

# Arena da Amazônia/INPA

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*September 28, 2010*

## **Arena Amazona**

On the first day after our spectacular jungle trip a visit to the construction site of the new Arena da Amazônia was planned. The stadium will be constructed on the same location as the old stadium was located, next to one of the main roads of Manaus. The stadium will host several matches of the FIFA World Cup 2014 and this is also the main reason why the stadium will be constructed. The presentation was given by the project manager, Jose Antonio Grajeda Fernandes. Also several other representatives were attending the presentation.

The presentation was split up in three different parts. In the first part mr. Grajeda presented several facts about Andrades Gutierre (AG), the contractor that will construct the stadium. AG is a large construction company with over 30.000 employees and the focus of their projects is on roads and industry. In the second part he discussed the technical details of the stadium, like the roofing and the use of precast elements. In the last part of the presentation he presented some information about sustainability of the project and the aspects that were taken into account. The sustainability was about four different aspects of sustainability: Economical, Social, Cultural and Environmental sustainability. All those aspects were taken into account in the construction of the stadium. Several certificates were used to ensure the sustainability, like for example the LEED certification for environmental aspects.

After the presentation there was time to ask questions about the project and the sustainability of the stadium. Questions that were asked were mainly about the sustainability of the project. One of the questions was about the involvement of the stakeholders in the project. Mr Grajeda explained that before the construction project started a Public Audience was held in order that all people could give their opinion about the project. Other questions asked were about the sustainability with regard to the environment and the reuse of water. The main conclusion of the presentation and the questions asked was that the project seemed to be quite sustainable on all aspects.

When the question and answer-session was finished, we went to take a look on the construction site. Here we could see that the demolishing of the old stadium was almost finished. They had just begun with the foundation of the new stadium. After this tour we had a nice lunch in the company restaurant. This was the end of the excursion.

## **INPA: Balbina Dam**

In the afternoon we went to INPA (Instituto Nacional de Pesquisas da Amazônia), a research institute which focuses on the Amazonia region. At INPA, professor Philip Fearnside provided us with some insights he gained with his research on the Balbina Dam. In his research he had analyzed (several documents from during) the design and the decision making process. These documents showed that some mistakes have been made in the design, resulting in for example a lower capacity to generate electricity and devastating effects on the surrounding nature.

He elaborated on the (negative) impact the Dam had on the environment. Behind the dam a flat area turned into a large reservoir, where trees couldn't survive. Because the trees weren't removed before this reservoir was filled, an enormous amount of greenhouse gasses were formed. Also the fish production in the river dropped. He further mentioned that the international community agreed with the construction of the Dam, because large international companies provided equipment.

An important thing mr. Fearnside told was that there are several lessons that could be learned from this (and other) Dam(s). However, he has some doubts about whether these lessons are learnt or not. In for example, the new dam (the Belo Monte Dam), which will be built in the near future. Overall he gave a very clear and well-argued presentation about the dam, its decision making process and the impact it has on the environment.

Questions we asked were about whether or not he thought the dam had advantages. We think he was clear about that: this one doesn't. On the other hand it also makes no sense to remove the dam, because the damage is already done.