
The Leverhulme Trust

Awards in Focus

The sustainability of the Pantanal, South America



As a geography lecturer at Aberdeen University and research fellow at the Aberdeen Centre for Environmental Sustainability, I have been particularly interested in the territorialisation of water policies and the formulation of environmental management strategies. Between 2000 and 2002, I had been the water manager of the Pantanal Programme, an initiative of the Brazilian government that aimed to restore and preserve this extraordinary biome in the heart of South America. The Pantanal is a huge complex of savannah wetlands with a floodplain area of 160,000 km² in the upper reaches of the Paraguay River, in Brazil, Paraguay and Bolivia. Therefore, when a colleague from The Macaulay Institute visited the Pantanal in 2007, we immediately started to dream about an innovative research project on water conservation.

With the funding I have received for this International Network I have been able to put this dream into real-

ity. I will be working with Brazilian and European colleagues to explore river modelling, informed data capture and scenario analysis that can be used in a participatory way to inform future policy-making in the Pantanal, a highly vulnerable ecosystem of global significance.

Despite limited scientific information, there is strong evidence of a growing degradation of the Cuiabá River, an important tributary of the Paraguay River, which will be the focus of this international network. The main environmental pressures in the catchment are related to diffuse water pollution from agriculture and urban sewage and road runoff from the

capital (Cuiabá city, with 525,000 inhabitants) and other neighbouring urban settlements. Additional threats include the canalisation of the river system for large-scale navigation, mercury inputs from gold mining, deforestation to enhance cattle grazing in upstream plateaus and in wetland areas, hydroelectric damming and the construction of a major road across the floodplains.

The network will develop a conceptual model and facilitate the subsequent development of a process model of the hydrology and pollutant hydrochemistry of the region. The research will be jointly conducted by an interdisciplinary team of scientists to assess cumulative impacts and synergies. A sequence of workshops will be organised, one per year, to stimulate the dialogue between scientists, local stakeholders and practitioners. At the end of three years, we expect to have a better understanding of how the multiple pressures on the Cuiabá River impact on sustainability of water management and the ecological stability of wetland areas in the Pantanal.

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Dr Ioris was awarded an International Network Grant by The Leverhulme Trust in June 2008; providing £14,600 over 36 months.

