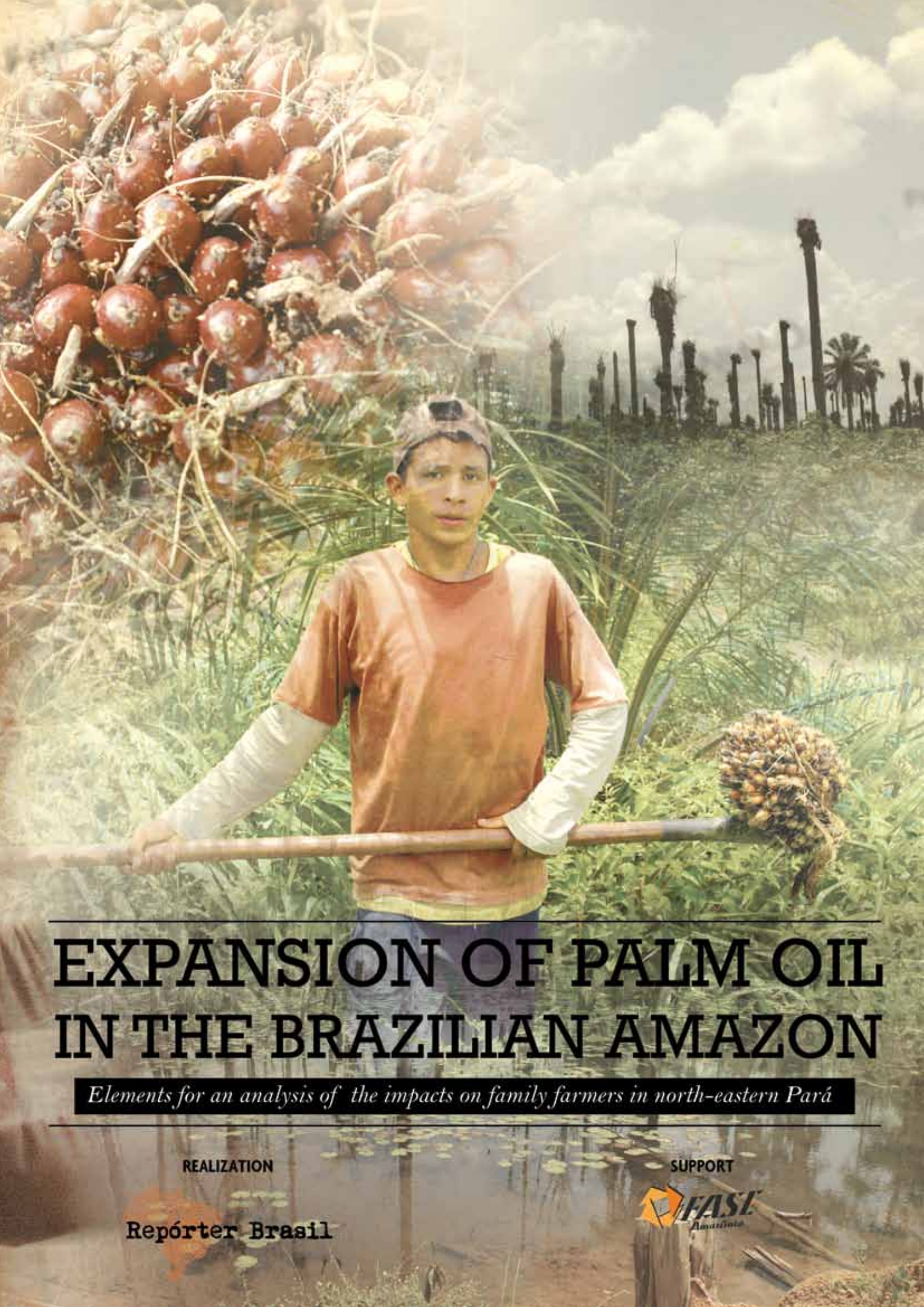

EXPANSION OF PALM OIL IN THE BRAZILIAN AMAZON

Elements for an analysis of the impacts on family farmers in north-eastern Pará

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Expansion of palm oil in north-eastern Pará

Photo: Verena Glass

Despite appearing as a priority at the National Programme for Production and Use of Biodiesel (Programa Nacional de Produção de Uso de Biodiesel, PNPB) for Brazil's North region since its inception in 2004, palm oil began receiving major investments, especially in the state of Pará – the largest producer – after the Palm oil Agro-Ecological Zoning[1] and the Programme for Production of Palm oil were launched in 2010.[2]

'Institutionalization' of palm oil plantations in the Amazon – which has been taking place at industrial scale in the region since the 1990s – through the new regulations of public policies for the sector allowed integrating family farming into large biodiesel companies under a new light, with financial support from Pronaf Eco Dendê[3]. With 25-year-long partnership contracts (detailed below), companies are expected to benefit from tax incentives for biodiesel production through the Social Fuel Seal[4], while small farmers are placed in a new scale of agroindustrial production.

Participation of family farmers in planting palm oil is expanding the area occupied by the crop in north-eastern Pará, the main producer area in the state. According to the Palm oil Agro-Ecological Zoning, 37 municipalities are proper to the activity. Currently, according to data from the Pará State Department of Agriculture (SAGRI), summing up the areas belonging to businesses to those occupied with family-based palm oil plantations, the region accounts for approximately 166 thousand hectares covered by the crop.[5]

Currently, medium and large companies such as Agropalma, Biopalma Vale, Yossan, Dempasa, Marborges, Dentauá, Petrobras/Galp, ADM, and Palmasa, and other smaller-scale ones, occupy together 140 thousand hectares, with prospects for expansion to 329 thousand by 2020, as shown in Table 1.

TABLE 1: PRODUCTION OF PALM OIL IN PARÁ

COMPANY	MUNICIPALITIES	PLANTED AREA (ha)	INSTALLED CAPACITY (t)	EXPANSION PROJECTS (ha)
Agropalma	Acará, Moju e Tailandia	45.000	201	50.000
Biopalma	Abaetetuba, Acará, Concórdia do Pará, Moju, Tomé Açu e São Domingos do Capim	42.000	40	80.000
Yossan	Santa Isabel do Pará	16.000	----------	20.000
Denpasa	Santa Bárbara do Pará	6.000	12	10.00
Marborges	Moju	5.000	20	10.000
Dentauá	Concórdia do Pará, Santo Antônio do Tauá	4.000	----------	6.000
Petrobras/Galp	Moju Tailândia, Tomé-Açu, Acará, Concórdia do Pará, Bujaru e Abaetetuba	4.000	----------	75.000
ADM	São Domingos do Capim	3.000		50.000
Palmasa	Igarapé Açu	3.000	28	8.000
Outros		12.000	----------	20.000
TOTAL		140.000	340	329.000

Source: Sagri and Repórter Brasil

According to data from Banco da Amazônia (BASA, in charge of the loans from Pronaf Eco Dendê), in addition to the palm oil areas grown by family farmers before 2010 (about 20,2 thousand ha), from 2010 to 2012, the industry signed 581 new partnership contracts, as shown in Table 2.

Source: Basa

TABLE 2: FAMILY FARMERS INTEGRATED INTO PALM OIL BETWEEN 2010 AND 2012

MUNICIPALITIES	NUMBER OF FAMILIES	AREA
Acara	42	420
Aurora do Pará	3	30
Baião	1	10
Bujaru	1	10
Cameta	3	30
Castanhal	1	10
Concórdia do Pará	16	160
Garrafão do Norte	20	200
Igarapé-Açu	3	30
Irituia	11	110
Mocajuba	1	10
Moju	115	1150
São Domingos do Capim	143	1.430
Tailândia	95	950
Tomé-Açu	126	1.260
TOTAL	581	5.810

As for the 2012/2013 harvest, BASA planned to support other 1,610 contracts between businesses and farmers, adding over 15,300 hectares to the region's palm oil culture, as shown in Table 3:

Source: Basa

TABLE 3: PLANNING FOR IMPLEMENTATION OF PRONAF-ECODENDÊ IN 2012/2013 CROP

COMPANIES	MUNICIPALITIES	FAMILIES	(ha)	VALUES (in R$)
Biopalma Vale	Abaetetuba \ Moju	200	2.000	16.000.000,00
Agropalma	Moju	15	150	1.200.000,00
Petrobrás	Igarapé-Miri, Baião e Mocajuba	300	3.000	20.000.000,00
ADM do Brasil	S. Domingos do Capim 1	160	1.200	12.800.000,00
ADM do Brasil	S. Domingos do Capim 2	160	1.200	12.800.000,00
Belém Bioenergia	Tailândia	200	2.000	16.000.000,00
Belém Bioenergia	Tomé-Açu	100	1.000	8.000.000,00
Biopalma Vale	Tomé-Açu \ Concórdia	300	3.000	24.000.000,00
Marborges	Garrafão do Norte	60	600	4.800.000,00
	Capitão Poço	75	750	6.000.000,00
	Nova Esperança do Piriá	40	400	3.200.000,00
TOTAL		1.610	15.300	124.800.000,00

1. ECONOMIC ASPECTS

As pointed out by Federal University o Pará (YFPA) researchers João Santos Nahum and Antonio Malcher[6], the population of Pará's palm oil region is made up mainly by riverside dwellers, maroons, family farmers, and rural workers, who use the land as a hub for structuring communities. According to Nahum and Malcher, 'this fact, coupled with the sector-based and economic view on rural areas prevailing in censuses, probably explains the near invisibility of peasant production in the statistics of official bodies who insist that Amazonian peasant households have no economic weight, that they are obsolete and economically irrational'.

Public authorities say that the weakness of family farming production processes in north-eastern Pará has justified investments in palm oil as a viable income option. According to the programme for palm oil in family farming, which covers 10-acre areas planted on family bases, small farmers can earn about 2,000 reais per month at peak production, which extends from the fifth to the 18th year of life of the palm trees.

A costs-and-earnings reference made by the Brazilian Agricultural Research Corporation (Empresa Brasileira de Pesquisa Agropecuária, EMBRAPA), together with Dendê do Pará S. A. (DENPASA) in 2010, has oriented loans for Pronaf Eco Dendê from Banco da Amazônia, which currently provides up to 80 thousand reais per family over 14 years (renewable for another six years) to pay off their debts. Companies estimate that, if the plantation is managed according to technical specifications, a family can produce from 80 tons of palm oil fruit per year, on 10 ha, after the third year, up to 280 tons/year after the 10th year[7].

In practice, however, the calculations have some distortion if applied to the letter in 2013. Besides inflation in the past three years, which increased the cost of materials, inputs, work, personal protective equipment, work tools (such as sprayers) and machine/hours, many farmers produce much less and use much more pesticide, labour, and other items than predicted by EMBRAPA.

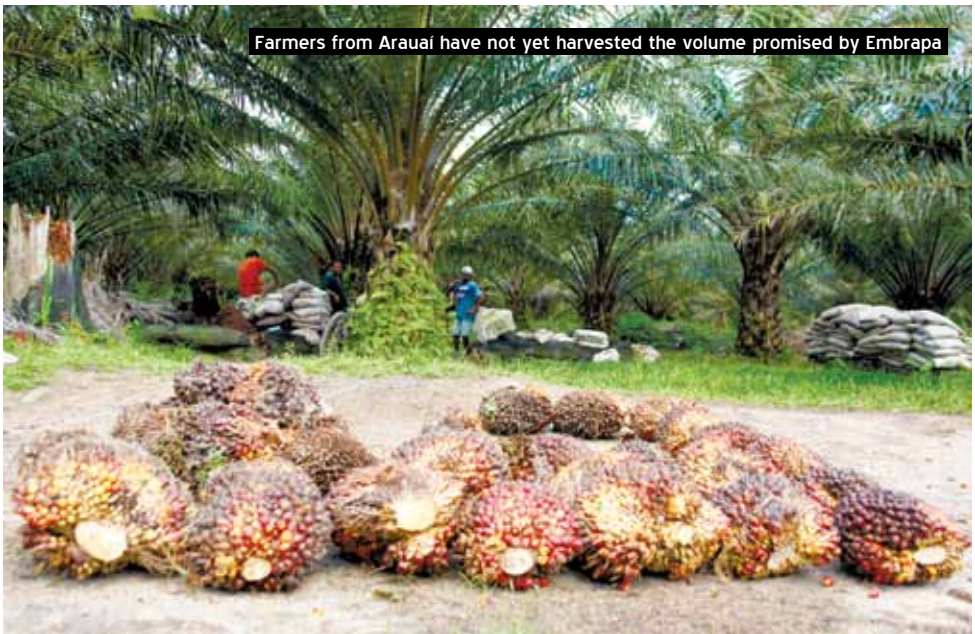
On the other hand, the production at palm oil plantations has reached 280 tons/year in family farms, as can be seen in the earliest experiences of the region. In the community of Arauaí, in the municipality of Moju, for example, where about 150 families have been planting palm oil for the company Agropalma since 2002, the average production is around 200 tons in 10 ha, according to the producers. Based on this experience, the possibility that the earnings of a family with the crop does not reach the rates provided by Embrapa is real.

TABLE 4: INPUTS AND LABOUR REQUIRED FOR THE CULTIVATION OF 10 HA OF PALM OIL IN FAMILY AGRICULTURE (VARIOUS STAGES OF CULTIVATION)

DISCRIMINATION	UNIT	SOIL PREPARATION	PLANTING	MANAGMENT YEAR 1	MANAGMENT YEAR 3	MANAGMENT YEAR 5	MANAGMENT YEAR 10
1. PREPARING THE AREA							
1.1. manual + mechanized							
Mowing new growth on cleared land	day/man	160					
Stump removal and windrowing (D-6)	hour/tractor	40					
Inner roads	M	400					
SUB-TOTAL	-						
1.2. MANUAL	-						
Picket removal	day/man	5					
Demarcation and picketing	day/man	20					
Pitting and levelling	day/man	40					
2. PLANTING							
2.1. Labour	-						
Seedling distribution	day/man		10				
Fertilizer before planting	day/man		10				
Planting	day/man		10				
Planting pueraria	day/man		10				
Fertilization	day/man		14	21	21	28	28
Manual weeding (4 to 6/year)	day/man		75	75	63	50	25
Manual lowering	day/man		60	60	60	45	30
Phytosanitary inspections	day/man		29	29	29	14	14
Application of herbicides	day/man					10	10
Application of ant killer	day/man		10	10			
Pest Control	day/man		10	10	10	10	10
Harvest	day/man				72	119	198
Bunch removal	day/man				61	61	90
Bunch transportation	Ton				60	200	280
2.2. materials	-						
Pueraria	Kg		30				
Palm seedlings	One	1.502					
Organic fertilizer (40-kg bag)	Bag		536				
Formula - 04-11-23	Kg						
Formula - 14-05-20 +2,5	Kg		1430	2145	2145	3.600	1144
Arad	Kg		572				
Magnesium sulfate	Kg		150	150	300	450	1300
Borax	Kg		150	150	180	150	150
Rodenticide	Kg		20	10			
Insecticide	Litre		10	10	10	10	10
Ant killer - bait	Kg		10	10			
Herbicide	Litre					15	15
Insecticide Trap	Capsule		12	12	12	12	12
3. EQUIPMENT							
Backpack Sprayer/Backpack Mower	Unit		10				
Hand tools and PPEs	Several		10	10	10	10	10
4. ANNUAL PRODUCTION	Tons				60	200	280

Source: Calculation reference by Embrapa/Dempasa

Given this, Table 4 lists only the items used to calculate costs and revenues, by a year-based sampling, in order to assist farmers to make a more realistic projection on expenses and earnings.



Farmers from Arauaí have not yet harvested the volume promised by Embrapa

Photo: Verena Glass

CASE STUDY: PARTNERING WITH FAMILY FARMING IN CONCÓRDIA DO PARÁ

Raimundo Reis, a Biopalma Vale partner, still spends more than he earns

Photo: Verena Glass

Raimundo Lopes dos Reis, a farmer from Concórdia do Pará, a town located in the north-eastern area of the state, started a partnership with Biopalma Vale in early 2010. He planted 10 acres and took a loan of 57,500 reais, putting 8,000 reais more out of his own pocket. In January 2013, he began to harvest. Happy with the results, he says he earned 1,800 reais from palm. Asked if this amount covered production costs, Reis started making calculations.

To help in the work of fertilization and weeding of palm trees (herbicide application around plants), Reis hired four people during five days, at 30 reais per day, totalling 600 reais in wages. Then, three more people were hired for six days to help in handling and harvesting the crop. Cost: 540 reais. Two more days of tractor lease (300 reais per day), 600 reais. Adding the 666 reais of fertilizer and 105 reais of poison, total expenditures were 2,511 reais, compared to 1,800 reais of income. Thus, in January, the farmer had 'losses' of 711 reais.

Hiring helpers and leasing tractor drive up costs

Photo: Verena Glass

It can be argued that Raimundo dos Reis's case is typical of those who are starting the cultivation of palm oil. As years pass and production increases, income will also increase. Still, it is possible to make a rough estimate of what might occur.

Let us take the Arauaí community, in Moju, as a basis. They have been planting palm oil in partnership with Agropalma for almost ten years now. The average productivity is 20 tons per ha/year, according to the company. Multiplying the output by 10 hectares gives 200 tons/year per family. Based on the price of 255 reais paid per ton (quotation provided by Agropalma on 03.12.2013), the average gross income in the area would be 51,000 reais/year. Divided by 12 months, that is 4.250 reais/mês.

Of the total income derived from production, however, 25% are retained by Banco da Amazônia to pay for the loan, and 25% to pay for fertilizer supplied by the company. This means a 50% decrease in net earnings, which would be around 2,125 reais. Calculating the cost of plantation management, based on the experience of Raimundo dos Reis, one can conclude that, discounting the fertilizer, already accounted for in the 25% above, leaves about 1,800 reais of expenses. Subtracting this value from monthly earnings, a family would have a profit of about 325 reais/month with 10 hectares of palm oil until they pay off their debts to the bank (14-20 years), after payment for labour (self or hired).

► Partnership agreements between companies and family farmers

Despite following strict legal provisions, partnership contracts between companies and family farmers, prepared by the former, establish relationships that area close to the employer/employee model between businesses and 'integrated' farmers.

Take for example the contract with Petrobras[8]. As an initial condition, the company defines that the area occupied by palm oil cultivation is exclusive, farmers being prohibited from using intercropping systems with palm oil, despite being the owners of the land in question.

The company also requires, by contract, unlimited access to the producer's area, stating that 'the BUYER shall have free access to the PRODUCER/SELLER's property, being at liberty of visiting the latter's premises whenever it deems necessary, in order to verify the regularity of conditions of plantation and soil, provide the necessary assistance, as well as to monitor the implementation of this Contract.

The company also oversights the small farmer's planting and management. Under the contract, 'the PRODUCER/SELLER undertakes to prepare the plantation area by strictly following the chart and technical specifications provided by the BUYER.

The PRODUCER/SELLER undertakes to carry out the activities of planting and maintaining the palm oil plantation according to technical recommendations as well as safety, environment and occupational health guidelines provided by the BUYER, in particular with regard to cleaning, lowering, weeding, pruning and spacing, fertilization, and pest control of crops.

The PRODUCER/SELLER undertakes to conduct cleaning and conservation of palm plantations, especially in the area covered by this Contract, and the latter must be in good conditions for harvesting and transportation. (...)

The PRODUCER/SELLER undertakes to faithfully perform all farming operations and guidelines relating to safety, environment, and occupational health set by the BUYER's Technical Assistance Service as defined in Normative Instruction 01/2009'.

The company also sets the price to be paid for the output and already establishes penalties in case it is not happy with the result. Under the contract, 'the price referred to in item 8.1 is for the product that meets specifications designated as standard in Appendix VI. A discount factor in price will be applied to the product that does not fit standard classification as defined in Appendix VI'. The company also produces periodic reports to Bank of Amazonia, so the latter will release (or not) the payment to the farmer engaged in the loan operation under the Eco Dendê programme.

Other clauses of the contract have disparities between the rights of both parties. The document provides, for example, that the 'PRODUCER/SELLER may not transfer, in whole or in part, the rights provided in this Contract, except with the prior written permission of the BUYER. However, the BUYER is hereby authorized to transfer this Contract, in whole or in part, to subsidiaries, parent companies, related companies, joint ventures or companies under the control by or owning shares of the BUYER or Petróleo Brasileiro SA – PETROBRAS'. The contract also guarantees to the company that it 'may be terminated at any time by the BUYER for just cause, in case that developing the activities object of the contract becomes impossible, either from a technical or a legal standpoint'.

According to João Augusto Araújo Paiva, general production manager of Petrobras Biofuels's (PBio) Biodiesel Board, contract provisions that guarantee the company access to the lands of its partners as well as those defining management practices, should ensure the good performance of palm oil plantations and its production – which is in the best interest of both Petrobras and farmers.

In turn, the requirement for palm to be grown without intercropping is real, but Petrobras would have commissioned studies to EMBRAPA to develop alternative practices in this regard. 'I confirm that the clause exists, but we'll try to change this; we have already asked for studies from Embrapa', Paiva explains. Asked about the inability of many families to keep their palm plantations and small food plantations, he said that the company has sought primarily to establish partnerships with farmers who undertake not to abandon their food crops. 'Of course, it is not on the contract, but it is one of the conditions for the partnership.

2. Reordering regional production

Photo: Verena Glass

Palm allows little time and space for food crops

The fast pace of expansion of palm culture and the incorporation of family farming to the activity has already changed the productive structure of the region, as noted in the research conducted by João Santos Nahum and Antonio Malcher. Between 2008 and 2010, land acquisition by large companies focused largely on parcels belonging to small farmers, many of whom, having sold the land, went to work as employees of labour middlemen – the so-called 'cats' – or to those very companies in establishing new agroindustrial palm oil plantations.

Producers who opted for palm oil in partnership with the companies, in turn, have mostly abandoned food crop plantations and gardens. Of all statements collected in the field along five years of research at **Repórter Brasil's Biofuel Watch Center (BWC)** in the municipalities Abaetetuba, Acará, Concórdia do Pará, Moju, Tomé-Açu and Tailândia, only one producer did not cease to plant food crops, because of a system of property organization based on small businesses.

These two phenomena have already been linked by experts to a price increase of basic food items, both in north-eastern Brazil and in Pará's capital, Belém. According to surveys by the Inter Trade Union Department of Statistics and Socio-Economic Studies in Pará (Departamento Intersindical de Estatística e Estudos Socioeconômicos, DIEESE/PA), the core driver of the 12% increase of the 'staple food package' in the state between January and December 2012 (almost twice the year's inflation calculated by IBGE) was cassava flour, which increased by 90% during this period.

Photo: Verena Glass

Cassava flour has never been so expensive in Pará

The same phenomenon was repeated in the early months of 2013. According to DIEESE, 'March 2013 was the 11th consecutive month with increases in the price of cassava flour consumed by Pará residents. (...) The prices per kilogram of flour practiced today in the Greater Belém Area are the highest ever recorded by DIEESE/PA since the beginning of the Staple Food Package Survey in 1980'.

Other Pará's population's staple food items that saw significant price increases are açaí palm and fish. According to DIEESE'S survey for March 2013, in the Greater Belém Area the price of 'medium açaí' (the most consumed type) increased 45.27% over February prices. In the 1st quarter of 2013 (January-March), the increase in this type of açaí reached 80.14%. Fish, in turn, increased by up to 20.3%, depending on the type. The official inflation rate for the same period was around 3.50%.

While pointing out factors such as seasonality, crop failures, and obstacles in trading, DIEESE/PA economist and technical supervisor Roberto Sena sees a link between the advancement of palm oil and higher food prices. 'The problem of family farming is the absence of production policies; they stopped fostering cassava in exchange for palm oil', says Sena. According to him, because of the little investment in food production, about 60% of what is consumed in the state comes from other places. 'Pará has now the highest cost of living in the country, according to the IBGE', says Sena.

On the other hand, a comparison between the income from palm oil and some of the major crops of the local family farming has shown disadvantages for the former in 2013. This is the case of pepper and açaí, according to calculations by small farmers heard by BWC in March. Despite having abandoned any other crop since he established the palm partnership with Biopalma Vale, Raimundo Lopes dos Reis estimates that his earnings with pepper on 10 acres would be around 3,000 reais/month while with açaí he would earn 1,250 reais/month. 'But, with flour at such prices, which are around 8.00 reais/kg in Belém, had I planted cassava, I'd be rich today', he ponders.

CASE STUDY: DRUDGERY AND DRUG CONSUMPTION

Having being a farmer, B. R.[9] currently works as a 'cat' (labour middleperson) in a community located by the PA-252 state road linking Abaetetuba to Moju. In 2009, Biopalma Vale bought the family's 400-acre area and helped B. R. to build the business that, in March 2013, represented 30 men who worked in palm oil planting and management for the company.

According to B. R., the average income of outsourced labourers in companies' palm oil plantations is around 1,200 reais/month. Payment is calculated at one minimum wage for every 20 seedlings planted, plus 20 cents per additional seedling. The same payment applies to pruning, and only fertilization pays 0.86 real per additional plant.

For Biopalma Valley's labour outsourcing contracts, 'cats' receive a pre-established payment to perform a particular service in a particular area, explains B. R. The payment of wages, transportation, personal protective equipment, food, and all other expenses with workers shall be borne by the middleperson. 'This could be a problem. For example, when it rains a lot, we have to work anyway. Men planting palm oil with water up to their shin, pits filled with water. Then wind comes during the night and all seedlings topple. The next day, we have no option other than to go back and do all the work again, without earning a penny more for it', explains B. R.

The very arduous labour in palm was one of the most important aspects pointed out by the middlewoman. According to B. R., a new phenomenon, already known in São Paulo's sugar plantations, is spreading in Pará's working fronts: consumption of and addiction to hard drugs such as cocaine and crack. 'At least four of my 30 employees became addicted to cocaine in the palm working fronts. I speak of those I know; there might be others. But the drug problem is general, that I know for sure', she said.

Currently unemployed, J. R. M., pointed by neighbours as one of the workers who got hooked on drugs at the work fronts, worked for another cat for a year. According to J. R. M., who worked at Biopalma Vale's Prateada and Malhada farms, he could not stand the pressure of the heavy labour. 'We used to wake at 3 a.m., have a cup of weak coffee and go to the palm plantation. We worked from 6 a.m. to 3 p.m. in planting and thinning seedlings, but any fault and we'd have a discount in payment. Neither I nor my brother could put up with that', he explains.

Asked about drugs, J. R. M. did not admit that he had been or still were a user, but confirmed the practice. 'There are many people using. Because while you do a line (of palm seedlings), the guy who uses cocaine does one and a half. So he earns more, he's not tired or hungry, and he doesn't feel it when he gets hurt. So many people use it'.

According to residents of the Pontilhão community in Abaetetuba, one 'puruca' (wrap) of cocaine is sold for 20 reais in the region, and a marijuana cigarette goes for 2 reais. 'There were drugs here before that, but never as much as now, since the arrival of the palm. In our community, I knew nine drug selling points. Last year, it jumped to 17. I can say for sure that drugs came to communities with palm oil', said one community leader who asked not to be named. 'I know of cases where the employee left 600 reais with the drug dealer as soon as he got his pay. There are drug dealers doing business even at palm work fronts. But here you can not report it; we are afraid of dealers' reactions', he explains.

3. Environmental aspects

Photo: Verena Glass

Communities are worried about contamination of streams by pesticides

One of the main environmental impacts of palm oil already detected in north-eastern Pará (after the wave of deforestation practiced by – or at the behest of – companies in family farming parcels in order to establish palm between 2008 and 2010[10]) was the pesticide contamination of streams that flow to the region's numerous rivers – such as Pará, Tocantins, Moju, Acará, Acará Miri, Capim, Aiu-Açu, Maracanã, and Camari, among others.

At the Murutinga community, located by the PA-252 state road in the town of Abaetetuba, residents reported that women washing clothes in the stream with the same name and that border palm oil plantations have often complained of itching and skin rashes. 'You cannot use the water of Murutinga anymore, everything is poisoned', said Mr. Sebastião, who owns a roadside restaurant.

The problem also extends to residents of communities near plantations, many of whom are selling their parcels. In Concórdia do Pará, farmer Antonio Ribeiro has a small plot in the community of Castanhalzinho (next to the Curuperé maroon community), located directly on the border of a large Biopalma Vale palm plantation. According to Antonio Ribeiro, on days when poison is applied to palm, his family suffers from severe headaches ('Yesterday, I spent 24 hours at the hospital because of pain'), and it is not possible to raise any poultry, such as chickens and ducks. 'I tried to, but they get sick, start drooling, and then they die. I cannot tell if it's because of the poison, but I believe so', says the farmer. The main problem of the family, however, is that the only source of drinking water, an artesian well, is located less than 50 meters from the palm plantation.

The Curuperé stream, which crosses the palm area in question, is one of the major waterways that feed the maroon community of Curuperé. According to José Francisco Maciel, leader of the Association of Maroon Descendants of Nova Esperança de Concórdia (Associação de Remanescentes de Quilombos de Nova Esperança de Concórdia, ARQUINEC), the local population is apprehensive about the possibility of contamination with pesticides, especially on children. 'The stream is one of the main leisure places for the community, and there is strong fear of what might happen if its waters are being poisoned', Maciel says.

According to SAGRI technician Arnaldo Martins, the average amount of herbicide applied to each hectare of palm oil is 2 litres per year, with two annual applications. Based on a SAGRI estimate that the state currently plants 166,000 hectares of palm, it can be said

that about 332,000 litres of herbicide are or will be applied each year to the crop, depending on their stage of development.

To this we can add, under the same logic, other poisons listed in the EMBRAPA table of inputs (Table 4 of this study), such as rodenticide (20kg/10 ha, totalling 33.2 tons/year in the 166,000 ha of Pará's palm oil plantations), insecticide (10 l/10 ha, or 166,000 litres/year), ant bait (10 kg/10 ha, or 166 tons/year), and insecticide traps (12 cápsulas/10 ha or 19,920 capsules/year).

These calculations are obviously inaccurate due to the peculiarity of each production area. EMBRAPA'S indications are based on family units, and it is estimated that the use of poisons in large plantations is much higher. The fact is that the large volume of pesticides in areas that used to be scarcely affected by these products, with high occurrence of water bodies and high levels of rainfall, may become a risk to both the communities and the animal and plant biodiversity exposed to contamination.

Antonio Ribeiro, who lives next to the Biopalma palm plantation, has his health affected

Photo: Verena Glass

FINAL REMARKS

The implementation of the Palm oil Production Programme in Pará, with assistance, incentives as well as technical and financial support from federal and state governments, the private sector, and even labour unions, has been conducted in such a way that little is discussed with the most important target audience – family farmers. Much is promised and little is debated about its impact on traditional ways of life and on other alternative sources of income and development.

Invited by Repórter Brasil's **Biofuel Watch Center** to analyze Petrobras's contract with small farmers, Labour Judge Marcus Barberino, a rural labour relations expert, underscored an important fact: the imposition of monoculture in small farmers' areas threatens the very structure of family farming program, which is to generate food and livelihood on the spot for families, and not only monetary means.

According to Judge Barberino, the model adopted by the palm programme – expressed in partnership contracts, besides showing an asymmetry (inequality of arms) between the contracting parties, encourages the deconstruction of the diversity represented by family farms. 'The clauses that stipulate dissemination of technical knowledge, standardization of production processes, and the design of loan proposals seek to give uniformity to the behaviour of producers and, in theory, spread practices related to the management of capitalist agribusiness between them (...). In short, they crush the traditional agrarian economy, "educating" the subsistence economy for larger scale exploitation and current technical bases', says the judge.

The monochromic model for the development of the palm culture, based on a species that is exotic to the Amazon biome and focused on biodiesel production, already shows evidence that the food security of the producing region will be affected. Its effects for family farm income, for the re-concentration of land, for the transformation of small farmers into wage labourers – often under precarious conditions and exposed to problems like drug addiction – for communities near palm areas and for biodiversity, rivers and streams need further study, but, again, signs of trouble are multiplying.

Given this context, one must question whether the resources and technology investments reserved for palm could not be likewise applied to the consolidation of a diversified as well as socially, environmentally, and economically healthy family farming. A challenge remains to organizations representing small farmers, support and advising institutions, academia, government officials and especially farmers themselves to deepen this debate.

Photo: Verena Glass

NOTES

1 More information on the Agro-Ecological Zoning of Palm oil at http://www.cnps.embrapa.br/zoneamento_dende/ZonDende.pdf

2 More information on the Palm oil Production Programme at http://www.agricultura.gov.br/arq_editor/file/camaras_setoriais/Palma_de_oleo/1_reuniao/Programa.pdf.

3 Created in 2007, PRONAF Eco, intended to encourage production of agro-energy crops from family farming within the National Programme for Production and Use of Biodiesel (PNPB), has been a core tool for state agricultural policies in north-eastern Pará since 2010. Nowadays, it offers loans of up to 80,000 reais to family farmers 'integrated' into large companies.

4 More information on the Social Fuel Seal at http://www.mda.gov.br/portal/saf/programas/biodiesel/2286313

5 More information on the Palm oil Programme – state of Pará, February 2013: http://palmadeoleo.cpatu.embrapa.br/menu/apresentacoes-workshop/dia-26-02-2013-manha/hildegardo-nunes-apresentacao-embrapa-26-02.13

6 Nahum, João Santos and Malcher, Antonio Tiago Correa – Dinâmicas territoriais do espaço agrário na Amazônia: a dendeicultura na micro-região de Tomé Açu (PA) – http://confins.revues.org/7947

7 The original table can be accessed at http://reporterbrasil.org.br/wp-content/uploads/2013/05/Cópia-de-coeficientetecnicodendê-Denpasa-Curso-Embrapa-Roberto.xls

8 Read the full contract at http://reporterbrasil.org.br/wp-content/uploads/2013/05/Contrato-dendê-Petrobras.pdf

9 We have not mentioned interviewees' names in this study to preserve them.

10 A agricultura familiar e o programa nacional de biodiesel, pp. 25-26 – http://reporterbrasil.org.br/documentos/AgriculturaFamiliar_Biodiesel2010.pdf

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