

INPE Remote Sensing & COHAB Renova Centro

September 23, 2010

Project 1 - INPE: Remote sensing Amazon deforestation

After driving two hours by coach, we reached the Instituto Nacional de Pesquisas Espaciais (INPE), the Brazilian space research institute. The INPE consists of three areas, namely:

- Scientific
- Application
- Engineering

The institute deals with e.a. astrophysics, agriculture, environment and climate.

The presentation we visited was about the Brazilian Amazon Deforestation Assessment. Brazil has two major forest masses, the Amazon and the Atlantic forest. The original Atlantic forest has been deforested for almost 93% of the 1.5 million km² since 1850, mainly due to agriculture activities. Very rapidly the deforested land became unsuitable for intense agriculture, so more forest was torn down.

Since 1960 they started building roads through the Amazon area. This attracted small farmers around the roads.

Since 1988 the INPE uses satellite images to check the rate of deforestation in the Amazon region. They have developed a tool called PRODES to compare satellite images to check if and where deforestation has taken place. In the beginning this research was done on a yearly basis. However deforestation did not decline and they had to develop a tool to check deforestation on a near real time basis. This tool, called DETER, has the ability to check deforestation every 15 days. This means that deforestation can be recognized in an early stage, so the local authorities can react directly. Furthermore, based on the new tool, a fine for deforestation has been introduced. This fine is set between R\$ 1500 and 5000 per acre and the land may not be used anymore for agriculture, even the cattle will be removed from the piece of land.

Since 2005 till 2009 the deforestation rate dropped from 28.000 km²/year to 6000 km²/year.

Major problem when dealing with the control of the deforestation is the corruption of local authorities. Furthermore new hazards evolved around the roads through the Amazon that were built in the 60's. New plans have been made to construct roads to Bolivia and Peru, which enhances this effect.

The goal is to reach a deforestation rate that is around 80% of the baseline of 2000. This means that the goal is to reduce the deforestation to around 2000 – 3000 km²/year.

Project 2 – COHAB : Renova Centro

The presentation of the housing company of São Paulo (COHAB) took place in a conference room at the top of their office building in the middle of São Paulo, with a magnificent view at São Paulo. One of their goals is to unify the building types within the city. In order reach that goal they improve the different poor neighborhoods of São Paulo to a higher standard.

São Paulo is an ever expanding city which also expands into the environmental protected areas. To stop the city from expanding its borders, the growth should come from within the city center. To do so COHAB wants to revitalize the city center of São Paulo. The city center consist of mainly old and abandoned commercial buildings. The Renova Centro project is one of the many projects that COHAB has initiated and also the biggest so far.

The main reason for the Renova Centro project is to lure people back to the city center in order to reduce the total amount of daily movements between the center of São Paulo and its suburbs. To get them back into the center, COHAB has selected 53 building that will be renovated to provide living space for these people. This also improves the living condition of the city center.

The selection of buildings has been done in cooperation with the FAUUSP (the faculty of architecture of the São Paulo university). The buildings are selected based on:

- Occupation degree
- Databank information
- Juridical evaluation (ownership and background)
- Construction (safety, conservation state)
- Architecture
- Economical feasibility studies

The property of the buildings is gained by negotiation with the owner of the building. If these negotiations fail, COHAB can use expropriation to gain the ownership of the buildings. The fast majority of these buildings are high rise buildings, because these building are the most suitable to house the apartments. In case they would rebuild a building instead of renovation it, the new building would have to comply with the new building code regarding to free surrounding area.

Many of these building are owned or inherited by people who don't have enough money to rebuild or renovate the building by themselves. Therefore the Renova Centro project is a good opportunity for them to sell their building to COHAB and let COHAB revitalize the city center. This has also a positive effect on the neighborhood.

The buildings are turned into small apartments, mostly one bedroom apartments and studio apartments. If possible, the current walls are kept in place to reduce renovation costs. If not possible, new walls are erected. All the new apartments have to meet the minimal safety requirements.

The renovation of the buildings has to be finished within three years. COHAB already has a database of around one million families that want to live in the renovated city center. “Gaining an apartment is almost like winning the lottery”.