

Eucalyptus Plantations for Energy:

A case study of Suzano's plantations for wood pellet exports in the Baixo Parnaíba region, Maranhão, Brazil

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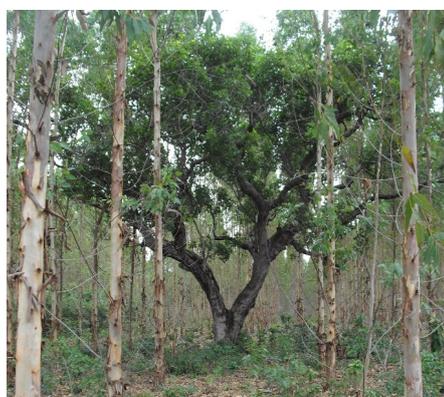
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Clockwise from top left: Community meeting in São Raimundo, Buruti trees in Urbano Santos, *Ivonete Gonçalves de Souza*. Pequi tree fenced by eucalyptus, municipality of Santa Quitéria, *Winnie Overbeek*. Suzano eucalyptus plantation for biomass, Suzano airstrip in Urbano Santos, *Ivonete Gonçalves de Souza*.

“By buying their products, they are causing us misery.”

Response from a community leader in Santa Quitéria, Baixo Parnaíba, Maranhão, when asked what their message to the European buyers of Suzano's eucalyptus is.

1. Introduction

During a time when polluters are re-branding themselves as “green”, and when energy companies pursuing business-as-usual are calling themselves “renewable energy businesses”, it is of utmost importance to expose the reality behind these statements and to gain a better understand of supposedly “renewable” and “green” projects.

Good examples of this are the “innovative” [1] projects being developed by Brazilian pulp and paper company Suzano Papel e Celulose in the Baixo Parnaíba region in the state of Maranhão in northeastern Brazil. In this region, Suzano plans to produce wood pellets for “renewable energy” from extensive monoculture eucalyptus plantations which they call “energy forests.” Those wood pellets are to be sold to European energy companies currently trying to meet European Union renewable energy targets, with the declared purpose of curbing climate change. The UK energy company MGT Power Ltd has emerged as a potential buyer of Suzano's pellets, after having signed a non-binding 'memorandum of understanding' with Suzano in August 2010. [2] An MGT spokesperson confirmed that they are comfortable doing business with Suzano who, they claim, are one of the world's largest producers of paper and pulp, are well-established and meet sustainability criteria. [3]

The aim of this report is to illustrate the impact of Suzano's monoculture eucalyptus plantations on the Baixo Parnaíba region. These impacts are both environmental and social ones. The Cerrado, a vast and abundant tropical savannah eco-region in Brazil, which sustains much of the region's population, is increasingly being cleared to make way for plantations. This is destroying the livelihoods of rural

communities, who are increasingly outraged by the injustices they suffer. A 51-year old community leader, who represents 100 families dependent on the land, told us:

“Suzano is destroying our livelihoods. We depend on the Bacuri tree [Photograph 1], and harvest at least 100 tonnes [of fruit from different trees] at a time here. That's how we live. As well as Bacuri, this area also has Pacas [a species of rodent], armadillos, deer, Jacu birds, as well as other birds and species important to us. The plateau provides us with medicine, fruit, flowers, beauty and space for us to rear some cattle.”

This report is dedicated to the communities [4] that have bravely resisted the attempts by Suzano to appropriate their lands and destroy extensive areas of Cerrado-covered highlands.



Photograph 1: Bacuri tree in the community of Santana. *Ivonete Gonçalves de Souza*

2. A brief history of the traditional communities of the Baixo Parnaíba

The vast majority of land in the state of Maranhão, including in the Baixo Parnaíba region [5] has never been properly registered by the state. It therefore legally belongs to the state of Maranhão, whose duty is to administer it for those who occupy it, as required by Brazil's 1988 Constitution.

Most of this land, like much of the land across Brazil, is inhabited and used by small-scale farming communities who grow rice, beans, corn and cassava and rear small numbers of animals [6]. They live within the Cerrado ecosystem, inhabiting lower-lying areas which are crisscrossed with streams and rivers and are abundant in Moriche palms, whose fruits are used for food. Vast plateau areas cover much of the Cerrado. Those are less mountainous lands, used as a common resource for gathering food, building materials for homes, tools, fuel, medicines and much more. The traditional communities of the area are characterised by this particular way of life, one where the collective use of much of the land and harmonious co-existence with the environment are paramount.

The majority of the families making up the communities of the Baixo Parnaíba region were technically squatters when they arrived, lacking ownership or legal right to live on the land, but they built lives that were strongly linked to it and to the Cerrado ecosystems. Most of the families arrived in the 19th century fleeing drought from neighbouring states of Piauí and Ceará. In addition, the traditional, rural communities include 14 Quilombola communities, [7] also established in the 19th century when the region was an escape route for black enslaved people. There are thousands of Quilombola communities all over Brazil and the inhabitants of these communities, are descendants of these enslaved people that founded free communities in often isolated forest areas, called quilombos. The Quilombola and other aforementioned communities are now

considered the traditional occupants of the land [8] given the number of generations that have resided in the area.

The selling off of land occupied by traditional communities in recent decades in Maranhão has been aided by the state government and its enactment of the State Law on Lands no. 2,979 of 1969. This law, which has not been repealed, has resulted in a series of conflicts between big land owners and squatter communities over the ownership of and access to land, and in the expulsion of many families and communities. [9]

3. A history of eucalyptus monocultures in the Baixo Parnaíba region

In the 1980's, a company called Maranhão Gusa S/A (MARGUSA) was set up to produce charcoal. Charcoal production was driven by the opening of an iron-ore mine in Carajás, operated by a company called VALE in the neighbouring state of Pará. The iron-ore mine led to the opening of dozens of pig iron works which in turn increased the demand for charcoal as their energy source. Initially MARGUSA didn't buy land – instead they paid people to extract wood from the Cerrado highlands, causing much devastation to the landscape. Later, they created a timber company called Maranhão Floresta S/A (MARFLORA) to plant eucalyptus. Another company, ITAPAGÉ Papéis, Celulose e Artefatos (ITAPAGÉ Paper, Pulp and Artefacts), which belonged to the Grupo Industrial João Santos (Industrial Group of João Santos), of Pernambuco, also began to establish eucalyptus monocultures.

Suzano arrived in the region in the 1980's under the name of Comercial e Agrícola Paineiras S/A (Paineiras Commercial and Agricultural) and acquired MARGUSA's eucalyptus plantations when that company hit financial difficulties. At the same time, Paineiras leased new areas of land to MARGUSA who tried to establish new eucalyptus plantations in 2003. That same year, MARGUSA was bought by another company, GERDAU. [10] However,

MARGUSA's plantation plans in Maranhão never materialised as the company which they contracted to carry out their Environmental Impact Assessment for a planned 100,000 hectare eucalyptus plantation, STCP [11], never completed it. As a result, GERDAU eventually withdrew from MARGUSA in 2007, though that company still exists.

From 2008 onwards, Suzano rapidly expanded its eucalyptus plantations in Baixo Parnaíba, on land that Paineiras had previously taken over. Suzano also acquired additional land itself with the intention of producing more wood for its pulp mill project in the neighbouring state of Piauí. Suzano intended to plant 160,000 hectares of eucalyptus in Piauí, and 400,000 hectares across the state of Maranhão, with a view to establishing a second pulp mill in Imperatriz, in the southern part of the state. [12]

From 2005 onwards, the expansion of eucalyptus in the Baixo Parnaíba caused an explosion of conflicts with communities who started to lose their land in the highlands - the flat, agricultural lands that Suzano was interested in.

During 2008 and 2009, the pulp mill in Piauí [13] became less viable economically, at least temporarily, due to a temporary fall in global paper demand and prices as a result of the financial crisis. In response, Suzano shifted the focus of their eucalyptus production away from pulping for paper production to wood pellets for export, keeping a close watch on the emerging European market for woody biomass. When the state government headed by Governor Jackson Lago was ousted in 2009, Suzano was granted a licence to plant and operate monoculture eucalyptus plantations in the region. It received permission to clearcut around 40,000 hectares of Cerrado in the municipal areas of Santa Quitéria, Urbano Santos and Anapurus. [14] The Fórum Carajás (Carajás Forum)[15] estimates that there are now around 30–40,000 hectares of eucalyptus plantation in Baixo Parnaíba, concentrated in the areas listed above. The plantations directly impact the lives of more than 50 traditional and other rural communities.

Cheap land was and continues to be a principal motivation for Suzano's continued

presence and expansion in the North East of Brazil, even though it is a family-owned company with its headquarters in the state of São Paulo, far away in the South East. A similar pattern of migration to the North and North East has been observed for other Brazilian agribusinesses, such as those investing in sugar cane and soya plantations. Residents of Baixo Parnaíba say that in the year 2000 land could be bought for around 80 Reais per hectare – a mere £24. Today's prices are higher, at around 500 Reais (£150) per hectare, but still considerably lower than average land prices in Brazil and much lower than current prices in the South East, where the biggest area of eucalyptus plantations is found. The average price of land for agriculture, livestock rearing and "reforestation" – i.e. eucalyptus monoculture – across Brazil jumped from 2,280 Reais (£684) per hectare in 2003 to 7,470 (£2,241) in 2012. In the state São Paulo it reached 32,000 (£9,600). [16]

The other significant development in Baixo Parnaíba was the arrival of soybean farmers from Rio Grande do Sul in the late 1990's called gaúchos (a loose equivalent of the term cowboys and another name for the inhabitants of this traditionally cattle grazing state), who were also responsible for the destruction of large areas of Cerrado. The gaúchos intended to plant 500,000 hectares of soya in the region, but although they were unable to complete their ambitious plans, they still managed to destroy almost 40,000 hectares of Cerrado and turn it into soya monocultures.

4. The Conflicts between communities and Suzano for land and for the Cerrado

“We are fighting for what is ours...”

Resident of São Raimundo, municipality of Urbano Santos, Baixo Parnaíba, Maranhão

The appropriation of land in Baixo Parnaíba has been characterised by the exploitation of the traditional communities that have occupied it for generations, and by the violation of their legitimate rights to use and access the land.

The illegality of these land-grabs is evident from the methods used by companies such as Suzano. According to the Carajás Forum, illegal land deals are common in the region. For example, families who are part of the local elite will often inflate the size of the land which they are purchasing when registering the sale. One example of this is described by Antenor Ferreira in an article about Suzano's land-grabbing in the Baixo Parnaíba. [17] This document shows a land ownership certificate for 3,741.3294 hectares in the name of Comercial Agrícola Paineiras, a Suzano subsidiary, in the municipality of Anapurus. It was legally registered in the local registry office under reference number 869, but when Ferreira compared it to the actual area of purchased land, he found that the actual land title was for only 1,877.73 hectares of private land. The other 1,863.6264 hectares were publicly owned lands. According to Ferreira “it is estimated that around 70% of land acquisitions by Paineiras in Maranhão were done illegally”. Ferreira describes other illegal practices, such as falsely using names of people who never owned or inhabited lands but who allegedly sold it to Paineiras. One example was Leudson da Costa Viana, a farmer who lives in Santa Quitéria. Although his name appears on a land sale document, he insists that he had never owned it. According to the registry office however, he sold land to Paineiras in 2010 valued at R\$ 2,005.44, meaning that the document must have been falsified.



Photograph 2: Stream with reduced flow due to the impact of a eucalyptus plantation, community of Coceira. *Winnie Overbeek*

Land appropriations are opportunities for landowners, including soybean farmers and other businesses, to either immediately convert and use the land they have acquired and evict the families who live on it, or to initially exploit the communities. Former residents of affected communities describe how new land owners, including Paineiras (Suzano), took a proportion of their harvests as payment for the use of their land, even before the company started planting eucalyptus. The residents found themselves as tenants. One resident of Pólo de Coceira describes how rigid Paineiras was in taxing harvests, to the extent that representatives of the company would visit farmers' fields and mark out which proportion of the produce “belonged to them”.

Resistance to Suzano's advancing eucalyptus plantations started to grow in Pólo de Coceira (Pólo meaning hub of communities), in the municipality of Santa Quitéria and a micro-region encompassing seven communities and around 7,000 hectares in the lowlands and highlands. Few families formally owned the land that they lived on, with most being classed as squatters. Four communities including Coceira and Baixão da Croceira, which encompass more than 300 families, began a resistance struggle against Suzano and their plantations. [18] Resistance grew after the company had planted



Photograph 3: Cattle in the community of Coceira. *Winnie Overbeek*



Photograph 4: Community fenced by eucalyptus plantation, village of Mundé. *Ivonete Gonçalves de Souza*



Photograph 5: One of Suzano's Legal Reserve areas, municipality of Urbano Santos. *Ivonete Gonçalves de Souza*

around 1,400 hectares of eucalyptus and destroyed many stands of Bacuri [19] and Pequi (souari nut) trees. Eucalyptus quickly caused negative impacts such as a reduction in the volume of water flowing through the streams and rivers (Photograph 2). Suzano was granted a licence by the Environment Department of Maranhão (Secretaria do Meio Ambiente de Maranhão, SEMA) to extract water directly from the rivers Preguiça, Munim and Buriti which further reduced their water levels. The licence was revoked in June 2013 [20] and deemed illegal after a decision that SEMA had not been

the appropriate body to issue it in the first place. [21] On top of this, local residents learned that the company was also covering springs and streams to build roads for their heavy machinery to use, further impacting the water courses. Another impact was that cattle (Photograph 3) left to graze on the highland plateau were returning in poor health and with skin irritations caused by agro-toxins sprayed on the plantations. Agrochemicals have also contaminated the water courses.

The dramatic impacts of the eucalyptus plantations were quickly felt in Mundé (Photograph 4), Pólo de Coceira. Suzano planted eucalyptus next to the community and stopped people from grazing their cattle. Worse still, the remaining areas of highland plateau were turned into “Reserva Legal” areas (meaning “Legal Reserves”, a designation supposed to protect an area from “unsustainable” management) (Photograph 5), preventing the community from continuing to cultivate these areas. Religious scholar and member of the Carajás Forum wrote about Suzano's “Legal Reserve” in Coceira:

“Between the [eucalyptus] plantations, they've created a “Legal Reserve”. These areas are for the most part sparsely vegetated Cerrado. The more significant parts of the Cerrado have been cleared for the plantations by company tractors

dragging chains. It is likely that this destruction of the native vegetation has cleared the way for more than 5,000 hectares of eucalyptus". [22]

The community of Tabocas, near Mundé in Pólo de Coceira, is also surrounded by eucalyptus (Photograph 6). The company left the community just 12 hectares to cultivate and harvest. Most of the Bacuri, Pequi and other important species of trees have already been lost. The resident interviewed regretted that he could not get the support of the community in time "to stop the deforestation".

In May 2009 Suzano tried to move into an area of highland plateau close to the communities of Coceira and Baixão da Coceira, where there was a high level of resistance against eucalyptus plantations. It was nine o'clock in the evening when a resident noticed company tractors on the plateau. Slowly, near-by communities were told what was happening and the next morning residents stood in front of the tractors to stop the forest from being cleared until the machine operators left. Later on, a Suzano manager called Sr. Demerval tried to meet with a community leader outside of the area to resolve the situation, but the community leader insisted that the meeting take place in the community. Many families in the area arrived to meet Sr. Demerval as they had also been invited to the meeting by the community leader. Sr. Demerval said that Suzano would give 500 hectares to each community as well as establishing "campo agrícola" ("mechanised



Photograph 6: Village of Tabocas fenced in by eucalyptus. Ivonete Gonçalves de Souza

farm", see Box 2) projects if they allowed the plantations to go ahead. The communities refused to accept the deal.

The next time the company tried to clear the land with tractors, they were again met by the communities, but this time they said that they would only remove their tractors with a court order. However, the communities were able to mobilise so quickly that the company had no choice but to stop once more. Suzano then went to court and obtained a repossession order, which was delivered to the community of Baixão da Coceira by a court official accompanied by company representatives and police. The judge granted possession of the land to Suzano, but that did not deter the communities from mobilising for a third time to stop the deforestation which by then was very close to their homes. One resident said at the time: "They'll have to drive over us to deforest this land!" The residents called for re-enforcements, and by the time a larger group had arrived on the plateau Suzano had already cleared 100 hectares (Photograph 7). There were 15 police officers present to protect the company, but around 300 people had been mobilised from the communities. The police presence made the atmosphere even tenser and the company was determined to finish the job. The police chief eventually decided to stop the operations and remove the machinery when one resident, disgusted at the disrespect being shown to their community, threatened to set fire to the tractors.

So far Suzano has made no further attempts to clear that area, but in the meantime communities have begun another struggle. This time their aims are to win back appropriated community lands and to create protected reserves for the benefit of the traditional communities, through the Land Institute of Maranhão (Instituto de Terras de Maranhão, ITERMA). For example, in Baixo da Coceira, the proposal is to create a 1,500 hectare land reserve that will guarantee the use and cultivation of the land for generations to come.

Residents of the community of Bracinho, Pólo de São Raimundo, in the municipality of Urbano Santos, have a similar story to tell: Dozens of families who are regarded as squatters united to defend their right to the land.



Photograph 7: Area where Suzano started clearing, community of Coceira. *Winnie Overbeek*

One resident said: “Suzano wants to remove us from here, and leave us with fewer possessions.” On 17th May 2011 the company tried to clear an area of Cerrado close to the community, on land that formed part of an Area of Environmental Protection (Área de Proteção Ambiental, APA) called Upaon Açu. [23] The community told the tractor operators to stop their work: “We stayed in front of the tractors from half past two in the afternoon to half past six at night.” According to the residents, one of

the four security guards present fired a shot, but the residents fearlessly forced back the guards’ car. Suzano manager Sr. Demerval said that the community was acting outside of what he described as their “rights”, but the residents remained defiant and told him to pack up and leave. After four unsuccessful attempts the company had failed to clear the area and had not planted a single eucalyptus tree.

In December 2011 the community was granted an injunction against Suzano, declaring that Suzano “should refrain from acting threateningly towards the Traditional Community of Bracinho, in the municipality of Santa Quitéria, or from entering the rural property in question, under penalty of a fine of 2,000 Reais (£600) per day (...)”. [24] An important factor in the Judge’s decision to grant the injunction was the fact that the community had already started a process of legally protecting the communities’ lands when Suzano had tried to invade it. Six years earlier, the community of Bracinho had formed an association and began the process of creating a 3,400 hectare land reserve, corresponding to the area already in use and occupied by the community, which included highland plateau areas. Local residents were sure that the lands Suzano was trying to clear were public lands

The productivity of the Cerrado

Communities who are seeking land reserves through INCRA or ITERMA complain about the methods used by these institutions in their surveys designed to assess productivity. The people doing the surveys are usually agronomists, and often consider the Cerrado “unproductive”. They disregard the thousands of Bacuri and Pequi trees laden with fruit, the Babassu nut trees, which provide excellent cooking oil, the Moriche palms, whose fruit makes valuable sweet food, or the small gardens in the valleys where the residents plant a mixture of plants such as rice, cassava, beans, corn, pumpkin and melon. According to the surveyors, productivity comes from big monocultures and high inputs of fertilizers and pesticides. But residents of the area cannot eat eucalyptus, and soya is not part of their diet either. These institutions are ignorant of the complex biodiversity and the values that are fundamental to the way of life of the people who live there. They are also ignorant of the careful management of farming and agro-extractivist practices by communities, which generate income and increases people’s quality of life. These official attitudes aid the destruction of the cultural practices which characterise the traditional peoples and their deep understanding of the ecosystem they live in. Their way of life is what could honestly be referred to as “sustainable”, if the word had not been abused to the extent that it has been rendered devoid of meaning by companies such as Suzano.

and therefore belonged to them as their families have lived there for many generations. They asked Suzano to show them the land document that the company said it had and to show them that the land was Suzano's, but the company did not do so. Suzano then offered the community an area of 400 hectares for their use on the condition that they signed an agreement to allow the plantations.

The community of Bracinho says that it is against eucalyptus plantations because of the experiences of other communities in the region which had not reacted when Suzano arrived. Those communities now find themselves isolated, surrounded by plantations and living in difficult conditions. Residents speak of how those communities were seduced by the many promises made by the company such as building a school, a health clinic, a paved road and "campo agrícola" (mechanised farm) - promises which were never kept. One Bracinho resident says that people were "bought" by various means to accept the plantations.

Currently, Suzano is prohibited from entering the community of Bracinho but nonetheless this still continues to try, only without their tractors. Recently the company sent a "social assistant" called Fernanda on the pretence that she was there to work with the children. The community refused to let her in saying that Suzano would not be allowed access "whether to do harm or good".

Another community facing the problem



Photographs 8 & 9: Community of Santa Rosa (*Ivontete Gonçalves de Souza*) and house in Santa Rosa (*Winnie Overbeek*)

of Suzano's eucalyptus expansion is Santa Rosa (Photographs 8 & 9), also in the municipality of Urbano Santos. They too have formed an association and begun a process with the National Institute for Colonisation and Agrarian

Suzano's "modern" agriculture

After deceiving communities and successfully clearing the highlands for their eucalyptus plantations, Suzano often proposes "campo agrícola" projects, which have already been introduced into some communities. These projects involve introducing mechanisation to relatively small areas of land – so-called "modern" agriculture, alien to the vast majority of families. An example of a "campo agrícola" is in Santana, in the municipality of Urbano Santos. One resident explained that there are 120 hectares for 23 families, and that the project was a form of compensation for the many Bacuri, Pequi and Moriche palm trees as well as the cultivated crops destroyed by Suzano. The resident also explained that in these areas, the company allowed the community to harvest their crops before eucalyptus was planted. Families have planted coconuts, rice and cassava amongst other things in the "campo agrícolas", but their productivity has turned out to be low and not what families had hoped for. On top of this, there are concerns over the future of the projects as Suzano's commitment to supply tractors and chemical fertilisers is only for four years, after which funding will be withdrawn.

Reform (INCRA), a federal government agency. Their aim is to create their own agrarian settlement. Initially, the supposed landowner of the area was willing to sell to INCRA so that the community could be granted legal rights to the land. When INCRA and a delegation from the community tried to complete the sale, the landowner refused to sell, and instead prioritised Suzano's interests and their plans for the land. Today the community is both anxious and angry as the landowner has subsequently sent a representative to the community with the instruction to expel the families from the land by means of threats and intimidation. Some residents have been frightened into wanting to leave the area, but the majority insist that they will stay. The example of Santa Rosa shows that even when communities stand together in defence of their land, the pressure from Suzano together with the interests of landowners can nonetheless succeed in dividing residents and making communities vulnerable.

The neighbouring community of São Raimundo is not presently affected directly by Suzano, but will not allow the company to put up notices in its territory or in nearby highland areas. A resident commented that they had already removed the company's notices because leaving them would make it look as if the residents had accepted that the land was Suzano's and the community could not allow that.

The residents of São Raimundo say that the main threat to them currently comes from a "gaúcho" called Evandro Loez, who is trying to appropriate around 3,000 hectares of the highlands. [25] When the tractors arrived to clear the Cerrado, the community mobilised and stopped the deforestation, sent the operators home, and told them not to come back. Following that, the "owner" of the land tried to come to an agreement with the community association that had been founded in the year 2000 in order to defend the interests of the community, and which had begun the process of having 1,600 hectares of land returned by petitioning INCRA.

One resident commented that they had nothing good to say about Suzano and emphasised that they would never accept the

company's operations on their territory since they could "never agree that destruction was good". Another resident, age 71, added: "Suzano has already made many people homeless. They come with attractive promises and deceive people, and some sell them their lands for anything they are offered." The first resident continued: "but we in São Raimundo, we are united, we are a community that fights for the land and for the things that we need to survive". They will not give in.

5. The rich ecological diversity of the Cerrado versus the ecological poverty of monoculture eucalyptus plantations

"The green that I know is the nature that God left us; to them it is worth nothing, and is only there to be cleared."

Resident of Raimundo, municipality of Urbano Santos, talking about the soya and eucalyptus companies present in Baixo Parnaíba, Maranhão

"A tree like the Bacuri tree, native to the Amazon basin, the Cerrado and the transitional ecosystems, is of much greater value than a species like eucalyptus in terms of ecological, environmental, social, economic and historical importance. This truth is so plain and simple that one day someone will ask how anyone could have the courage to replace one with the other."

Mayron Régis, in "As Chapadas e os Bacuris" (The highland plateaus and the Bacuri trees), Carajás Forum, 2011, p.27

If one was to look for a symbol for the traditional communities of Baixo Parnaíba, that symbol should without doubt be the Bacuri tree. All of its fruit is useful (Photograph 10): the pulp is made into delicious and nutritious juice, and also forms an important part of the local economy since it is sold in urban areas of the

state. The skin and seeds can be turned into a sweet or jelly, and the seeds are also used to produce an oil used in the treatment of skin conditions. The fruit can be used medicinally, for example, as an anti-inflammatory. It is an interesting and important tree, but as yet poorly researched. This is the case with most of the biodiversity of Baixo Parnaíba, which is a region of transition between the Cerrado and the Amazon rainforest. The Cerrado and its biodiversity set the pace of life for people living in the area, who benefit from its abundance. For example, local people wait until the ripe fruit of the Bacuri tree has fallen before harvesting it, as picking it early would result in less pulp being produced and stop the tree from fruiting the following year. It is through relationships such as this one that people have learned to respect and to live within the limits of their environment. Sadly, with the advance of monoculture eucalyptus plantations, people have increasingly had to harvest the fruit of the



Photograph 10: Bacuri fruit cut in half, village of Tabocas. *Ivonete Gonçalves de Souza*

Bacuri early, signalling that that the end of an old and rich culture may be approaching.

The symbol which best describes Suzano would undoubtedly be the eucalyptus tree, with row upon row of identical trees spreading for

FSC Certification for Suzano

The cancellation of its licences has also not stopped Suzano from pursuing the “green” certification of its products in Maranhão through the FSC (Forest Stewardship Council). [35] Suzano has already obtained FSC certification in the southeast of Brazil, despite the negative impacts it has caused and the protests these have sparked, (Photograph 11) and the company is on-track to be certified in Maranhão too. Residents of the Baixão of Coceira region described how a short time ago they received a visit from a representative of a certification company, with Suzano representatives in-tow. The presence of Suzano representatives meant that local people were immediately distrustful of the person's intentions, even though the Suzano representatives were not present during the conversations. It was unclear to the residents whether the intention of the visit was to certify Suzano's operations in the Baixo Parnaíba, or whether the visit was in relation to certification elsewhere in the state.

The minimum that should be expected from the FSC is a refusal to certify Suzano's operations given the social and environmental impacts they are responsible for in the state of Maranhão and elsewhere. Suzano is neither a “socially just” nor an “environmentally responsible” company - two terms used by the FSC to describe Suzano when they irresponsibly certified some of their plantations.



Photograph 11: Protest against Suzano in Teixeira de Freitas, Bahia. Banner reads: “Suzano buys certifications”. *CEPEDES*



Photograph 12: Cemetery fenced by eucalyptus plantation, municipality of Urbano Santos. *Ivonete Gonçalves de Souza*

mile after mile, a monotonous monoculture with which other plants and animals cannot coexist. The people and animals in the area have no use for the vast tracts of monoculture plantations, which provide no fruit or other kind of sustenance. The eucalyptus tree has nothing to teach us about the secrets of the Cerrado of Baixo Parnaíba or the native people who form part of its diversity. Native people enrich and fertilise the land throughout their entire lives, from the day they are born until their bodies are returned to their place of origin, in cemeteries that are now regularly covered by eucalyptus trees (Photographs 12). Baixo Parnaíba is a

sacred place for hundreds of families – and land in which their ancestors, history, love, ritual and life are grounded. Eucalyptus plantations are responsible for the merciless destruction of the Cerrado and its thousands of Bacuri and other native trees. The eucalyptus tree, in contrast to the Bacuri tree or any other plant native to the Brazilian Cerrado, has been extensively researched and studied so that its productivity and growth rate can be continuously increased, and with them the profits generated by the companies growing it.

6. Planting "supertrees"

Eucalyptus plantations designed for biomass production are different to those for producing pulp and paper: they are denser. In most existing plantations, trees are planted 3 x 3 metre apart (1,108 trees per hectare) or 3 x 2 metre apart (1,665 trees per hectare). However, in the municipality of Urbano Santos there are plantations with trees spaced 2.5 x 0.5 metres apart, resulting in some 8,000 trees per hectare (Photograph 13 & 14). Professor Saulo Guerra co-ordinates Suzano's research programme with the University Estadual Paulista (UNESP) and in partnership with other timber and agribusiness companies such as Fibria and Duratex. He has said: "We use different spacing between saplings, with up to five times more trees per hectare". Competition for light forces the trees



Photographs 13 & 14: Suzano's dense eucalyptus plantations specifically for biomass, municipality of Urbano Santos. *Ivonete Gonçalves de Souza*

to grow taller and thinner (Photograph 15). Parallel to this research, New Holland, a company belonging to multinational American CNH and also a partner in the research, is trying to develop a machine capable of felling 6 to 8 trees at once and chipping them in situ. Pellets for export can then be made from these woodchips. [26]

The environmental impacts of this new type of plantation are set to be even greater than those of conventional eucalyptus plantations. Professor Guerra explained that the conventional plantations produce 45m³ of wood per hectare, but the lesser spacing would greatly increase this amount. Clearly, increased production means increased water and nutrient consumption and therefore greater impacts. Communities have already complained that river headwaters close to plantations have dried up and that the volume of water flowing nearby streams in Baixo Parnaíba has reduced significantly. This situation will get worse.

This new plantation business model is based on tens of thousands of hectares of monoculture plantation on the inter-continental transport of wood pellets to power stations thousands of miles away. For this model to be economically viable, yields must be optimised and production costs reduced as far as possible. Reducing costs in this case means transferring them on to communities who ultimately pay the highest price for the destruction caused by the industry. When these costs are factored in it is abundantly clear that generating energy in this way is a long way from what the term renewable energy should mean.

The imperative to reduce costs also explains Suzano's keenness to invest in the development of genetically engineered (GE) eucalyptus trees, or "supertrees" with even higher productivity. This involves increasing the amount of lignin in the wood and decreasing the amount of cellulose. Lignin and cellulose are the two basic components of wood and lignin has a higher calorific value, i.e. burning wood with more lignin generates more energy. Genetic engineering could also make eucalyptus resistant to glyphosate, a widely-used herbicide on plantations. This would accelerate production cycles further, which are already



Photograph 15: Suzano's saplings at experimental eucalyptus plantation at the State Institute in Pernambuco. *Ivonete Gonçalves de Souza*

much shorter for biomass eucalyptus plantations (18-24 months) compared to pulp and paper eucalyptus plantations (5-7 years).

It should come as no surprise that in 2010 Suzano bought UK-based company FuturaGene, one of the companies at the forefront of research into GE eucalyptus. They expect to be granted a licence to plant commercial GE eucalyptus in Brazil in 2015 and are already carrying out experimental trial plantations. According to company director Stanley Hirsch, GE eucalyptus can grow 5 metres per year producing 20-30% more biomass than non-GM eucalyptus. He believes that with GE eucalyptus, energy producers will be able to "...replace the entire fossil fuel industry..." FuturaGene claims that its GE eucalyptus can increase productivity to 104m³ per hectare, compared with a current average of 80m³ per hectare for biomass eucalyptus plantations. [27]

But the risks of genetic engineering are great, because of the potential for contamination of native, non-GE trees and the increased use of agrotoxins. Perhaps the greatest danger is that the scientific claims made by Suzano and other companies who are seeking permission to plant GM trees commercially are unreliable. It would be better to apply the precautionary principle and prohibit this technology for decades, until it is

much better studied and understood. [28]

7. A company in Crisis

“Everything that Suzano has done has harmed our region.”

Resident of the Pólo de Coceira, municipality of Santa Quitéria

Recent news about Suzano will not be in the least encouraging for their shareholders, with the media reporting that the company is in financial crisis. Suzano plans to open a new pulp mill in Imperatriz, Maranhão, by the end of the year, but the estimated US\$3 billion required to finance the plant has left the company in debt and has forced it to drastically reduce spending. [29] In March 2013 Suzano decided to suspend the construction of a pellet plant that would process eucalyptus planted in Baixo Parnaíba. The plant was to be built by its subsidiary “Suzano Energia Renovável” (Suzano Renewable Energy) in the municipality of Chapadinha. [30] The plan had been to open the plant in 2014 but currently there is no anticipated time-scale for completion and construction has not yet started. There are also plans for new port facilities in the area, in a beautiful coastal region of Maranhão (Photograph 16), but hundreds of families are opposed to the idea because they would have to leave their land for it. On top of this, company workers in the municipality of Urbano Santos



Photograph 16: Area where Suzano wants to build new port facilities for exporting wood pellets, São Luis. *Winnie Overbeek*

have been protesting against delays in the payment of their wages. [31] Outside Maranhão, Suzano has had to deal with other problems such as two occupations by the MST (Movimento Sem Terra/Landless Peoples' Movement) in Bahia in March [32], as well as other protests in the state (Photograph 17).

Suzano was hit with more bad news when Federal Prosecutor Alexandre Soares successfully appealed the granting of an environmental licence for a pulp mill and eucalyptus plantations awarded to Suzano by the State Government of Maranhão. After deliberating for some time, in 2012 the Regional Federal Court (Tribunal Regional Federal (TRF) da 1ª Região) granted the Federal Public Ministry (Ministério Público Federal) an injunction to revoke Suzano's environmental licence. It argued that the Maranhão State Department of the Environment was not the competent authority to issue it in the first place, and that competency instead lay with the Brazilian Institute for the Environment and Renewable Natural Resources (Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis, IBAMA) at the federal level. The State Government of Maranhão appealed the ruling to the High Court of Justice, but High Court Judge Ari Pargendler upheld the original ruling. [33] Because of this, Suzano is prohibited from operating in Maranhão at this point in time.

Events in Piauí, where Suzano has



Photograph 17: Protest against Suzano in Teixeira de Freitas, Bahia.



Photograph 18: Outsourced Suzano (ACM) worker doing weed control in plantation area, municipality of Urbano Santos. *Ivonete Gonçalves de Souza*



Photograph 19: Plane inside a Suzano plantation doing aerial spraying, municipality of Urbano Santos. *Ivonete Gonçalves de Souza*

another pulp mill project and further eucalyptus plantations, have mirrored those in Maranhão. Using similar arguments, the Federal Court in Piauí revoked the company's preliminary environmental licence and more recently, on the 3rd May 2013, the Secretary of the Environment and Water Resources announced the cancellation of Suzano's licence to go ahead with its pulp mill project. [34]

However, the cancellation of Suzano's licence in Maranhão by the courts has not stopped their subsidiaries from operating illegally. ACM of Maranhão, a Suzano subsidiary, were found to be fertilising plantations as usual (Photograph 18) and a plane was seen landing after spraying what was supposedly "fertiliser", but what residents believed was an agrototoxin (Photograph 19). The company has not provided local residents with information about the aerial spraying programme which it is carrying out, nor confirmed what is being sprayed. Most frustrating though, is the fact that the decision by the courts to revoke Suzano's licence is simply not being enforced.

In some areas, the deforestation caused by the expansion of eucalyptus and soya plantations and other impacts associated with monocultures have led to bylaws being declared specifically to prevent these impacts. In the municipalities of Mata Roma, Água Bela, São Benedito do Rio Preto and Barreirinha,

eucalyptus and soya monocultures are banned, as is deforestation in the Cerrado in the latter three municipalities. However, in São Bernardo, Suzano succeeded in overturning a similar bylaw in pursuit of a 15,000 hectare plantation in highland areas that are of vital importance to the survival of the Enxú community.

A tactic frequently used by Suzano and other big companies in Brazil in order to procure political allies is to donate to electoral campaigns at all levels of government, from the municipal to the state and to the federal levels, and for all elected positions, donating funds especially to candidates with realistic election chances. [36] In Baixo Parnaíba for example, during the last municipal election Suzano donated R\$ 34.811,04 (£10,443.31) to the mayoral candidate for São Benedito do Rio Preto, Odilon Araujo Frazão, member of the Party of the Republic (Partido da República - PR). [37] As it happens, he lost by a small margin to Dr. Mauricio, of the Brazilian Democratic Movement Party (PMDB), the political party of former President Sarney and also the most influential in the state. Suzano also donated R\$ 440.000 (£132,000) to the PMDB. [38]

8. Conclusion

In spite of everything they are faced with, communities in Baixo Parnaíba continue to resist Suzano's invasion of their lands and patiently wait for INCRA and ITERMA to regularise their collective land titles, creating formal land settlements. The slow pace of this process is in stark contrast to the speed with which companies are able to obtain licences to operate. None of the communities cited in this report and involved in struggles against Suzano have so far had their applications for agrarian land settlements granted.

Communities are increasingly becoming more organised and their resistance more effective through their determination. They are also helped by the support of civil society groups on a regional level, such as the Forum for the Defence of the Baixo Parnaíba (Fórum em Defesa do Baixo Parnaíba). This alliance includes catholic organisations and rural workers in municipalities affected by eucalyptus and soya, as well as the Carajás Forum and the Maranhão Society for Human Rights (Sociedade Maranhense de Direitos Humanos). Examples of this are initiatives to celebrate the value of the Cerrado and the communities that depend on it, through management projects around the Bacuri tree and livestock, (Photograph 20) and the development of agro-extractive practices. These have the support of the Carajás Forum as well as other groups, and show the rest of society and the world that it is possible to live comfortably off what the Cerrado has to offer, while at the same time protecting it.

“...out of the apparent inevitability of the situation, those who are supposed to disappear instead react and fight back. They pick themselves up and assert their existence, their rights and their will to continue to be what is principally an inconvenience to them [Suzano]. They change the course of the inevitable. Staying connected to their roots, like old Moriche palms, they reach for the sky, challenge the ways of the world, and confront the supposedly unquestionable logic of development and progress and say: “here we



Photograph 20: Community agricultural project in São Raimundo. Winnie Overbeek

stand and here we'll stay – we are not backwards but we can be the future. We don't destroy the environment, we respect its cycles, know its workings and can help to build new ways of relating to it. We have a “science”, a knowledge that doesn't destroy, doesn't privatise the riches of the world but that teaches us to care and protect.” [39]

Listening to the stories that communities struggling against Suzano have to tell, shows that there is no place for such a nefarious model for energy generation and failed development, one that is leading humanity to an unprecedented disaster. Planting eucalyptus in Baixo Parnaíba to be able to sell wood to the UK and other European countries is perpetuating colonialism, as well as being a substantially irrational thing to do. We have to think of more intelligent, genuinely renewable means of generating energy as well as reducing current excessive levels of consumption. To fuel all of the UK's energy requirements through eucalyptus-based biomass would require some 55 million hectares of plantation in Brazil, an unthinkable amount of land, but an attractive prospect for companies like Suzano and their shareholders. [40] The conflicts, harm and damage that this would cause are also unthinkable – no people, whether Brazillians or otherwise, deserve this fate.

It is time to change history, to shift paradigms and to learn to value the communities

of the Cerrado, the Atlantic Forest (Mata Atlântica), the Caatinga (another eco-region in northeastern Brazil), and Amazonia and the diversity they represent. As a resident of Santa Quitéria said at the start of this report, the time has come to stop the misery being imposed on the lives of the traditional communities of Baixo

Parnaíba and on other peoples. It is time to address the needs of today without forgetting to preserve the reserves of the future that generations to come will depend on.

References & Notes

- [1] http://www.relatoriosuzano2011.com.br/PDFs/RA_Suzano2011.pdf
- [2] <http://www.woodbiomass.com:80/woodbiomass/news/Latin-America/Wood-Energy/Suzanos-Brazilian-pellet-mills-UK-biomass-power-MGT.html>
- [3] <http://biomassmagazine.com/articles/5023/mgt-signs-mou-with-suzano-for-biomass-supply>
- [4] The authors of this report conducted a field visit to the area and to various communities impacted by Suzano's operations between the 13th and 17th May 2013. We have chosen not to reveal the names of the people quoted in interviews in order to protect their identities, given the tense situation surrounding land conflicts in the area.
- [5] An area 19.179 km² with 16 municipalities, a population of 411,000, with 53% living rurally. (http://www.territoriosdacidadania.gov.br/dotlrn/clubs/territoriosrurais/baixoparna/ama/one-community?page_num=0), a much higher proportion than the national average rural population which is around 15%.
- [6] In Brazil around 70% of the foods that comprise the basic diet of Brazilians are produced through rural, family-run, small-scale agriculture.
- [7] http://www.territoriosdacidadania.gov.br/dotlrn/clubs/territoriosrurais/baixoparna/ama/one-community?page_num=0
- [8] Gaspar, Rafael, "Mobilização e Justiça Ambiental: resistência camponesa e as transformações agrárias no Médio Mearim e Leste Maranhense", http://www.abant.org.br/conteudo/ANAIS/CD_Virtual_26_RBA/grupos_de_trabalho/trabalhos/GT%2036/rafael%20bezerra%20gaspar.pdf
- [9] Gaspar, Rafael, "Mobilização e Justiça Ambiental: resistência camponesa e as transformações agrárias no Médio Mearim e Leste Maranhense", http://www.abant.org.br/conteudo/ANAIS/CD_Virtual_26_RBA/grupos_de_trabalho/trabalhos/GT%2036/rafael%20bezerra%20gaspar.pdf
- [10] http://www.abmbrasil.com.br/news/noticia_integra.asp?cd=573
- [11] Régis, Mayron, 2011. "As chapadas e os Bacuris" (The highland plateaus and the Bacuri trees), 2011. Carajás Forum, página 55 - It is worth noting that this consultancy, STCP, was later contracted by Suzano for another Environmental Impact Assessment.
- [12] Régis, Mayron, "As chapadas e os Bacuris" (The highland plateaus and the Bacuri trees), 2011. Carajás Forum, page 50.
- [13] Several news articles state that the plant will not resume production before 2016.
- [14] Régis, Mayron, "As chapadas e os Bacuris" (The highland plateaus and the Bacuri trees), 2011. Carajás Forum, page 60.
- [15] Non-Governmental Organisation founded in the 1990's to monitor the expansion and impacts of large development projects in Maranhão.
- [16] <http://www.estadao.com.br/noticias/impresso,preco-da-terra-agricola-subiu-227-em-dez-anos-quase-o-dobro-da-inflacao,-1003989,0.htm>
- [17] <http://urbanosantonline.blogspot.com.br/2011/02/comprovado-suzano-e-paineiras-grilam.html>
- [18] Régis, Mayron, "As chapadas e os Bacuris" (The highland plateaus and the Bacuri trees), 2011. Carajás Forum page 97.
- [19] The Bacuri, also referred to as Bacurizeiro, is a majestic tree with an impressive diversity of shapes and heights.
- [20] <http://territorioslivresdobaixoparnaib.a.blogspot.com.br/2013/06/secretaria-de-meio-ambiente-suspende.html>
- [21] <http://territorioslivresdobaixoparnaib.a.blogspot.fi/2012/07/o-lugar-da-sustentabilidade-nos.html>

- [22] Régis, Mayron, "As chapadas e os Bacuris" (The highland plateaus and the Bacuri trees), 2011. Carajás Forum, page 97.
- [23] Régis, Mayron, "As chapadas e os Bacuris" (The highland plateaus and the Bacuri trees), 2011. Carajás Forum page 84.
- [24] Decision made by the State Judge in Maranhão, case 363-88.2011.8.10.0117, injunction, published on 21/12/2011, signed by Elaile Silva Carvalho, Judge.
- [25] Régis, Mayron, "As chapadas e os Bacuris" (The highland plateaus and the Bacuri trees), 2011. Carajás Forum.
- [26] <http://www.udop.com.br/index.php?item=noticias&cod=1082070#nc>
- [27] <http://www.guardian.co.uk/environment/2012/nov/15/gm-trees-bred-world-energy>
- [28] Overbeek W, Kröger M, Gerber J-F. 2012. Um panorama das plantações industriais de árvores no Sul global. Conflitos, tendências e lutas de resistência. Relatório (An overview of industrial tree plantations in the global South. Conflicts, trends and resistance. Report) EJOLT No. 3, 108 p. (http://www.wrm.org.uy/publicaciones/EJOLT_POR.pdf)
- [29] <http://www.estadao.com.br/noticias/impresso,lider-em-celulose-fibria-abre-os-olhos-para-fusoes-,1026637,0.htm>, 29/04/2013
- [30] <http://tvmirante.blogspot.com.br/2013/03/bomba-suzano-suspende-investimentos-em.html>
- [31] <http://www.chapadinaonline.com.br/2012/01/urbano-santos-suzano-nao-paga.html>
- [32] <http://www.blogfolha.com/?p=71467>
- [33] <http://smdh.org.br/?p=426>
- [34] <http://180graus.com/aquiles-nairo/semarpi-cancela-licenca-ambiental-que-o-estado-tinha-concedido-a-empresa-suzano>
- [35] Conselho de Manejo Florestal – Forest Stewardship Council (www.fsc.org).
- [36] See recent book by investigative journalist Lúcio Vaz called "Leeches of Brazil" about the common practice of companies donating to politicians who promote monoculture tree plantations (see <http://www.geracaoeditorial.com.br/hotsite/sanguessugas/>)
- [37] www.tse.jus.br
- [38] <http://blog.jornalpequeno.com.br/john-cutrim/2012/11/30/veja-as-empresas-que-doaram-ao-pmdb-da-oligarquia-na-campanha-para-prefeito-de-sao-luis/>
- [39] Written by Horácio Antunes, Professor of Sociology of the Federal University of Maranhão (UFMA). In: Régis, Mayron, "As chapadas e os Bacuris" (The highland plateaus and the Bacuri trees), 2011. Carajás Forum.
- [40] http://www.wrm.org.uy/plantations/Tree_plantations_to_generate_energy.html

Eucalyptus Plantations for Energy: Case study of Suzano's plantations for wood pellet exports in the Baixo Parnaíba region, Maranhão, Brazil

October 2013

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Cover photographs from left to right: Entrance to a Suzano tree nursery in Urban Santos; experimental eucalyptus plantation at state institute with Suzano seedlings in Pernambuco; community Meeting in São Raimundo. *Ivonete Gonçalves de Souza.*

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