy	Busy	Busy	Busy	Busy	Busy	Busy	Busy
Cattle ***	Busy	Busy	Busy	Busy	Busy	Busy	Busy	Busy	Busy	Busy	Busy	Busy

Legend
Sowing
Cultivating
Harvesting
Busy/ possible all months

Table 4: seasonality of agricultural activities.

*Not specified in data reports; therefore extracted from the FAO: Rice North/North-East (FAO, nd), 2017

**in consortium with mandioca

*** 2 times a day

Moreover, farmers stated that the cultivation of oil palm requires a lot of dedication and that not all smallholders have what it takes to be good oil palm farmers; *“You have to dedicate yourself to the service, only dedicated people can do it”* (farmer, Vila São José). In some cases, people even had to stop cultivating oil palm since they did not know how to do it properly, therefore losing their main income resource and leaving families with a major debt with both the bank and the oil palm companies. As one female respondent stated (Vila São José): *“It is just not for those who do not know how to take care of the crops”*; and she continued: *“you have to know how to take care of the oil palm, if you do it wrong, or stop doing what the assistance staff does, it does not grow, it does not provide the cocô”* (which is the fruit of the oil palm from which palm oil and palm oil kernel is extracted) *“it will be a loss”* (female respondent, Vila São José).

As a result of the time requirements, dedication and risks related to the cultivation of oil palm, most family labour (that used to be reserved for other agricultural crops) is currently mainly allocated towards activities regarding oil palm.

7.1.2. Oil palm as a male gendered agriculture

This increased requirement of labour for oil palm cultivation has decreased the need for female labour in two ways. First, because oil palm cultivation is perceived as a mainly male dominated agriculture; and secondly because oil palm cultivation has replaced other agricultural crops, where women played a larger role, decreasing the female role in agriculture.

Because oil palm cultivation is perceived as a mainly male dominated agriculture, this shift towards oil palm cultivation simultaneously reduced the need for female labour within agriculture.

Socially, oil palm cultivation is perceived to be a fully male agriculture (see table 5). Therefore, males perform most activities. Only *Empilhamento*, the clearing of the ‘roads’ on the plantations (see table 3) , are sometimes performed by female family members. This is mostly the result of physical limitations associated with oil palm cultivation, which can be perceived as a restriction of oil palm cultivation concerning gender. The agriculture is considered to be dangerous and only for those with the right physical conditions; therefore, both men and women find the agriculture not suitable for women. As one farmer stated:

“Oil palm is a men’s job. It has a lot of thorns on the stem and in the oil palm fruit bunches” (farmer, São José). *Others explained: “There are some activities that women cannot do, because it is heavy and dangerous”* (female respondent, Vila Israel).

This social perception of oil palm being a male agriculture has increased the need for male labour. As one female respondent stated: *“he [the husband] works on everything”* (female participant, São José); *“It [work] increased for my husband and the boys, but I think it’s good, because it’s an activity for them to take care of”* (female participant, Vila Fumaça). Therefore, shifting family agricultural towards a mainly male dominated agriculture means the decrease of required female labour. Female participants acknowledged this decrease and stated that their perception was indeed a decline in work.

Another restriction regarding oil palm cultivation is age. Agropalma does not allow children below eighteen to work on the oil palm plantations, even while the contracts consider family farming. This restricts underage children to participate in labour activities regarding oil palm, while most children start to help out in family agricultural activities when they are very young. As a result, labour of children below eighteen of families working with Agropalma goes to plantation work of Biopalma (since some of the families have multiple contracts) or can be redistributed among other agricultural tasks; also reducing the need of female labour within agriculture.

Agricultural crops	Perceived gendered agriculture of participants (before introduction)
Corn	50% - 70 % Male
Cassava	50% Male / 50% Female
Rice	50% Male / 50% Female
poultry	70 - 100% Female
Green beans	50 - 70% Male
Coconut	70% Male / 30 % Female
Pepper	70% Male / 30 % Female
Cattle	100% Male

Moreover, the change in family agriculture towards oil palm cultivation, equally means shifting away from the cultivation of other agricultures; agricultures in which female family members played a larger role. In that event, the need for labour for other agricultures (and thus also female labour) decreases with the shift to oil palms.

As seen in table 5, female family members perceived to have had a large role in other cultural crops (before the introduction of oil palm cultivation under contract farming), such as the cultivation of corn, cassava, rice, poultry and green beans; Moving away from these agricultures towards oil palm (and in the case of rice even replacing the crop), means diminishing the need for labour for other agricultures.

Thus, the shift towards oil palm cultivation has decreased the need for female labour by shifting towards a predominantly male agriculture and because this shift meant moving away from other agricultures where women also played a substantial role.

Table 5: Gendered agriculture - Perception of agricultural crops associated with a specific gender (within families who own a contract; before the introduction of contract farming).

7.2. Lesser need for other income generating activities

At the same time, oil palm cultivation has increased household income to such an extent that there is less need for other income generating activities. Besides oil palm cultivation, other income generating activities mostly exists of the production of other agricultural crops; activities which mostly consist of female labour. More income therefore reduces the need for other, mostly female, income generating activities; reducing the need for female labour.

7.2.1. Increased income

Despite the risks, oil palm cultivation has increased households' income of those who owned a contract. The differences of earnings from oil palm cultivation and other agricultural crops have increased prosperity of families owning a contract (participants); clearly observed in the wealth differences between participating families and non-participating families.

Although farmers stated, the *"risk lies with the lone taker"* (farmer, Vila Fumaça) often farmers do not perceive oil palm as an insurmountable risk. According to them, it is only a risk for *"those who do not know how to take care of the crops"* (female respondent, São José), *"palm is not for those who are new and not for those who are old, it is for those who are very masculine"* (ibid). Oil palm is a beloved agricultural commodity with most of the farmers and their families, since it has tremendously increased family income over the year: *"We earn a lot of money and I spend it on lots of things!"* (female respondent, São José). Meaning that the risks to take out a loan are taken for granted with the prospect of a prosperous future. Women of families that participate in oil palm cultivation are often very happy with the contract since it noticeably increased the families income: *"It's good.....it [the household income] is much better than when we arrived at the settlement"* (female participant, Vila Israel). This income has enabled women to take care of their families, as some stated:

"Now it's very good, once it was very bad, we had to sacrifice a lot for crops such as, corn, cassava, but now with the palm we can have a much better life than before." (female participant, São José).

"Now we can choose what to eat, want something can buy "
(female participant, São José).

"It [the oil palm cultivation] allowed a lot, we could plaster the house, build a porch, buy a tractor, two motorcycles, and we could plant pepper. Before, the farm was only for subsistence farming, not now. Now, there's a lot more income" (female participant, Vila Israel).

"The Oil palm is everything for me, it provides my livelihood, takes care of my house, it pays for my daughter's college, I also help someone else paying for their tuition fees" (female respondent, São José)

Oil palm cultivation is a profitable crop with high yields. For example, farmers explained that they earned around 270 Brazilian Real (R\$) per ton of oil palm bunches, while cassava goes for only 50 R\$ per 15 kg and pepper for 30 R\$ the kilogram; while small crops such as banana's, green beans and coconuts are sold for respectively 3 R\$ a dozen, 2 R\$ a handful and 0,40 R\$ a piece. Moreover, the oil palm produces around 20 tons of bunches/ha/yr (FAO, nd); and considering most of the smallholders owned around 10 hectares, the crop is highly popular and increased income, of participating families, tremendously.

7.2.2. Time spend on income generating activities and idleness

This increased income made sure that there was less need for other income generating activities within families who own a contract; this became evident in the amount of time spend on specific tasks such as other agricultural activities, wage labour and leisure time.

Table 6 shows the average time spend on activities by female household heads. It shows that time spend on domestic tasks (such as food preparation and cleaning) is substantially larger than time spend on agricultural tasks; especially female household heads of families who own a contract (participants). The table also reveals that female household heads (of participating families) on average, spend most of their time on idleness (such as sleeping, doing nothing and recreation). Moreover, female household heads of families who own a contract (participants) spent less time on wage labour than those of families who do not own a contract (non-participants)

ALL FAMILIES		PARTICIPANTS		NON-PARTICIPANTS	
Activities	Average hours	Activities	Average hours	Activities	Average hours
Idleness	10,02	Idleness	11,57	Food preparation	10,425
Food preparation	7,92	Food preparation	6,67	Cleaning	7,15
Cleaning	6,21	Cleaning	5,75	Idleness	6,92
Eating	3,75	Eating	3,80	Agricultural tasks	4,30
Agricultural Tasks (besides oil palm)**	1,74	Other	1,47	Eating	3,65
Other	1,51	Personal hygiene	0,81	Religion	1,83
Religion	1,01	Religion	0,60	Other	1,59
Personal hygiene	0,83	Agricultural tasks	0,45	Wage labour	0,96
Wage labour	0,50	Child rearing	0,38	Personal hygiene	0,89
Child rearing	0,42	Wage labour	0,27	Child rearing	0,50
Visiting	0,11	Visiting	0,10	Visiting	0,125

Table 6: Average time spend on activities by female household heads (in 3 days); ranged from most to least time spend.

**Activities in oil palm cultivation, performed by female household heads, was not recorded during time of research because their task (Empilhamento) is performed in other seasons. Therefore agricultural tasks here refer to all agricultural tasks (besides activities regarding oil palm cultivation).

The shift to oil palm cultivation has increased families' income in such a way that there is less need for other income generating activities. As table 6 shows, female household heads of participating families, on average, spend fewer hours on other agricultural tasks (besides oil palm) than female household heads of non-participating families; which is to be expected since oil palm cultivation requires more time and women do tend to help their husband in oil palm cultivation. However, considering oil palm is mostly a male activity, in theory, there should not be a major difference; yet, the amount of time spend on agricultural activities (besides oil palm) is much less. Moreover, female household heads of participating families spend most of their time on idleness (tasks like sleeping and doing nothing). This is the result of a change in income dynamics, since oil palm cultivation provides for a larger income than other agricultural crops (especially after the first three years, when the oil palm contributes most to the household income). This generates an often more secure financial future, meaning that there is less need for other income generating sources, lifting the work burden of female household heads. As one women declared: "work has decreased because now we do not need to sacrifice so much for the work in cassava, corn and rice" (female participant, São José); pointing out that there is indeed less work needed for other agricultural activities. As a result, female household heads tend to have more time for Idleness.

Agricultural crops	Gender of labourer (Perception of participants before introduction of contracts).	
	PARTICIPANTS	NON-PARTICIPANTS
Corn	Male (mostly) + Female	-
Cassava	Male (mostly) + Female	Male + Female
poultry	Female	Male + Female
Green beans	Male	Male + Female
Coconut	Male	Male + Female
Pepper	Male (mostly) + Female	Male + Female
Cattle	Male	Female
Açaí berry	Male + Female	Male
Vegetable garden	Male	Male + Female
Oil palm cultivation	Male (mostly) + Female	-

Table 7: Perception of gender of the labourer (participants – before situation).

Decreased allocation of female labour towards agricultural tasks, consequently means reducing the work burden of female household heads; not only due to less need for agricultural labour but also due to the smaller work burden of domestic tasks. As explained earlier (in chapter 7.1.1.- II), Work burden tend to be higher regarding agricultural tasks; lowering the average work burden of female household heads.

Furthermore, as explained earlier, the restrictions of age on certain contracts, can result in more available labour for other agricultural tasks (as explained in chapter 7.1.2.), but also for domestic activities; lowering the work burden of female household heads on both (other) agricultural tasks and domestic work.

Another point to consider is the difference between perceived gendered agricultures and who are actually working in these agricultures in reality. A perceived gendered culture does not always reflect reality. Table 7 shows which gender, of the researched families, actually worked in these agricultures (comparing non-

participating families and the situation before the introduction of oil palm cultivation under contract farming for participating families). The table shows that in non-participating families female household heads have a more equal role in agricultural activities than men; this differs from the mostly male participants in agricultural activities in participating families. Meaning that there is a larger need for female labour in families that do not own a contract (non-participants).

8. Impact on the role of rural women

One could expect that the increase of (what is perceived to be) male agriculture in the area consequently increases existing gender norms. Since there is a lesser need for other agricultural activities as income generating resources, in which women play a larger role, women will be left with only domestic tasks; increasing traditional gender roles and depriving them of an opportunity to get more involved (and thus included in contract farming). However, in the case of Calmaria II, the opposite is happening. Changes took place in existing social norms and gender roles regarding decision-making processes about income expenditure and investments, in perceived gender roles and in the freedom to allocate time on activities.

8.1. Increased decision-making power

The roles of female household heads in intra-household decision-making processes have slightly grown after the introduction of oil palm cultivation. This is the result of female household heads being more involved in the decision-making dynamics of the oil palm process; increasing their overall role as decision maker in the household.

8.1.1. More involved in oil palm processes

Female household heads appeal to more influence in decision-making process because they are wary of the financial risks attached to oil palm cultivation. Consequently, these women also bear to attend learning opportunities (such as trainings) and informative meeting in order to stay on top of their families' investments. Moreover, women are often favoured by companies as contract owners, giving them direct legal input to stay involved within the oil palm process.

In general women are often very concerned and involved when it comes to family agriculture. As explained in chapter 7.1.1 the financial risks attached to oil palm cultivation is high and women are very much aware of these risks; and it is due to these risks that women are interested in household finance but also appeal to more decision influence. Often female household heads explained that they consult with their husbands about yields, sale proceeds and investments of the oil palm plantation, and broader agricultural costs of materials such as fertilizer and mechanical tools, etc. Furthermore, women claimed to be more interested in oil palm agriculture and therefore attend meetings and trainings, established by the companies, to stay involved and learn. As described in chapter 6.2, women stated that they actually like to know what they are talking about. This involvement is both a result of women being interested in oil palm cultivation and of the financial risks attached to the investment.

Moreover, also women have contracts in their names, making them directly part (and even legally responsible) for the oil palm process. Oil palm agriculture might be a male culture, but, *"there is no distinction between men and women"* according to the focus group that was part of the research. Participants even mentioned: *"Companies even prefer the contract to be in the name of the woman" "since she takes more care and is more patient"*. While the total number of contracts on behalf of women might be lower in Calmaria II, both males and females declared: *"they can participate without any problem"* (focus group discussion). During observations, some of the contracts of participating families were indeed in the name of the female household head or sometimes even in the name of sons or daughters. Sometimes, husbands even put the contract in the name of their wives. For example in the case of a female participant from Vila Fumaça, her

husband stated that he put her name on the oil palm contract (after consultation his wife) since she had the most time to go to the city and deal with both the bank and the company.

In Calmaria II there seem to be no social or technical barrier for women to participate in a ‘men’s culture’. Consequently, women tend to be more involved. Hence, a second reason why women also attend meetings and training regarding oil palm cultivation, just because it’s socially accepted and women are likewise contract owners.

8.1.2. Social norms and gender roles regarding labour

As a result of this increased involvement in the oil palm process, female household heads are consequently more involved in the decision-making processes regarding oil palm and other agricultural crops; but they also have an enlarged role in the overall intra-household decision-making dynamics.

I. Shifts in decision-making norms regarding agricultural crops

As table 8 shows, the role of women has increased when comparing the situations before and after the introduction of oil palm farming under contract schemes (for families who do own a contract). Decision-making regarding crops such as cassava, corn and pepper, changed from mostly male decisions towards joint decisions. Vegetable garden, as a new introduced cultivation after the introduction oil palm farming under contracts, directly became joint decisions; both indicating a change in the role of females regarding intra-household agricultural decisions. Especially when you compare the difference between families who do participate in oil palm cultivation and own a contract (participants), after the introduction of contract farming, and families who do not own a contract (non-participants), it is clear that female household heads, of participating families, have a bigger role as intra-household decision-maker regarding agricultural crops than females of non-participating families.

Activities	Who makes the decisions regarding the crop		
	PARTICIPANTS BEFORE	PARTICIPANTS AFTER	NON-PARTICIPANTS
Oil palm		Male + Female	
Rice	Male + Female		
Acai		Male	Male
Cassava	Male (mostly) + Female	Male + Female	Male
Coconut	Male	Male	
Corn	Male (mostly) + Female	Male + Female	
Green bean	Male + Female	Male + Female	Male + Female
Pepper	Male	Male + Female	Male
Vegetable garden		Male + Female	Male
Fish		Male	
Cattle	Male	Male	
Swine	Female		Male
Poultry	Female	Female	Female
Passionfruit			Male
Pineapple			Male
Lemon			Male
Cacao			Male
Peach palm			Male

Table 8: Gendered decisions regarding crops, in general (focus group).

II. Shifts in decision-making norms regarding broader intra-household arrangements.

As part of the increased female role in decision-making processes regarding agricultural crops, female household heads also have increasingly more decision-making power about household income, expenditures and investments.

Women (in general) often do not receive payment for their work in agriculture, because their work is mostly regarded as ‘helping the husband’. When asked about if women received payment or should receive payment, a female participant (São José) answered: *“No, it’s usually more of a man, some women are going to help the husband, but it’s not much. It has few salaried ones as well. Here in the settlement there is no woman employed in the companies.”*

But, despite the fact that women do not receive salary directly, female household heads do tend to have a lot of decision-making power regarding family earnings and agricultural decisions. Decisions regarding

the allocation of household income often also involve both male and female head of the household. Most of the time, decisions are made together. As some interviewees state: *“We solve it together”* (female participant, Vila Israel).

“My husband and I discuss things together, what to do, how to do it, I remember him, he reminds me, and when we need to make a purchase, we go together” (female participant, Vila Fumaça).

“We discuss together what we have to buy, what we have to do” (female participant, Monte Sinai).

Some women even stated that it was them who decide everything: *“it is I who decided everything and how we spend it”* (female participant, Vila Fumaça).

III. Shifts in decision-making norms regarding the allocation of time

Moreover, female household heads of families participating in contract farming also have more decision-making power over their own allocation of time. These women have more leisure time since there is less need for women working in agriculture (due to the male dominated oil palm agriculture, and the lesser need for other, mostly female, agricultural sources of income; as explained in the previous paragraphs). Female household heads of non-participating families are often required to spend more time on agricultural tasks (as explained earlier and seen in table 6 & 4), depriving them of the decision-making power over the allocation of (their own) time on other tasks, outside family agriculture. Since agricultural tasks are often bound to specific needs, such as the constraints of working daytime hours (mostly work is done in the morning and the evening to avoid the heat) and cultivating seasons (as seen in table 4), women who spend most of their time on agricultural tasks have less flexibility in the allocation of time to other tasks. Therefore, female household heads of participating families, who do own a contract and have more leisure time, have more freedom to decide about the allocation of time to their own preference; strengthening their role as intra-household decision maker.

IV. Changes in gendered roles

As a result of these shifting decision-making norms, the role of women has changed. Currently, traditional social norms around decision-making processes and governing earnings are surprisingly not very present in Calmaria II. When conducting interviews or hosting focus groups discussions, observations showed that the traditional view of a ‘one-way marriage’ (where the husband is the only one with decision-making power, and often does not consult the wife in decisions) barely exists in Calmaria II. Women tend to have lots of decision-making power and have an open voice. When participating in discussions and focus groups, even joint male and female participants, women (especially young women) tend to speak their minds and are not shy to say what they think. In some occasions women even made fun of the men and their roles in society or disputed with them for what was and what was perceived to be.

Table 9 shows the outcome of these changes of gender roles over time. According to the focus group, currently, women are also perceived to hold the position of money provider for the household. Also the role of men is anticipated to have changed; now also male family members are perceived to be taken care of domestic tasks; shifting towards a more ‘modern’ role of women

Social norms	Role of men	Change over time	Role of women	Change over time
In the community	"Do not invade neighbour's land, nor jeopardize the neighbour's agricultural cultivation"	No	"The woman's role is to take care of the family and the children. It will reflect poorly on the woman if she does not take care of the house or goes to parties or is seen in a bar"	No
In the household	-	-	"More the role of the woman: looking after the house, the children, everything. Making lunch and dinner, and take care of the clothes"	"Yes, formerly, it was only the woman who took care of the house, now many men do that too"
Money provider	"Yes, the man is more who has to take care of that part.."	"Today the woman provides too"	"Some women also help yes, they make a daily allowance and help the husband"	"Yes, some couples are more the woman who works, sometimes because the men can't because of illness"
Family care-taker	"Yes, the man is more responsible for his wife and his children"	-	"The woman cares too".	No

Table 9: Social norms regarding gender (including changes over time).

As a result of the increased involvement of women in oil palm processes, their decision-maker power within the household has increased. So while the role of rural women in agricultural cultivation has diminished, their role as intra-household decision-maker has increased.

I. Changes in gendered agricultures

This change towards an active decision-maker has not only changed the perceived role of women but also changed perceptions of gendered cultures. Because female household heads are currently more involved in decision-making processes, and due to the fact that men have less time for other agricultural crops as a result of their obligations towards oil palm cultivation, more and more agricultures have changed towards a more female perceived agriculture (as seen in table 10). Other agricultural activities, besides oil palm cultivation, are a combination of both male and female gendered cultures. When asking respondents on the changes over time in the perception of gendered agricultures, the research indicated a shift. Table 10 shows that some agricultures, after the introduction of oil palm contract farming, are increasingly perceived as a female gendered culture. After the introduction of oil palm contract farming in the area, crops such as corn, poultry, green beans and pepper changed from a predominantly perceived male gendered agriculture, towards an

Agricultural crops	Perceived gendered agriculture		
	Participants / Before	Participants/ After	Non-participants
Corn	50% - 70 % Male	50% Male / 50% Female	-
Cassava	50% Male / 50% Female	70 - 100% Male	-
Rice	50% Male / 50% Female	-	-
poultry	70 - 100% Female	100% Female	50% Male / 50% Female
Green beans	50 - 70% Male	50% Male / 50% Female	70% M / 30 % F
Coconut	70% Male / 30 % Female	50 - 70% Male 30 - 50% Female	
Pepper	70% Male / 30 % Female	50% Male / 50% Female	70% M / 30 % F
Cattle	100% Male	100% Male	
Açaí berry	-	100% Male	100% Male
Vegetable garden	-	50% Male / 50% Female	50% Male / 50% Female
Oil palm cultivation	-	100% Male	
Passionfruit	-	-	70% M / 30 % F
Pineapple	-	-	100% Male
Lemon	-	-	100% Male
Cacao	-	-	100% Male
Peach palm	-	-	100% Male

agriculture perceived to be more female than it was before; showing signs of diminishing male perceived gendered agriculture. Non-participants on the other hand (who do not own a contract) hold on to mostly male gendered agricultures.

Table 10: perceived gendered agricultures – change over time in families who do own a contract (participants).

9. Discussion

9.1. Theoretical implications

This research agrees with traditional literature that it is important to consider intra-household labour and gender dynamics when implementing contract farming schemes, instead of assuming an unitary model of the household whereby it is expected that all household members automatically reap the benefits of these schemes; as suggested in literature by Haddad et al., 1998; Reynolds, 2002; Doss, 1996; Li, 2015; Reynolds, 2002; Alderman et al. 1995 as cited in Behrman, Meinzen-Dick, Quisumbing, 2012, p.51; Njuki et al., 2011; Ilahi, 2000). Yet, this research argues the statement that contract farming, consequently of this assumption, ends up in the exploitation of women. The research illustrates that in the case of this study, contract farming actually has increased women's role as active intra-household decision-maker and reduced their work burden. Therefore, contract farming does not always consequently mean the increased demand for women labour and thus exploitation; as suggested in traditional literature such as Carney & Watts 1991, Collins 1993, Dolan 2001, Jaffee 1995, Katz 1995, Key & Runsten 1999, Watts 1994, as cited in Reynolds, 2002 p. 784; Reynolds, 2002; Key and Runsten, 1999). Yet, this research illustrates that contracts, as the ones used in Calmaria II under PPSP, could also alleviate women's work burden and take into account environmental incentives; providing a possible solution for environmental and socially sustainable oil palm cultivation.

However, the research points out, the effects of contracts strongly depend on the socio-economic context of their surroundings. Existing social norms and gender roles play a major role in the determination of the effect of contract farming. Traditional economic theories of the allocation of time and tasks often do not consider these social norms and gender roles, while labour varies per culture, ethnicity, gender and household relationships (Ilha, 2000). Making not only intra-household labour dynamics a matter of concern, also the consideration of existing social norms and gender roles; since these might vary per different social context.

Additionally, the research argues the theory that high income is associated with little allocation of time towards agricultural activities as a result of hired labour. As Ilha (2000) explains: *"due to the fact that the existence of active labour markets allows richer households to hire in more labour and thus household female work on the family farm is a substitute for hired in labour"* (Ilha, 2000, p.9). Moreover Ilha states that in areas where outside hiring of labour is not common *"increases in income do not result in lowering of work"* (Ilha, 2000, p.9). While this is a strong indicator, this cannot be assumed by default.

In the case of Calmaria II, higher income does mean reduced labour for agricultural tasks, while hiring outside labour is uncommon. As this research just illustrated, the amount of labour and work burden for women decreased as a result of a shift towards a mainly male agriculture, and the need for less income generating activities as a result of more income. Yet, hiring outside labour is not common in Calmaria II. In Calmaria II it is only possible to hire outside help when one possesses a CTPS card (Carteira de trabalho E previdência a social de emprego esalarario): a permit that brings the worker a series of benefits such as the entitlement to paid leave, 13th salary, labour rights and social protection (such as unemployment insurance, paid sick and maternity leave, family salary and retirement) (Época Negócios online, 2016); as well as the right to hire employees other than regarded family. However, these permits are expensive and to obtain such a card is a difficult, bureaucratic and time-consuming arrangement. As a result, only a few smallholders own such a card. So while there is increased income, there is no decrease in labour as a result of hired labour; contesting traditional literature.

9.2. Practical/managerial implications

The significance of the results of this research in practice means that contract farming could, in contrast to what traditional literature states, be used as a tool to promote socially equitable and environmentally sustainable oil palm production when incorporated in oil palm cultivation areas. In order to reach this goal, it is important that new contract farming schemes consider a number of important focus points such as intra-household labour and gender dynamics, and existing social norms and gender roles in order to fully understand the impact of these schemes; especially when implemented in different cultures and challenging socio-economic contexts (such as Africa, Latin America and south-east Asia).

The research also suggests that besides the consideration of intra-household gender and labour dynamics, when implementing contract schemes, there is also a necessity of a thorough context analysis when implementing contracts; in order to stimulate agreements that make the hiring of work easier, such as the CTPS card.

Moreover, new contract schemes should also include sustainable incentives in order to tackle the environmental degradable natures of crops like oil palm. When combined with sustainable guidelines and regulations, like the ones presented in the PPSPO programme, contract farming could also lead the way to the production of more sustainable oil palm.

9.3. Limitations

While the research presents a strong case for the use of contract farming as a tool for more sustainable and socially equitable oil palm, there are some limitations that need to be considered.

Observations regarding the allocation of time and tasks were sometimes considered difficult. The observations were limited to the female heads of the family due to financial constraints and research capacity; however, observation of all family members is preferred to establish an overview that includes all labour availabilities of a family and compares labour patterns with gender, age, relationship to the head of the household, etc.

Another limit was the range of possible observations since female participants sometimes disappeared to perform activities and the researchers were not always able to follow the participants. Nevertheless, the research recorded as much activities as possible; only a few were missed, which were eventually included as a result of the participants' memory. Furthermore, observations of labour were limited since the research was not able to obtain 'seasonality'. Due to the limited amount of time, observations were only made in small time frame; leaving out the influence of seasonal labour on the data. However, it is expected that seasonality does not influence the data that much since women only perform one activity within oil palm cultivation, with duration of only one week, one time a year.

Some participants had an injury that limited them from performing everyday activities that are regarded as a 'normal' daily routine. However this was only the case in two families, and even then women tended to work very hard.

Because the researcher worked in a relative small town, it did not take long before everybody else in the village knew of the research. There was a lot of *fofoca* (the Brazilian word for gossip) and even questions of surveys and interviews were passed on to other people; giving them considerable amount of time to think about answers and talk them through with other family members. Yet, this 'gossip' and introduction to new families seemed necessary to establish trust. Being introduced by participating families in the research to potential new families was important since these families were less likely to accept the researchers if there was not a guarantee of trust by participating families who were known in the village. Since people tend to speak their minds freely, it was not considered a big concern that questions were discussed among people of the village.

When analysing the research, one should take into corporation the differences between families; especially regarding age and family structure. Participating families of the research ranged from young couples with

smaller children to older couples with adult children, who sometimes already moved out of the house, having created their own families. While the original intention of the research was to choose more or less the same family compositions, in practice this idea was not fully implemented. Before the start of the research, help was asked to the formal president of the Association of Residents and Small Rural Farmers of the Calmaria II settlement and the Água Preta Community (AMOPARACAP) and delegate of the Union of Rural Workers and Workers (STTR) of Moju, who is considered as one of the most important female figure of the village (who knew almost all families and was also a key-informant for earlier researches).

Families were chosen, together with the formal president, to make the sample as comparable as possible. Yet, when implementing the research, these families seemed to be different. This was a result of a miscommunication. While the research preferred families with family members still part of the household, the formal president also included adult children that already left home and thus were less active within the family household. Yet, the families chosen, turned out to be, to some extent, comparable. Most families existed out of adult children that left the household already; children that were too young to participate in the household activities; or male children, which made sure the female activities were not compromised and therefore more or less comparable. It also turned out that a wide sample of families in different age stages revealed more interesting variables that were necessary to take into account when making the analysis.

The theory of this research is currently only tested within the social context of Pará, Brazil. This doesn't mean that in another social context, such as South East Asia the practical realization of this theory reflects the same results. In order to do so, there is a need for an extensive social context analysis and adaptation of the presented contract farming theory necessary.

The diary method, used for this research, is a difficult method with its own problems (Ilha, 2000). There is especially a risk of "over-kill" whereby the researcher tries to record all activities and hereby gets confused (Ilha, 2000, p.4); as a result, activities are prone to "temporal double-counting" (Juster and Stafford 1991 as cited in Ilha, 2000, p.4). While this is a risk, this was solved by keeping track of the primary and secondary activity and the detailed recording of every minute; making the report as accurate as possible (Ilha, 2000).

While the PPSPPO programme in theory seems very environmental sustainable. Currently there are some practical implications arising regarding this programme. With the current political and governmental crisis going on in Brazil, the environmental protection of the amazon has been shifted towards the last place on the political priority list. As a result, environmental protection programmes such as the PPSPPO programme are not as "desirable as expected" (Van De Water, 2017).

A limitation of the researcher was the lack of being able to communicate fluently in Portuguese. While the researcher could communicate, this was limited to the basics. If the researcher would have been able to talk fluently in the local language, more in-depth questions could have been asked. Accordingly, this was left to the knowledge of the interpreter. Yet, this lack of communication also turned out to be an opportunity. Without knowing the language fluently, some interpretations could be made more clearly through observations without the influence of language.

9.4. Future research

A large limitation of the research was the limit in time and financial resources, and human capital. This prevented the research to be implemented to its full potential. As a result the research sample is too small to generalize across the wider population and culture. More research should be performed in the same area across a wider sample, including more opportunities for observing all family members (both male and female) and preferably a research across time that presents strong 'before and after' data (including seasonality). Moreover, in order to make a statement about intra-household resource allocations, future research should focus on all aspects of intra-household resource allocations, not only the resource of labour. Nevertheless, the research presents some well-established theories to include in theoretical debates about contract farming and gender dynamics. Future research should explore these suggested theories

More comparable research should be conducting in countries such as Malaysia and Indonesia since these countries are subjected towards a greater struggle with social injustice and gender inequality; presenting completely different socio-economic contexts. The research also suggests that an important indicator of contract farming is to include existing social norms and gender roles; ethnicity is another important aspect that can influence social roles (Ilha, 2000). While ethnicity is not so much important for Brazil, this is important for areas such as South-East Asia whom have a history of violence and exclusion against ethnic minorities. As suggested before, it is therefore very important to conduct a thorough social context analysis before drafting a contract.

During the research, other 'trickledown' effects of oil palm cultivation became visible, such as the production of oil palm related products (such as soap) and the hiring of outside labour; presenting some interesting cases for further research.

While non-participating families of contract farming often stated that the introduction of oil palm cultivation did not influence anything in their household, indirect there are some trickledown effects. For example, a female household head of a non-participating family (Vila Israel) creates soap as a mean of an income-generating resource. For this, she used to buy animal fat in the nearby town (Palmaris). Currently she is experimenting with the use of palm oil. She collects the nuts (of the bunches of the oil palm tree) that are left behind (and not used) at farms of participating families for free; and uses them to create her soaps. According to her, this practice is very profitable for there is a lot of oil in the fruit, and as they are waste for oil palm cultivators, she collects them for free instead of buying the oil in the city.

Another example is the availability of jobs that oil palm cultivators create. Most of the farmers only have the ability to hire family. However, there are some farmers who own a so-called, 'Carteira de trabalho E previdência a social de emprego esalario' (CTPS), as explained earlier: a permit that brings the worker some social benefits and financial insurances. Yet, only one of the families that participated in the research had, as a result of this permit, some employed workers; making it an interesting case for future research to investigate the options of such cards and the trickledown effects of the benefits related to oil palm cultivation. Both examples are interesting since the cultivation of oil palm does not only seem to shape opportunities for those who own a contract, but also presents benefits for those not directly included in the farming schemes.

10. Conclusion

This paper presents a research towards the gendered dynamics of contract farming. A case study has been conducted in a Brazilian agrarian settlement, Calmaria II (Pará), where outgrowers cultivate oil palm under contracts (partially) as part of the sustainable oil palm production programme (Programa de Produção Sustentável de Palma de Óleo, PPSPO). Data has been collected through the use of participant observation, interviews, surveys and focus group discussions. The research explored changes of intra-household labour patterns, as a result of the introduction of oil palm cultivation under contract framing, and the effect thereof on the role of rural women.

This research concludes that the introduction of oil palm cultivation under contract farming has changed labour patterns in such a way that it decreased the allocation of time, task and work burden for female household heads; and consequently influenced existing social norms and gender roles regarding labour in such a way that it strengthened the role of these women as active intra-household decision-makers.

As a result of the introduction of contract farming in the area, smallholders have increasingly invested in oil palm cultivation. Because oil palm investments are associated with high financial risks and cultivation requires more activities (with often higher work burden) than other agricultural crops, family labour has mostly been reserved for oil palm cultivation. This change in labour allocation patterns has reduced the need for female labour since oil palm is perceived as a mainly male dominated agriculture. Therefore increased cultivation of the crop has simultaneously decreased the need for female labour within the agriculture; and at the same time, oil palm cultivation has increased household income to such an extent that there is less need for other, mainly female dominated, income generating activities; also reducing the need for female labour.

But while the role of women in agricultural cultivation has decreased, their role as intra-household decision-maker has been strengthened. The shift towards agriculture with high risks has increased the involvement of female household heads in the decision-making processes regarding the crop. The high financial risks and (in some cases) even the direct ownership of a contract, has motivated women to attend more meetings and trainings regarding oil palm cultivation and to enforce some influence in decision-making processes of household income and expenditures, in order to stay on top of their families investments. Consequently, the role of female household heads in intra-household decision-making regarding not only oil palm but also other agricultural crops and household arrangements, has grown. Eventually, gendered perceptions of agricultural roles and traditional ideas of female tasks and responsibilities in the community have altered subsequently.

The research therefore suggests that contract farming, in partnership with environmental incentives, could provide a tool for cultivating socially and environmentally sustainable oil palm; potentially paving the way for the production of sustainable palm oil.

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12. Annexes

12.1. Annex 1: Allocation of labour

ALOCAÇÃO DE TRABALHO

Code A: Activity

Doméstico

1. **Comer** (refeições, snacking, etc);
2. **Preparação / cozedura de alimentos** (específica para quem);
3. **Criação de crianças** (se amamentando, segurando, patting, etc.);
4. **Limpeza** (limpeza, pratos, lavandaria, etc).
5. **Higiene Pessoal** (banho, defecação, etc.);

Ao ar livre

6. **Trabalhando em dandê;**
7. **Trabalhar em tarefas agrícolas** (além de dandê, outra agricultura, jardim, etc.);
8. **Visitas** (incluindo quem visitou e que trocou);
9. **Escola** (atendimento ou trabalho);
10. **Associação** (trabalho, reunião, visita, etc.);
11. **Trabalho remunerado**
12. **Casas de farinha**
13. **Ajuda mútua**

Doméstico / ao ar livre

14. **Ociosidade** (dormir, acordar, não fazer nada, acordar conversando, recreação, etc.);
15. **Praticar Religião** (assistir a reuniões / celebrações religiosas, visitar edifícios religiosos, etc.);
16. **Outro**, especifique

Code B: Colaborar

0. **Sozinho**
1. **Juntos**

Code C: Carga de Trabalho

0. **Muito pequeno**
1. **Pequeno**
2. **Proporção**
3. **Grande**
4. **Muito grande**
5. **Não sei**

NOTAS

- **Descrição da actividade**
- **Onde é realizado**
- **Restrição no tempo ou no local**
- **Pode ou precisa ser feito em conjunto**

1.Activity (Code A)		Date		Description/notes	2.Activity (Code A)		Date		Description/notes
Begin time / end time		Total minutes			Begin time / end time		Total minutes		
Task alone/ together (Code B)		Work burden (Code C)			Task alone/ together (Code B)		Work burden (Code C)		
3.Activity (Code A)		Date		Description/notes	4.Activity (Code A)		Date		Description/notes
Begin time / end time		Total minutes			Begin time / end time		Total minutes		
Task alone/ together (Code B)		Work burden (Code C)			Task alone/ together (Code B)		Work burden (Code C)		
5.Activity (Code A)		Date		Description/notes	6. Activity (Code A)		Date		Description/notes
Begin time / end time		Total minutes			Begin time / end time		Total minutes		
Task alone/ together (Code B)		Work burden (Code C)			Task alone/ together (Code B)		Work burden (Code C)		
7.Activity (Code A)		Date		Description/notes	8. Activity (Code A)		Date		Description/notes
Begin time / end time		Total minutes			Begin time / end time		Total minutes		
Task alone/ together (Code B)		Work burden (Code C)			Task alone/ together (Code B)		Work burden (Code C)		
9. Activity (Code A)		Date		Description/notes	10. Activity (Code A)		Date		Description/notes
Begin time / end time		Total minutes			Begin time / end time		Total minutes		
Task alone/ together (Code B)		Work burden (Code C)			Task alone/ together (Code B)		Work burden (Code C)		

12.2. Annex 2: Family Interviews



QUESTIONÁRIO GERAL – FAMILIA

Ponto GPS: S	W
Nome de GPS:	
ID família (Qualquer número - se de que isso é coerente com as entrevistas das mulheres e GPS): (Exemplo casa 1 = HH1 – nome de GPS: HH1; entrevista com mulher de casa: HH1)	

Calmaria II - Município Moju

Nome:
Apelido:
Número de telefone/celular:
Email:

- Comunidades :**
1. Agua preta
 2. Monte Sinai
 3. Vila Israel
 4. São José
 5. Vila Fumaça
 6. Outro, especificada

A.INTRODUÇÃO E CONSENTIMENTO

Este é um estudo desenvolvido pelo CIFOR (Centro de Pesquisa Florestal) em parceria com a Universidade de Utrecht na Holanda e com o ICRAF (O Centro Mundial de Agroflorestal) /Embrapa no Brasil. Pretende-se compreender e analisar os impactos sociais, económicos e ambientais da introdução - especialmente com foco nas mulheres - e expansão do dendê nos municípios de Moju. Para tal serão aplicados questionários a famílias nas comunidades escolhidas na Calmaria II. O seu nome e os seus dados serão unicamente utilizados para fins académicos. As suas respostas não serão divulgadas e não irão afetar de forma alguma o seu emprego, os benefícios que recebe ou a sua relação com as empresas ou instituições. Você pode desistir de participar no estudo a qualquer momento e tem o direito de não responder a uma ou várias perguntas se assim o entender. Há alguma pergunta?

A.1. Você aceita em participar neste estudo? Sim Não *Se não, agradecer e seguir para a próxima família seleccionada - Se sim, questionar o seguinte:*

A.2. Avaliação do entrevistado	<input type="checkbox"/> 1 (completamente incoerente, muito pouca disponibilidade para participar, muito receio)
<input type="checkbox"/> 2 (tem dúvidas nas respostas, algo receoso)	<input type="checkbox"/> 3 (razoavelmente conhecedor e disponível)
<input type="checkbox"/> 4 (bom conhecedor, disponível, com poucas dúvidas nas respostas)	<input type="checkbox"/> 5 (muito coerente, bom conhecedor da sua realidade, muito disponível, responde sem dúvidas)

A.3. A sua família é produtora de dendê? <input type="checkbox"/> Sim <input type="checkbox"/> Não															
A.4. Contrato? <input type="checkbox"/> Sim <input type="checkbox"/> Não <i>(Se não, vá para a pergunta A9).</i>	A.9. Por que eles estão (ou por que não estão) envolvidos em dendê (Especificar - principais razões):														
A.5. Quantos contratos sua família tem?:															
A.6. Companhia: <i>Não-participante....0/ Biopalma....1 / Agropalma....2 / outro, especificar.....3</i> <table style="width: 100%;"> <tr> <td style="width: 50%;">Contracto 1:</td> <td style="width: 50%;">Contracto 4:</td> </tr> <tr> <td>Contracto 2:</td> <td>Contracto 5:</td> </tr> <tr> <td>Contracto 3:</td> <td>Contracto 6:</td> </tr> </table>		Contracto 1:	Contracto 4:	Contracto 2:	Contracto 5:	Contracto 3:	Contracto 6:								
Contracto 1:	Contracto 4:														
Contracto 2:	Contracto 5:														
Contracto 3:	Contracto 6:														
A.7. Contrato: Sobre qual nome (e porque): <table style="width: 100%;"> <tr> <td style="width: 50%;">Contracto 1:</td> <td style="width: 50%;">Contracto 4:</td> </tr> <tr> <td>Contracto 2:</td> <td>Contracto 5:</td> </tr> <tr> <td>Contracto 3:</td> <td>Contracto 6:</td> </tr> </table>	Contracto 1:	Contracto 4:	Contracto 2:	Contracto 5:	Contracto 3:	Contracto 6:	A.10. Principal religião do agregado familiar (numero): <table style="width: 100%;"> <tr> <td style="width: 50%;">Cristã católico1</td> <td style="width: 50%;">Cristã Evangélico Batista.....4</td> </tr> <tr> <td>Cristão Protestant.....2</td> <td>Cristã Evangélico Assembleia de Deus....5</td> </tr> <tr> <td>Cristã Evangélico</td> <td>Islam.....6</td> </tr> <tr> <td>Quadrangular.....3</td> <td></td> </tr> </table> <i>Other (especificar) :</i>	Cristã católico1	Cristã Evangélico Batista.....4	Cristão Protestant.....2	Cristã Evangélico Assembleia de Deus....5	Cristã Evangélico	Islam.....6	Quadrangular.....3	
Contracto 1:	Contracto 4:														
Contracto 2:	Contracto 5:														
Contracto 3:	Contracto 6:														
Cristã católico1	Cristã Evangélico Batista.....4														
Cristão Protestant.....2	Cristã Evangélico Assembleia de Deus....5														
Cristã Evangélico	Islam.....6														
Quadrangular.....3															
A.8a Teve outros projetos em seu nome?: _____ A.8b Quantos?: _____ A.8c Quando?: _____	A.11. Como importante você consideraria sua religião para sua família Não é importante <input type="checkbox"/> Um pouco importante <input type="checkbox"/> Não sei <input type="checkbox"/> Importante <input type="checkbox"/> muito importante <input type="checkbox"/>														
	A.12. Com que frequência você vai a reuniões religiosas por semana (ou por mês?):														

B CARACTERIZAÇÃO DO AGREGADO FAMILIAR

Nome do membro do agregado familiar (a começar no entrevistado)	Género (Code A)	Religião (Code E)	Estado Civil (Code B)	Idade (anos)	Posição no agregado familiar* (Code C)	Escolaridade ? (Code F)	Frequenta escola? (Code D)	Razões para não frequentar a escola? ** (Code G)
1.								
2.								
3.								
4.								
5.								
6.								
7.								

* Em relação ao Entrevistado e chefe de família.
 ** Apenas para menores de 18 anos e maiores de 6 anos (pessoas em idade escolar)

Code A

1. Masculino
0. Feminino

Codes B

1. Casado(a) ou amasiado (a) a viver com esposo(a)
2. Casado(a) ou amasiado (a) com o companheiro ausente
3. Divorciado(a) ou separado(a)
4. Viúvo(a)
5. Solteiro(a)
6. Outro, especifica.....

Codes C

1. Chefe de família
2. Marido
3. Filho/filha
4. Pai/mãe
5. Enteado/enteada
6. Neto/neta
7. Nora/genro
8. Outro familiar
9. Trabalhador contratado
10. Outro, especifica

Codes D

1. Sim
2. Não

Codes E

1. Cristã católico
2. Cristão Protestant
3. Cristã Evangélico Quadrangular
4. Cristã Evangélico Batista
5. Cristã Evangélico Assembleia de Deus
6. Islam
7. Other (especificar)

Codes F

1. Ensino fundamental menor (1º a 5º ano) completo
2. Ensino fundamental menor (1º a 5º ano) incompleto
3. Ensino fundamental maior (6º a 9º ano) completo
4. Ensino fundamental maior (6º a 9º ano) incompleto
5. Ensino Médio (1º a 3º ano) completo
6. Ensino Médio (1º a 3º ano) incompleto
7. Ensino Técnico
8. Graduação completo
9. Graduação incompleto
10. Nenhum
11. Outro, especifica

Codes G

1. Muito longe
2. Muito caro
3. Trabalho doméstico
4. Trabalho assalariado
5. Desinteresse
6. Doença/gravidez
7. Casamento
8. Dificuldades de acesso: estrada, ponte...
9. Outro, especifica

C. EMPREGO

Membro do agregado familiar*	Contribui para o rendimento familiar (incluindo agricultura familiar e apoios sociais)? ** (Code A)	Tem mais do que uma actividade económica?*** (Code A)	Principal actividade (Code B)	Trabalha para quem? (Code C)	Tipo de pagamento (Code D)	Recebe algum apoio social ou pensão? (Code A)	Se sim, qual? (Code E)
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							

** Preencher nas colunas seguintes apenas para os que responderam "Sim"

*** Se tem mais do que uma ocupação que gere renda ou alimento. Por exemplo trabalha na roça e na empresa ou trabalha no comércio e na roça ao mesmo tempo.

Codes A

- 1. Sim
- 0. Não

Codes B

- 1. Agricultura familiar
- 2. Agricultura comercial
- 3. Comercio
- 4. Floresta
- 5. Mineração
- 6. Serviços públicos
- 7. Construção civil
- 8. Transporte
- 9. Outro, especifica

Codes C

- 1. Conta própria
- 2. Prefeitura/estado
- 3. Para um membro da Família/comunidade
- 4. Empresa de dandê
- 5. Outras empresas
- 6. Fazendeiro
- 7. Outro, especifica

Codes D

- 1. Salário fixo
- 2. Próprio emprego ou da família
- 3. Diarista
- 4. Em barganha (em género)
- 5. Não é pago
- 6. Mutirão
- 7. Outro, especifica

Code E

- 1. Bolsa família/escola
- 2. Bolsa verde
- 3. Aposentadoria por idade ou invalidez
- 4. Pensão por morte
- 5. Auxílio doença
- 6. Auxílio reclusão
- 7. Salário maternidade
- 8. Benefício Idoso
- 9. Pensão alimentícia
- 10. Seguro desemprego
- 11. Seguro defeso
- 12. Outro, especifica

D. IMPORTÂNCIA DE CADA SECTOR PARA O RENDIMENTO DO AGREGADO FAMILIAR

Primeiro perguntar por cada um dos setores de atividade quais as principais fontes de renda para a família. **Apenas referir as atividades que geram renda à família.** Aqui o objetivo é não perguntar diretamente às pessoas quais os valores de renda, mas apenas comparar entre eles quais são os mais relevantes. Após perguntar quais as atividades por cada setor, perguntar qual dos setores é o mais importante, qual o segundo mais importante, etc.

Categoria da actividade	Actividade mais importante (nome da actividade/fonte de rendimento)	Segunda actividade mais importante (nome da actividade/fonte de rendimento)	Terceira actividade mais importante (nome da actividade/fonte de rendimento)	Importância ranking (1- mais elevado, etc.)
Extrativismo/ Silvicultura ¹				
Pecuária ²				
Lavoura permanente ³				
Lavoura temporária ⁴				
Agroindústria ⁵				
Piscicultura e Pesca				
Serviços ⁶				
Salário ⁷				
Comércio				
Apoios sociais ou aposentadoria				
Outros				

¹Açaí, borracha, castanha do pará, cedro, eucalipto, madeira, vime, castanha.

²Leite, equinos, ovos, carne, caprinos, ovinos, lã, suinicultura, avicultura.

³Dendê, Banana, Cacau, Café, Cajú, Laranja, Maçã, Pupunha, palmito, pimenta, uva.

⁴Abacaxi, amendoim, arroz, batata, cebola, feijão, girassol. Grão de bico, mandioca, milho, soja, sorgo, tomate, trigo.

⁵Queijos, óleos, vinhos, sucos, geleias, carnes processadas, doces, produtos apícolas processados.

⁶Arrendamento, Limpeza, construção civil, trabalho rural (diária), transporte, aluguer de equipamentos.

⁷Salário sector público, salário sector privado,

D.2. *[Não para não participantes]* Em quais atividades de trabalho de dendê a sua família está atualmente envolvido? y o que elas envolvem exatamente? (Ser muito preciso). E quantas horas por dia? (ou semana / mês) vocês gasta nela.?

	Atividades de dendê	Horário do trabalho <i>(horas específicas e número médio de minutos and</i>	O que faz nas atividades? / Como realizar?	Quando realizar as atividades	Onde essas atividades acontecem	Quem seleciona as práticas
Marido						
Esposa						
Filho(s)						
parentes						
outros						

D.3 Reuniões só dendê <i>[Se não, vá para a pergunta]</i>	
D.1. Participa das reuniões sobre o dendê? Por que?	D.3. E vocês utilizam os conhecimentos nas práticas do cultivo?
D.2. Você adquiriu novos conhecimentos após a implantação do dendê aqui no seu lote? Por que?	D.4. Essas práticas influenciam na organização do trabalho entre uma família? Por que?

E. ATIVIDADES AGRÍCOLAS

Perguntar quais as 10 **atividades agrícolas tradicionalmente mais importantes para a família independentemente de ser para consumo, venda ou ambas**. Confirmar bem para não esquecer atividades relevantes. Na segunda parte **perguntar especificamente por animais**.

	Atividades (Code A)	Em que meses você está ocupado com a sementeira da cultura? Code B	Em que meses você está ocupado com o cultivo da cultura? Code B	Em que meses você está ocupado com a colheita da cultura? Code B	Quais meses são os meses mais movimentados para esta cultura? Code B	Quem toma as decisões? (Code C)	Quem trabalhou nesta cultura (Code C) (lista até B).			
1										
2										
3										
4										
5										
6										
7										
8										
9	Gado									
10	Aves									
11	Suínos									
12	Peixe									

Code A

1. Mandioca
2. Açai
3. Arroz
4. Feijão
5. Milho
6. Dendê
7. Coco
8. Soja
9. Pupunha
10. Cupuaçu

11. Abacaxi

12. Caju
13. Pimenta do reino
14. Castanha
15. Cacau
20. Outros, qual

Code B

0. Janeiro
1. Fevereiro
2. Março
3. Abril
4. Maio
5. Junho
6. Julho
7. Agosto
8. Setembro
9. Outubro
10. Novembro
11. Dezembro

Code C

0 se for decisão colectiva
ou ver código dos
membros do agregado
familiar em B

F. BEM ESTAR

<p>F.1. Como você compara o bem estar da sua família com 5 anos atrás?</p> <p><input type="checkbox"/> Muito melhor</p> <p><input type="checkbox"/> Melhor</p> <p><input type="checkbox"/> Um pouco melhor</p> <p><input type="checkbox"/> Igual</p> <p><input type="checkbox"/> Um pouco pior</p> <p><input type="checkbox"/> Pior</p> <p><input type="checkbox"/> Muito pior</p> <p>F.2. Quais fatores mais contribuíram para essa melhoria? Especifica</p> <ol style="list-style-type: none"> 1. Mais renda familiar 2. Melhor saúde 3. Melhor educação 4. Mais apoios sociais (governo) 5. Melhor acesso à eletricidade 6. Melhor acesso à água 7. Melhores infraestruturas e acessos 8. Mais segurança 9. Mais tempo livre 10. Outra (precisar): 	<p>Liste os 4 mais importantes em ordem crescente</p> <table border="1" data-bbox="600 376 1198 453"> <thead> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>F.3. Qual foi o motivo dessa mudança?</p>	1	2	3	4					<p>F.4. Quais fatores limitaram a capacidade de melhoria? Especifica</p> <ol style="list-style-type: none"> 1. Menos renda familiar 2. Pior saúde 3. Pior educação 4. Menos apoios sociais (governo) 5. Pior acesso à eletricidade 6. Pior acesso à água 7. Piores infraestruturas e acessos 8. Menos segurança 9. Menos tempo livre 10. Outra..... <p>Liste os 4 mais importantes em ordem crescente</p> <table border="1" data-bbox="1254 813 1758 890"> <thead> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>F.5. Qual foi o motivo dessa mudança?</p>	1	2	3	4				
1	2	3	4															
1	2	3	4															

F.6. Existem benefícios ou obstáculos que vêm da empresa de dendê? (Em comparação com a situação anterior à produção de dendê). Compare o marido, a esposa, os filhos e família como um só.

Pessoa	Benefícios (explicar)	Obstáculos (explicar)
Marido		
Esposa		
Filho(s)		
Família		

Muito obrigado por compartilhar suas opiniões e experiências hoje. Isto fará uma importante contribuição para este estudo. Há alguma pergunta?

12.3. Annex 3: Female Interviews

ENTREVISTA MULHERES

Objetivo:

- Explorar a sua história pessoal de subsistência e história de migração
- Explorar o seu actual envolvimento com palma de óleo, experiência e mudanças ao longo do tempo.
- Explorar os fatores socioeconômicos de modelagem e suas dimensões de gênero em um contexto de palma de óleo.

Com quem

As mulheres que foram submetidas à observação participante [líder feminina da família]

Instruções:

O objetivo da entrevista é reunir respostas mais profundas e abertas a perguntas sobre acesso a recursos e meios de subsistência e, em particular, para entender melhor como o óleo de palma afetou a vida das pessoas. As perguntas listadas abaixo destinam-se a ser um guia - se você acha que seria melhor para reformular uma pergunta, em seguida, fazê-lo. Isso pode ser necessário, dependendo se você está entrevistando um homem ou uma mulher.

Você deve estar apontando para uma "conversa com um propósito". Alguns pontos são sensíveis e algumas perguntas podem ser difíceis para o participante responder. É bom passar para a próxima pergunta, mas certifique-se de ter tentado fazer a pergunta de uma maneira ligeiramente diferente. Antes de começar, verifique novamente para garantir:

- Você obteve o consentimento informado para o indivíduo no questionário doméstico antes de realizar a entrevista / conversa
- Você procurou entrevistar o indivíduo em privado ou onde outros membros da família não podem ouvir ou contribuir com respostas.



QUESTIONÁRIO MULHERES

Ponto GPS: S	W
Nome de GPS:	
ID de Família (Faz com que este seja o mesmo que nas entrevistas familiares e GPS):	

Calmaria II - Município Moju

Nome:
Apelido:
Número de telefone/celular:
Email:

Comunidades :	
1.	Água preta
2.	Monte Sinai
3.	Vila Israel
4.	São José
5.	Vila Fumaça
6.	Outro, especificada

INTRODUÇÃO E CONSENTIMENTO

Este é um estudo desenvolvido pelo CIFOR (Centro de Pesquisa Florestal) em parceria com a Universidade de Utrecht na Holanda e com o ICRAF (O Centro Mundial de Agroflorestal) /Embrapa no Brasil. Pretende-se compreender e analisar os impactos sociais, económicos e ambientais da introdução - especialmente com foco nas mulheres - e expansão do dendê nos municípios de Moju. Para tal serão aplicados questionários a famílias nas comunidades escolhidas na Calmaria II. O seu nome e os seus dados serão unicamente utilizados para fins académicos. As suas respostas não serão divulgadas e não irão afetar de forma alguma o seu emprego, os benefícios que recebe ou a sua relação com as empresas ou instituições. Você pode desistir de participar no estudo a qualquer momento e tem o direito de não responder a uma ou várias perguntas se assim o entender. Há alguma pergunta?

1. Você aceita em participar neste estudo? Sim Não Se não, agradecer e seguir para a próxima família seleccionada

Se sim, questionar o seguinte:

2. Avaliação do entrevistado	<input type="checkbox"/> 1 (completamente incoerente, muito pouca disponibilidade para participar, muito receio)
<input type="checkbox"/> 2 (tem dúvidas nas respostas, algo receoso)	<input type="checkbox"/> 3 (razoavelmente conhecedor e disponível)
<input type="checkbox"/> 4 (bom conhecedor, disponível, com poucas dúvidas nas respostas)	<input type="checkbox"/> 5 (muito coerente, bom conhecedor da sua realidade, muito disponível, responde sem dúvidas)

Module A: História

A.1. **Você já viveu em outros lugares? Se assim for, me fale sobre isso. Por que você se mudou para cá e com quem se mudou?**

A.1.1. *Onde vc nasceu? E depois?*

A.1.2. *Em quais atividades trabalhava na infância, juventude?*

A.2. **O que você fez antes de sua família começar a trabalhar para a empresa de dendê? Qual foi a grande mudança?**

A.2.1. **E O que sua família fez antes de sua família começar a trabalhar para a empresa de óleo de palma**

Module B: Atividades

B.1.a **Quais atividades você realizava (na vida adulta) antes do contrato com dendê?**

Local	Atividades	Organizacao de trabalho (descrever)
Casa		
Roçado		
Comunidade		
Outros locais		

B.1.b Quais atividades você realiza (na vida adulta) depois do contrato com dendê?

Local	Atividades	Organizacao de trabalho (descrever)
Casa		
Roçado		
Comunidade		
Outros locais		

B.2. Ter um contrato de dendê? significa que agora você gasta menos tempo em outras tarefas? Qual tem sido a mudança? – Explicar

B.3. Qual dessas atividades você executa agora (de B.4.b) tem prioridade e isso varia de acordo com a estação? Como você decide o que tem prioridade? Em qual estação estamos agora? (Com qual atividade você está mais ocupado?)

<p>B.3.a Liste os 5 mais importantes em ordem crescente (numero B.1.b)</p> <table border="1" data-bbox="188 981 896 1042"> <thead> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	1	2	3	4	5						<p>B.3.b isso varia de acordo com a estação: <input type="checkbox"/> Sim <input type="checkbox"/> Não y Porque:</p>
1	2	3	4	5							
<p>B.3.c Como você decide o que tem prioridade?:</p>	<p>B.3.d Em qual estação estamos agora? Com qual atividade você está mais ocupado?</p>										

Module C: Atividades trabalhistas, pagamento e tomada de decisão

C.1. Em quais atividades de trabalho de dendê a você está atualmente envolvido? y o que elas envolvem exatamente? (Ser muito preciso). E quantas horas você gasta nela? (horas específicas e número médio de minutos) *Veja o quadro*

Atividades de dendê	Horário do trabalho <i>(horas específicas e número médio de minutos)</i>	O que faz nas atividades? / Como realizar?	Quando realizar as atividades	Onde essas atividades acontecem	Quem seleciona as práticas

C.2. É habitual que as mulheres trabalhem na plantação dendê no estabelecimento? Elas se assalariam nas empresas? Elas costumam ser pagas? Eles devem ser pagos? Is it

C.3. O que você pensa sobre a importância do seu trabalho na realização das atividades no dendê?

Descrever a resposta e só depois classificar!

Numero/codes:

- Fundamental para o andamento da produção.....1
- Contribuição é Razoável.....2
- Pouca importância.....3
- Sem o seu trabalho a produção ocorre normalmente4

C.4. Reuniões	
C.4.a Participa das reuniões sobre o dendê? Porque?	C.4.b Você adquiriu novos conhecimentos após a implantação do dendê aqui no seu lote? Porque?
C.4. c E vocês utilizam os conhecimentos nas práticas do cultivo?	C.4. d Essas práticas influenciam na organização do trabalho entre uma família? Por que????

C.5.a Você recebe pagamento pelo trabalho na plantação? (quanto o mês)

C.5. b E o que esta renda salarial adicional permitiu que você fizesse?

C.5.c. Você pode gastar essa renda individualmente? (Ou é agrupado dentro dos recursos domésticos?)

C.5.d. É esta a norma para as mulheres em geral em Calmaria II? (Você acha que esse deveria ser o caminho

C.6. Quanto bem você está ficando com a renda da sua casa? Facilmente? Com dificuldade? Por quê?

C.7. Você participa do processo de tomada de decisões sobre como gastar a renda familiar?

C.8.a Para onde vai o dinheiro? Liste os 5 mais importantes em ordem crescente

1.	-
2.	-
3.	-
4.	-
5.	-

Explicação extra

--

C.8. b E como foi isso antes de sua família começar a trabalhar com óleo de palma? (Se não for capaz de listar 5 coisas, tente explicar em palavras).

1.	-
2.	-
3.	-
4.	-
5.	-

Explicação extra

--

Module D: Finalmente

D.1. O que você faz para se divertir em Calmaria II? Qual espaço de lazer? Quando? E com quem

What do you do to have fun in Calmaria II? What leisure space? When? And with whom

Divertir em Calmaria II			
O que	Onde	Quando	com quem

Muito obrigado por compartilhar suas opiniões e experiências hoje. Isto fará uma importante contribuição para este estudo

12.4. Annex 4: Community profile

PERFIL DA COMUNIDADE

Objetivo

1. Fornecer informações básicas de caráter social, econômico, político, história, Ligação com a sede, lideranças, relações de poder, Serviços e infraestrutura sobre a comunidade
2. Compreender o contexto sociopolítico em que a palma de óleo se desenvolveu; E as mudanças ao longo do tempo;
3. Compreender o contexto social da comunidade, focalizando especificamente as diferenças entre homens e mulheres (papéis socialmente atribuídos, status, direito à propriedade, etc.); E mudanças ao longo do tempo.

Seleção dos participantes da pesquisa

Este instrumento abrange uma ampla gama de tópicos e recomenda-se que as equipes de campo se reúnam com três ou quatro informantes-chave para completar o perfil. Embora apenas um perfil da comunidade precise estar completando, há algumas perguntas que podem ser melhor respondidas por uma mulher respondente. A equipe pode optar por reunir-se com um grupo de informantes-chave em uma única sessão. No entanto, pode ser valioso para se reunir separadamente com informantes do sexo masculino e feminino porque as mulheres tendem a não falar livremente na companhia de homens em ambientes formais. Recomenda-se selecionar duas participantes do sexo feminino e dois participantes do sexo masculino; Usando duas sessões de grupos focais (respondendo a todo o perfil da comunidade). Eventualmente, as respostas entre os sexos podem ser comparadas. Além de um importante fazendeiro masculino e feminino na comunidade, os informantes podem ser um líder comunitário, um funcionário do governo, um político, um importante empregador local, um líder empresarial, um professor ou um profissional de saúde. Considerações relevantes não são apenas quais os informantes são mais susceptíveis de conhecer as informações solicitadas, mas também que são mais susceptíveis de estar bem informado sobre as circunstâncias dos membros mais marginais da comunidade e grupos sociais diferentes, e para fornecer informações de forma imparcial.

- 3 homens; Com 2 que estão engajados em agricultura de óleo de palma (preferencialmente Agropalma e Biopalma); E 1 não-participante.
- 3 homens mulheres; Com 2 que são (ou sua família é) envolvidos em agricultura de óleo de palma contrato (de preferência tanto Agropalma e Biopalma); E 1 não-participante.

Materiais necessários

Cópias em branco do guia de perguntas do perfil comunitário.

Introdução e consentimento

Este é um estudo desenvolvido pelo CIFOR (Centro de Pesquisa Florestal) em parceria com a Universidade de Utrecht na Holanda e com o ICRAF (O Centro Mundial de Agroflorestal) /Embrapa no Brasil. Pretende-se compreender e analisar os impactos sociais, económicos e ambientais da introdução - especialmente com foco nas mulheres - e expansão do dendê nos municípios de Moju. Para tal serão aplicados questionários a famílias nas comunidades escolhidas na Calmaria II. O seu nome e os seus dados serão unicamente utilizados para fins académicos. As suas respostas não serão divulgadas e não irão afetar de forma alguma o seu emprego, os benefícios que recebe ou a sua relação com as empresas ou instituições. Você pode desistir de participar no estudo a qualquer momento e tem o direito de não responder a uma ou várias perguntas se assim o entender. Há alguma pergunta?

[Leia:] Obrigado por concordar em ser entrevistado hoje. Vamos discutir as diferentes características sociais, económicas e políticas da vila durante a próxima hora. Esta informação fornecerá o fundo valioso para um estudo nas mudanças que a palma de óleo está trazendo aos meios de subsistência para homens e mulheres.

Sua participação hoje é voluntária. Como um membro importante de sua comunidade, esperamos que você fique confortável falando no registro. Se não, apenas deixe-me saber e vou garantir que seu nome não é identificado com quaisquer informações ou visualizações que você compartilha. Você é, naturalmente, livre para não responder a nenhuma pergunta, ou para se afastar da participação na entrevista a qualquer momento. No entanto, nós esperamos muito que você vai ajudar com este perfil da comunidade como o seu conhecimento e opiniões são muito importantes para nós. Não podemos prometer que você e sua comunidade se beneficiarão diretamente deste estudo, mas as informações que estamos coletando ajudarão a melhorar as atividades de pesquisa e desenvolvimento agrícola em seu país e em outros países.

Há alguma pergunta antes de começarmos?



PERFIL DA COMUNIDADE

Ponto GPS: S	W
Nome de GPS:	

Calmaria II - Município Moju

ID	Nome	Apelido	Gênero		Comunidades	Contratante agricultor (e empresa) / não participante	Você aceita em participar neste estudo?
			Fem.....0	Masc.....1			
					Agua Preto.....1 Monte Sinaí.....2 Vila Israel.....3 São José.....4 Vila fumaça.....5	<i>Biopalma.....0</i> <i>Agropalma.....1</i> <i>NP.....2</i>	Sim.....0 Não.....1
1.							
2.							
3.							
4.							
5.							

- 1.1. **Quantas pessoas vivem aqui no assentamento? (Calmaria II) (Número de domicílios E número de pessoas)**

- 1.2. **Quantas pessoas vivem na comunidades? (Água Preto, Vila Israel, Monte Sinai, etc.). (Número de domicílios E número de pessoas)**

- 1.3. **Ou no comunidade e assentamento? (Número de domicílios E número de pessoas)**

- 1.4. **Quantas pessoas possuem um contrato de dendê com biopalma ou agropalma dentro Calmaria II? (Estimativa do número (ou da parte - exemplo um terço etc.)**

- 1.5. **É fácil se envolver na agricultura contratada de dendê?**
 - 1.5.1. **É isto fácil para homens?**

 - 1.5.2. **E quanto às mulheres?**

1.6. É comum que as mulheres possuam um contrato?

1.6.1. É comum que as mulheres acessem e cultivem a terra de forma independente, ou isso é normalmente Juntamente com seu marido ou parente do sexo masculino?

1.6.2. E por que exatamente? Status, papéis, costumes, outros deveres

1.7. Como estão ocupadas as áreas? (Privado - comunal - propriedade do governo)

1.7.1. A comunidade possui uma terra de recursos comuns? / Tem algum lugar em que todos podem ir? (e Sim, que? E onde?)

1.8. Quem está envolvido nas decisões e no cuidado com os recursos comunitários?

1.8.1. Quais são as regras?

1.8.2. Quem pode acessar?

1.8.3. Diferenças entre homens. Mulheres?

1.8.4. Que ocupam posições de autoridade no cuidado dos recursos locais?

1.8.4.1. Diferenças entre homens e mulheres?

1.8.5. O que pode e o que é proibido? What can and what is forbidden?

1.9. Como os atuais arranjos de cuidar dos recursos locais, e especialmente da função das mulheres neles, mudaram desde a chegada do dendê??

1.10. Qual tem sido a principal mudança nas áreas de uso comum? (antes e depois do dendê - tamanho, espécies...água)

1.11. Quais são os principais produtos agrícolas / de recursos naturais produzidos localmente ou coletados nesta comunidade?

1.12. Em que estação eles crescem e de quem são responsáveis? (Certifique-se que o respondente distingue entre aqueles que são importantes para o agregado familiar, e aqueles que são vendidos),

1.13. **Em relação à agricultura de dendê:** que papéis os homens e as mulheres locais têm atualmente/ Que tipo de trabalho eles fazem? (Certifique-se de pedir uma descrição específica das atividades). São as pessoas pagas por esses empregos? quanto? (Diferença entre homens e mulheres) e devem ser pagos? (Diferença entre homens e mulheres) *[Esta questão é tentar entender os papéis e atividades atuais dos homens e mulheres, independentemente do que seus papéis são "supostamente" de acordo com as normas locais.] - muito importante - perguntar / escrever tanto quanto possível*

	Atividades	Pagas? Nao.....0 Sim.....1	Quanto? (reais)	devem ser pagos? Nao.....0 Sim.....1
Homem				
Mulheres				

1.14. Estou interessado em descobrir sobre o trabalho nesta comunidade, particularmente em relação ao dendê. Como é o trabalho de Dendê o combinado com outras responsabilidades agrícolas, domésticas e de trabalho remunerado? (Liste estes em ordem de prioridade para mulheres, e para homens)

Atividade	Ordem de classificação de importância números?	
	Homens	Mulheres
Agricultura de dendê		
Culturas para subsistência		
Culturas comerciais (exclusão dendê)		
Trabalho doméstico (por exemplo, cozinhar, cuidado de crianças, etc.)		
Wage work / Trabalho assalariado		
Trabalho na comunidade		
Chefe de família		
Outra, especificada		
Outra, especificada		

1.15. Também estou interessado na contribuição do trabalho de homens e mulheres para as tarefas domésticas. De uma maneira geral, nesta comunidade, quais são as actividades laborais não remuneradas que os homens e mulheres proporcionam às suas famílias? (Inclui cozinha, limpeza, assistência à infância. Pergunte-se de perguntar sobre a coleta de lenha e água potável) Anote tudo o que as pessoas estão dizendo

Atividades Homem	Atividades Mulheres

1.16. Geralmente, o que você acha que implica o função de homens e mulheres nesta comunidade ?; E quais são as diferenças gerais? Isso mudou ao longo do tempo? (Em comparação com antes da introdução do dendê?) Não implica nada. Queremos ver o que as pessoas percebem como papel

<u>Função de homens</u>	Muda com o tempo? Não.....0 Sim: Descrever a mudança ao longo do tempo	Função de Mulheres	Muda com o tempo? Não.....0 Sim: Descrever a mudança ao longo do tempo

1.17. Mais específico: Qual o papel dos homens/mulheres na comunidade? Na Casa? Provedor de dinheiro? Cuidar da família? Outra?

	<u>Função de Homens</u>	Muda com o tempo? <i>Não.....0</i> <i>Sim: Descrever a mudança ao longo do tempo</i>	<u>Função de Mulheres</u>	Muda com o tempo? <i>Não.....0</i> <i>Sim: Descrever a mudança ao longo do tempo</i>
Na comunidade				
Na casa				
Provedor de dinheiro				
Cuidar da família				
Outra				

1.18 Gostaria agora de lhe perguntar sobre os grupos ou associações, redes e organizações que estão actualmente ativas nesta comunidade. Podem ser formalmente grupos organizados ou apenas grupos de pessoas que se reúnem regularmente para fazer uma atividade ou falar sobre as coisas.

<u>Grupos ou associações presentes nesta aldeia:</u>	Presente na calmaria II? (Present?) Não.....0 Sim.....1	Quantas vezes eles se reúnem? Especificar por semana / mês / ano. (How often do they meet?)	<u>Gênero dos participantes globais (principalmente)</u> (Gender): Feminino0 Masculino1 Juntos2
i. As associações baseadas na economia (por exemplo, cooperativas agrícolas, de pesca ou de artesanato, cooperativas de produtores de dendê ou grupo comercial)			
ii. Finanças, crédito ou poupança			
iii. Organizações baseadas na saúde			
iv. Organizações de educação			
v. Grupos ou associações políticas			
vi. Grupos religiosos ou associações (igreja, mesquita, templo, grupo religioso informal, grupo de estudo religioso)			
vii. Associação Mulheres			
viii. Grupos de jovens			
ix. Grupos de esportes			
x. <u>Outras (especifique o nome e a função) Especifique qual</u>			

Muito obrigado por compartilhar suas opiniões e experiências hoje. Isto fará uma importante contribuição para este estudo. Alguma pergunta?

12.5. Annex 5: Community map

MAPA DE RECURSOS DE GÊNERO PARA A COMUNIDADE

O Mapa de Recursos da Vila é uma ferramenta que nos ajuda a aprender sobre uma comunidade e sua base de recursos. A principal preocupação não é desenvolver um mapa preciso, mas obter informações úteis sobre as percepções locais dos recursos. Os participantes devem desenvolver o conteúdo do mapa de acordo com o que é importante para eles.

Objetivos.

- Fornecer informações detalhadas sobre os diferentes tipos de regime de posse e acesso aos recursos em toda a comunidade
- Fornecer uma visão geral do uso atual e passado do solo (dos principais usos do solo, por exemplo, palmeiras, lavouras, jardins frutíferos, borracha, florestas, corpos de água, terras sagradas etc.)
- Fornecer informações detalhadas sobre diferentes tipos de investimento em palma de óleo, p. Plasma, palma de óleo, sua extensão e seus impactos em diferentes partes da comunidade.
- Explorar as percepções das pessoas sobre oportunidades e constrangimentos / problemas associados a diferentes formas de subsistência, acesso a recursos e segurança alimentar, e os efeitos da palma de óleo sobre estes.
- Explorar as perspectivas atuais de compartilhamento dos benefícios da palma de óleo.

Participantes e recursos:

Os participantes podem fazer parte do grupo de foco do perfil da comunidade ou um novo grupo de foco pode ser criado (tomar uma decisão considerando o tempo e a vontade dos participantes):

Para o grupo de discussão feminino: 4-5 mulheres locais (uma mistura de titulares de contrato ou são parte de um contrato com Agropalma e Biopalma, e não participantes (partes iguais)

Para o grupo de discussão masculino: 4-5 homens locais (que possuem um contrato com Agropalma e Biopalma, e não-participantes (partes iguais)

Tempo necessário: 2 horas

Recursos: canetas coloridas, papel flip chart. Recursos: canetas coloridas, papel flip chart.

Facilitar

O Mapa de Recursos da Comunidade com Gênero é uma forma de fornecer uma orientação geral para as características da comunidade e seus recursos. Embora o mapa em si seja útil, de importância crítica é a discussão que ocorre enquanto as pessoas constroem o mapa. Por essa razão, a equipe precisa dividir-se entre o facilitador (garantindo que as perguntas são feitas, mantendo a conversa indo) eo tomador de notas (que observa e registra o máximo possível do que é dito e por quem). Explique aos participantes que o objetivo do exercício é obter uma visão geral da paisagem e dos meios de subsistência na comunidade e identificar oportunidades de recursos e restrições. O mapa não precisa ser geograficamente preciso e não pode ser usado como uma ferramenta para identificar e finalizar a propriedade das áreas em disputa. Explique que o mapa pode incluir todos os recursos, marcas de terra e instalações que são importantes para as pessoas em seus meios de subsistência (por exemplo, fontes de água, campos de arroz, terras florestais, plasma, moinho de óleo de palma, plantação (e onde as pessoas vão para o trabalho diário na plantação), Lojas, clínica de saúde, escola, igreja e mesquita, locais sagrados, estradas, rios). Duas versões do mapa serão produzidas, uma por um grupo de mulheres e uma por um grupo de homens. Estes podem ser feitos simultaneamente pela equipe.

Instrutivos:

1. Encontrar um grande lugar aberto para trabalhar e começar com um pedaço grande de papel (poderia ser 4 folhas juntas).
2. Comece colocando um objeto para representar um marco central e importante e uma indicação de norte, sul, leste e oeste (para iniciar o processo de mapeamento).
3. Peça aos participantes para desenhar o que consideram como os limites da comunidade (incluindo o terreno da comunidade, ou seja, não apenas a área habitacional).
4. Peça aos participantes para desenhar outras coisas no mapa que são importantes. Não interrompa os participantes a não ser que parem de desenhar.
5. Uma vez que eles param, você pode perguntar se há qualquer outra coisa de importância que deve ser adicionado.
6. Quando o mapa estiver concluído, os facilitadores devem pedir aos participantes para descrevê-lo. Faça perguntas sobre qualquer coisa que não seja clara.

Use as perguntas-chave para orientar uma discussão sobre os recursos na **comunidade**. O facilitador deve fazer as perguntas, enquanto o tomador de notas registra a discussão. Itens podem ser adicionados ao mapa como a discussão continua.

Questões primárias

1. Onde estão as comunidades de Calmaria II?. Vila Israel, Água Preto, Monte Sinai, São José, Vila Fumaça, outro? (desenhar fronteiras)
2. Onde estão as principais estradas? (E onde eles levam a, por exemplo: esta estrada leva a palmaris (2 km)).
3. Onde estão as parcelas alocadas dentro dessas comunidades?
4. Onde está a maioria das casas alocadas dentro dessas comunidades?
5. Onde estão os principais serviços? (Escolas, edifícios religiosos, hospitais, associações de construção, locais de trabalho, etc Mais?).
6. Onde estão as principais fontes de água (água para banhos / rios, lagos, etc.)
7. Onde as pessoas vão pescar :?
8. Onde está a floresta?
9. Lugares para trabalhar
10. Quais são as principais parcelas nas parcelas? (Escreva isto separadamente de preferência.) Se as pessoas sabem quem tem o enredo, o que poderia ser indicado também.
11. Onde Mulheres trabalham? Onde homens trabalham? Mesmo que não marque, é importante fazer uma diferença e registrar.
12. Lugares frequentados predominantemente por um e por outro

Concluir

Uma vez que o mapa foi concluído, exibi-lo para que as pessoas possam olhar para ele, e comentar quando necessário. Certifique-se de manter uma cópia do mapa original, bem como um conjunto transcrito de notas registradas durante a discussão. Ambos devem ser enviados para o Investigador Principal.