

COMMUNITY MAPPING

Between May 2007 and June 2008 Greenpeace, Projeto Saúde e Alegria (literally "Health and Happiness Project"), and the Rural Workers Unions from Santarém and Belterra in Pará State, northern Brazil trained local people living in the Santarém region of Brazil to use Global Positioning Systems (GPS). The aim of this project was to enable local communities to use this technology to identify and document the impacts of industrial scale soya production in their region and empower them to tell their story to the outside world.

The rationale was simple - members of these communities have an extensive understanding of the area in which they live, and that they are uniquely placed to defend their land and the rainforest that surrounds them.

By using this technology, the communities are better able to fight for their rights and expose the impacts of soya on their lands. The technology can also be used to identify illegal deforestation and land grabbing. This kind of participatory mapping allows members of the community to produce their own maps in the absence of any official ones, and as a counter to maps produced by those involved in land grabbing.

Besides de field work, the local people who participated in the satellite mapping have localized on the satellite images the main impacts of the soya in the region.



COMMUNITY MAPPING IN THE AMAZON

The impacts of soya production in Santarém and Belterra

GREENPEACE

ALLEGRIA

STR - BELTERRA

STR de Santarém



THE PARTNERSHIP

Nearly 50 residents from 28 communities in Santarém and Belterra, in Pará, were trained to use GPS equipment and to interpret satellite images in order to carry out participatory mapping. The points marked on the map were surveyed on the ground by local people or identified on satellite images shown during workshops. The following aspects were identified by the group as priorities for mapping:

recent deforestation, small streams, locally known as igarapés, or tributary rivers, which have dried up or been contaminated by herbicides used to grow soya; the closure of roads traditionally used by local people; communities that have disappeared; communities that do not appear on official maps.

A tractor prepares deforested land for the planting of soya on a farm in Belterra, in the state of Pará.



THE ROLE OF SOYA

Since the US food giant Cargill announced plans to construct a grain terminal in Santarém in 2000, local communities have fought to expose the impacts that soya expansion is having on the surrounding region. The port was built in direct contravention of Brazilian law, which required an Environmental Impact Assessment (EIA) to be carried out before construction of such sites could begin. Several protests against the port were organised by civil society but with limited success, and the facility has remained in operation since 2003.

After years of procrastinating and a long legal battle, Cargill was finally ordered by Brazil's Federal Court to carry out the EIA in December 2007.

The pressure exerted by social movements, NGOs and European consumers resulted in a commitment from the industry not to buy soya from newly deforested areas in the Amazon. The Soya Moratorium, declared in July 2006, is an important first step towards helping stop further deforestation for soya cultivation within the Amazon biome.

WHAT THE MAPPING SHOWS

Deforestation

Economic activity leading to deforestation has taken place in Santarém and Belterra for over a century. As that activity has moved on, so the forests have started to grow back and it is common to find in the region areas that are in different stages of regeneration. Previously degraded forests, known as *capoeiras*, still perform vital ecological functions. In addition to this, the map opposite also shows the destruction of previously untouched forests after the introduction of soya into the region (in red). Any deforestation without authorisation from the environmental agency is illegal.

Impact on rivers

The intensive use of herbicides in the soya fields contaminates the *igarapés* (small streams) and their sources. It is common to find springs surrounded by extensive soya plantations and, according to local people, tractors are sometimes seen dumping toxic residue directly on to the river beds. Furthermore, plantation owners build small dams that block the course of the water, affecting water supplies for those downstream. Another direct impact of soya expansion is the removal of riparian, or wetland forest, causing the silting up of the river beds; which also leads to the destruction of the *igarapés*. In addition, during rainy periods, due to the absence of riparian forest, the water becomes muddy, making it impossible for local people to use it for drinking and washing.

Blocked Access

Due to the availability of vast tracts of cheap agricultural land, soya producers have acquired large swathes of the forest. In doing so, they prevent locals from exercising their right to travel freely in forest areas previously used by their communities. In some cases, the tracks which were previously used as paths have been replaced by fields of soya, and have disappeared completely. The advance of plantations over tracks and side roads used traditionally by locals has led to continual conflicts between soya farmers and members of the communities.



In Santarém, the stream used by the Paca Community dried up after a soya farmer blocked it in order to open up a road.

Threatened Communities

The expansion of soya, in the region, in part due to the rise in commodity prices, has caused the prices of land to soar. One hectare, which in 2000 was sold for R\$70, jumped to R\$120, and now sells for R\$1,500. It has also caused a reduction in the number of families living in various areas. In some cases, entire communities have disappeared. Many members of these communities have been forced to sell their lands because herbicide widely used in soya plantations, have contaminated crops, animals, water sources and even poisoned people who have been directly exposed to them. Moreover, as more and more small farms are converted to grow soya, the infrastructure available for communities has been neglected. As communities move away, recently built schools are abandoned and access to public transport has become more difficult.

Previously Unmapped Communities

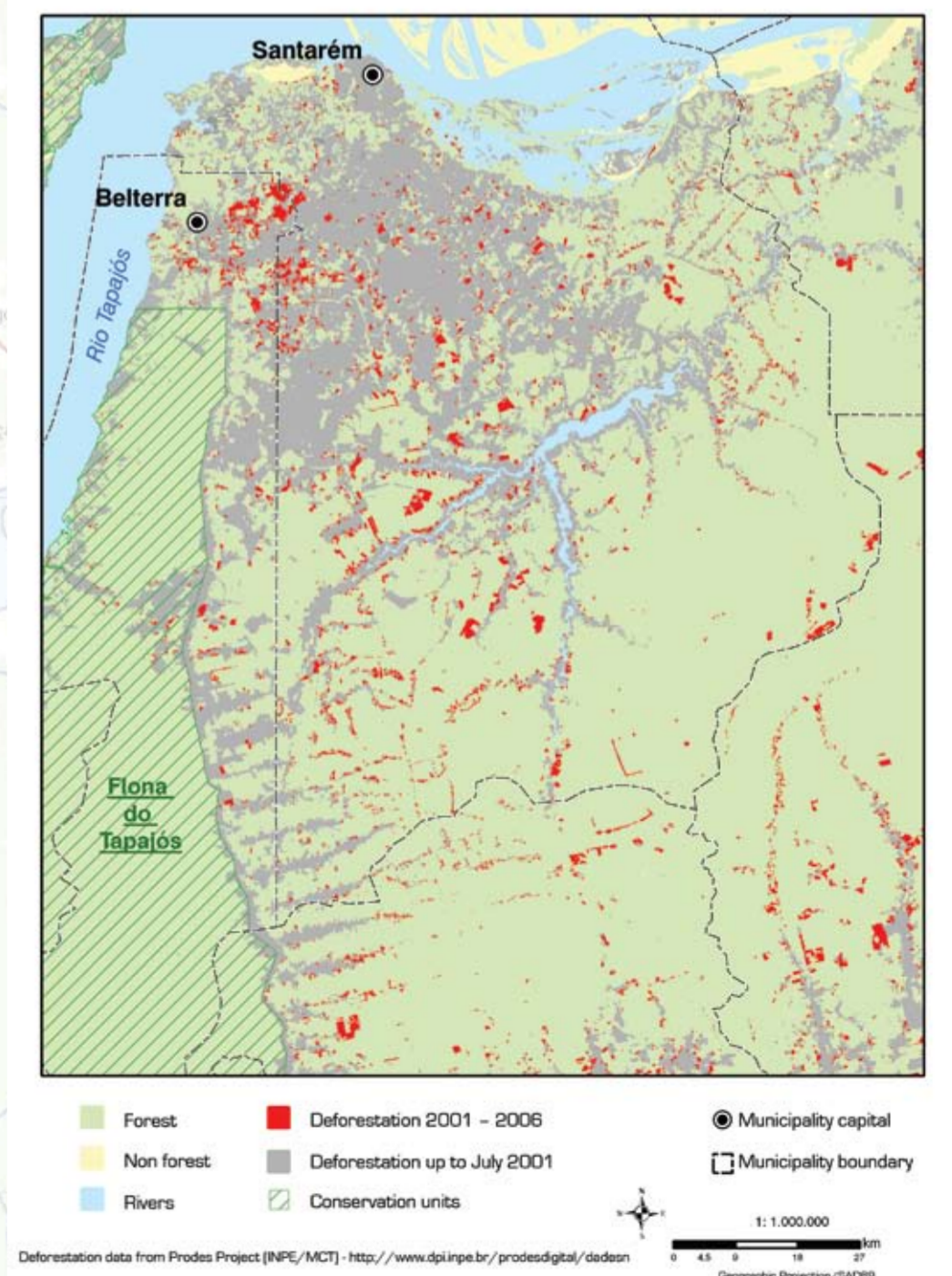
Many rural communities in Belterra and Santarém are not shown on existing maps - this is the case for most rural communities within the Amazon. Through participatory mapping, 121 communities along the main highways and side roads of the region were formally identified for the first time.

“ The land was transformed from a wood, green and dense
Abundant and generous, it asked no recompense
Then in a field, they sowed soya, on a scale immense

The land was fenced off, the earth left unclean
The mud the water brought then poisoned the stream
The fish now lie dead, where once they did teem.

Local poet from Santarém

Map of deforestation up to 2001 and from 2001 - 2006



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● **Mapped Communities**
 121 communities have been mapped in the region of Belterra and Santarém. Those located near to urban centres have better infrastructure. Common traits include a church, a community hall and sometimes municipal schools.

▲ **Threatened Communities**
 Some 29 communities were found to have reduced populations as a result of soya expansion, and at least two of them had already disappeared completely. Their only record of ever having existed is in the memory of the members of those communities.

■ **Deforestation**
 Of 55 locations identified as being deforested through the mapping project, four are primary forest adjacent to large soya fields. The others are secondary forests.

⚡ **Impact on Rivers**
 The community members identified 29 springs and *igarapés* that were either contaminated by herbicides, had small dams, or were in the process of silting up because of the lack of riparian forest.

✖ **Blocked Access**
 Soya plantations moving on to tracks and side roads, traditionally used by local residents, were registered at 12 locations. These cases have led to continual conflicts between soya farmers and community members, who have been forbidden to use those routes.

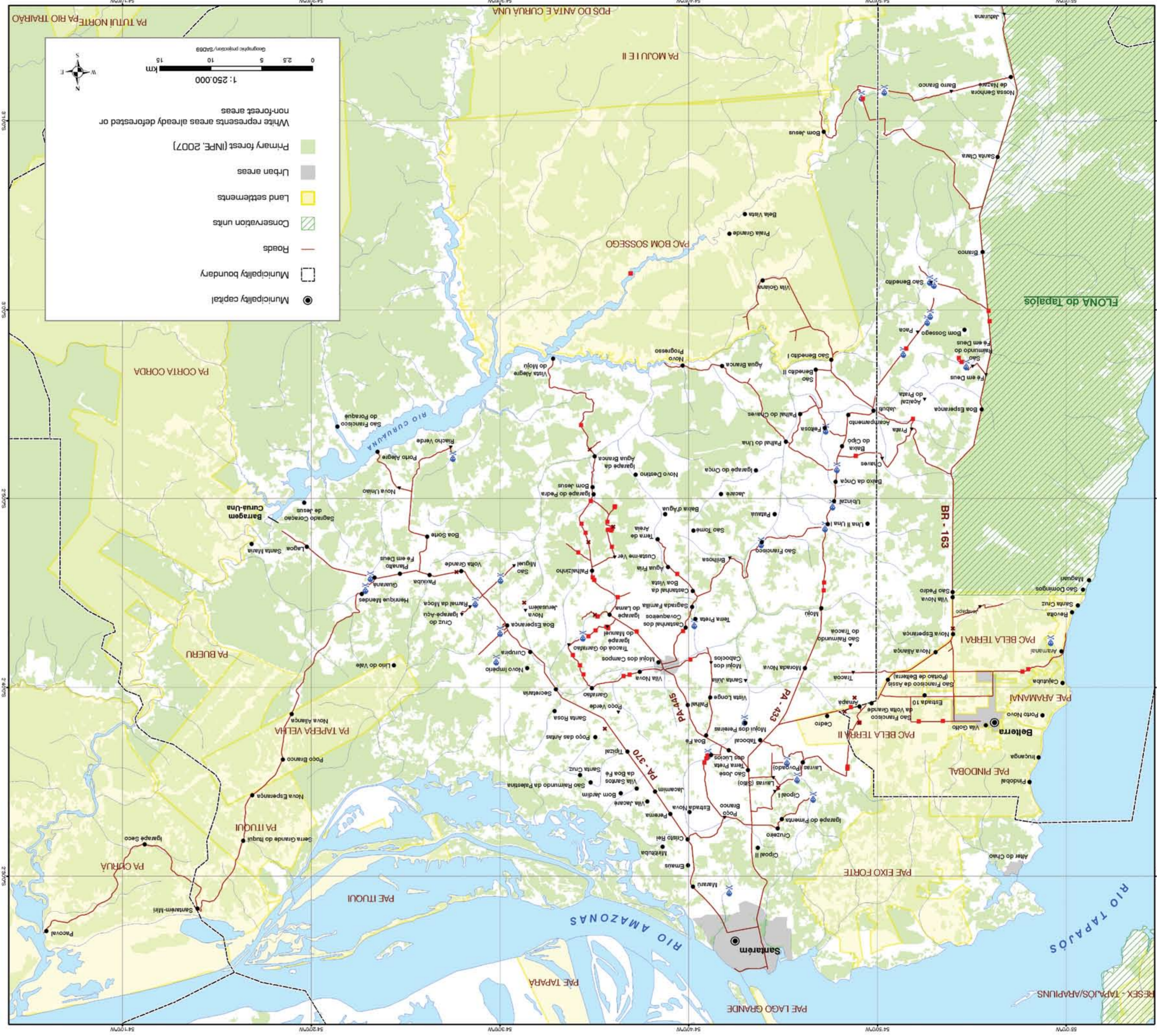
METHODOLOGY

The locations marked in the map were put together on the ground by members of the community from the Santarém and Belterra region, in Pará, or they were highlighted in satellite images set up between May 2007 and June 2008. The above tides show the subjects areas defined as priorities by the group.

South America



GREENPEACE



0 2.5 5 10 15
 1: 250,000
 Geographic projection/SAD69

● Municipality capital
 - - - Municipality boundary
 — Roads
 ▨ Conservation units
 □ Land settlements
 ■ Urban areas
 ■ Primary forest (INPE, 2007)
 □ White represents areas already deforested or non-forested areas