

A Land Grab for Pulp

New mill project by Portucel Mozambique

Discussion Document

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Environmental Paper Network



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The discussion document compiles information and concerns about large-scale land acquisition for eucalyptus tree plantations by The Navigator Company to supply a pulp mill in Mozambique. It assesses the scale and location of the project and some of its known or likely environmental and social impacts, and it concludes with suggestions for how these impacts should be addressed.

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Cover photo: ADECRU



EPN - The Environmental Paper Network is an international collaborative project of 146 non-governmental organisations (NGOs) from six continents that have endorsed the [Global Paper Vision](#) and are working for social and environmental transformation in the production and consumption of pulp and paper. Regional network leadership is provided by steering committees in North America (www.environmentalpaper.org), Europe/International (www.environmentalpaper.eu) and China (www.environmentalpaper.cn).



ADECRU - Accção Académica para o Desenvolvimento das Comunidades Rurais is a Mozambican civil society organization with a popular identity composed by members and rural activists organized in community based-groups. It was established in 2007 and is known for its work on democratic engagement and productive insertion of citizens and rural communities, struggling to accomplish a public movement and solidarity, and a sovereign and just agenda of development. (www.adecru.org.mz)



Quercus is a Portuguese non-governmental organisation founded in 1985. Quercus is active in protecting the environment in Portugal by creating awareness on national and international environmental issues and by promoting bold and constructive campaigning for biodiversity conservation, forest protection, clean energy, sustainable waste management and responsible consumption. For each area Quercus deploys permanent focus groups and projects. (www.quercus.pt)



ARA – Working Group on Rainforests and Biodiversity is a German NGO. Since 1987 ARA works with local partners for the protection of tropical forests and the improvement of local people's rights. National campaigns focus on a sustainable use of natural resources. As one of the initiators of the German Paper Network 'Papierwende', composed of about 75 NGOs, ARA works on reducing paper consumption. (www.araonline.de)



KKM - Coordinating Committee Mozambique-Germany is a civil society association for exchange between Mozambique and Germany. The objective is a living dialogue with equality. KKM supports school partnerships, organizes seminars, publishes the German magazine "Mosambik-Rundbrief" and other materials, conducts lobby and campaigns. We use our specific experience to target injustices and inequalities in the relationship between the north and the global south. (www.kkmosambik.de)

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EXECUTIVE SUMMARY

Portucel Moçambique¹ (a Mozambican company controlled by The Navigator Company, previously known as Portucel Soporcel) will build a pulp mill in Ile-Namarroi, in Zambézia, Mozambique. The mill will have a production capacity of 1,500,000 tonnes² per year and a biomass power generation plant. This plant, which is expected to be operational by 2023, will more than double the global pulp production capacity of The Navigator Company (currently 1,440,000 tons per year³). The new mill, located on the shore of the Indian Ocean, will mostly provide pulp to the Asian paper industry.



Plantations encroaching on villages in Mozambique (Foto: ADECRU)

¹Portucel Moçambique, Dar-es-Salaam street, 347-Maputo – Mozambique; T: 21483645/6/7-Fax: 21 489595 Pedro Moura, CEO, Tlm: 822241010/847138528

²RISI, Portucel's planned Mozambique pulp project slated for 2023 start-up, see: <http://www.risiinfo.com/industry-news/portucels-mozambique-pulp-project-slated-for-2023-startup/>

³The Navigator Company, see: <http://www.thenavigatorcompany.com/Institucional/A-Nossa-Actividade>

FINANCING

The total investment is about US\$3 billion.⁴ Portucel will finance 80% of the project, while the remaining 20% comes from the International Finance Corporation (IFC) of the World Bank group.⁵ However, in December 2014, a key member of the IFC (United States) expressed strong doubts about the project.⁶

FIBRE SOURCING

In 2010, approximately 173,000 hectares in the Zambézia region were granted to Portucel Mozambique to establish eucalyptus plantations.⁷ In 2011, Portucel obtained a further 183,000 hectares in the Manica province for eucalyptus plantations.⁸ These areas are currently being planted. In September 2015 Portucel Moçambique opened “the largest tree nursery in the whole of Africa” with an installed production capacity of more than 12 million plants a year.⁹

⁴Macauhub, Portugal’s Portucel increases investment in pulp project in Mozambique, see:

<http://www.macauhub.com.mo/en/2016/01/25/portugals-portucel-increases-investment-in-pulp-project-in-mozambique/>

⁵ IFC Projects Database, Portucel Moz - Early Disclosure, Project Number: 32522, early disclosure date: August 26, 2014, see: <http://ifcextapps.ifc.org/IFCExt/spiwebsite1.nsf/0/C183FADC2B9CC23D85257D3B005A203D>

⁶ “The United States is concerned about the impact on water, including possible conflicts over resource usage, as well as the impact on wildlife and forests. The United States encourages IFC to strengthen the process of identifying areas for exclusion by including an independent expert review of areas designated for clearing”. United States Position - Proposed IFC Investment in Portucel Mozambique, December 11, 2014, see: <https://www.treasury.gov/resource-center/international/development-banks/Documents/IFC%20-%20Mozambique%20-%20Portucel%20Moz%20-%20United%20States%20Position%20-%20Dec%2011%202014.pdf>

⁷ Macauhub, 23 December 2009, see <http://www.macauhub.com.mo/en/2009/12/23/8310/>

⁸The Navigator Company, Internationalization Strategy, January 2015, see: <http://www.thenavigatorcompany.com/Institucional/Portucel-Mocambique>

⁹Macauhub, President of Mozambique inaugurates biggest plant nursery in Africa, 9 September 2015, see: <http://www.macauhub.com.mo/en/2015/09/09/president-of-mozambique-inaugurates-biggest-plant-nursery-in-africa/>

MAIN IMPACTS

Environmental impacts

- The plantations will impact on the remaining forest ecosystems of miombo woodlands, with possible fragmentation of Afromontane and eastern African coastal forests.
- Both, pulp mill and plantations will be located not far from the Deforestation Fronts as outlined by WWF. Landscapes will not be protected and natural forests will be converted apart from 10% set-aside areas, including 114,000 ha of densely wooded "sensitive areas".
- Roads, forest tracks and fire breaks will also impact the natural forests.
- Furthermore, the conversion into plantations will displace traditional forest uses, creating more pressure on the remaining fragments of natural forests.
- The plantations could have further impacts such as pollution, soil erosion and lowering of the water table.

Social impacts

- Land that is critical for food security and traditional life has been taken from local communities. The project represents the largest single land concession in Mozambique and it is controversial, because it is in an area with significant population and agricultural potential¹⁰.
- Consultation meetings have not been held in the traditional language, and as a result most of the people were unable to understand most of the content of the meetings, and in some cases, possible impacts have not been outlined. There is a report about a local chief who forbade community leaders to voice their concerns regarding the project, and about pressure to accept the project has been reported.
- In some cases, temporary jobs were promised in exchange for land, in others land has been acquired without compensation. Some people have been relocated to fields far away from roads and basic services, such as medical care. Other people have had to rent land at their own expense.
- Complaints presented to the authorities have not been followed up.
- Eucalyptus plantations absorb huge amounts of water from the soil. In this environment, already marked by water stress, the expansion of eucalyptus plantations will inevitably affect the surrounding areas bringing a severe decline to local agriculture and threatening food security.

¹⁰ The Oakland Institute, Understanding land investment deals in Africa - Country report: Mozambique, 2011, see: https://www.oaklandinstitute.org/sites/oaklandinstitute.org/files/OI_country_report_mozambique_0.pdf

Furthermore, the Portucel mill and forestry project is not the only one involving large extensions of land. Mozambique granted concessions to investors for more than 2.5 million hectares of land between 2004 and the end of 2009. This is 3 percent of the land area and 7 percent of the country's arable land.¹¹ Many of these projects are related to large-scale tree plantations.¹²

Governance

The way Portucel Mozambique obtained the land is disputable. On 22 January 2010, Portucel (now The Navigator Company) issued a statement under the terms of the Portuguese Securities Market Commission Code announcing the Mozambique Council of Ministers resolution conceding 173,327 ha. They continued to say that Portucel had been "notified by the Investment Promotion Centre of Mozambique" and that the Council of Ministers Internal Resolution number 7/2009 of 22 December 2009 "also includes the right to use and exploit an additional area of 220,000 ha in the Province of Manica, as soon as the ongoing formalities are concluded."¹³ "Internal Resolutions" of the Council of Ministers do exist, and they are secret. They are used by the Council of Ministers to say that they approve of an investment, which seems to be supported by the reference to "ongoing formalities." But the right to use and exploit an additional area of 220,000 ha is a DUAT (land allocation contract), which can only be issued by a published Council of Ministers resolution, which has not happened.¹⁴

Furthermore, according to the Mozambican land law¹⁵ the government cannot give out land already used by local communities. It also states that an allocation contract can be agreed after the affected local communities have been consulted and have declared that the area is free and not used.

¹¹ The Oakland Institute, Understanding land investment deals in Africa - Country report: Mozambique, 2011, see: https://www.oaklandinstitute.org/sites/oaklandinstitute.org/files/OI_country_report_mozambique_0.pdf

¹² WRM, Timberwatch, Industrial tree plantations invading eastern and southern Africa, 2016, see: <http://wrm.org.uy/fr/files/2016/10/2016-10-Plantations-in-ES-Africa-TW-WRM-med-screen.pdf>

¹³ The Navigator Company, Information Setúbal, Portugal, 22 January 2011, see: http://en.thenavigatorcompany.com/var/ezdemo_site/storage/original/application/81ee9e174469856eb8da333b5e919349.pdf

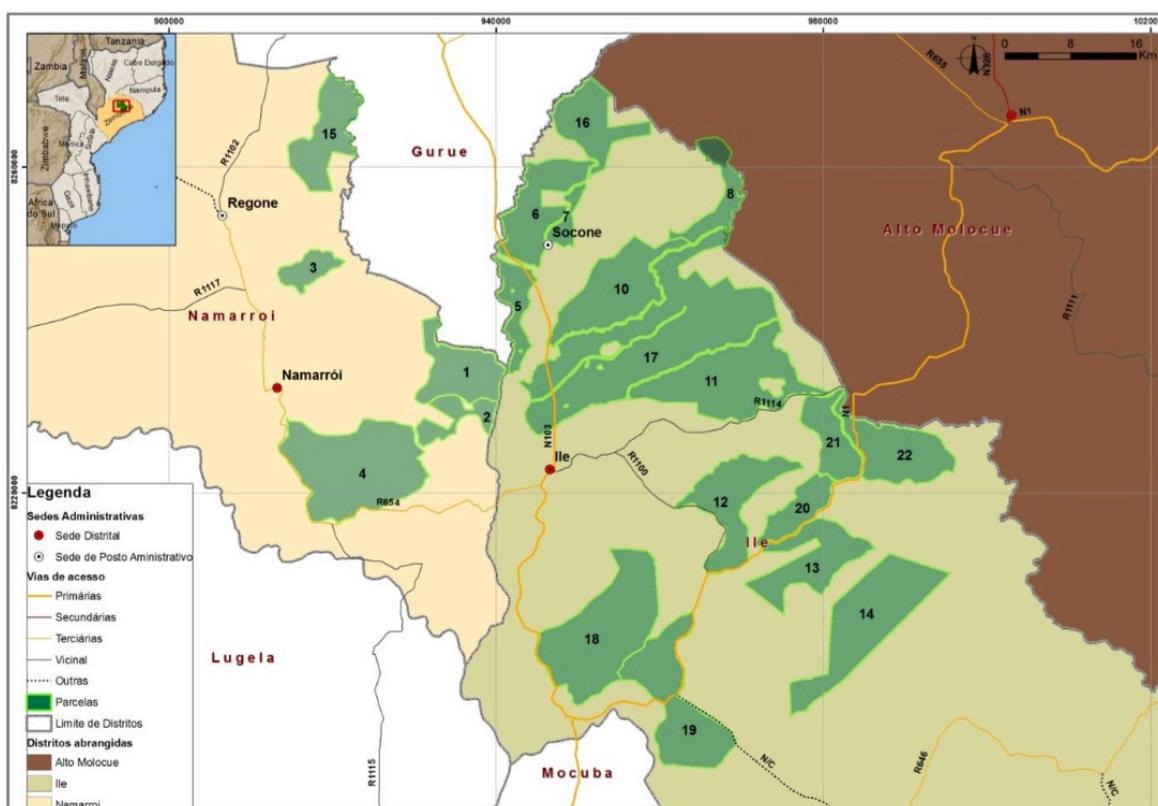
¹⁴ The Oakland Institute, Understanding land investment deals in Africa - Country report: Mozambique, 2011, see: https://www.oaklandinstitute.org/sites/oaklandinstitute.org/files/OI_country_report_mozambique_0.pdf

¹⁵ Ley da Terras, law 19/97 1 October 1997, articles 12, 13, 16 and 18, see: <http://www.oram.co.mz/Lei-das-Terras.pdf> or https://www.sheltercluster.org/sites/default/files/docs/lei_terras_mocambique.pdf

ZAMBÉZIA PROJECT

According to the Environmental Impact Assessment Report (Non-Technical Summary), a forestry plantation project will be established in the Zambézia province. Portucel Mozambique obtained the Authorization n. 249/2009 for the completion of the project through Internal Resolution n. 7/2009 of the Council of Ministers of Mozambique of 12/22/2009, which defines the terms and conditions for the establishment of the integrated forestry, industrial and energy project in the Zambézia province. The DUATs (land use contracts) of 173,327 ha granted to Portucel Moçambique for the development of the forestry project in Zambézia was authorized by the Council of Ministers Resolution 86/2009 and published in the Bulletin of the Republic Series 1, Number 52, of 12/31/2009. All DUAT's forest parcels are presented in annex to the REIA.¹⁶

The estimated investment value of the project to establish the pulpwood plantation base of Portucel Moçambique in Zambézia is 198,000,000 USD.



Source: Impacto¹⁷

¹⁶ Impacto, Relatório do estudo impacto ambiental da província da Zambézia, Maputo, September 2014, see: http://www.portucelmocambique.com/var/ezdemo_site/storage/original/application/4c6d4fda3a078a913cdf97b7f850e41.pdf

¹⁷ Impacto, Relatório província Zambézia, see footnote 16

The area to be converted into eucalyptus plantations in Zambézia province is concentrated on the Ile district and the surrounding areas in the district of Namarrói. The project covers three districts and five administrative posts (PA), in particular:

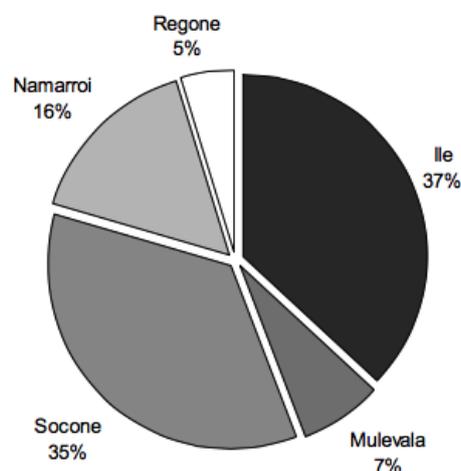
- Ile district (Ile-headquarters and Socone);
- Mulevala district and
- Namarrói district (Namarrói – Namarrói-headquarters and Regone).

MANICA PROJECT

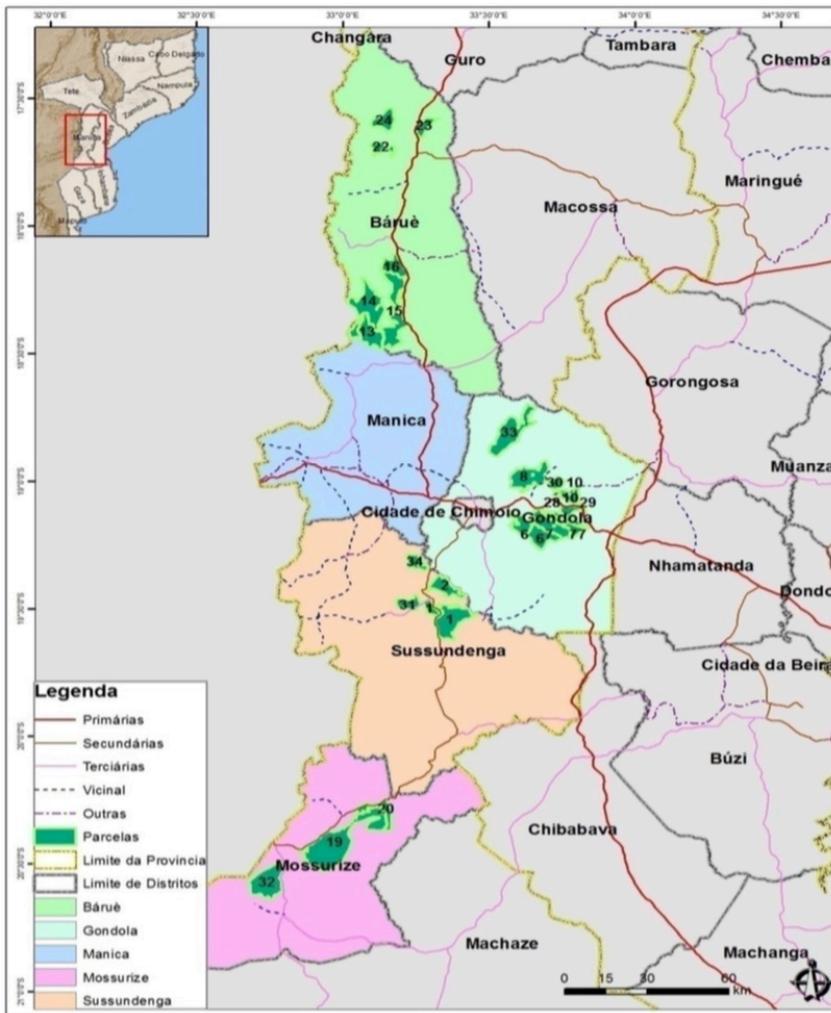
According to the Environmental Impact Assessment Report (Non-Technical Summary), a forestry plantation in Manica will be established with species of the genus eucalyptus (*Eucalyptus grandis* and *Eucalyptus urophylla*) with a rotation period of 8 years, in an area of 126,000 ha within roughly two-thirds of a total area of 183,000 ha.

Portucel Moçambique obtained the Authorization n. 249/2009 for the completion of the project through Internal Resolution n. 7/2009 of the Council of Ministers of Mozambique of 12/22/2009, which defines the terms and conditions for the establishment of the integrated forestry, industrial and energy project in the Manica Province.¹⁸

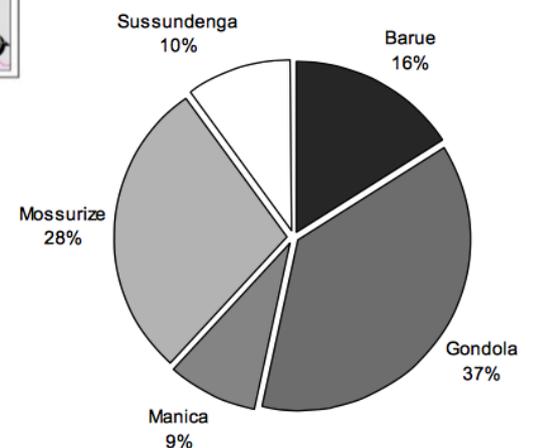
The DUATs of 182,886 ha granted to Portucel Moçambique for the development of the Forestry Project in Manica Province (Authorization No. 249/2009, Internal Resolution no 7/2009 of the Council of Ministers), were published in the Bulletin of Republic Series I, paragraph 52, of December 30, 2011 (Resolution No. 2011/70 of the Council of Ministers). All DUAT forest parcels are presented in an annex to the Environmental Impact Assessment (EIA). The estimated investment value of establishment of the pulpwood plantation base of Portucel Moçambique in Manica is 353,500,000 USD.



¹⁸ Impacto, Manica Forestry Project, Environmental Impact Assessment Report, Maputo, June 2014, see: http://www.portucelmocambique.com/var/ezdemo_site/storage/original/application/4c6d4fda3a078a913cfd97b7f850e41.pdf



Source: Impacto¹⁹



The project covers five districts and twelve administrative posts (PA), in particular:

- Bárue district (PAs of Catandica, Nhampassa and Choã);
- Manica district (PA of Mavonde);
- Gondola district (PAs of Amatongas, Cafumpe, Matsinho and Inchope);
- Sussundenga district (PAs of Sussundenga and Muhoa) and
- Mossurize district (PAs of Espungabera and Dacata).

The largest tree plantation area will be located in Gondola (57,000 ha), followed by the districts of Mossurize (43,000 ha) and Bárue (25,000 ha).

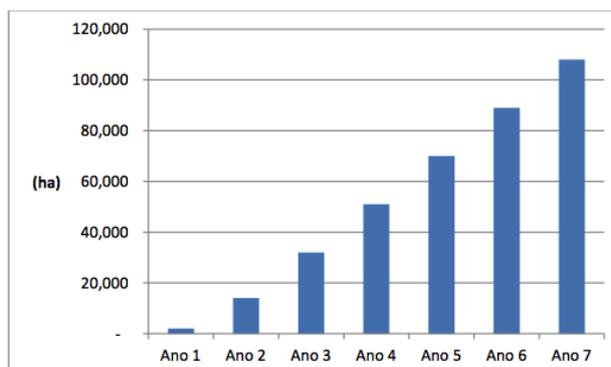
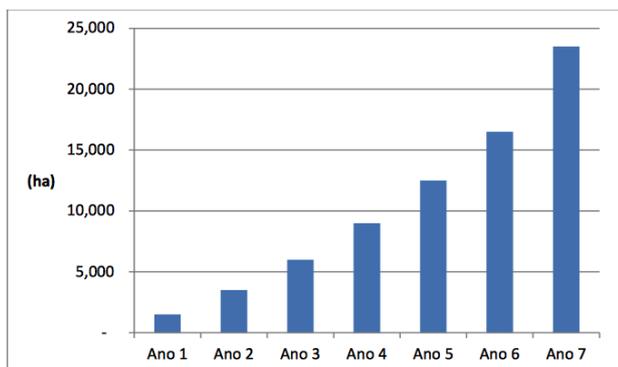
¹⁹ Impacto, Relatório do estudo impacto ambiental da província de Manica, Maputo, September 2014, see: http://www.portucelmocambique.com/var/ezdemo_site/storage/original/application/2ebf2b94e6be2870799d0c29da61e84b.pdf

TIMING

Pulpwood plantation operations will be preceded by a planning stage where, for each parcel to be converted, any areas of environmental protection shall be demarcated and a set of constraints (technical, operational and social) will be applied in order to ensure the establishment of protective buffers around the network of waterways, roads or villages. A set of protective corridors with a minimum width of 100 meters to each side of smaller roads has already been factored into the project design as well as riparian buffers, even up to a maximum width of 200 meters along water courses and main roads.

The project foresees a continuously growing and progressive installation of stands of eucalyptus, particularly hybrid clones GU (*Eucalyptus grandis* x *Eucalyptus urophylla*), with a spacing of 3 x 3 meters. This activity includes a set of tree plantation establishment operations, ranging from soil preparation for planting to native forest conservation measures and infrastructure maintenance. The plantations are forecast to cover approximately 69% of the total area allocated to the project in about 12 years. The target rotation period is 8 years, at the end of which the trees will be felled, cleaned and transported to the pulp mill.

The installation of the pulpwood plantation base will be gradual, and it is estimated that the planting of 2,000 ha in Zambézia and 1,500 ha in Manica in the first year will be increased incrementally until the total planted area reaches about 120,000 ha in Zambézia and 126,000 ha in Manica after 12 years.²⁰



Planting in Zambézia and Manica, source: Impacto²¹

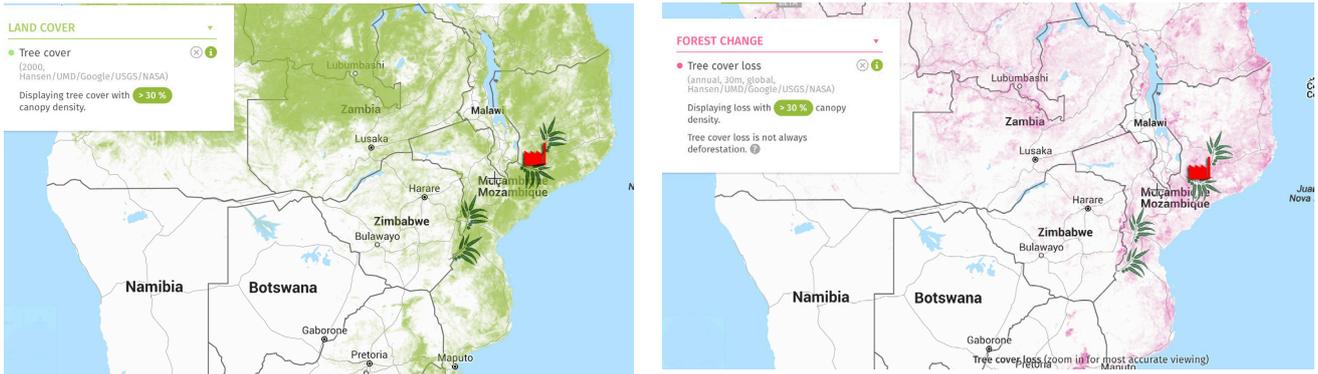
²⁰ Impacto, Relatório província Manica, see footnote 19

²¹ Impacto, Relatório província Manica, see footnote 19

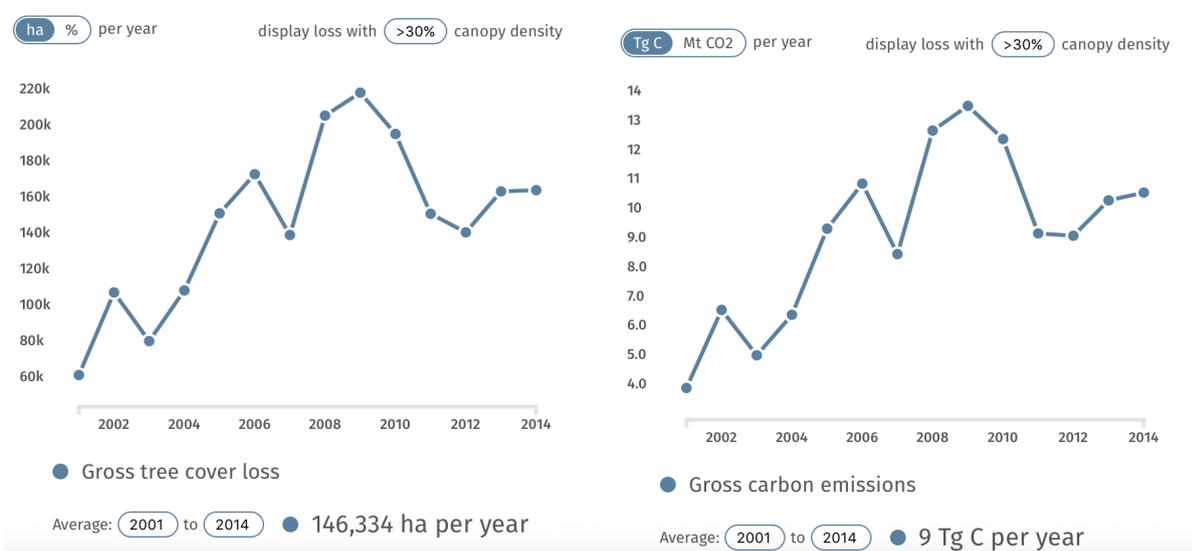
ENVIRONMENTAL IMPACTS

Biodiversity and deforestation

The plantations will be located in forested regions, where deforestation is occurring at a rapid pace, as shown in the maps made available by Global Forest Watch.²² The loss of forests is also leading to climate change. In the case of Mozambique, 53.1% of GHG emissions in 2011 came from land-use change and forestry.



Risk factor: pulp mill and plantations compared to tree cover map (green) and tree loss map (purple)²³



Deforestation and carbon emissions in Mozambique (Global Forest Watch²⁴)

²² Global Forest Watch deforestation, Country profiles, Mozambique, see:

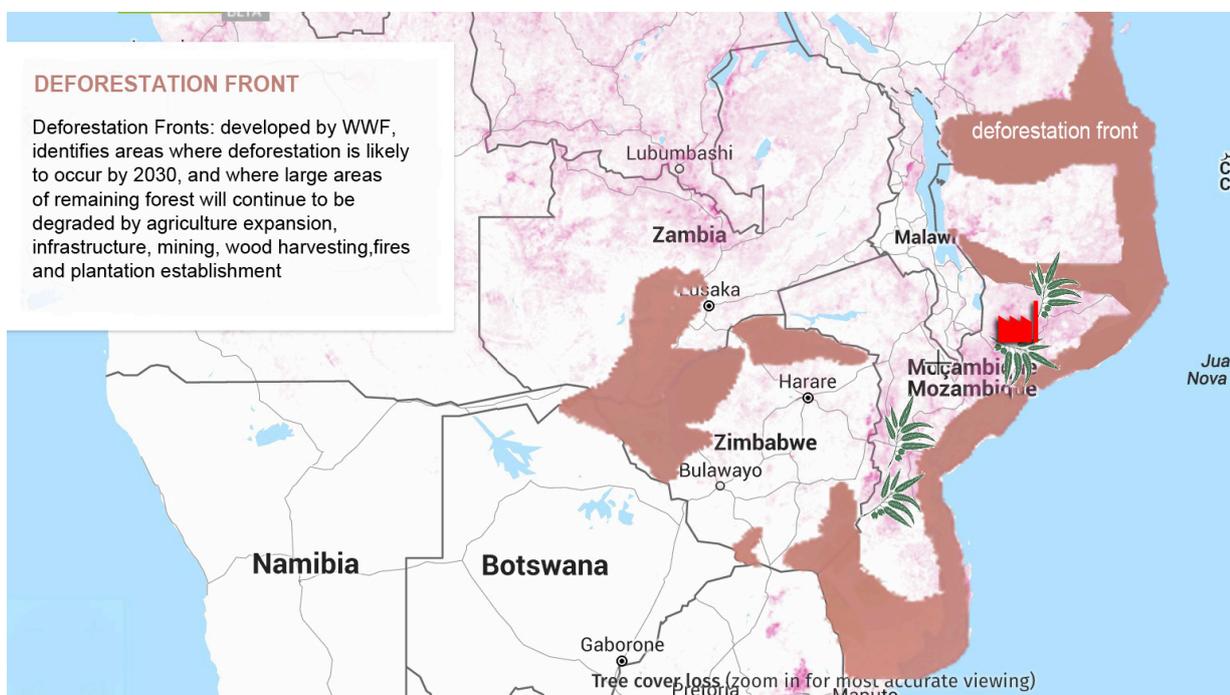
<http://www.globalforestwatch.org/country/MOZ#>

²³ Global Forest Watch deforestation, tree cover change and land use maps, see:

<http://www.globalforestwatch.org/map/3/15.00/27.00/ALL/grayscale/loss,forestgain?begin=2001-01-01&end=2014-01-31&threshold=30>

The plantation areas are located in the ecosystem of the eastern Miombo woodlands. Named for the "miombo" trees (*Brachystegia spp.*) that dominate the area, the woodlands are home to some 8,500 plant species; more than 300 of which are trees. The eastern Miombo woodlands landscape is a complex mosaic that also includes, among others, patches of *Eastern Africa Coastal Forests*²⁵ and the afro-montane habitat. The African mountains harbour the last remnants of a once much more widespread, wetter forest zone, a high conservation value habitat, while the Eastern Africa Coastal Forests are considered to be a "bird-lover's paradise with more than 633 bird species found here; 11 of which are endemic".²⁶ This eco-region is home to a variety of primate species including 3 endemic and highly threatened monkey species and 2 endemic species of bushbabies.²⁷ In this region, unsustainable logging and pulp production are important secondary causes of deforestation.

Both pulp mill and plantations will be located not far from the Deforestation Fronts, places identified by WWF as those that will account for over 80% of the forest loss projected globally by 2030.²⁸



Risk factor: overlap with WWF deforestation front²⁹

²⁴ Global Forest Watch - Country Data, see: <http://climate.globalforestwatch.org/countries/MOZ/national>

²⁵ WWF Priority Eco-regions, see:

<http://panda.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=d47e21048bf343cba769fa4527e5658c>

²⁶ WWF, The Forests and Woodlands of the Coastal East Africa Region, see:

http://www.wwf.se/source.php/1418301/Threatened%20Spaces,%20Disappearing%20Species_nov%202011.pdf

²⁷ WWF, Eastern Africa Coastal Forests, see:

http://wwf.panda.org/about_our_earth/ecoregions/east_africa_coastal_forests.cfm

²⁸ WWF, Deforestation Fronts, see: http://wwf.panda.org/about_our_earth/deforestation/deforestation_fronts/

In the Zambézia province the plantations will be developed in the district of Ile e Namarroi, characterized by deciduous miombo forest, while in the Manica province the area is covered by semi-deciduous miombo forest (*Brachystegia spiciformis*), deciduous miombo (*Brachystegia spiciformis-Julbernardia globiflora*), tree savannah (*Parinari curatellifolia*) and evergreen forest.

Despite being considered to be a "bird-lover's paradise",³⁰ the Eastern Africa Coastal Forests are disappearing at rapid pace.³¹

According to the Environmental Impact Assessments, there is little wildlife in the areas to be converted into eucalyptus plantations. However, the methodology adopted in these assessments could be disputed. In order to assess the presence of wildlife, especially big mammals, the first step would be to ask the local community about its presence in the area. Local people can have different perceptions of the presence of wildlife in the area, but interviewing a number of people can provide balanced information, while the search for footprints, faeces and other tracks can provide definitive



Miombo forest in Nhampassa, Manica Province (Impacto).

confirmation about their presence in the area. The approach adopted by Impacto was to send their auditors to remote areas without local knowledge, not looking for tracks or other evidence, but trying to see if they by chance spotted wild animals. The Miombo is a sparse forest, where wild animals can spot auditors well in advance before being spotted by them. The result was that - according to the Environmental Assessments - the auditors found very little wildlife and almost no big mammals, but we cannot say if this corresponds with reality. What on the contrary is clear from these studies, is that in many cases these parcels are surrounded by degraded land and these areas could host the last habitats for considerable wildlife. It will be difficult to check this after their conversion into plantations.

According to the Environmental Impact Assessments, eucalyptus has been planted on former agricultural or degraded land to create new habitats, to improve connectivity and provide linkages allowing animals to disperse, or to contribute to stopping desertification on unstable land, or in areas prone to desertification as well as to dry wet soil. However,

²⁹ WWF, Deforestation Fronts, see footnote 28

³⁰ WWF, Eastern Africa Coastal Forests, see footnote 26

³¹ Global Forest Watch deforestation, Country profiles, Mozambique, see footnote 22

large scale eucalyptus plantations such as the Portucel Moçambique projects, are large homogenous blocks, characterized by a single dominant alien invasive species growing under intensive management. This management involves ploughing (ripping) fertilization, herbicide use, clearing of undergrowth, elimination of diseased trees, thinning, persecution of animals which can damage the trees and periodic logging. All these factors cause profound changes in the flora and fauna of local ecosystems.³²

Industrial plantations begin with clearing the natural vegetation, when most local plant species are removed. Pioneer forest species which return are destroyed either by mechanical clearing or by herbicides. The few species which do manage to survive in the plantation or in fire-breaks are periodically eliminated to reduce competition for water and nutrients and the risk of fire. Epiphytes and climbing plants which support other fauna also tend to disappear in large scale plantations.



Portucel plantation in Socone, Zambézia Province (Impacto)

Studies on the soil fauna under eucalyptus plantations are rare. However, only a relatively small group of species normally manages to adapt to newly-created plantation environments, and some of them are exterminated because they damage plantation productivity.³³

A further reason for concern is the displacement of traditional forest use: extraction of fuel wood for cooking and production of charcoal (an activity that in some regions is a major source of income) already impacts but yet does not completely destroy forests. The establishment of large scale alien tree plantations can displace these activities and concentrate them in the remaining available land, making their impacts much more severe and unsustainable.

To overcome doubts about biodiversity loss, the Portucel Moçambique project includes a Plan of Conservation of Habitats and Flora and an Environmental Management Plan, which includes a number of provisions (such as restricting areas to local people, setting speed limits etc.) that are insufficient to protect the biodiversity values and services, especially if in the mean time forest biodiversity is extensively eliminated by Portucel's tree planting activities. Furthermore, Portucel Moçambique announced compensation provisions for fragmentation, alteration and/or loss of habitats. The precautionary principle, as formulated by the Convention on Biological Diversity, suggests avoidance of loss of habitats instead of compensating through 'biodiversity offset' projects in other locations.³⁴

³² Ricardo Carrere, *Pulping The South*, 1996, see: http://wrm.org.uy/wp-content/uploads/2013/04/Pulping_the_South.pdf

³³ Ricardo Carrere, *Pulping The South*, see footnote 32

³⁴ Convention on Biological Diversity, Precautionary Principle. The precautionary principle provides guidance, "serious or irreversible" harm mentioned in the Rio Declaration should be interpreted in the biodiversity context. It states "where there

The precautionary principle should also be adopted because Portucel Soporcel has been criticized in the past for the poor environmental performance of its eucalyptus plantations in Portugal.³⁵ In fact what is happening is a large-scale conversion of forests into tree plantations, barely covered by its conveniently adjusted compensation scheme.

1) Portucel will not protect the landscapes, it will only set aside 10% of the land, regardless of the densely wooded area that will be cleared.

On the total area of 357,252 ha obtained by Portucel for the project, 135,032.2 ha are in forest ecosystems (mostly Miombo). A significant part of these ecosystems, including 114,806.1 ha of densely wooded “sensitive areas” will be cleared and converted into eucalyptus plantations. The company will only

compensate 96,220.4 ha elsewhere (in reality, less than half, e.g. just 41,086 ha if we calculate only the land that the

company can exploit, not being located on rocks and slopes).³⁶ As a result, large areas of the Miombo forest will be removed, while around 10% is supposed to be protected.



Portucel land clearing in Amatongas, Manica Province (Impacto).

2) A convenient compensation

Biodiversity compensation through ‘offsetting’ is an approach that is far from achieving consensus in the scientific community. In this case however, the situation is even worse: the company will not compensate for all the habitats that it will convert into plantations, but only 10% of them. The approach chosen by the company is to clear all its land – no matter of the biodiversity values - and concentrate compensation in some areas that are more intact (in Zambézia province: Socone_Sul1, Socone_Norte1 e Regone1; in the

is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat”. The precautionary principle has subsequently been extensively included in decisions and related work on biosafety marine and coastal biodiversity (Decision II/10, SBSTTA I/8), invasive alien species (Annex, Decision VI/23, see also V/8), the ecosystem approach (Decision V/6),⁴ and guidelines on sustainable use (Decision VII/12). see: <https://www.cbd.int/doc/articles/2008/A-00637.pdf>

³⁵ Quercus, Portucel avança com expansão de novos eucaliptais aumentando as monoculturas existentes, September 2012, see: <http://www.quercus.pt/comunicados/2012/setembro/42-maiseucaliptais>

³⁶ The EIA also claims that being the “compensation” areas a little more than the 10% of mandatory protection, there is “a net gain of biodiversity”. In reality even from the EIA it appears that the “compensation” trade advantages the plantation areas, which gain of 3,475 ha in Zambézia and 14,052 in Manica at the cost of the protected areas. From: Impacto, Relatório província Zambézia, see footnote 16 and Impacto, Relatório província Manica, see footnote 19

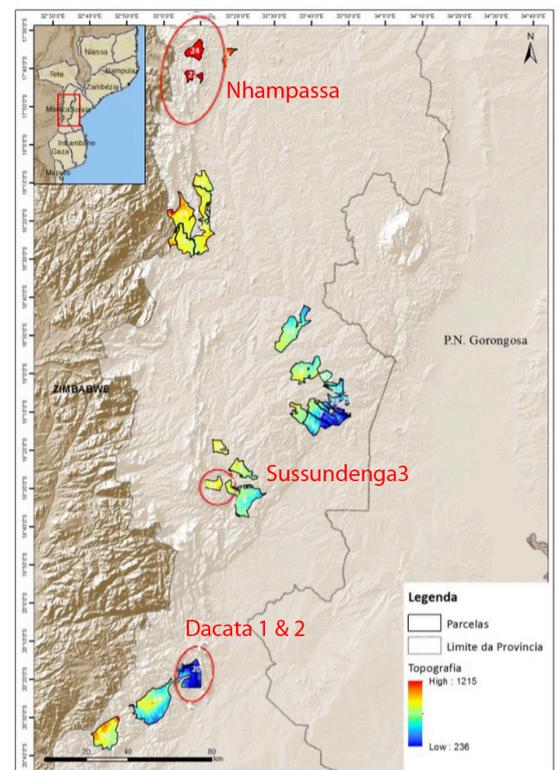
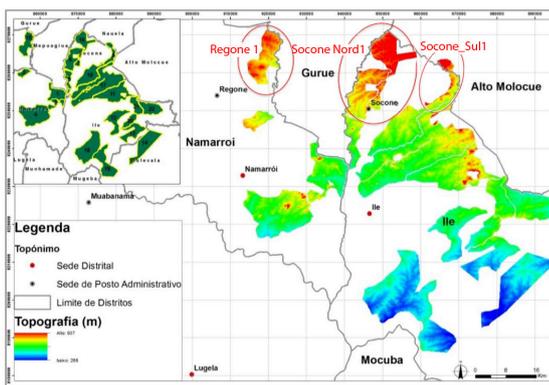
Manica province: Nhampassa1, Nhampassa3, Sussundenga3, Dacata1 and the northern part of Dacata2).

The company says that the logic of concentrating protected areas in a few blocks is in order to minimise fragmentation, and to make it easier for the company to manage both plantations and set-aside areas. However, these areas are more intact for a simple reason: they are less accessible with heavy machinery. Socone_Sul1, Socone_Norte1, Regone1, Nhampassa1 & 3, Sussundenga3 are located in the higher areas (mostly with altitudes over 800 m.³⁷) while Dacata 1 & 2 are characterised by “a large number of rocky formations and ridges that lie within these PCAs, which contribute to their inaccessibility, and therefore to their ecological integrity because areas of stone/rock prevent agriculture (and also plantations).

The reason why the chosen areas are still relatively intact is that they are less suitable for agriculture, and in many cases less accessible with heavy machinery.

This raises the suspicion that the “compensation” is very convenient for the company, as they are going to protect areas largely unsuitable for industrial tree plantations, while converting precious High Conservation Value Forests (HCVs) into plantations.³⁸

Note that the areas to be protected are not all forested (only 30,556 ha are forested), so even the claim to compensate 10% of the clearance is flawed.



As a result, 114,806.1 ha of “densely wooded” forest will be cleared, while just 31,505.4 ha of exploitable land (not including peaks and rocks) will be allocated for conservation. This is not what can be defined as *avoiding impacts on biodiversity and ecosystem services*. We also doubt that this compensation approach would satisfy the BBOP (Business and Biodiversity Offset),³⁹ as claimed by the environmental management plan.

³⁷ It is also not clear if the habitats that will be removed are the same that will be preserved. Being the latter at higher altitude, we can also imagine that they will be substantially different.

³⁸ Impacto, Relatório província Manica, see footnote 19

³⁹ Business and Biodiversity Offset Programme (BBOP), the Standard on Biodiversity Offsets, Guidance notes, 2012, see: http://www.forest-trends.org/documents/files/doc_3099.pdf

Zambézia	Total Areas held by Portucel (ha)	Areas with slopes, rocks and peaks (ha)	Ecologically sensitive - densely wooded areas (ha)	Ecologically sensitive - densely wooded areas to be cleared (ha)	Biodiversity compensation areas (ha)	Ecologically sensitive - densely wooded areas to be protected (ha)	Exploitable areas to be protected
Ile1	4443	821	1096	1096			
Ile2	7583	1277	1434	1434			
Ile3	8253	1565	2666	2666			
Ile4	3485	684	818	818			
Ile5	7408	1207	1583	1583			
Ile6	12790	1815	4178	4178			
Mocuba1	15284	2358	4813	4813			
Mocuba2	11009	1613	2317	2317			
Regone1	6601	1549	3913		6600,6	3913	5051,6
Regone2	2236	542	590	590			
Socone_Norte1	5890	1508	3508		5890,4	3508	4382,4
Socone_Norte2	7222	942	942	942			
Socone_Norte3	1434	233	233	233			
Socone_Norte4	3292	638	729	729			
Socone_Norte5	6140	2611	2611	2611			
Socone_Norte6	2808	1256	1256	1256			
Socone_Norte7	15797	4799	5528	5528			
Socone_Sul1	3588	2023	3109		3588,3	3109	3588,3
Socone_Sul2	9438	1446	2439	2439			
Socone_Sul3	26784	5949	12379	12379			
Socone_Sul4	12918	4116	7815	7815			
Total Portucel areas in Zambézia	174403	38952	63957	53427	16079,3	10530	13022,3

Manica	Total Areas held by Portucel (ha)	Areas with slopes, rocks and peaks (ha)	Ecologically sensitive - densely wooded areas (ha)	Ecologically sensitive - densely wooded areas to be cleared (ha)	Biodiversity compensation areas (ha)	Ecologically sensitive - densely wooded areas to be protected (ha)	Exploitable areas to be protected
Amatongas1	93,5	9,3	9,3	9,3			
Amatongas10	7631,2	1371,2	2408,6	2408,6			
Amatongas11	4509,2	1038	1227,1	1227,1			
Amatongas12	6564,7	1749,6	2884,6	2884,6			
Amatongas2	749,6	185,6	189,6	189,6			
Amatongas3	2846,5	401,3	536,3	536,3			
Amatongas4	850,2	67,5	69,2	69,2			
Amatongas5	2224,8	477	880,7	880,7			
Amatongas6	735,1	277,1	453,9	453,9			
Amatongas7	1350,6	321,2	413	413			
Amatongas8	1109,8	170,2	194	194			
Amatongas9	2369,1	350,6	840,5	840,5			
Cafumpe1	10321,3	2165	2441,9	2441,9			
Cafumpe2	2111,5	383	397,4	397,4			
Catandica1	5286,9	916,3	1064,9	1064,9			
Catandica2	14804,2	3370,4	3805,1	3805,1			
Choã	12784,4	2885	5087,3	5087,3			
Dacata1	4755,9		3677,8		4755,9	3677,8	4755,9
Dacata2	28620,6	5572	17678,8	20859,9	7760,7	17678,8	2188,7
Espungabera	12760,7	1853,8	1875,7	1875,7			
Matsinho	13210,6	2877	2877	2877			
Mavonde	9466,7	1804,3	3257,8	3257,8			
Nhampassa1	5078,8		4073,8		5078,8	4073,8	5078,8

Nhampassa2	2911,6	843,6	1261,1	1261,1			
Nhampassa3	2704,9		2229,5		2704,9	2229,5	2704,9
Sussundenga1	3294,3	389,3	701,9	701,9			
Sussundenga2	5518,9	1298,5	2029	2029			
Sussundenga3	3754,8		2896,1		3754,8	2896,1	3754,8
Sussundenga4	2140	339,1	536,9	536,9			
Sussundenga5	12288	1851,7	5076,4	5076,4			
Total Portucel areas in Manica	182848,4	32967,9	71075,1	61379,1	24055,1	30556	18483,1

Total Portucel areas in Mozambique	Total Area held by Portucel (ha)	Areas with slopes and rocks (ha)	Ecologically sensitive - densely wooded areas (ha)	Ecologically sensitive – densely wooded areas to be cleared (ha)	Biodiversity compensation areas (ha)	Ecologically sensitive – densely wooded areas to be protected (ha)	Exploitable areas to be protected
Total	357.252,4	34.819,6	135.032,2	114.806,1	96.220,4	30.556	41.086

Elaboration from Impacto, Relatório do estudo impacto ambiental da província da Zambézia, Maputo, p. 397, September 2014, and Relatório do estudo impacto ambiental da província de Manica, Maputo, September 2014, p. 415.

Impacts on soils

The effect of eucalyptus plantations on soil nutrients is mostly dependent on the logging cycle. The more frequent the logging, the larger the amount of nutrients which is exported.

In large scale tree plantations the nutrient balance is severely affected. Eucalyptus tends to reduce the action of decomposing agents such as fungi and bacteria, so nutrients contained in leaf litter are not freed up in a form which would allow them to be taken up easily by roots. The extraction of nutrients by logging leads, at least on naturally acid and nutrient poor soils in grassland ecosystems, to greater acidification. Chemical changes such the acidification of the soil and the introduction of new chemical compounds make life more difficult for many decomposers, and changes in humidity, temperature and light may have an additional impact. The leaf litter of such pulpwood trees themselves contain tannin, lignin, oils, waxes, and other substances, which are difficult to digest or even toxic for soil flora and fauna. Many decomposers not able to adapt simply disappear. As a result, the leaf litter decomposes very slowly and accumulates on the soil, preventing rain infiltration and increasing evaporation.

Furthermore, a study highlighted the risk of soil erosion in eucalyptus plantations with rainfall amount greater than 5 mm,⁴⁰ as is the case of the areas in Mozambique.⁴¹

Another negative impact on the soils can relate to the use of heavy logging machinery on the site, which modifies the soils' physical characteristics through compaction, and may lead to increased erosion. As usual, the Environmental Impact Assessment for Portucel Moçambique plantations will include a soil study, that will assess the risks of erosion and the pressure of plantations on peasant agrarian systems but it is not clear what effective measures will be taken to prevent these risks.

Pollution

Portucel Moçambique failed to inform stakeholders and communities about the pesticides they will use, and how they will affect groundwater quality in areas where this is the only source of drinking water and water for other domestic uses. Generally, industrial plantations of fast growing trees such as eucalyptus require large amounts of pesticides, herbicides and fertilizers, which pollute water and soils and impact the livelihoods of surrounding and downstream communities. Fertilizers, herbicides and pesticides carried by wind or water may have impacts far beyond the plantation area. These chemicals contaminate soil, waterways and the atmosphere and affect people, plants and wildlife.

⁴⁰Guoyi Zhou, Xiaohua Wei, Junhua Yan, Impacts of eucalyptus (*Eucalyptus exserta*) plantation on sediment yield in Guangdong Province, Southern China—a kinetic energy approach, December 1999, see: <http://www.cnern.org/eWebEditor/uploadfile/20126811150706.pdf>

⁴¹One single day of rainfall can occasionally meet 11-29% of the annual total. Impacto, Relatório província Manica, see footnote 19

Impacts on water cycle

Fast growing pulpwood plantations use vast amounts of water and often have a negative impact on agricultural lands surrounding and downstream from plantation areas. Eucalyptus is a fast-growing alien tree that requires an average of 30 litres of water every day.⁴² Plantations are characterised by deep root systems and tall, dense, evergreen canopies. When planted at a density of 400 trees/hectare, a eucalyptus plantation of 70,000 ha will absorb 840 million litres from the soil every day. In surrounding areas, water level of wells would drop dramatically. Streams, wetlands and lakes could also be negatively affected, especially during the dry season, leading to general water shortages that damage aquatic ecosystems and undermine local people's water needs.

Pulp mills use large amounts of water too. These changes in the water cycle could end up reducing availability of water for other livelihoods including local agriculture. They can also affect the local climate and increase impacts of droughts. These impacts may be more severe in the districts involved by the Manica province plantations (Báruè, Gondola, Sussundenga and Mossurize), which are already affected by drought. Portucel's environmental assessments mention a Water Monitoring Plan but this has not been made public so far and there are no clear provisions to preserve the water table.

Infrastructure

The project will require opening up plantation roads of a total length of 1,200 km in both provinces and 280 km of perimeter firebreaks.⁴³ The road development itself causes a limited amount of deforestation. But roads also provide entry to previously inaccessible—and often unclaimed—land. Logging, both legal and illegal, often follows road expansion.



Portucel road in Amatongas (Manica Province).

The roads and the logged areas become a magnet for settlers—farmers and ranchers who slash and burn the remaining forest for cropland or cattle pasture, completing the deforestation chain that began with road building.⁴⁴ As an example, in the case of the Brazilian Amazon, a study recently published by the journal *Biological Conservation* found that 94.9 percent of deforestation in the region occurs on land less than 5

⁴² Janine M. Albaugh, Peter J. Dye, 2 and John S. King, *Eucalyptus and Water Use in South Africa*, February 2013, <http://www.hindawi.com/journals/ijfr/2013/852540/>

⁴³ Impacto, Relatório província Zambézia, see footnote 9 and Impacto, Relatório província Manica, see footnote 12

⁴⁴ Earth Observatory, *Causes of Deforestation*, see: http://earthobservatory.nasa.gov/Features/Deforestation/deforestation_update3.php

kilometres from a road or navigable river.⁴⁵ A similar study highlighted the impacts of roads in the (much less disturbed) forests in the Democratic Republic of Congo.⁴⁶

SOCIAL IMPACTS

Some of the social impacts that may come from the plantations which will be established by Portucel have been already identified in the Environmental Impact Assessment report released by Impacto. This report first mentions some of the concerns expressed by local interested or affected people during meetings held in the city of Quelimane and in the districts of Namarrói and Ile for the Zambézia plantations, and in Chimoio and in the districts of Gondola, Sussundenga, Manica and Mossurize for the Manica plantations.⁴⁷ The main issues raised by communities were as follows:

- Lack of available areas for the development of the project.
- Lack of clear delimitation of Portucel and communities' areas.
- Preference for food production projects rather than projects producing non-food crops.
- There are already conflicts over land that have forced the populations to move to other areas.
- Lack of knowledge about the project.
- Loss of farmland, pasture land and livelihood.
- Parts of communities expect that they will be able to get their land back in the medium term.
- Insecurity in relation to their future and their children given the loss of land.
- Most communities are still not clear about the process for acquiring the DUATs (land use contracts) because they have not participated in this process, and therefore request that the process will be reviewed.
- Communities are not informed about the duration of the project and the areas that it will occupy.

⁴⁵ Christopher P. Barber, Mark A. Cochrane, Carlos M. Souza Jr, William F. Laurance. Roads, deforestation, and the mitigating effect of protected areas in the Amazon. *Biological Conservation* 177 (2014) 203–209, see: <http://www.sciencedirect.com/science/article/pii/S000632071400264X>

⁴⁶ Man Li, Alessandro De Pinto, John M. Ulimwengu, Liangzhi You, Richard D. Robertson, Impacts of Road Expansion on Deforestation and Biological Carbon Loss in the Democratic Republic of Congo, march 2015, see: <http://link.springer.com/article/10.1007%2Fs10640-014-9775-y#page-1>

⁴⁷ Impacto, Relatório província Zambézia, see footnote 9 and Impacto, Relatório província Manica, see footnote 19

- Lack of channels of communication with the project, through which communities can raise their concerns.
- Lack of transparency in the project's relations with local community leaders regarding the occupation of land within the DUATs, which creates conflicts between communities and their leaders.
- Lack of employment contracts between workers hired to work on the plantations and the company.
- Fear of rising crime resulting from the implementation of the project.

Other serious concerns relate to the risk of igniting conflicts within the community between people obtaining some benefits from the plantation development and people damaged by its impacts, and the practice of having separate deals with the village heads, without involving the whole community.

Even though it is a good exercise in transparency that these issues have been made public, it doesn't seem that the company is ready to properly address the social impacts caused by its plantations.

This brief list highlights that the company has failed to implement the principles of Free, Prior and Informed Consent (FPIC).⁴⁸ It appears that some people still believe that their land will be given back after a few years, while others don't even know if their own land has been given to the company. In addition, people hired to prepare the plantation seem not to have clear contracts.

Land grabbing

Without careful planning, large scale industrial tree plantations are likely to increase rural poverty. The plantations require large areas of land that is often crucial to local community livelihoods. Community forest, farmland or villagers' rotational agricultural system are often described as "degraded" by timber production consultants and plantation proponents. When the land is converted to tree plantations, the loss of land and hydrology, and dramatic changes in the landscape caused by industrial tree plantations undermines the culture and identity of rural people, and reduces access to traditional medicines.

In the areas where Portucel is developing its plantations, the main source of livelihoods is family-based subsistence agriculture, practiced without machinery, in an intercropping system based mostly on local varieties, with crops such as cassava, corn and beans or cowpea, or sorghum, corn and cowpeas and, to a lesser extent, peanuts.

⁴⁸ Forest Peoples Programme, Free, Prior and Informed Consent, see: <http://www.forestpeoples.org/guiding-principles/free-prior-and-informed-consent-fpic>

According to the national farmers union UNAC (União Nacional dos Camponeses), the Portucel Mozambique project affects 25,000 households.⁴⁹ According to the academic group ADECRU (Acção Académica Para o Desenvolvimento das Comunidades Rurais – Academic Action for the Development of Rural Communities), the number of households being indirectly affected is at least 50,000.⁵⁰ Portucel stated that “if communities and families are not interested in the project, the company will look for an alternative area”, and strictly rejected any act of pressure or coercion by its employees⁵¹, claiming that 200 communities have been involved in 62 consultation meetings involving 15,000 villagers.⁵² However, NGOs report that these meetings have not been sufficiently informative. Justiça Ambiental (Friends of the Earth Mozambique) organized field visits in 2014 and 2015, interviewing 114 villagers.⁵³ While most of them confirmed that there had been a meeting with the company, the majority (80%) reported that they did not understand most of the content of the meeting, because of the language used. According to the 2007 national population and housing census, in Zambézia only 9.2% and in Manica only 5.7% of the population is fluent in Portuguese⁵⁴. As a result, local communities only understood a generic promise of occupation and of improvement of their life conditions.

Community members told Justiça Ambiental that only one meeting was held, at which none of them had been informed about the project, its dimensions and the modality of development, and in which potential social and environmental impacts of the project were not duly discussed.

Such a consultation cannot be identified as complying with the internationally recognised FPIC methodology, nor with the Mozambican legislation.⁵⁵

⁴⁹ Clemente Ntauzi, Camponeses acusam candidatos à Presidência da República de marginalizarem a agricultura camponesa, 6 October 2014, see: <https://adecru.wordpress.com/2014/10/06/camponeses-acusam-candidatos-a-presidencia-da-republica-de-marginalizarem-a-agricultura-camponesa/#more-276>

⁵⁰ Notícias Online, Plantação de eucaliptos: Envolver comunidades para melhor viabilizar o projecto, 17 April 2015, see: <http://www.jornalnoticias.co.mz/index.php/ciencia-e-ambiente/34919-plantacao-de-eucaliptos-envolver-comunidades-para-melhor-viabilizar-o-projecto.html>

⁵¹ Portucel Moçambique, Procedimento de Acesso a Terra, Maputo, January 2015, see: http://www.portucelmocambique.com/var/ezdemo_site/storage/original/application/299150b7bdfb34071390d4486fee9e45.pdf

⁵² Portucel Moçambique, Consultas Publicas sobre o projeto envolveram mais de 15.000 pessoas, Maputo, January 2015, see: http://www.portucelmocambique.com/var/ezdemo_site/storage/original/application/0eb20071623df5b13e82c17f26545990.pdf

⁵³ The communities interviewed by Justiça Ambiental were Hapala (Socone in Mualacamue, Posto Administrativo de Socone) and Namucarrau (district of Mulevala, Posto Administrativo de Mbauane). In Justiça Ambiental, Portucel - O Processo de acesso à Terra e os direitos das comunidades locais, 21 September 2015, p.10, see: https://issuu.com/justicaambiental/docs/portucell_com_graficos_novos_

⁵⁴ Instituto Nacional de Estatística, see: <http://www.ine.gov.mz/operacoes-estatisticas/censos/censo-2007/rgph-2007>

⁵⁵ The law states that the consultation should assure a democratic, inclusive and transparent dialogue, where questions and concerns are clarified and properly addressed, compensation is fair, and public concerns are taken into account. Diretiva Geral para o Processo de Participação Pública no processo de Avaliação de Impacto Ambiental (AIA) - Diploma Ministerial nº 130/2006 de 19 de Julho, see: http://www.redeimpactos.org/upload/Diploma-Ministerial-130_2006.pdf

"They promised to bring jobs; they offered biscuits, sweets, salt and 300 Meticaís (less than 7 US dollars) to the leader and the rest of the people. We did not know that the deal would imply destruction. I did not see the promised changes because we worked a few days and then we were out. There are people who work one week or a month and then they are turned away. This does not help anyone."⁵⁶

Cookies, sweets, salt, wine - it looks like a nice party, but the final result is that the villagers' land is in the hands of the company, in one way or another.

"There was a community consultation. On this day, the company offered us wine and dried fish, but we refused to turn over our farms, so they went the other way and they managed to get them without agreements" - Member of the Mbwahal community.⁵⁷

After the "consultation", negotiations on land were carried out on an individual basis. People were encouraged to give their land in exchange for a job. Only later they learned that the job was just clearing their own land: they were paid 1,500 Meticaís (less than 50 US dollars) to destroy their own farm and after they completed the job, they were left without land and without work.

"At first, they said they want us to work up on our farm, and that did not take much time; I had 2.5 ha to work for just one month because the clearing lasted a full month and they gave us 1,500 per person for each job. I was not paid for the land, just for the clearing work I have done on my own farm. And now we are idle, since the village leader also gave his farm and now he is sitting at home. In my field I was producing corn, beans, pigeon peas and cassava, to support my family. I have six children and also live with my mother and my wife" - Member of the Mbwahal community.⁵⁸

The "job" implies signing off on the land acquisition, and excludes any other form of compensation.

"When I gave away my field they did not pay me anything, they just said, put your family on this list and start working and by the end of the month you will receive money. At the end of the month I received 1,500 Meticaís, but this money is not enough to support my family. I accepted because of poverty and now I'm unemployed. We were cheated, I gave away my field in 2014".⁵⁹

In some cases, it seems that the consultation was based on what looks like intimidation. In 2012, a community member from Socone told Justiça Ambiental that the Chief of the administrative post of the village had forbidden the community leaders to talk about or take any position on Portucel's acquisition of land and that therefore they remained quiet from then on.⁶⁰ Several community members also stated that they felt pushed to accept the acquisition of land by Portucel. The lack of action by the governor upon the

⁵⁶Justiça Ambiental, Portucel - O Processo de acesso à Terra, see footnote 53, p.15

⁵⁷Justiça Ambiental, Portucel - O Processo de acesso à Terra, see footnote 53, p.18

⁵⁸Justiça Ambiental, Portucel - O Processo de acesso à Terra, see footnote 53, p. 19

⁵⁹Justiça Ambiental, Portucel - O Processo de acesso à Terra, see footnote 53, p. 20

⁶⁰Justiça Ambiental, Portucel - O Processo de acesso à Terra, see footnote 53, p.8

complaints of community members (described below) can also be interpreted as a form of interference.

ADECRU investigated the impact of Portucel plantations in the area of the Makuala, Mutaliua and Kampa communities in the Namarrói district, Zambézia province, and reported the findings of their research in July 2016.⁶¹ According to ADECRU's research, in 2013 Portucel presented the project to the communities of Macrinca, Mutaliua and Kampa promising to build hospitals, roads and schools for these communities. None of these promises has been kept, other than the roads that the company needed in order to manage the plantations.

According to ADECRU's field research, Portucel illegally acquired land that represents local communities' natural resources, their cultural assets and heritage. As a result, the company is jeopardizing local food security. The local peasants lived through the process with a sense of anguish, saying that the land from which they were uprooted is their heritage and the source of livelihoods of their households, land they inherited from their ancestors and which is now lost forever.

For some of them the consequence has also been removal from their own community: after Portucel took their land, some villagers had to relocate to remote areas, in order to find land to survive, with less access to communications, health care and education.

"There are people in the Mukula community that used to live 20 km from the village, but then Portucel machines destroyed their farms, and now they live in Canyon, 70 km away from Mukula and there is no car transportation, because there is no road for the car" - Dona Rosa Antonio, a member of Mukula community⁶²

When the villagers protested, asking for compensation for their land, or asking to have their land back, the company's answer was clear: Portucel had already obtained the right to use the land from the government, and had no obligations. The company offered the villagers a temporary job as a way to compensate them for the loss of the land.

Portucel said to Justiça Ambiental that they don't ask the people to give up all their land, and every family was encouraged to keep 2.9 hectares. The company claims to have records of 1779 agreements in the Zambézia province,⁶³ however, none of these agreements has been shared with civil society organizations.

According to both Justiça Ambiental and ADECRU, Portucel obtained the land in violation of the applicable law⁶⁴ and it consequently could be considered of dubious

⁶¹Acção Académica Para o Desenvolvimento das Comunidades Rurais (ADECRU), Plantações Florestais da Portucel ameaçam a segurança alimentar nas comunidades do distrito de Namaroi, na Zambézia, Namaroi, 1 July 2016, see: <https://adecru.wordpress.com/2016/07/01/plantacoes-florestais-da-portucel-ameacam-a-seguranca-alimentar-nas-comunidades-do-distrito-de-namaroi-na-zambezia/>

⁶²ADECRU, Plantações Florestais da Portucel, see footnote 61

⁶³Justiça Ambiental, Portucel - O Processo de acesso à Terra, see footnote 53, p. 21

⁶⁴ Ley da Terras, law 19/97 1 October 1997, articles 12, 13, 16 and 18, see: <http://www.oram.co.mz/Lei-das-Terras.pdf> or https://www.sheltercluster.org/sites/default/files/docs/lei_terras_mocambique.pdf

legality.⁶⁵ Articles 12 and 13 of the 'Land Law of 1 October 1997' defend the right of land use and use by local communities: article 13 states that a DUAT (land use contract) can only be obtained after local administrative authorities have consulted communities and have declared that the area is free and not occupied. This is clearly not the case here.⁶⁶

Community members have complained about the loss of their land to the governor of the Zambézia province, Francisco Itai Meque, who promised to investigate the issue, but has not done so.

If local authorities would decide to follow-up complaints issued by locals, it is possible that cases of unlawful procedures could come to light. In the district of Bárúé (Manica province), where the local government decided to investigate, Portucel representatives claimed that the process of land acquisition was compliant with the relevant legislation but when asked to present the documentation, there were irregularities (no validation by local communities nor by the district authorities) and the process of land acquisition turned out to have been illegal.⁶⁷ So far this appears to be the single case that has been investigated by the local authorities. How many other cases of illegal land acquisition lie un-investigated?

Social impacts: other threats to food security

Community members told Justiça Ambiental that they are afraid of losing their land and that this will compromise the future of their children and grandchildren, that they prefer agriculture over plantations, that there is not enough land for this project and that there are already land conflicts among communities, indicating land scarcity.⁶⁸

Local communities plant maize, cassava and beans, which are staple foods. With the loss of their fields, some farmers had to move to more remote areas with little or no access to transportation, health care or education. Other people had to rent land, which makes their life much more difficult. People who could not rent land occupied someone else's fields, starting a spiral of intra-community conflicts.

"We never thought that one day people would have to rent fields to hoe because I always thought that the land was ours, from our ancestors, but today we have no other way. One can of corn costs 300 MT. If you do not have your own corn or do not have money you die of hunger" - Dona Rosa Antonio, a member of Mukula community⁶⁹

⁶⁵Justiça Ambiental, Portucel - O Processo de acesso à Terra, see footnote 53, and ADECRU, Plantações Florestais da Portucel, see footnote 61

⁶⁶ The legality of the process can be challenged in other issues too. As an example, Portucel claimed with Justiça Ambiental to have sorted all land acquisitions with local communities, while art. 16 of the land law on transmission of DUAT, does not mention that land can be transmitted to someone else, only the constructions on it. See: footnote 53

⁶⁷ITC-F, O Processo de Mitigação de Possível Conflito de Terra Entre a Empresa Portucel e Associação Agro-Precuária Mafuro Manhoró Através do Envolvimento Directo do Governo do Distrito de Bárúé, 31 May 2016. See: <http://www.itc.co.mz/lib/pdf/articles/Estudo%20de%20Caso%20Mafuro%20Manhoró.pdf>

⁶⁸Justiça Ambiental, Portucel - O Processo de acesso à Terra, see footnote 53, p. 14

⁶⁹ADECRU, Plantações Florestais da Portucel, see footnote 61

Matthew Januário, after he saw his farm "eaten up" by Portucel's bulldozers, had to borrow 0.5 hectare of land from a neighbour. This land, if everything goes well, will yield him 3 bags of corn (50 kg), while his own land produced 10 bags. Dona Augusta Samuel, aged 40, with 5 children says she will not have food for the whole year, so the family's diet has deteriorated since the eucalyptus was planted on their farm.

"Life is difficult for a mother of five without land. How can I feed my children? Nowadays, everything is money and everything is expensive; people are renting fields for 4000MT, I am unemployed, how can I pay 4000MT?" - Dona Augusta, member of Mukula community⁷⁰

The Environmental Impact Assessment of Manica states that 95% of the arable land is already being used for agricultural purposes.⁷¹ However, Portucel will use a large amount of this land for its plantations⁷², leaving the communities with a very much reduced amount of land to meet their needs. Nevertheless, the EIA failed to identify this as a potential land conflict.⁷³

In fact, the Justiça Ambiental report mentions that there are already land conflicts occurring between Portucel and the communities.

According to ADECRU, the Portucel plantations project is also threatening traditional agricultural practices. As an example, after losing part of their land, the villagers of the communities in Namarrói are now forced to grow in very small plots, making it impossible to practice seasonal agriculture, very common among local rural communities. As a result, the regular access to sufficient and adequate food is endangered.⁷⁴

While Portucel presents its plantations project as a development opportunity for rural communities, the reality experienced by local people is very different:

"It would be much better to have projects to help with producing food for the population or to help to process our products locally, than projects that bring hunger to rural families."⁷⁵

Land grabbing is not the only risk posed by the project to local food security. In the region, local agricultural production occurs in predominantly dry conditions and is always threatened by water scarcity and low moisture storage capacity of the soil during the growing season. Eucalyptus plantations absorb huge amounts of water from the soil (see the previous section on water cycle impacts). In this environment, already marked by water stress, the expansion of eucalyptus plantations will inevitably affect the

⁷⁰ADECRU, Plantações Florestais da Portucel, see footnote 53

⁷¹Relatório província Manica, see footnote 12

⁷²Portucel, Procedimentos de acesso à Terra, January 2015, see:

http://www.portucelmocambique.com/var/ezdemo_site/storage/original/application/299150b7bdfb34071390d4486fee9e45.pdf

⁷³Relatório província Manica, see footnote 92

⁷⁴ADECRU, Plantações Florestais da Portucel, see footnote 61

⁷⁵ADECRU, Plantações Florestais da Portucel, see footnote 61

surrounding areas bringing a severe decline to local agriculture, and threatening food security.

Promised jobs and unemployment

We have seen that in most cases, the trade of land in exchange for employment is a trap: after clearing their own land and destroying their own livelihood, the villagers are left unemployed and with no means of subsistence. Real jobs provided by the plantation industry are few. According to Portucel Soporcel, 80 full-time workers will be employed for the whole area, which is very few given the extent of the plantations.⁷⁶ Portucel claims that its project will generate 7,500 more jobs created by local service companies (labour brokers), but most of them will be temporary or seasonal jobs, like in the other eucalyptus plantations in the country (normally employing only from 3 to 5 months a year, and in some cases just a single month⁷⁷) and they offer no security.

"We are unhappy because we do not see happening what they promised to the people; people who got jobs are working too little, they work just a few days, and we are not happy about Portucel." - Member of the Socone community⁷⁸

Furthermore, those are dangerous jobs: mill and plantation workers are often exposed to hazardous chemicals, and suffer from poor working conditions and low remuneration. According to the UN International Labour Organisation, "forestry continues to be one of the most hazardous industrial sectors in most countries. Around the world, there are often discouraging trends of rising accident rates and a high incidence of occupational diseases and of early retirement among forestry workers."⁷⁹ Furthermore, plantation work is dangerous, as the health and safety situation is normally more problematic among contractors than in the main company.

⁷⁶ The Navigator Company, Internationalization Strategy, see: <http://en.thenavigatorcompany.com/Institutional/Portucel-Mocambique>

⁷⁷ Justiça Ambiental, Portucel - O Processo de acesso à Terra, see footnote 53, p.23

⁷⁸ Justiça Ambiental, Portucel - O Processo de acesso à Terra, see footnote 53, p.9

⁷⁹ The International Labour Organization, Safety and health in forestry work, Geneva, 1998, see:

http://www.ilo.org/wcmsp5/groups/public/@ed_protect/@protrav/@safework/documents/normativeinstrument/wcms_107793.pdf

RUSH TO LAND

If built, the planned Portucel mill will have a production capacity of 1.4-1.5 million tonnes of pulp.⁸⁰ If the mill will run at full capacity, the plantation area to provide the necessary fibre must be larger than the area comprised by the two projects in Zambézia and Manica.⁸¹ If Portucel Moçambique will further increase the production capacity of its mill, the land required will further increase.

The impacts of Portucel's new mill in Mozambique and its related plantations are exacerbated by the presence of other projects, which are already competing for land with forests and local users.

In 2009, the Mozambican council of ministers authorised the Norwegian-owned company Lúrio Green Resources S.A. to carry out a project to plant eucalyptus across an area of 126,000 hectares, in the districts of Mecuburi, Ribáuè and Nampula in northern Mozambique.⁸² Another project belonging to Quifel Energy Moçambique Lda to grow sunflowers and soy for cooking oil will be set up in an area of 10,000 hectares in Gurue, Zambézia province.⁸³

A dramatic increase of plantation concessions could also come from the ProSavana strategic plan, which aims to "improve and modernize agriculture to increase productivity and production, and diversify agricultural production".⁸⁴ The plan covers 10 million hectares in 19 districts, including 1.5 million hectares available for investment in the Niassa area. It is too early to say whether this strategy will open up the land to large scale plantations or not, but it causes concern about an increase of pressure on land and growing land-use conflicts between local and subsistence agriculture, nature conservation and international industry.

⁸⁰RISI, Portucel's planned Mozambique pulp project slated for 2023 start-up, see footnote 2

⁸¹If one hectare of eucalyptus trees produces 30 tonnes of fibre upon harvest, assuming these trees reach approximately 30 to 50 meters, and with a rotation period of 8 years, the mill will require at least 400,000 ha of land. With poor soil conditions and water stress, fibre production can become much lower and the area of land required per tonne much greater.

⁸² Macau Hub, see footnote 7

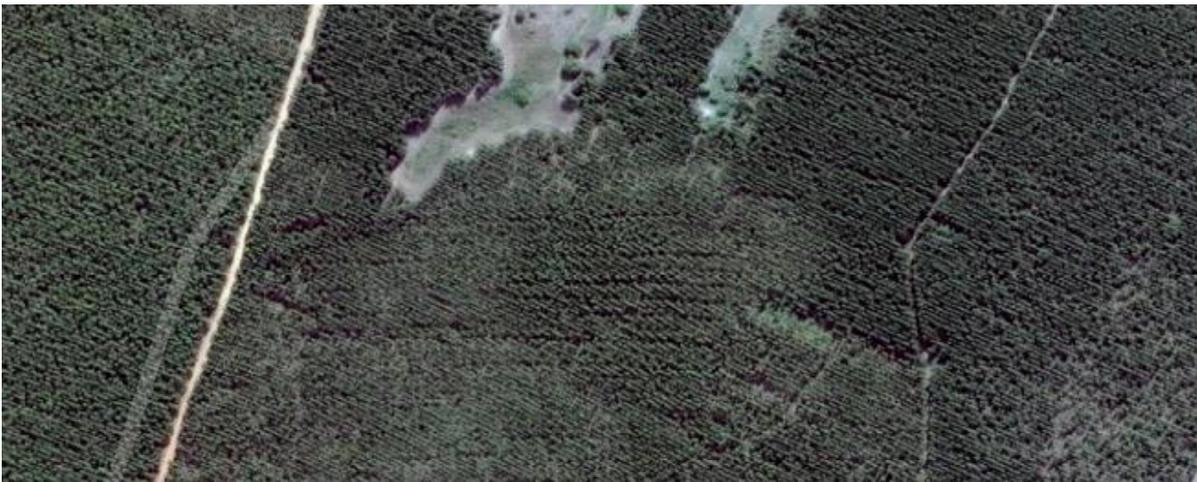
⁸³ Macau Hub, see footnote 7

⁸⁴ What is ProSavana, see: <http://www.prosavana.gov.mz/index.php?p=pagina&id=27>

ADDRESSING IMPACTS OR DOING PUBLIC RELATIONS?

To address criticism, Portucel developed a “mechanism for the management of relationships with the communities” (Mecanismo de Gestão de Relações com as Comunidades), insisting that dialogue with affected communities is a priority for the company.⁸⁵ Portucel plans to create a network of about 60 “liaison officers” to keep in contact with 24,000 families in the two affected provinces, Zambézia and Manica. Unfortunately, instead of addressing the impacts on the environment, water cycle and food security, the company seems inclined to adopt a strategy of public relations.

Following the example of other companies, Portucel established an advisory committee (Comitato Consultivo)⁸⁶ but the committee does not have decision-making power and can only present suggestions to the company, while the issues discussed are under a confidentiality agreement. It is still unclear what the actual effectiveness of this body will be, and whether it will be able to bring the concerns of local communities to the company and push it towards real change.



Plantations in Manica Province (Municipality of Gondola).
Source: Google Maps (-19.050426, 33.657017)

⁸⁵ Portucel Moçambique, Mecanismo de Gestão de Relação com as Comunidades, January 2015, see: http://www.portucelmocambique.com/var/ezdemo_site/storage/original/application/3d205da109ca2e966447de392ec9f05f.pdf

⁸⁶ Portucel Moçambique, Signature of the Advisory Committee for the Portucel Forestry Investment in Mozambique, September 2015, see: http://en.portucelmocambique.com/var/ezdemo_site/storage/original/application/b005ce6d89cb1c77ae8e1aeea0a65509.pdf

ISSUES FOR DISCUSSION – ADDRESSING AND PREVENTING NEGATIVE IMPACTS

The following section suggests some ways that Portucel and other stakeholders could move forward to address the impacts identified above.

Portucel should develop and publish a general policy that will apply to all its operations in Mozambique. The policy should include measures to protect forests and biodiversity, to assure the integrity of water table and hydrological conditions, to implement FPIC and fully respect customary land rights, address social conflicts, implement full transparency and pursue stakeholder engagement. The policy implementation should be independently verified by a third-party auditor.

Forest protection

1. Portucel should only develop areas that are not forested, as identified through independent High Conservation Value (HCV)⁸⁷ assessments, conducted and peer-reviewed by the HCV Resource Network, and develop a methodology for assessing High Carbon Stock (HCS)⁸⁸. Portucel should also protect other natural habitats.
2. Portucel should suspend all natural forest clearance whilst HCV and HCS assessments are completed and peer-reviewed. Further logging, land clearing or other infrastructure development in any location must be avoided until all HCV and HCS studies are completed and peer-reviewed, and recommendations from these HCV and HCS assessments are integrated in the plantation management plans and Standard Operating Procedures (SOPs).
3. Natural habitats that have been cleared already should be restored to their original biodiversity values. Portucel must publish maps of the areas that have been cleared and provide a credible time line for restoration. These areas, as well as buffers and other conservation forests, must be protected from clearing by third parties, ensuring property overlaps are promptly addressed by protecting

⁸⁷High conservation value forest (HCVF) is a Forest Stewardship Council (FSC) forest management designation used to describe those forests who meet criteria defined by the FSC Principles and Criteria of Forest Stewardship. See: <https://www.hcvnetwork.org>

⁸⁸"The High Carbon Stock Approach is a methodology to identify areas of land suitable for plantation development and forest areas that can be protected in the long term" in: Greenpeace, The High Carbon Stock Approach, see: <http://highcarbonstock.org/the-hcs-approach-toolkit/>

the unlogged forests, and local community claims resolved preferentially by restitutions for already cleared land.

4. A plan has to be developed and published on-site and off-site to prevent chemical, pesticide and genetic pollution including of aquatic ecosystems and the atmosphere. This must prohibit use of Genetically Modified Organisms (GMOs) and toxic, bio-accumulative and persistent pesticides, including those on Forest Stewardship Council's (FSC) 'Highly Hazardous' list and Sustainable Agriculture Network's (SAN) prohibited pesticide list. Measures must be taken to avoid worker and community exposure to any potentially harmful chemicals.
5. Portucel should develop plantation management plans, prescriptions and SOPs, reviewed by NGOs and published after integrating and addressing their concerns. These management plans, prescriptions and SOPs will include recommendations from HCV and HCS studies, social conflict mappings (see below) and landscape level conservation assessments.

Hydrology

Portucel should urgently complete a detailed baseline study on the current ecological and hydrological conditions of the area, including water table and groundwater quality, to serve as a basis for future analysis. Portucel should develop credible strategies, guidelines and Standard Operating Procedures (SOPs) to protect the current water table and water quality, and establish a moratorium on planting unless the study is complete and specific guidelines and SOPs has been developed.

Social conflicts prevention and respect of customary land rights

Portucel should not use land that is forested or that is claimed by local communities for their needs.

In order to avoid and resolve social conflicts, Portucel must actively seek and incorporate input and feedback from a wide range of stakeholders, including civil society, as it implements the following set of principles:

- Free, Prior and Informed Consent of local communities;
- Responsible handling of complaints;
- Responsible resolution of conflicts;
- Open and constructive dialogue with local, national and international stakeholders;
- Empowering community development programs;
- Respecting human rights;
- Recognising and respecting customary land rights;

- Recognising and respecting the rights of its workers;
- Compliance with all relevant laws and internationally accepted certification principles; and
- Portucel should not use land that is forested or that is claimed by local communities for their needs.

Free, Prior, and Informed Consent (FPIC)

1. Where new plantation areas are planned, Portucel must respect the rights of local communities, including recognition of customary land rights. On top of the recommendations coming from independent HCVF assessments, Portucel, in consultation with stakeholders, should develop further measures to implement international guidance on FPIC. Portucel should consult with NGOs and other stakeholders to ensure that its protocols and procedures for FPIC and conflict resolution are in accordance with international best practice.
2. In the process of public consultation Portucel should take into account people's opinion or what people have to say about the project.
3. The respect of "free, prior and informed consent" must include adequate information on the social and environmental impacts of the project, to be shared with all impacted communities (not only the communities that hold the involved land). In the process of public consultation Portucel should take into account people's opinion or what people have to say about the project. Consultations should be announced well in advance (including a written explanation about the issues to be discussed), and communities can invite advisors of their own choice, including NGOs. Consultations should involve all affected people, not just their leaders, and should be held in the language(s) that the involved communities can well understand. The consultation discussions should be held in a way that people can understand them, and provide full information about the project purpose, nature, scale, including specific activities in the area, and all possible impacts on the community and relevant mitigation measures.
4. The above mentioned requirements are requested for the conflict resolution process (see below).
5. The meetings should also inform the community about the grievance mechanism.
6. The meeting should have minutes, including demands and requests by local community members, and these minutes should be made public after being reviewed by the involved community.
7. The consultation must include an analysis of land use, including an assessment of the land needed (at present and in the future) for community welfare and for environmental concerns, and integrate it in an agreed land allocation plan that is made public.

Social conflict resolution

1. Standard Operating Procedures: It is urgent to resolve fairly all pending cases, assuring adequate compensation for damage and, where requested by the affected people, giving back the land. Portucel should develop Standard Operating Procedures (SOPs) and conflict resolution units: SOPs should be developed and agreed with key stakeholders and made public. Priority SOPs include: Free, Prior and Informed Consent (FPIC); conflict resolution and remedy for past harm; participatory mapping; security and a robust, transparent and accessible grievance mechanism.
2. Conflict resolution units: In addition, Portucel should establish conflict resolution units with the necessary authority and training to mobilise resources and resolve conflicts with action plans and time frames agreed with communities and their chosen advisors. All communications with and commitments to communities must be documented and shared publicly.
3. Conflict intermediation: Social conflict resolution and grievance management should be managed with the help of a third party in order to avoid personnel involved in an abuse being in charge of evaluating whether a grievance is legitimate. Independent intermediation should be also automatically adopted in a conflict resolution process if one party is not satisfied with the process outcome.
4. Conflict mapping: With key stakeholders Portucel should develop and agree a methodology for identifying, classifying and mapping land and social conflicts in its supply chain. Results of the conflict mapping must be made public and include an open process for additional stakeholder input.
5. Information: All members of affected communities must be informed about the conflict mapping and about the opportunity and method to present a grievance, including the possibility to refer to independent NGO advisors and to independent intermediation.
6. Moratorium on operations in areas with conflicts: Portucel should agree on a full moratorium on infrastructure development, clearing and new planting in areas with social and land conflicts. This moratorium should support efforts to reach agreement on conflict resolution processes, conduct joint participatory mapping, and resolve conflicts in areas with social and land conflicts. This moratorium must apply to the company's own operations as well as to those of subcontractors.

Human rights

Portucel should adopt a specific policy on security. Any security company that is contracted should not be implicated in past abuses. Human rights education and a strict non-violence policies should be part of core trainings. For expressions of concerns a grievance mechanism should be in place, about the security arrangements and for reporting any abuses in a confidential way, so as to ensure the security of affected people.

Transparency

Portucel must make public:

1. hydrology studies;
2. a full list of all the DUAT (land use contract) agreements including maps;
3. local consultation minutes and land allocation plans;
4. HCV and HCS studies;
5. plantation management plans, biodiversity offset management plans, prescriptions and SOPs; and
6. results of conflict mapping.

Association policy

Portucel should not acquire any land that has been acquired and cleared in violation of the present policy after the date of the policy itself. Portucel should not acquire wood from other operators whose land has been acquired and cleared in violation of the present policy after the date of the policy itself.

Stakeholder Engagement

While Portucel's engagement through the established Advisory Committee (Comitato Consultivo) is a positive step, it is vital that Portucel expand consultation beyond it. To date the Advisory Committee has not been an effective mechanism for sharing information and engaging a broader group of stakeholders, especially local communities, on the basis of mutual respect and full transparency. We also recommend that Portucel should immediately reach out to leading NGOs and seek their input on the company's plans.

Monitoring and verification

The implementation of the policy must be verified by an independent third party mechanism for monitoring and verification of compliance in the field. The assessor must be credible, FSC accredited and agreed with stakeholders. Performance indicators should be comprehensive in detail of all policy items and agreed with stakeholders.

Questions for discussion:

- Are these recommendations sufficient to ensure sustainability and environmental justice in this project?
- How can stakeholders best work together to ensure the recommendations are implemented?
- Are the financiers of Portucel aware of the social and environmental risks of this project?