HUMAN SECURITY UNDER GLOBALISATION: DOES PRIMARY PRODUCER INCORPORATION IN VALUE CHAINS HAVE TO BE ADVERSE¹?


(DRAFT – NOT FOR QUOTATION / PUBLICATION)

ABSTRACT

This paper contributes to understanding of the impacts of value chain inclusion on labour, from a social sustainability perspective. It focusses on the tasks and subjectivities of Amazonian flood plain peasants (ribeirinhos) who collect a ‘new, wonder’ fruit, açaí, for sale to an expanding market. Have these household’s material conditions improved due to growing açaí demand? The ‘logic’ of ribeirinho chain inclusion is explored using a combination of labour process / human security indicators and an analysis of the governmentality of açaí promotion.

This research shows that household income benefits can be significant. However, monoculture trends and local power structures may threaten gains. Human security indicators suggest further caution. Whilst ribeirinhos remain very ‘flexible’ workers, chain engagement entails insecurities, as highlighted by their variable views of collectivity and contradictory views and strategies with respect to sustainability. Sustainable chain prognoses require deeper understanding of agent’s means but also of preferred choices and voice of those working at the beginning of chains.

Keywords: value chains; labour process; human security; inclusion; Brazil; governmentality; sustainability; açaí; (social) upgrading; flexibility; ribeirinhos; Amazon; peasants/workers.

INTRODUCTION

Many studies of value chains note negative (flexibility; voice; security) outcomes for labour and for small scale producers as a result of their inclusion (Barrientos, Gereffi and Rossi 2010; Pegler 2011). Due to this, authors and institutions frequently place their analysis within the ambit of ‘what structural and institutional factors may promote a more positive outcome for workers/producers?’(e.g. Laven 2010; UNIDO 2004/6; Knorringa and Pegler 2006) Other very useful studies distinguish between economic and social upgrading (i.e. one does not necessarily follow the other) and divide rights indicators into measurable vs. process categories².

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² Capturing the Gains Project - Barrientos et al 2010.
Such studies generally confirm that process factors (e.g. representation) are most problematic to address. These more variegated studies also sometimes suggest that the logic of chain argumentation (e.g. increased specialization) may not necessarily match the (livelihood) logic of workers/communities at source – i.e. what may appear as social upgrading to one may be downgrading to another (Barrientos et al 2010; Pegler 2011). Others come to the same point concerning the importance of integrating specific local context considerations into chain (labour) impact evaluations, but from other angles (i.e. code of conduct effectiveness studies, Nadvi 2008). These are all important reflections about the analysis of labour in chains which are important to remember.

Yet few chain studies go much further in terms of alternative hypotheses or methodologies for evaluating labour outcomes (from chain inclusion) as a combined objective/subjective experience. This study adds to this literature in a number of important respects. First, it proposes a specific analytic for analysing the experiences and views of peasant workers and applies it to the specific informal work and livelihood processes of river flood plain peasants (ribeirinhos) in the Brazilian Amazon. Secondly, the product (açai) is rapidly starting to be incorporated into global value chains for a variety of fruit based products. Thirdly, this case study draws from an integrated, whole chain project aimed at labour rights improvements.

The analytic frame for this study builds on a number of concepts and ideas. First, socio-economic improvement/gain also implies and requires the physical reproducability of the context within which work takes place (i.e. sustainability is social and environmental). Secondly, tasks and the division of labour are treated quite broadly, as livelihoods within a family/household context. Thirdly, work is seen to evoke a mixed set of subjective states (control, consent and resistance) at any one point in time (a la Burawoy 1995/2000). Yet this labour process view of subjectivity is widened to include a broader range of possible reference points (for attitudes/identity formation). This is appropriate in view of the existence of multiple livelihood strategies in such primary production contexts (Harilal et al 2006).

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3 In this way, it takes further a number of the important subdebates about ribeirinho peasants raised by authors such as Nugent, 2002.
4 The overall project (see Pegler 2011) within which this study fits (Governance of Labour and Logistics for Sustainability - GOLLS) seeks to provide a more integrated understanding of the 1) driving end (e.g. buyers, advanced services, global commodity traders) and 2) initial supplying end of various chains - between locations (and ports) in Brazil and the Netherlands (Rotterdam Port).
Fourthly, as with human development & well-being evaluative frameworks, the (in)security of work / livelihoods (a la Decent Work - Ghai 2003/6, Saith 2004; a la voice/choice re. ‘Development as Freedom’, Sen 1999) becomes the central analytical concern when we move beyond a task focus. Following this, a Human Security perspective concurs with a Burawoyian view that work can evoke a variety of sentiments (Gasper 2009/2010a) but suggests that insecurities (and satisfaction) may emanate from a range of values and experiences, often beyond the point of production (Gasper 2010b, Gasper and Truong 2008) Integrating human security based propositions (e.g. themes such as solidarity and sustainability - Gasper and George 2010) with a labour process method (as this study does) broadens our consideration of whether chain inclusion improves *ribeirinhos* lives by putting it into a less constraining methodological context wherein work is seen as more than just an intrinsically alienating experience.

Finally, a *governmentality* frame (Huxley 2008; Prince and Dufty 2009) is used to analyse the political context surrounding the promotion of this ‘new, wonder’ fruit and its impact on families material conditions. The message of more standardized, efficient production may be being proposed by key actors but how is it seen, contested and (possibly) revised by those involved in production (Gibbon and Ponte 2008)? This framework acts as a bridge between a consideration of peasants integration in the chain and their sense of security and well-being from this experience. It also underlines the nature of representation of growers interests (including - who is involved, who wants to be and who does not - Truong 2006) and its’ effectiveness in resolving producer insecurities.

The overall question of this research derives from a comparison of the ‘logic’ (e.g. efficiency) of chain *drivers* vis-a-vis the ‘logic’ of those at the beginning of chains. The question is whether these ‘logics’ can be compatible, or - how might competing rationalities of sustainability be resolved within (global) value chains? The research starts with the hypothesis that, due to its present incipient level of development, the *açai* value chain may offer relatively positive benefits to *ribeirinhos*. Yet, we may see variety in terms of how families respond to developments in ‘their’ value chain. In this case, what are these choices, what do they depend on and how are choices affected by where they fit within the chain? Conceptually, does this combination of labour process and human security perspectives lead us to modify the literatures frequent negative view of labour outcomes and labour governance within chains?

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5 See footnote 4.
Analytically, this labour process/human security framework is applied in three stages, in respect to – economic security, security as measured by values (i.e. collectivity, sustainability and cultural impacts) and representational security. The analysis of economic security positions members of the sample of açai producing families within a hierarchy of chain engagement, also describing how this relates to the division of labour and livelihood (diversification) decisions. Whilst only one indicator of well-being, the income implications of families’ chain activities are then compared and contrasted (amongst families but also relative to other production options). The second set of indicators compares families views (across this same typology of chain engagement) on whether açai has affected their lifestyle/culture, views of sustainability and preferences for collective representation. The final empirical section builds on this view of collectivity in its analysis of recent moves to regulate and manage the sector. The study notes how families feel and respond to this – e.g. to move in or out of the system, in their views on economic vs. social representation and in terms of the credibility of representation from different levels.

The results suggest that, up to now, many producers in Amazonas state are making relatively good incomes from açai production. However, this outcome is quite dependent on what happens in terms of structures of accumulation (e.g. monoculture & intensive cropping) and control (e.g. political processes and representative structures). From an integrated labour process-human security perspective, the outcomes of this research are more nuanced in respect to actual worker/family well-being. Solidarity, either to an association or trader, varies and the effect of chain engagement on gender roles or on environmental awareness, beliefs and actual strategies seems minimal or ambiguous. The value of this combined methodology is illustrated by the insights this gives into the effect of chain engagement on values and subjectivity (e.g. of this not so easily definable group of ‘forest, land and water’ workers) and thus to processes of inclusion and identity formation (Anthias 2002).
AÇAI, ITS PRODUCTION PROCESS AND THE CASE STUDY:

AÇAI – THE ‘NEW, WONDER’ COMMODITY (FETISH) IN QUESTION

Açai is a black berry coming from a slender, elegant palm. It has been a key part of the diet and an important cultural referent for much of the Amazonian population for centuries (a high carbohydrate ‘food of the people’). It is harvested by climbing these (often) tall (15-30 metre) trees and chopping off bunches containing berries (about 1.8 kilos) with a knife. A fast decomposing product, it is traditionally eaten as a pulp (with, for example, farinha and fish/prawns) or as a non-alcoholic liquid referred to as ‘wine’ (vino-do açai). By far the largest part of total Brazilian production (and consumption) comes from the state of Para (89%), whilst Amazonas, Amapa and Maranhao also produce and consume significant quantities (Appendix 1, Table 1.1).

Açai has come to generate considerable interest and debate from a development perspective. Due to its suggested high antioxidant ratio, since the late 1990s it has been heralded internationally as a healthy, cleansing and revitalizing food. Many have suggested (often wildly) that it brings significant benefits for various ailments and conditions such as high cholesterol, yet studies are not conclusive (Heinrich 2011). Nevertheless, its social therapeutic use (e.g. as a tea) go back much further and, traditionally, it has been used to treat fever, skin and internal digestive complaints (Pereira 2012).

Its cultivation holds out possibilities for conservation and sustainable livelihoods as it is not capital intensive and can be well managed in areas in and around homesteads in a way that does not require significant deforestation. Traditional (and often present) cultivation uses other crops (e.g. mandioca-cassava) as shelter during the early development of the plant and much of the existing açai stock still comes from natural seed germination in nature. In the past it competed with the cash crop palmito (palm heart) as a family activity, as palmito can be extracted from the same tree (once cut down). With açai’s rise in popularity, methods of cultivation have come to use them as complements. Many producers now only cut off some of the stems of the açai palm (and thus extract palmito) as a means of improving future açai productivity. The most

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6 In the Brazilian Amazon (a key place for its occurrence) there are two varieties, Açai-do-Para (E. oleracea - which prefers wet/flooded conditions) and Açai-do-Amazonas (E. precatoria - which prefers drier land) (Pereira 2012).

7 See Colapinto, 2011.

8 As observed in 2012 field visits to farms in both Amazonas and, especially, Para.
significant challenge to açai as a facilitator of sustainable livelihoods is, however, a trend (especially in Para, much less so in Amazonas) towards large scale commercial monoculture production.\(^9\)

There has always been a big demand for açai in specific parts of Brazil, particularly amongst the poor and lower middle class. The late 80s and 90s saw a fast growing demand for it in other regions of Brazil (firstly Rio and Sao Paulo), then in the USA (2000s) and later Europe (Santana and Gomes 2003; Santana et al. 2010). This has led to its broader consumption (and as a luxury product by the middle/upper class) and to what many refer to as its ‘Macdonaldisation’ (i.e. fast food outlet, manufactured açai based products; Ritzer 2008).

Exports of açai have risen sharply (cf. with large cyclical oscillations) but still represent a smaller proportion of total sales (around 30%, Costa et al 2011)\(^10\). The key buyer at a country level is usually the USA (10% in 2010\(^11\)). Agents are also quite active in France, Portugal, Spain, Belgium, the UK and the Netherlands\(^12\). In fact, the Netherlands is the second largest importer at this moment (approx. 3%\(^13\)). Companies such as Friesland Campina have put açai in pure and mixed fruit juices; açai infused tea bags and frozen pulp can be bought in selected shops\(^14\) and other manufacturers are said to be developing cosmetic and pharmaceutical options\(^15\) /\(^16\).

**THE AÇAI CHAIN AND PRODUCTION PROCESS**

A generalized view of the açai value chain is shown as Figure 1 below. At the manufacture and final product end (i.e. right hand side of Figure), whilst demand is strong, there has been quite a lot of change in sector structure in the main markets of Para and Amazonas in recent years. Many firms have gone out

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\(^9\) See discussion in Appendix 1.

\(^10\) In terms of values - from 24 million r$ to 30.9 million r$ for the state of Para from 2009 to 2010 (Sindfrutas, 2011 data noted in Binois 2012, p23).

\(^11\) Interview/market data discussions with IBRAF, 2011, Belem, Para; e.g. fair trade producer Sambucon.

\(^12\) Interview with APEX/IBRAF representative, Petrolina, June, 2012

\(^13\) Interview/market data discussions with IBRAF, 2011, Belem, Para

\(^14\) Market observation, Den Haag, 2011.

\(^15\) Noted in interviews related to - Jacobs et al 2013, p146

\(^16\) Much like small scale and medium sized Brazilian firms such as Natura have done - based on ‘rapid retail appraisal’ – Manaus/Belem, 2012
of business and there have been significant consolidations\textsuperscript{17}. Aside from the myriad of local level juice makers and vendors that exist in most cities and towns, there are now only around ten larger scale sellers (generally also producers) remaining in Para and three or so in Amazonas (Binois 2012, p45).

**Figure 1: The Açai Production Chain**

![Diagram of the Açai Production Chain]

\*Makes açai frozen pulp; **Makes extracts/ final products using frozen pulp.

**SOURCE:** Binois 2012, p30

A system of multiple agents and long distance supply and the massive variability in açai price between seasons\textsuperscript{18} are seen as key factors behind the instability of enterprises\textsuperscript{19}. Due to these risks, the larger producers, exporters and brands have often built (various\textsuperscript{20}) models of purchasing with local communities (for the moment still the prime source of açai). Only a few regional locations (e.g. Manacapuru; Codajás – the case study) have attempted to establish processing operations. Yet production still requires the use of agents interspersed throughout a long and complicated river and port system.

\textsuperscript{17}Especially involving southern Brazilian capital - noted in interviews with local firms (who have been taken over) in Belem and Castanao, Para, October 2012.

\textsuperscript{18} Between 30-150 Reais a (50kg) bag.

\textsuperscript{19} Other difficulties noted are - seasonality, labour intensity, quality standards/evaluation, storage and logistics (both domestic and for export) (FBB 2010; Binois 2012)

\textsuperscript{20} Well detailed by region and major buyer (using secondary literature) in Binois 2012, pp33-37 and noted in discussions with firms in Para, October 2012.
At the beginning of the chain (i.e. left side of Figure 1) the basic production process involves the following stages – locating, climbing, picking and selecting, basket preparation and (often) initial transport. Harvesting is hard, dangerous work for the young (usually men/boys). In season, groups of two to three work in teams – one/two climbing, cutting and picking multiple bunches leaving it for others (often women and children) to scan, select and sort berries for careful packing in baskets (razes), interspersed with leaves for preservation. This is well remunerated work as, in season, a group of three workers can pick up to 36 baskets a day (or 3 x 50 kg bags) which sell for between 30-150 (in vs. out of season prices) reais per bag. Other typical aspects of this process are - that it is generally coordinated within and between families, that women often allocate young family members amongst tasks and that men are most involved in ‘plantation’ management, wood cutting and transport organisation.

Beyond the family plot the typical process involves various levels of transporters/traders, brokers and then processors. The length of the chain and sequencing of these actors depends on which market is being accessed (local; regional; international) and the distances involved. This process is generally mediated by organisations of local government, occasionally NGOs and often by cooperatives (at times linked to local storage, refrigeration and processing), associations and rural unions.

Of particular note is the role of transporters (atravesadores) in moving the product from producers to market and beyond. At times, especially when production is not far from ports/markets, producers transport their own bags. However, in many cases atravesadores buy produce and sell it on. Once at port/markets these are sold to brokers and processors or to clients and further transport networks. At this point in the chain, as with other levels, various types of contractual relations exist – from permanent yearly sales to semi-permanent/multiple supplier relations to spot sales (Brondizio 2008).

Returning to this key logistical function, past studies (e.g. Brondizio 2008; Goeldi 2011) have noted various levels and types of atravesadores. These are important to isolate as their impact, and community attitudes to their function, vary greatly - from “friend to foe” – and this is important to an understanding of livelihoods and security. For example, the Goeldi (2011) study (and this research) make the distinction between local neighbour based transporters with

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21 Fieldwork, Amazonas, 5/2012
whom formal and informal friendly agreements are made vs. regional traders and external/buyer based traders who ‘play on’ margins between local and larger markets and simply tell the producer ‘what the price is’.

Brondizio (2008) adds other levels – such as the medium level buyer/transporter (often the landowner). The important added distinction this makes is that transport may connect to debt servitude by families. In this situation the landowner not only gets a return from production but earns from transport and runs a credit system whereby households buy products from the retail shop of that same owner/atrapesador, which are then delivered by same.

**SITUATING THE CASE STUDY**

The town of Codajás and surrounding localities within the Codajás municipality make up the case study for this research (see Map below). The principle material for this study comes from interviews with families supplying açaí (their principle activity) to a regional hub (Codajás / Tefe) or the metropolis of Manuas in the State of Amazonas (see Appendix 1, Map 1.1/1.2). The study has also involved the collection of secondary data, factory visits and numerous interviews with traders, factory managers, associations/unions, government officials and port workers.22

The municipality of Codajás (which includes localities such as Miua and Badajos) show similarities and differences with other municipalities (e.g. Tefe) in the upper Amazon (Appendix 1, Table 1.3). Such municipalities have large rural areas, specializing in agricultural and forestry products. Incomes are low as are social service levels. Codajás localities (e.g. Miua/Badajos: 200-300 families each) are a little more specialized in the production of açaí and pineapple, whilst both municipalities generate substantial quantities of wood.

Codajás has an açaí processing facility and cooperative. It is the historical centre for açaí production and açaí ‘culture’ in the state of Amazonas (Appendix 1, Table 1.2). On the face of it this suggests that Codajás offers local suppliers a closer and more realisable/beneficial market for their output. For example, up to 2009, the factory at Codajás was able to secure space in this incipient (global) chain - manufacturing and selling their açaí pulp via container (with links at

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22A guide to interviews is provided as Appendix 2 and actors interviewed are listed as Appendix 3. Initial visits were made to meet local actors, family producers, traders and processors in September 2011 and May 2012 (along with secondary data collection). In-depth family interviews took place mainly in July 2012.
Manacapuru and Manus) to importers in places like Canada and the Netherlands\(^{23}\). Whilst this came to an end, in season the factory still sells significant quantities to external buyers in places like Rio (27t/month) and Belem (55t/month)\(^{24}\). Thus ‘Codajás açai’ still makes its way into external markets, if not exports\(^{25}\).

At the start of the season the market (port and factory) of Codajás first starts receiving fruit from close to town then, as the season progresses (and prices rise), supply is sought from neighbouring localities (Marinho and Schor 2012). The bulk of interviews for this research were held in the crucial late season supplying communities of Miua and Badajos (just above and left of Codajás - Map below) and a few in Tefe. Such more distant areas represent problematic supply locations yet they generate higher value added opportunities\(^{26}\) for a chain which moves through Codajás. This key axis of (community) supply and trading offers a particularly dynamic situation for studying the inter-relation of market vs. local ‘logics’ i.e. the (rapidly developing) pull of market demand, the processes of ‘rule’ development (governmentality) and supplier responses (subjectivity/identity)\(^{27}\).

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\(^{23}\) Interviews – Plant Manager, ‘Planet Açai’ factory and Secretary of Agriculture, Codajás, July, 2012.

\(^{24}\) ibid

\(^{25}\) This seems quite possible as, while the fruit is highly perishable, refrigeration is a viable process and cross border sales are quite lucrative. The two states have opposite seasons (Para – June to November; Amazonas – January to June) and price differences between season (in each state) are as large as 30r$ - 150r$ a bag (50 kgs).

\(^{26}\) ibid.

\(^{27}\) These more closed interviews in Miua / Badajos are summarized in Appendix 4, Table 4.1.
RIBEIRINHOS AND THEIR LABOUR PROCESS – HISTORY AND DEBATE

There are many categories used to describe the inhabitants of Amazonian forest areas. One of these – and the term used for the most important actor in this study - is ribeirinho, basically meaning river flood plain people. These are peasant families living by the ebb and flow of the rivers and producing various products for markets, the latest to hit international fame being açaí. An analysis of the impact of their inclusion in this latest chain first requires background on them as historical figures and an identifiable group as well as of their labour processes.

First, ribeirinhos have never had the visibility of groups such as the indigenous peoples of Amazonia – they form part of ‘the (controllable) other’ (Brondizio 2008). Living flexible lives in scattered locations they have thus remained somewhat invisible to public policy and analysis (Periera 2007). Their position as peasants and traders never had much to do with slavery and they are somewhat different to other peasantries due to their mixed livelihood strategies.
and productivist origins (Nugent 2002). Their livelihoods were created by a particular (mercantilist) form of capitalist development in the region.

As noted by various authors, their mode of production and relations derive from early (19C) conflicts between rival capitalist groups in the Amazon (with mercantilists winning – i.e. the cabanagem process) and the rise and fall of rubber (Nugent 2002). The rubber boom - 1) produced a particular model of social relations which linked local producers and mercantile agents, 2) generated a network of sales (with relatively little value added prior to delivery to the merchant) and 3) used a system of (exploitative) two way trade (aviamento) between them. Whilst few explicit instances of aviamento may still exist28, this model still serves to mark their position in the regional economy and is highly relevant to this study. How might this system change with this new boom? Will it allow ribeirinhos to upgrade socially within the evolving value chain of açai?

As a category of actors ribeirinhos have also sparked debate. They do not appear to closely fit classifications based more on class, such as the Movimento Sem Terra (MST) (Nugent 2002). Their work is very dispersed across products and area, small scale and not one with such an explicitly identifiable oppositional affinity to an elite (such as the agro-industrial hierarchy)29. Some have attempted to see these peasants (campe sinatos) as a category defined by political imperatives and action commonalities, along with other groups such as small scale producers (pequeno producao) and family based farmers (agricultura familiar) (Schmitz and Mota 2006; Fraxe 2007). Still others put them within an Amazonian categorisation on the basis of their potential to promote ecological outcomes which are compatible with their mode of production and exchange (Lima and Pozzobon 2005).

These discussions are important. First, as a category of workers under research, their occasional ability to reach into the public realm and access lands (often not owned or public) which are either marked for sustainable or community settlement30 is of contextual significance. In this vein, some authors have

28 A similar model of debt servitude (i.e. land owners sharing proceeds with tenants, also charging for transport and returning with (over-priced) goods) has been of considerable concern (Brondizio, 2008) in the recent past. Recent years land tenure improvements by state and Federal authorities (e.g. INCRA; SUCRA) appear to have reduced this fundamental insecurity for many (Codajas STR interviews, May, 2012; observation based on interview responses, May, 2012)

29 Albeit until recent improvements to land tenure (above) it could be argued that land ownership disputes could be a binding force for them as a movement. Yet this still raises questions concerning geographical coordination of such a movement and its heterogeneity.

30 e.g. assentamentos or Areas of Preservation (state or federal).
suggested that the continuation of *ribeirinhos* relatively good livelihood-environment compatibility may be challenged as their number and activities expand (Lima and Pozzobon 2005; Brondizio et al 2011).

These issues are most important for their subjectivities. How do they see themselves as a result of their work and livelihoods i.e. as workers, farmers or as fisher folk or even as a member of a movement with common objectives and aspirations? How do their views of sustainability enter into motivations for work given this new surge of mercantilist demand? This research explicitly integrates their values and motivations (including that of sustainability) within its evaluation of their *position* (i.e. their labour processes and human security) in the vertical chain of *açai* production. Their responses will also indicate their sense of inclusion, and its local embeddedness, in the prevailing ‘logic’ of the evolving *açai* value chain.

On the other hand, what underlies *ribeirinho*’s labour process is a unique combination of tasks and intrinsic flexibility (Castro 1999; Fraxe 2007). Day to day livelihoods involve a mix of farming, river work and forest management. Moreover, it is the family unit (as in the Chayanov model of family farming) which appears to specify their decisions to allocate (combined) effort to tasks, based on some measure of adequate comfort for that same consumption unit. In contrast, as noted by Nugent (2002), past researchers have tended to focus more on abstract visions of *ribeirinhos* - as environmental actors (either ‘wise forest managers’ or ‘chain saw peasants’) or as frontier colonists of a new movement.

The *ribeirinhos* context is also suggested as being unique from a labour process perspective. The Amazon is a vivid frontier of contrasts in terms of processes of capital accumulation and exchange. In particular, anthropologists of the Amazon remind us to see local traditions as involving not just the techniques of the productive process but also the symbolism and collective imagery of the people (Castro 1999). Whilst this level of anthropology is beyond the capacity of this project, it does seem fair to assume that their labour process will be defined by issues well beyond specific tasks – to the processes and relations involved in survival. For example, conflicts may have more to do with resource use insecurities (e.g. land) than with actual tasks or economic returns per se (Illenser et al 2010). Work, in this context, is generally defined within the family (‘the us’) whereas community order may be challenged when questions of resource

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31 *a la Hospes and Clancy 2011.*
use and ownership arise (Pereira 2001). This implies and attributes specific conceptualisations of collectivism and individuality to these ribeirinho peasants. Similarly, modifications to women’s role may occur in quite subtle allocative ways within the home (e.g. due to technology) or community (i.e. in terms of status). These types of considerations add an important cultural component to the Chayanov model.

As a minimum, what appears to be needed is to see how this particular, livelihoods based, household model may change due to the açaí ‘boom’ - to explore this process in a way which allows us to go beyond general suggestions and analyses of social upgrading (or social downgrading). Ribeirinhos unique community of family mercantilism has, up to now, not generally led to a process of proletarianisation. Yet might açaí act to change their labour use model (including the division of tasks at an intra-household level) and consumption habits in such a way that some new sort of balance between social reproduction - natural preservation comes to define the consumer-work effort relation within the (Chayanov) household model of production (Nugent 2002, p182)? Do ribeirinhos local vision, knowledge, imagery and capabilities modify the potential impacts of a new capitalist intrusion on their terrain? A focus on their involvement in the chain, combined with a grounded analysis of ribeirinhos income, values and representational securities permits some reflections to be made on these questions.

**HUMAN SECURITY AND VALUE CHAIN INCLUSION – ADVERSE INCORPORATION?**

**CHAIN INCLUSION, LABOUR PROCESSES AND INCOME SECURITY:**

**CHAIN INSERTION AND LABOUR PROCESSES**

The data from the late season supplier regions of Miua, Badajos and Tefe suggest that local families can be ranked into various levels of chain integration (Table 1, column 1)\(^32\). These have been allocated numbers from (1)-(3), with (1) symbolising the most integrated, (3) the least and (2a-c) as intermediate levels of

\(^{32}\) This ranking is determined by their level of (labour/production- process) integration within the açaí value chain. The dependent variables are the division of labour/livelihood strategies and their perceptions of well being / human security – as measured by indicators of cultural/community preservation, environmental protection and collectivity. It seems correct to make the level of chain involvement the (more) independent variable as the study is about how chain involvement is affecting the labour process/human security.
chain integration. To illustrate, a producer is seen as most integrated (1) when they have features like well-organized harvesting, regular/trustable river transport links and some knowledge/involvement with how the fruit will make a final product and who that client is. They may not be price makers. However, they are quite active and successful in planning for, and capturing, gains within the chain.

**TABLE 1: TYPOLOGY OF CHAIN INVOLVEMENT x LIVELIHOODS x DIVISION OF LABOUR (Miua/Badajos/Tefe)**

<table>
<thead>
<tr>
<th>Level chain integration</th>
<th>Key Features of:</th>
<th>Interviewee Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest (1)</td>
<td>• Own/family transport and upstream market links</td>
<td>b4; b7, b10</td>
</tr>
<tr>
<td></td>
<td>• Least diversified crop mix / own land</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Traditional gender division /all work on açaí /occasional hired labour</td>
<td></td>
</tr>
<tr>
<td>Intermediate (2a-c)</td>
<td>• Frequent use of trader; partial upgrading</td>
<td>m8, b2, b12</td>
</tr>
<tr>
<td></td>
<td>• Limited multiple cropping / hope for açaí</td>
<td>m5, m6, m7, b3,b5,b6</td>
</tr>
<tr>
<td></td>
<td>• Traditional gender division of labour but some variation / family work based – no wage workers but sharecropping offered</td>
<td>m1-4, b8, b9,b11</td>
</tr>
<tr>
<td>Lowest (3)</td>
<td>• Always use trader; sell what can at others price</td>
<td>b1, t1-2, c1-2</td>
</tr>
<tr>
<td></td>
<td>• Most diversified crop mix / often land of other</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Traditional gender division of labour/ all work on in-season product/ no wage workers</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Interview data / summarised from Appendix 4, Table 4.1, column 1 and 2.

In contrast, a producer is seen as least integrated (3) when they just pick what açaí they can (i.e. some is left to rot). They remain quite dependent on sales to visiting transporters. They have little involvement with the movement of the product up the chain or knowledge of (or choice over) who it goes to, how and where it is sold and for how much.

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33 Actual labels used are (Appendix 4 Table 4.1) – 5 = least integrated, 4 = moderate integration, 3 = more integrated, 2 = even more integrated and 1 = most integrated.
The connection between degree of chain integration and agency seems fairly positive and clear based on this comparison\textsuperscript{34}. Yet, those groups (2a-c) in-between these two extremes vary in terms of hierarchical relations – e.g. the degree to which they do or wish to sell via traders. Many use traders for small orders due to their more regular availability to pick up (fast degrading) fruit, whereas some only use them for long distances or when their (or a relatives) boat is out of action.

Some nuancing of this result is evident when one compares product upgrading between these groups. On one level, least integrated producers work most with fruit while higher integrated ones (1-2) are more likely to also be involved in higher (30% more) value added ‘wine/vinho-do-açai’ production\textsuperscript{35}. Yet comparing these more integrated (groups 1-2) producers also suggests that the strategy of product upgrading is not so clear. Some of these advanced producers think ‘wine’ production is simply too time consuming whilst others are quite active and specialized in the higher value added ‘wine’ product\textsuperscript{36}. A ‘satisficing’ family welfare decision seems more at play than do individual opportunity cost considerations\textsuperscript{37}.

On the other hand, the relation between production-labour process characteristics and livelihoods looks like a mix between what chain theory (specialization) and livelihood views would suggest\textsuperscript{38}. As producers have gotten more involved in açai they have tended to specialize more than in the past\textsuperscript{39}. Yet this has its limits. The most integrated in chains are not more specialized than those at intermediate levels of chain integration\textsuperscript{40}. Yet least integrated producers (also the ones facing more livelihood insecurities) are also the more diversified producers in an absolute sense.

In terms of the division of labour, all families base production around a traditional family structure. Women tend the house, children and garden crops. Men maintain land resources and pick, transport and sell crops. Young men helped their fathers, often showing early expertise in climbing and cutting açai

\textsuperscript{34} These also seem to correlate with the income estimates (i.e. most do well with açai, albeit the more well organized gain more) and with the important role noted for family connections, discussed in below and in this section.

\textsuperscript{35} Based on comparisons of wine bags per sack and wine bag sales prices – Fieldwork, 2012.

\textsuperscript{36} See Appendix 4, Table 4.1, column 2 for more detail.

\textsuperscript{37} Fieldwork, Amazonas 2012; footnote 35.

\textsuperscript{38} ibid

\textsuperscript{39} See Appendix 4, Table 4.1, column 2 and Table 1.

\textsuperscript{40} ibid
husks whilst young women, only occasionally climbing trees, help in household
tasks. The slight movement from this model could be seen in three main
instances. First, with açai, women have taken on the added role of stripping
berries from the husk and in assisting in the selection and sorting (but not
bagging) of fruit. Secondly, in some younger families (in the intermediate chain
integration group), women sometimes also work outside of the family. Thirdly,
while some of these families let the young and landless take fruit or share-crop
parts of their land, it was only the most integrated group that also (occasionally)
used a market based model of wage labour when family labour was not
sufficient.

CHAIN INSERTION AND INCOME SECURITY

Despite these differences in family situations, this research suggests that the
average family grower can do quite well. Certainly, the number of respondents
noting how they had moved from other products (such as banana/mandioca) to
specialize much more in açai would suggest it is seen as a promising and
relatively good income earner41. Yet how good does açai look as a source of
income?

In this regard, that acreage (in total and for açai) did not bear any direct relation
to most recent output figures suggests that comparing actual production levels
does not have much significance for an estimate of income security. Due to this,
Table 2 below presents ‘idealized’ estimates of total gross revenue from sales
over a range of sales volumes (much like the actual range) and prices (much like
as occurs across the season). These are multiplied by a discount factor (1 - 0.40)
to allow for the estimated losses in value across the chain42.

**TABLE 2: ESTIMATES OF POTENTIAL INCOME – Various Levels of
Chain Bargaining Power* - by number of sacks sold and price (time of
year) sold**

<table>
<thead>
<tr>
<th>Bargaining power - % of final price</th>
<th>50 kg sacks sold per season / year</th>
<th>Price per sack (r$)</th>
<th>Gross income estimate p.a./season; r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>50</td>
<td>20</td>
<td>1000r$</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40</td>
<td>2000r$</td>
</tr>
</tbody>
</table>

41 Appendix 4, Table 4.1, column 2.
42 e.g. x 1.0 for most integrated; x 0.6 for a producer with less bargaining power/more dependent transport links.
<table>
<thead>
<tr>
<th>Level of Chain Integration</th>
<th>%</th>
<th>Calculation Parameters</th>
<th>Gross Income per Season</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g. advanced chain integration</td>
<td>80%</td>
<td>150</td>
<td>100</td>
</tr>
<tr>
<td>e.g. high level of chain integration</td>
<td>60%</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>e.g. moderate level of chain integration</td>
<td>40%</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>e.g. share cropper or tenant farmer</td>
<td>20</td>
<td>20</td>
<td>40</td>
</tr>
</tbody>
</table>

**Source:** Parameters for calculations based on responses from interviews, 2012; bargaining power estimates based on need to pay/not pay first level transport costs (i.e. not in the case of most integrated producers) and on assumption that more integrated producers have greater local leverage.

These estimates support the impression that açai is an important source of income for some ribeirinhos. To give an idea, many producers in this sample collected up to 150 sacks per year and generally sold them at what is considered to be a good/adequate market price (40r$ per sack). For our more integrated producer (who loses less on transport /has better bargaining chances) using these figures would produce a gross income between 4800r$ - 6000r$ per season.
simply from selling açai fruit. This is up to 2.5 times the present Brazilian minimum monthly wage when looked at on a monthly basis for each of the four months of harvest. There thus appear to be significant benefits to many producers. Yet this is especially so for those who have most power in the chain and/or for those who upgrade. For example, on this estimate, the dependency of potential income on how well integrated they are in the chain is considerable (4800-6000r$p.a. for group 1 – compared to – 2400r$p.a. for group 3 producers).

Looking at the income potential of açai based on official statistics supports these estimates. For example, the IBGE figure of the average family income from açai was 1900r$ for Amazonas and 3200r$ for Brazil overall (IBGE; Censo Agropecuaria, 2006). Even staple Amazonian crops such as cassava/mandioca and farinha/flour do not generally equal the value per tonne (t) farmers have been making out of açai (550r$/t vs. 800r$/t; IBGE 2006).

From other perspectives, authors have also noted the high net benefits of açai production on the basis of hourly productivity (e.g. Periera & Lescure 1994 – 1 hour of açai work produces 9kgs of fruit compared to 1 kg of farinha/flour). Alternatively, put in terms of land productivity, this research suggests that a single, well-spaced and managed (but still bio diverse) hectare of açai can hold up to 625 trees (4-5 metres apart) and generate up to 3000r$ in gross revenue from açai every season.

The year 2011/12 saw record high prices so it is of no surprise that most respondents to this research felt that their quality of life had improved considerably with açai. Even the increasingly popular activity of fishing does not generate per capita incomes like açai (Almeida 2010 - 1400r$ per capita, p.a. for fish). The only activity that clearly surpasses açai in terms of income generation is that of wood extraction (Amazonas – 18,000r$ p.a., per farm; IGBE 2006), yet its potential unsustainability severely limits such a comparison over the longer term.

Consequently, it does appear that, up to now, many families in Amazonas are making relatively good incomes from açai production. Açai offers families the

43 And at least 30% more than this if this fruit was sold as juice/’wine’. Yet many, especially the most integrated, generally do not choose this option.
44 Around 600r$ - 2012.
45 Based on the assumptions – 3.5 husks per tree each holding 1.8 kgs of fruit sold at 40r$ per 50 kg sack.
46 Appendix 4; Table 4.1, column 2; Even the least integrated producers felt that açai offered significant income and livelihood benefits, if certain constraints could be alleviated.
possibility of higher incomes within an ecologically sustainable environment. Strong local demand and rising prices, simple technologies, family labour division and more secure land tenure (in the last 6 years\textsuperscript{47}) have helped to underwrite this prognosis.

However, traders often take significant rents from the chain due to distances, the perishability of the fruit and fragile nature of most families’ boats\textsuperscript{48}. These factors combined with local political hierarchies may make collective action difficult and act to support trader income and reduce benefits for 	extit{ribeirinhos}. Aside from its seasonality, massive price fluctuations at different times of the year further undermine the possibility of stabilising the value added that families make from the fruit – thus their decisions where to sell or, perhaps, even IF they pick and sell \textit{açai} (vis a vis alternatives such as wood cutting). That producer outcomes might be affected if (as appears very likely) \textit{açai} production in Amazonas state becomes more heavily based\textsuperscript{49} on large scale monoculture plantations and ‘modern’ production models, may further dampen future producer gains. A closer look at the values behind producers’ strategies and livelihood decisions is required.

\textbf{HUMAN SECURITY AS VALUES}

A consideration of subjective aspects of human security for these \textit{ribeirinhos} presents a more ambiguous view of livelihood choices, impacts and prospects than is suggested by financial estimates. The data needed to investigate the relation of value chain involvement to human security considerations is summarised in Table 3 below\textsuperscript{50}.

\textbf{TABLE 3: TYPOLOGY OF CHAIN INCLUSION AND HUMAN SECURITY AS VALUES (Miu/Badajos)}

<table>
<thead>
<tr>
<th>Level chain integration</th>
<th>Key Features of Attitudes to:</th>
<th>Interview codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest</td>
<td>• Culture change no problem; consumerism enhanced/ division of labour attitudes - little</td>
<td>b4; b7, b10</td>
</tr>
</tbody>
</table>

\textsuperscript{47} See footnote 28.
\textsuperscript{48} Fieldwork observation, 2012.
\textsuperscript{49} (i.e. more than the present 3%; Pereira 2012)
\textsuperscript{50} See Appendix 4, Table 4.1, column 3.
Quite surprising results emerge in relation to the values, expectations and strategies of respondents, when considered on the basis of their level of chain integration. There appear to be very different subjectivities (i.e. social and sustainability ‘logics’) being expressed and lived by these ribeirinho peasants involved in the açai chain. A few examples (drawing from interviews, Table 3 and Appendix 4, Table 4.1, column 3) serve to highlight this.

First, for almost all of these families açai represents a daily consumption item – they would almost not feel ‘Amazonense’ if they did not consume it a few times a day. Most also remember a time when açai was collected, crushed by hand and eaten only by them, relatives and friends. Moreover, what was not collected was left to rot. This has all changed. Nearly everyone sees the incentive to sell all they can collect – the current market is strong. They are also aware (to various degrees) that the market extends well beyond their region. In terms of conspicuous consumption, many families now not only have mechanized crushers but also washing machines (usually run by generator).
Yet, whilst almost all saw the açai chain as representing a significant force for change in their way of life, few saw it as negative or as a threat. It is ‘like the constant flux of highs and lows latos e baixos’ in their river system and thus their daily lives. However, by way of caution in terms of socio-economic change, the most poor (those most excluded from chain developments) did wonder more about how this fast growing market may affect their livelihood chances (Table 3, last row). In addition, a large number of interviewees may have been persuaded to see things in this more positive way as açai is currently generating good returns. The more pressing concerns of the majority were whether the current price trajectory would continue or due to the insecurities caused by the breaks in income caused by the short season.

Moreover, whilst consumption patterns have changed and income levels have risen, it is not certain what impacts this has had on attitudes to the division of labour – within the community or within the household. As noted earlier, women are regularly involved in stripping fruit from açai husks, as well as gardening (roça), housework and child care activities. The purchase of consumer durables (due in part to açai income) may also have changed the time used for some chores and the ‘status’ of women within the household. Subsequently, this seems to have led to a redistribution of tasks between younger girls and women. The questions then are - whether these tasks are recognized, whether men have supported a redefinition of roles and whether these changes have led to more leisure, alternative opportunities or more income independence to those women. These interviews saw only a few small examples of such attitude changes and greater security/independence to women. This is despite other studies noting how women in this region are dominant in fishing and (subtly) decisive in overall family task allocation (Simonian 2001).

The perhaps most surprising result in respect to chain developments and human security concerned the issue of sustainability. Discussions with families suggested that there may be a reservation price for açai, and that perhaps (i.e. due to repeated comments that they were reducing their role in wood extraction) there was a price above which açai might be a substitute for extractive wood culling (particularly outside current regulations). The frequency

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51 Noted by a number of respondents – Fieldwork, 2012.
52 See for more detail Appendix 4, Table 4.1, column 3.
53 i.e. women have often then reallocated washing tasks to elder daughters.
54 By the intermediate group, not the most chain integrated.
55 Interviews, July 2012.
of replies suggested this reservation price may be around 30 reias per 50 kg sack.

The issue of sustainability (and by implication, such a substitution effect between açai and timber) has been one of the key arguments raised by many social advocates of açai and its expanded production (e.g. ADS 2011). Not only might açai provide more income security but by acting to a) encourage mixed cropping and b) reduce wood cutting, it also holds out significant social and ecological benefits. However, the above discussion on income impacts noted that present gains to ribeirinhos from açai production may diminish due to an expected rise in commercial monoculture farming of açai.

More fundamentally, if sustainability is not important as a value or strategy for present day açai producers this may negate any idea that human security (i.e. due to the preservation of the environment for the future) will be promoted via açai production. In this regard, this research suggests (Table 3 56) that sustainability does not figure very highly as a motivational value for most producers. Yet, some do now recognize it as important and, a lack of ex-ante ecological motivation does not mean that it has or will not now enter as an ex-poste fortification for their decision to specialize in açai.

Perhaps more tellingly, responses also suggest that the more integrated a family is within the açai chain the more likely they are not to hold strong sustainability sentiments 57. This is underlined by the observation that these same most integrated açai chain actors are more likely to still be working with wood as an extractive resource and source of income 58. This seems both worrying and surprising in view of the important role these actors play within the local market and community. The fact that many of these same respondents also emphasized açai as a very useful form of additional income (savings) may question whether açai is a substitute to wood extraction and sale at all.

As argued by a community leader 59, the issue may be the other way round. Wood is the base for local survival and if ribeirinhos are to move from this there must be clarity (less insecurity) of demand and adequate support for complementary products (such as fish and açai) to become more dominant.

56 See Appendix 4, Table 4.1, column 3.
57 Table 3; Appendix 4, Table 4.1 – group 1.
58 Ibid
59 M9, Appendix 4, T4.1
activities\textsuperscript{60}. The concerns and uncertainties expressed by those respondents (especially those expecting to move up the \textit{açai} value chain - i.e. groups 2a-c) in respect to price fluctuations and seasonality suggest that insecurities still exist in respect to the role that \textit{açai} may play in their livelihoods. Moreover, their insecurities also related to the lack of social services at a community level as well as the level of robberies (especially when \textit{açai} prices were high) and their impact on physical security and income provision\textsuperscript{61}.

A final very interesting result emerging from these indicators of human security values related to respondents’ attitudes towards collectivity, especially its potential to provide a more secure future for families. In view of the polemic debate about the impact of traders, one way to test this value is to compare families’ views on traders to their views on the other key contender for collectivity – cooperatives / associations. Due to the constraints of physical geography and the history of \textit{debt servitude} in the Amazon\textsuperscript{62}, one might think that a preference for collective representation would be clear. This is not so.

For example, many of those most integrated in the \textit{açai} chain are quite positive about traders for the simple reason that they and their family often are traders. Yet this does not mean that the families least integrated in chains are against traders. Whilst many less integrated families were negative or ambivalent about them, a significant number saw them as necessary actors in the chain. Traders are seen to play an important role, not as ‘exploiters’ of value (i.e. via \textit{debt servitude}) but because they are there when you need them, especially when quantities are too small to use community based transport. Traders deserve a return but the issue is the level of asymmetry in negotiation and in actual gains – something that producers felt unsure and insecure about as they did not have so clear a view of where their produce ended up (thus, what was its ultimate selling price)\textsuperscript{63}. That is, their judgments (values) came back to a consideration of fairness and equity. The possibility of ‘unfair’ prices margins caused insecurity.

Overall, the sample indicated a preference for a local, collectivised (especially within the extended family) form of transport provision. Many of those ‘moving up the chain’ were also in the stage of planning their own transport (boat). This seemed to represent a fairly ‘natural’ form of functional chain upgrading, one

\textsuperscript{60} ibid
\textsuperscript{61} Interviews generally, also see Appendix 4, Table 4.1.
\textsuperscript{62} See footnote 33.
\textsuperscript{63} Noted in many interviews but quite clearly spelt out in an evening focus group with producers in Miua, July 2012.
which was seen as important to alleviating their livelihood insecurities. They planned to offer their boat as a service to their family and neighbours, much as the most chain integrated families were already doing. Yet this did not necessarily have much to do with cooperative principles.

In fact, families held varied views of what might have been thought of as the counter to the ‘exploitative trader’. There are a number of contenders for their allegiance in this respect. An understanding of this relationship requires an analysis of the interaction between these bodies’ agendas and families’ actual experiences and views. In addition, producer’s sense of representational security needs to be placed within a consideration of the political economy (message context) within which families and cooperatives/associations work.

**REPRESENTATIONAL SECURITY – A GOVERNMENTALITY PERSPECTIVE**

As noted earlier, a key insecurity relates to whether families have and feel they have voice. Governmentality analysis helps us frame and contextualise voice options. In this case, it first describes the nature of the dominant message about açaí – that is, who is it for and what should it do? It is also about explaining how this message is translated into plans or projects (programmes of government) and then how these are codified, measured and evaluated (technologies of government) (Huxley 2008). The questions are - is the message believed, who is the most trusted referent for addressing producers insecurities, are all voices heard and has this process acted to legitimate or modify the message?

The establishment of the ‘Planet Açaí’ factory in 2000 symbolised a local governmental vision to capture more of the value added from the very lucrative açaí market for the local economy. Supported by land, building, technology, management and quality advice from various state and federal agencies, the factory has the capacity to produce eight tonnes per day in various forms, levels of quality and package sizes. Up to 2009 this publicly financed plant (and the cooperative of açaí producers who run it) had orders for both regional markets in Brazil (Rio; Sao Paulo) and (via linked suppliers, shippers and buyers in Manacapuru/Manaus) to Canada and Europe.

While the town had already solidified its regional reputation for the product (e.g. culturally, via their Açaí Festival since 1987), the 1990s-2000s saw a broader surge in national and then international demand. Yet by 2009 much of this

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64 e.g.SUFRAMA, SEBRAE, COB certificators, EMBRAPA – Factory/Secretary of Agriculture Interviews, 15/5/12.
65 Ibid as for interviews.
image and reputation, as well as the factory/coop project and its effectiveness as an entity, began to wane. The factory lost its quality accreditation and international orders also dried up due to disputes over transport and packaging\textsuperscript{66}. However, internal organizational and representational aspects of cooperative and factory operations came to be questioned.

The original intention of the cooperative was to be a vehicle by which members production would be valued and channelled into markets via an organization run by, and representing, growers\textsuperscript{67}. Aside from the various technical problems they have had with electricity supply and quality processes, these production and representative goals have never really been reached. The majority of local production (70\%) runs through Codajás port but not through the factory or cooperative\textsuperscript{68}.

Attempts by the cooperative to run a collective approach and redistribute income between seasons have always had problems due to the massive difference in price at different times of the year. Transporters and traders can more easily use partial manufacturing options (‘wine’ making) and preserve the product long enough (i.e. ‘wine’ in coolers/fruit delivered quickly by public carriers) to get it to clients in other locations, faster, in smaller quantities - still making enough to pay producers and cover other costs\textsuperscript{69}. This has greatly hampered the ability of the cooperative and factory to guarantee enough throughput and sales to be successful and operate all year round\textsuperscript{70}.

Some\textsuperscript{71} also note that even when the cooperatives price is adequate it is very slow and unreliable in payments. Moreover, the coop has only ever once redistributed profits and many of the technical assistance and training initiatives they originally suggested have never come to fruition. In addition, most members are not actually producers, they are traders offloading (often excess) produce at the coop. Workers at the factory are also generally family of those traders or of supporters of the coop\textsuperscript{72}.

\textsuperscript{66} Ibid and via interviews with credit cooperative (14/5/12) and transporters/buyers in region (various days).
\textsuperscript{67} Interview - cooperative members, 14/5/12
\textsuperscript{68} Noted and confirmed by factory staff, governmental personnel and independent operators.
\textsuperscript{69} Noted in discussions with port traders, 7/12.
\textsuperscript{70} Either orders must increase and/or they must find other products in between the one (main) açaí season (when output is higher and prices are lower) and the next - Interview, Secretary of Agriculture, 15/5/12.
\textsuperscript{71} Points below noted in various family interviews and in brief discussions with traders/ sellers around Codajas and the port.
\textsuperscript{72} Interviews, factory workers, 15/5.
There is not only a new election due for coop leaders but many new plans for the sector. A strategy is being developed to attempt to regain factory certification and reassert Codajás as the place for quality (and quantities of) açai. This involves local producers through attempts to include açai as a product within schemes which guarantee local small scale supplier content in (schools) food purchasing.

The message is clearly one of quality and efficiency for a growing market. This plan includes various avenues. The plan even includes broader state and federal government initiatives - to impose quality standards on growers (albeit with technical assistance to those who register), to support large scale commercial farms and to monitor and quality codify supply across the region. The plans and mechanisms of governmentality - of quality and efficiency - are clearly being rejuvenated. Yet it is less clear how this is being seen by producers and if the coop will really come to be more representative of the needs of (genuinely) small scale family producers.

Institutional supporters of this process include various factions. The (now previous) Mayor and the local Secretary of Agriculture (both also producers) support a plan for supply guarantees as well state/federal sanctioned quality monitoring, codification and support. The local cooperative presently holds an important place in this plan. Yet the Secretary of Agriculture is somewhat more aligned with smaller artisanal producers and the Association of Açai Growers. State Government sustainability agency operatives (e.g. IDAM) are more involved in local production (açai; farinha) initiatives and try to be less involved in local power cliques involved in sector/city promotion.

The dominant message is being driven by local political leaders who in turn are attempting to retain and harness State and Federal agencies of support. All of these factions understand the importance of the level of economic activity due to açai - sales largely controlled by local traders, regional buyers, processors and retailers. Some of these regional/capital city players have some affinity with the

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73 Interview – Secretary of Agriculture, Codajas – 15/5 for this and the following comments.
74 i.e. SEDUC – a state equivalent of the PNAE schools provision programme and in ARDS applications for technical and financial assistance for growers. ARDS is run through various banks and government agencies; PNAE and the state SEDUC programme reserve proportions of public purchasing for local and ‘small scale’ farmers.
75 i.e. the SEDUC scheme; PNAE programme possibility (ibid) which appear to ensure small growers local outlets at guaranteed minimum prices Yet this definition of small scale includes quite large and often wealthy producers, including the most unpopular (now former) Mayor of Codajás – a local Miua ‘resident’ also.
76 A mammoth task in view of the amount of informal cross region trading which goes on.
77 (e.g. via SEBRAE; MDA; EMBRAPA)
idea of small scale supplier promotion, inclusion and sustainability goals (e.g. Waku Sese in Manaus)\textsuperscript{78}. Yet the sector is increasingly driven by the commercial ‘bottom line’ of large scale operatives in major açai regions in Brazil and beyond.

What sort of space does this then leave for local agencies to promote producer agency and voice (e.g. the Rural Workers Union (STR); Fish Colony; Association of Açai Growers)? First, the STR is fundamentally an organization of agricultural workers and thus, at times, has some difficulty getting too deeply involved with this not so easily definable group of workers (ribeirinhos) as well as the local logistical constraints of representation. Their social security benefits are well recognised and they are trying to extend their agenda to this group. Yet they see that, while much of the land security issue has been resolved\textsuperscript{79}, further inroads to develop an active dialogue with local producers will be hard without institutionalized support for policies supporting local sourcing and local economic development. They are clearly stretched to find the time and resources to develop and apply a more specific agenda.

On the other hand, the much more recent Fish Colony has proved itself to be an effective local and national organizer in a very short period of time\textsuperscript{80}. Riding on a wave of initiatives for fish cultivation (and the popularity of Amazonian varieties), their technical support and coordination of a successful out of season non-fishing subsidy seems to be a clever move. Equally local, but less effective in assistance and organization, is the association of açai growers\textsuperscript{81}. Their activities are more centred on the immediate area. In contrast to these bodies are the networks of local residents’ associations\textsuperscript{82} – often informal and varied in their focus, activeness, philosophical orientation (some neutral, many Catholic or Evangelical) and size. They are by definition local and immediate.

In view of this political economy and variety of representational vehicles, how do families see these various agencies of collective representation? First, most producers saw the coop as unreliable, unrepresentative and of limited assistance\textsuperscript{83}. In comparison, those involved in fish rearing were highly positive about the Fish Colony’s financial and technical assistance schemes. Older

\textsuperscript{78} As noted and observed during interviews/factory visit, Manaus, 3-5/7/12
\textsuperscript{79} As noted in interviews with STR – 14/5/12 and 15/5/12. See also footnote 33.
\textsuperscript{80} See responses on collectively, Appendix 4, Table 4.1, final column
\textsuperscript{81} ibid
\textsuperscript{82} ibid
\textsuperscript{83} ibid
producers were more likely to be a member of the STR, due either to its longer term existence (i.e. it was the only body for some time), social service/retirement connections\textsuperscript{84} and as they saw themselves as agricultural (vs. forestry or river) workers (something that may actually not now be true). Many liked the immediate, less political and service function of local resident organizations\textsuperscript{85}, although they expressed some frustration with their lack of teeth at higher levels, where many decisions are made.

Further important reflections about representation come from looking at attitudes to these organisations based on the previously discussed typology of chain integration (Table 3). In this regard, the least integrated in chain/market activities\textsuperscript{86} are less well informed and less well included in processes for representation or in the organizations themselves. They have preferences yet these are neither well informed nor given much voicing.

In contrast, those most well integrated in the chain indicated a quite pragmatic but also strategic use of these bodies\textsuperscript{87}. They were pragmatic as to the limits of such organisations (vs. individual agency) but strategic in the sense that family membership was often divided between the father as a cooperative member, with the mother/son being either a member of the union or of the Fish Colony. These decisions related to the types of material benefits each offered and that no-one could be a member of more than one body.

Families in the intermediate group (of chain integration) were more articulate about what these bodies should promote – e.g. a broader range of social services, sustainability and value chain upgrading assistance\textsuperscript{88}. Also, their insecurities are very ‘globally’ dependent (e.g. the açai market/chain; social services funding) but their resolution (e.g. fair transport pricing; youth inclusion; work safety) is often very local. In reality, various insecurities of voice remain for this group and for the least integrated group, in particular. The implication of the analysis seems to be that a balance of vertical and horizontal connectiveness (of structures of representation) is needed for the effective resolution of these insecurities. Otherwise top-down messages of sector development and social/organisational inclusion will continue to meet different ‘logics’ at the local level.

\textsuperscript{84} ibid\textsuperscript{85} ibid\textsuperscript{86} Appendix 4; Table 4.1, group 3.\textsuperscript{87} Ibid group 1; also Table 3.\textsuperscript{88} Appendix 4, Table 4.1, column 3
This analysis of governmentality shows a large disjuncture between the top-down message and producers’ practical desires to be part of the process of chain development. An attempt is being made to codify, impose rules (e.g. for quality), map the flow of output and formally integrate (thus tax) the sector more fully. This comes up against a population who live quite a fluid, flexible and informal existence. The ‘normal’ livelihood trajectory is often (like chain postulates would suggest) to produce, trade, then upgrade also to transport. Yet the way producers engage with the chain involves a combination of informal economic activities plus occasional, as-needed, reliance on formal rules and institutions. Inclusion (like identity) is a complex and fluid process.

**IMPLICATIONS AND FINAL CONSIDERATIONS**

This study argued that outcomes for labour and families within value chains should be looked at using a modified methodology of labour processes. Tasks are seen as livelihoods and subjectivity emanated not just from tasks but from broader values. The often near simultaneous occurrence of conflict-resistance and consent-attachment has a new terrain. A focus on human securities gave us a way of deepening our vision of producers’ sense of well-being and its determinants. Indicators of these in/securities included relatively objective measures such as income but also the consideration of various values (e.g. cultural attachment; sustainability and collectivity). Governmentality analysis helped us to unravel the power structures (i.e. message, policies and mechanisms) surrounding families’ efforts to find an adequate way to resolve their insecurities and represent their needs.

The context behind the study was one of a rapidly developing value chain, one that is already ‘offering’ ribeirinho families the chance to participate in larger systems of economic value generated by the ‘new wonder’ fruit, açai. This situation offered an opportunity to study a group of people who (like many of our existing ‘labour in value chain’ stories) have been characterised as flexible, invisible and relatively voiceless agents. This is set within an environmentally sensitive region living the processes of conflict and adaptation between traditional ways and the forces of capitalist expansion. How are they being impacted and what new does this methodology tell us about the relation between

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89 As noted by Chen 2006.

90 In this sense, what is happening in Amazonas is a steady but not even move between a domestic value chain (one more based on demographic intensification and urbanisation of consumption) to a more globalised chain, such as is more the case in Para. Yet this makes the study even more apt to a consideration of impacts and their determinants.
chain governance, labour use and impacts on well-being? In what ways has this relation of people to (a growing) market created tensions?

First, the initial consideration of chain engagement, labour division and changing livelihoods highlighted that there are significant benefits from chain involvement but that there have been important adaptations to the local context. For example, strategies for upgrading remained strongly family based and not more widely redistributive in orientation. Moreover, despite arguably positive net value added, many of those more advanced producers were not interested in ‘wine’ production. It involved too much effort for a family unit seeking a comfortable work-life balance.

For outlying regions engaged in trade there was a trend (albeit with limits) towards product (açai) specialization. Yet, in terms of the division of labour, a diversified livelihood model of family labour use (and often consumption provision) continued to dominate for even the most integrated chain participants. Moreover, despite considerable changes to consumption and exposure to new ways of doing things, few immediately noticeable changes to the gendered division of labour seem to have occurred. Thus, some change to the ‘logic’ of socio-economic relations occurred but with local adaption.

Secondly, on the basis of income, this study tells a more optimistic picture of the relation between chain engagement and labour outcomes than does much of our body of evidence on (other) buyer driven chains. Many producers in Amazonas state are making relatively good incomes from açai. Whilst producers’ incomes vary and other actors also gain considerably, açai offers families the possibility of sustainable livelihoods within an ecologically renewable environment. Strong local demand and rising prices, simple technologies, family labour division and more secure land tenure (in the last six years) have helped to underwrite this prognosis of fairly secure conditions. However, this outcome is quite dependent on what happens in terms of local structures of accumulation (e.g. monoculture & intensive cropping) and control (e.g. political processes and representative structures). Such results for income security have an important relation to broader market developments.

The analysis of human security values showed more nuanced results. These further demonstrate the value of combining labour process concepts and broader conceptualisations of the determinants of well-being. Firstly, while probably influenced by present bullish economic returns, the impact of açai marketisation
on a sense of cultural identification appears negligible for all but the most marginal or excluded producer. On a more negative note, despite changes to women’s time efficiency and tasks due to açai income, few changes appear to have occurred to perceptions of women’s role (by men).

Secondly, when we look at values in respect to sustainability the results are even more revealing - drawing a line between a purely income vs. ecologically based perspective. That is, despite early interpretations as unsophisticated and simple, ribeirinhos have always demonstrated a capacity to adapt their plant management techniques in ways which harmonise with their environment (Brondizio 2008). Yet to portray or assume that they are or can be ‘guardian forest managers’ is also not true91. This research provided more concrete illustration on this debate92.

For example, the most well-informed, well off families are both less convinced by sustainable futures narratives and more likely to be involved in the wood trade (beyond home maintenance/canoe making) than those less advanced within the açai chain. The process of greater sustainability awareness and the possible role of açai cultivation in this may, however, evolve - even if only as an exposte appreciation following a previous economic decision to engage in more intensive açai cultivation. It will also require stronger financial and morale evidence that açai is a substitute for wood as a cash income source for their (future) security.

Thirdly, in terms of representation, whilst the (‘modernizing’) idea and importance of quality, productivity and upgrading seems to resonate well for many, most ribeirinhos neither appreciate nor trust the top-down, market driven emphasis of the message coming their way from local political leaders. The analysis of subjectivity from a governmentality perspective also noted that there were limits to how collective an approach ribeirinhos would take. For them, solutions to açai trading constraints (i.e. the level of traders margins) or to related social problems (e.g. youth exclusion/robberies) must be local, social, fair and collectively made. Yet this emphasis did not appear to extend to the collective sharing of income benefits beyond the family unit, especially via institutions such as the local cooperative.

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92 As argued by Nugent 2002.
A very tempting and accessible form of income and livelihood provision has emerged from a product that all these families already know and value, in so many ways. As with the dominance of the rivers over their almost every feature of their lives, açaí is very much part of their social and dietary history. However, it is also one that they can live with as their new ‘black gold’, as long as that may last. They are flexible in more ways than just their movement between fishing, gardening and forest harvesting.

Yet their livelihood insecurities have not disappeared. Açaí is a seasonal form of income and the market is good but not so stable. Also, ribeirinhos remain a relatively invisible and alienated group who has seen other ‘wonder products’ come and go. Moreover, the current nature of local power relations may become more negative (as evidenced by expected cropping trends, political pronouncements/plans), maybe tipping the balance against further financial gains from açaí chain engagement.

They may always deviate from the message coming their way from local leaders and further afield. This is not just due to the dominance of informal livelihood survival on their part but because their local experience and ‘knowledge’ generates mixed responses to structures and messages of organization and production control at different moments. In an analogous way to the ambiguity of subjective responses to control in other contexts, in one instant we may observe pragmatic individualism, at another idealism and at others a certain propensity to collectivity. There may always be a variety of ‘logics’ of action and reaction of these peasants to the impulses created by new demands and preferences for the products of their environment.

Returning to the larger questions of this research, this study has revealed a detailed view of the impacts of value chain insertion on work, livelihoods and well-being. It has applied a broadened focus on subjectivity and sustainability that fits both this product and location but which could be adapted to other products/environments. Compared to existing ways of describing labour impacts of chain insertion and upgrading (e.g. economic vs. social upgrading; social downgrading), it has added a new and more detailed combination of concepts and a rich story, one based more on motivations and values.

93 Further work must not only look at other products using this methodology but it should also move in more detail into the area of social and health based impacts and indicators. Other types of workers should include those along the chain (e.g. port/transport workers) and other sensitive sectors of interest include tropical wood itself, scrap and soja/bio fuels.
This more nuanced view may give even greater caution to those who may wish to argue that upgrading and insertion can be positive for labour once certain barriers and institutional constraints have been removed. Structures of power are considerable and may even act to heighten existing insecurities and non-participation by producers. For more unambiguously positive outcomes for labour not only must economic needs (means) be satisfied. Preferred choices and voice should be ensured and respected such that, over time, the ‘logic’ of (global) chain ‘drivers’ comes much closer to the ‘logic’ of local sustainability.
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APPENDIX 1: Açai Market Supply and the Case Study Context

TABLE 1.1: Açai Production – Brasil and Key States, Quantity(t), Value (000 r$), and % of Total Quantity, 2008

<table>
<thead>
<tr>
<th>REGION</th>
<th>Quantity (t)</th>
<th>Value (000r$)</th>
<th>% of quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRASIL</td>
<td>120,890</td>
<td>133,746</td>
<td>100%</td>
</tr>
<tr>
<td>Para</td>
<td>107,028</td>
<td>122,638</td>
<td>89%</td>
</tr>
<tr>
<td>Maranhao</td>
<td>9,191</td>
<td>7,432</td>
<td>8%</td>
</tr>
<tr>
<td>Acre</td>
<td>1,537</td>
<td>745</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Amapa</td>
<td>1,294</td>
<td>939</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Amazonas</td>
<td>1,274</td>
<td>1,392</td>
<td>&gt;1%</td>
</tr>
<tr>
<td>Rondonia</td>
<td>374</td>
<td>385</td>
<td>0%</td>
</tr>
<tr>
<td>Bahia</td>
<td>250</td>
<td>213</td>
<td>0%</td>
</tr>
<tr>
<td>Tocantins</td>
<td>2</td>
<td>4</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: IBGE, 2009 and from FBB, “Fruitacultura – Açai ”, p15, Brasilia, 2010

Table 1.1 above illustrates the dominance of Para state in the production of açai in Brazil in recent times. In terms of supply developments, there was early recognition of the potential of the product in national and international markets, with various agencies of the Brazilian Government putting aside substantial proportions of their technical assistance, microfinance and land use provisions94 to assist local (especially small scale; Pena 2011) growers improve output and quality95. Moreover, whilst there is as yet little large scale commercial farm management and full chain control activity (by companies) in Amazonas state (3%; Pereira 2012), agencies such as Embrapa suggest that there are at least 15,000 hectares of managed forest in Para state alone (Embrapa 2006). Other studies note the rise in full chain control models by producers/exporters in Para (Brondizio 2008) and further growth in land areas devoted to scientifically managed monoculture production96. Agencies of the state, whilst supportive in

94 For example, açai production received 60% of Banco da Amazonia (BASA) financing for extractive development (via PRODEX programme) in the Northeast of Para between 1996-2002 (Binios D, citing Costa et al, 2004). State and Federal community land providers (e.g. INCRA) and various finance and technical assistance programmes (e.g. PRONAF) also helped significantly.

95 Promoting small grower market access, on the other hand, seems to have fallen more into the domain of NGOs, cooperatives and (to a lesser extent) unions, often with the technical and organisational assistance of both traditional and fair trade orientated producers and final products firms (in Brazil and the US, in particular).

96 In fact during fieldwork in July 2012, one local producer of açai in Para illustrated how their smaller operation had now become part of a larger Brazilian conglomerate whose açai strategy included 1500 hectares of monoculture, irrigated açai planting near Santarem. This company and chain consolidation and production rationalisation process (generally involving firms from Sao Paulo, Minas Gerais and Santa Catarina) thus appears to be continuing.
principle of small growers, see such “modernization” as inevitable and positive\textsuperscript{97}.

Despite the massive level of under-reporting (informality) in the açai market\textsuperscript{98}, even official figures note a rapid rise in production and output in recent years. Table 1.2 below notes official figures for output, in Brazil and for the states of Para and Amazonas. These figures highlight overall production growth (since 1995) and the dominance of Para state as a producer (85\% of total Brazilian output). Yet these figures also highlight the massive rise (but from a much lower base) in production in the case study state (Amazonas – 250\%) and the municipality of Codajás (250\%) during the last 10 years. Within these Amazonas figures, (and its surrounding communities) is one of the most significant regional centres (SDS 2005). Following maps (1.1/1.2) locate the case study within South America and Amazonas State.

\textbf{TABLE 1.2: Açai Fruit Production (t) – Brasil, Para State, Amazonas State, the Municipality of Codajás, 1995-2010 & (% change from 2000-2010)}

<table>
<thead>
<tr>
<th>YEAR</th>
<th>BRASIL</th>
<th>Para State</th>
<th>Amazonas State</th>
<th>Municipality - Codajás</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>108922</td>
<td>102574</td>
<td>64</td>
<td>95 (1996)</td>
</tr>
<tr>
<td>2000</td>
<td>121800</td>
<td>112676</td>
<td>932</td>
<td>120</td>
</tr>
<tr>
<td>2010</td>
<td>124421</td>
<td>106562</td>
<td>3256 (250.0%)</td>
<td>420 (250.0%)</td>
</tr>
</tbody>
</table>

\textit{Source: IBGE – Producao da Extracao Vegetal e da Silvicultura 2002 & 2010}

\textsuperscript{97} Especially, as it may also help promote the objective of tighter controls on quality and taxation.

\textsuperscript{98} With its cultivation extending to many far out areas and due to the strong level of local demand, much output never reach places (certain ports/agencies) where it is registered (for tax or statistical purposes).
Map 1.1: South America & Amazonia

Source: Google Maps
Table 1.3 below provides a brief socio-economic overview of the Codajás micro region from which the majority of respondent families are drawn and the nearby municipality of Tefe. Both Miua and Badajos localities are in the Municipality of Codajás.
**TABLE 1.3: Socio-Economic Characteristics of the Case Study Region (Codajás & Tefe)**

<table>
<thead>
<tr>
<th></th>
<th>Codajás</th>
<th>TEFÉ</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population (2010)</strong></td>
<td>23,206</td>
<td>61,453</td>
</tr>
<tr>
<td><strong>Income per head – rural / urban average; r$ month</strong></td>
<td>208r$ per month</td>
<td>319r$ per month</td>
</tr>
<tr>
<td><strong>Area – km²</strong></td>
<td>18,712km²</td>
<td>23,488km²</td>
</tr>
<tr>
<td><strong>GDP per head (2009)</strong></td>
<td>5,173r$</td>
<td>4,539r$</td>
</tr>
<tr>
<td><strong>Includes communities of:</strong></td>
<td>MIUA – Laranjal &amp; Massaranduba BADAJOS – Tamandare &amp; Iracema</td>
<td></td>
</tr>
<tr>
<td><strong>Average Educational Level – Northern Brasil</strong></td>
<td>6.6 years of school</td>
<td>6.6 years of school</td>
</tr>
<tr>
<td><strong>Level of Illiteracy – Northern Brasil</strong></td>
<td>9.2% over 10 years = illiterate</td>
<td>9.2% over 10 years = illiterate</td>
</tr>
<tr>
<td><strong>UNDP – IHD (2000)</strong></td>
<td>0.593</td>
<td>0.663</td>
</tr>
<tr>
<td><strong>No. Health Centres</strong></td>
<td>9</td>
<td>35</td>
</tr>
<tr>
<td><strong>Energy / Post Offices</strong></td>
<td>Connected / yes</td>
<td>Connected / yes</td>
</tr>
<tr>
<td><strong>Water/Sewerage</strong></td>
<td>Artesian / septic usually</td>
<td>Artesian / septic usually</td>
</tr>
</tbody>
</table>

**Sources:**
BRASIL. IBGE CENSO, 2010
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APPENDIX 2: INTERVIEW GUIDE

a) **Background:**
- Family structure – numbers, gender and ages
- Time in locality
- Nature of land tenure
- Size of area / structure and use of land area / number of açai palms
- Activities of children / occupations of parents

b) **Production and Labour Process:**
- Years with açai
- Fruit and/or wine
- Production last year/harvest – bags and/or liters
- Cultivation model
- Range of selling times and prices
- Where sells to / who sells to / how often use trader
- Division of labour – in home / in gardens / in forest/ on river
- Technologies of production / location of production
- Other forms of production e.g. sharing / sharecropping/ family model

c) **Livelihood / Quality of Life (QOL)**
- other products – for sale / for home…quantities / for where?
- past products / change?…why?
- change in quality of life?...if/when/how/why….
- new forms of consumption
- social problems …
- future perspectives / açai as a driving force?....(assessment)

d) **Human Security - values (more open discussions)**

i) **Collectivism:** comparing attitudes to traders and other organizations of representation – and why; what do and should they do….?; who do you identify with and why?; future plans for production organization and the community….?

ii) **Culture Shock / new ways:** açai use now is a change from past / açai in other markets – how do you perceive this; how is or might it affect your
livelihood?; new trends in the division of labour/ new forms of consumption – impacts?

iii) Sustainable Futures: was ecological sustainability a motivating force to enter/increase açai production…is it now?; what is sustainability to them/ how important is it?; how has it affected (your) product choice; sustainability and other issues…. (e.g. social structures/security…)
APPENDIX 3: ACTORS CONSULTED/VISITED AND ACTIVITIES

a) Manaus:
- UFAM researchers – open discussions/ document retrieval
- Waku Sese - Açai Kiosks and Restaurants – interviews with staff, marketing and general manager and detailed factory visit/interview
- IPA – documents / discussions
- Ports of - Panai and Balsa do Boi – early morning visits/interviews with traders, carriers and buyers

b) Tefe:
- Open discussions with families / producers travelling back by boat
- IDAM local director - interview
- STR director of planning and campaigns - discussion
- Local producers – 4 detailed interviews/farm visits; various informal discussions
- Travelling producers/sellers interviews – outskirts of town
- Town based “Wine” makers – interviews /semi-structured
- Local market – observation and “wine” maker open discussions

c) Codajás
- Port observations / seller chats
- IDAM director - open interview
- Secretary of Agriculture – interview
- Planet Açai Factory – 3 visits/observation tours / interviews with workers and manager
- Planet Açai Cooperative /Credit Society – president interview
- STR – 2 interviews with directors
- Local Producers – 3 detailed interviews/visits to farms; 2 interviews at homes in Codajas
- Açai Festival – interviewed organizers and supporters; attended cultural event celebrating Açai
- Photo Expose taken

d) Miua:
- 9 detailed structured/semi-structured interviews with families / earlier general discussions-visit
- Tour of area/locality and mapping walks at homes of interviewees
- General tour of Governmental projects in area
- Broad discussions with association presidents
- Round table evening discussion with group of local producers on “significance of açai to them”
- Photo expose taken

e) Badajos:
- 12 detailed structured/semi-structured interviews with families / earlier general discussions-visit
- Tour of area/locality and mapping walks at homes of interviewees
- General tour of Governmental projects in area
- Broad discussions with association presidents
- Photo expose taken