



## Report of the kick-off workshop Delta Alliance Brazilian Wing – Monday 30 August 2010

Venue Embrapa Sede, Parque Estação Biológica - PqEB s/n° Final da W3 Norte, Brasília-DF  
CECAT Building / CECAT Meeting Room

**moderator:** *Tatiana Deane de Abreu Sá, Executive Director of Embrapa*

*notes: Anne van Doorn (WUR-ESG)*

*photographs: Eliane Hayami (Embrapa)*

### Participants:

Federal University of Mato Grosso UFMT (Prof. Pierre Girard).

Embrapa Pantanal / Rede Agro-Hidro (Debora Calheiros, Carlos Padovani)

State University of Mato Grosso UNEMAT (Carolina da Silva),

WWF (Michael Becker),

Embrapa International Affairs (Luciano Nass, Marcelo Morandi, Ana Albuquerque),

Wageningen UR, ESG (Kees Slingerland, Bart Kruijt, Rob Jongman, Thom Kuyper, Anne van Doorn)

### Morning

After arrival coffee and tea and an introductory round, Kees Slingerland presented an overview of the Delta Alliance, its mission and objectives (see for the content the file *Slingerland.pdf*) The central motivation for creating Delta Alliance is to provide a foundation and framework for successful international cooperation that will support more effective and efficient responses to increasing pressures in river deltas worldwide. In short, to improve the resilience of the world's deltas. Delta regions are especially vulnerable in the context of current and future global changes, including climate change, population growth, and increasing economic activities.



This introduction to the Delta Alliance was followed by four presentations introducing different aspects of the Pantanal.

The main bio-physical characteristics of the Pantanal wetland was discussed by Carlos Padovani of Embrapa Pantanal (see for the content the file *Padovani.pdf*). It is a huge seasonal floodplain of 150,500 Km<sup>2</sup>. Surrounded by highlands, receiving the input of many rivers containing water with a high content of sediments, building a diversity of internal deltas of different sizes, shapes and geomorphology dynamics. The dynamics of the alluvial fans causes instability of the river channels and flood patters along time. In the last decades, the conversion of the natural vegetation for agriculture (crops and cattle ranching) with insufficient soil conservation practices, promoted an increase in the naturally high erosion process of the highlands, increasing the input of sediments to the Pantanal. At the same time, climatic changes increased the input of rain, increasing erosivity in the highlands and flooded areas in the Pantanal. In the last years a decrease in the rain amount and flooded areas, joined to economic demands causes an increase in the conversion of natural vegetation inside the Pantanal from cattle feeding on natural pastures to planted exotic pastures to increase production. These changes impact the internal deltas of the Pantanal in different ways.



Debora Calheiros of Embrapa Pantanal discussed the experiences of the Long Term Ecological Project (LTER/CNPq) – Site 2, about monitoring of anthropogenic impacts in the Upper Paraguay River Basin (see file *Calheiros.pdf*). Based on robust data coming from water level record stations, water quantity, quality and flood pulses of the main rivers of the Pantanal can be monitored in detail. Unsustainable land use, mainly taking place at the plateau that surrounds the Pantanal, causes erosion, higher levels of sedimentation in the basins and water contamination. Debora also presented the recently proposed Agro-Hidro Network. The main objective of this proposal is to evaluate the impacts of the agriculture and the climate changes on the water resources, generating knowledge and technical strategies for the efficient use of soil and water based on conservation, sustainability, wise use and competitiveness of Brazilian agriculture in the different biomes. See for the content the file *Calheiros/Rodrigues.pdf*



Pierre Girard of UFMT presented the experiences of the Sinergia project. This project aims at producing knowledge on the effects of global warming on the water resources of the Upper Paraguay River. This is done by setting up a network of research institutions and proposing adaptation measures and measures to mitigate the impacts. By means of a participatory approach the goals and objectives of the project were established during the first year. See for the content the file *Girard.pdf*.

Michael Becker of the WWF presented some main threats and possible conservation strategies. Because of the growing demand for supplies for food and biofuel, sustainable agricultural activities that are adapted to the flood pulse that is typical of the Pantanal, are substituted by non-sustainable practices even when this means deteriorating the natural environments productive capacity. In addition, demand for increased electricity and hydro dams are a major threat to natural water flow in the region, with over 109 individual sites being planned, constructed, or in operation. The cumulative impact of these projects on water flows, and indeed on biodiversity and watershed health, are unknown and sure to be significant. (*Becker.pdf*)



### Afternoon

After lunch it was time to share the main observations of the morning and discuss the way how to proceed.

From the Delta Alliance side it has been observed that issues presented are relevant for the objectives of the Delta Alliance, there is sufficient data availability (hydrology, land cover), relevant methodologies are being developed: e.g Environmental Risk Index, there is an existing network of scientists and social actors, stakeholder involvement is desired and there is willingness to participate.

From the Brazilian side there is a clear interest to participate to the initiative both from UNEMAT and UFMT as for WWF and Embrapa. But there is some uncertainty on how the Delta Alliance really functions, how data flows will be managed and whether there is budget for projects. A first step towards Brazilian participation into the Delta Alliance will be to identify the partners that will be included and formulate together issues of relevance for the DA. It is important that this connects closely to the main objectives of the Delta Alliance. When it comes down to a real project proposal, evaluation will be done by the Advisory Board of the DA (each wing sends out delegate). Another aspect of joining the Delta Alliance is to attend regularly meetings of the Delta Alliance wings. The first one to come up is the Rotterdam conference of September 29 - October 1, 2010



Summarizing, it could be concluded that the objectives and the practical way of working of the DA is more clear now. The general feeling is that the DA could have an added value for the Pantanal research and its involved researchers. To explore the further possibilities a practical and low start up is the most effective for now. Important issues to tackle are the following:

- Some important stakeholders (like National water agency (ANA), ministries of agriculture and environment, primary producers) are missing, but should be included in the process.
- How to initiate the start up phase and who is willing to do that ?

It was decided that Ana Albuquerque of Embrapa will organize a second workshop within the coming weeks. For this workshop the missing stakeholders will be invited, and its main subjects will be:

- Identify and prioritize critical problems and themes (in Brazilian focus region, but linked to international cooperation)
- National and international collaboration potential (organizations, networks, etc.)
- Identify project opportunities (for further clarification after the kick-off workshop)

First ideas concerning project opportunities have been brought up by Debora Calheiros and Carolina da Silva (UNEMAT):

To investigate the influence of the hidro-electricity installations on the flooding pulses by modeling of the hydrology and the sedimentation and analyzing the contributions of land use.

Another idea is to investigate the perception and involvement of social actors concerning the conservation of humid areas. Also participatory research based on traditional knowledge of local farmers and fishermen, to identify habitats, hotspots for biodiversity and obtain information on fish ecology and different environmental impacts of antropogenic activities (eg construction of dams)

A third idea is to monitor ecological impacts to assess the hydrologic regime

An important aspect is also to include divulgation and dissemination of technologic information to the society in general (as decision-making ultimately takes place there)

There is interest in cooperation with the Okavango delta, some of the issues mentioned above are also at stake in that region (like the construction of dams)

