

Water Values in the Pantanal

A Multi-Stakeholder Perspective on the Value of Water in the Brazilian Cuiabá River Basin and in the Pantanal to Inform Water Governance across Brazil and Scotland

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INTRODUCTION

The PhD project deals with the perspectives of different stakeholder groups on the value of water in the Brazilian Pantanal, which is the largest tropical freshwater wetland in the world, situated in the centre of South America.

The Cuiabá River Basin, which is also part of the Pantanal, is very diverse as are the groups of stakeholders with an interest in its waters. These may be farmers and hydroelectric power producers in the upper and middle sections of the river, domestic and urban water users in the regional capital city of Cuiabá as well as recreational or professional fishermen and traditional cattle ranchers in the lower parts of the river.

The water of the Cuiabá River is also of high importance for biodiversity in the area which includes many iconic species such as jaguars, hyacinth macaws, giant anteaters etc.

Values have been studied in many disciplines, including philosophy, economics, and psychology. The research will be conducted from an interdisciplinary perspective to understand what values local stakeholders hold with regard to water resources and how conflicting values may cause tensions between stakeholder groups that need to be addressed by policy and politics. A special focus will be placed on non-monetary values of water.

Furthermore, the effect of water values on the effectiveness and legitimacy of different water governance instruments is highly relevant and will be explored in this research project.

There has been little research on this topic, so the findings of the PhD project can contribute to wider conceptual debates with relevance not only to Brazilian stakeholders, but also the Scottish Government and researchers in other countries.



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Scotland's centre of expertise for waters

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OBJECTIVES

- To explore multiple notions of value attached to water resources by different stakeholder groups in the Cuiabá River Basin and the Pantanal and to understand their implications for water governance
- Comprehensive assessment of the value of water in the Pantanal following an ecosystem service approach, including values that are difficult to quantify, such as cultural services
- Understand the implications of values of water at different levels of abstractness and their interrelatedness

FACT BOX

- Expected project duration: 9/2013 – 8/2017
- Funded by a Hydro Nation PhD Scholarship (first round) of the Scottish Government
- Two fieldwork stages in the Pantanal, Brazil
- Cooperation with members of the James Hutton Institute, the University of Edinburgh, SRUC as well as a range of Scottish water-related institutions
- Further cooperation with local partners in Brazil, including the Federal University of Mato Grosso

METHODS

A range of different research methods will be applied at different stages of the PhD project:

Stage 1: Exploratory Pre-Study (Qualitative)

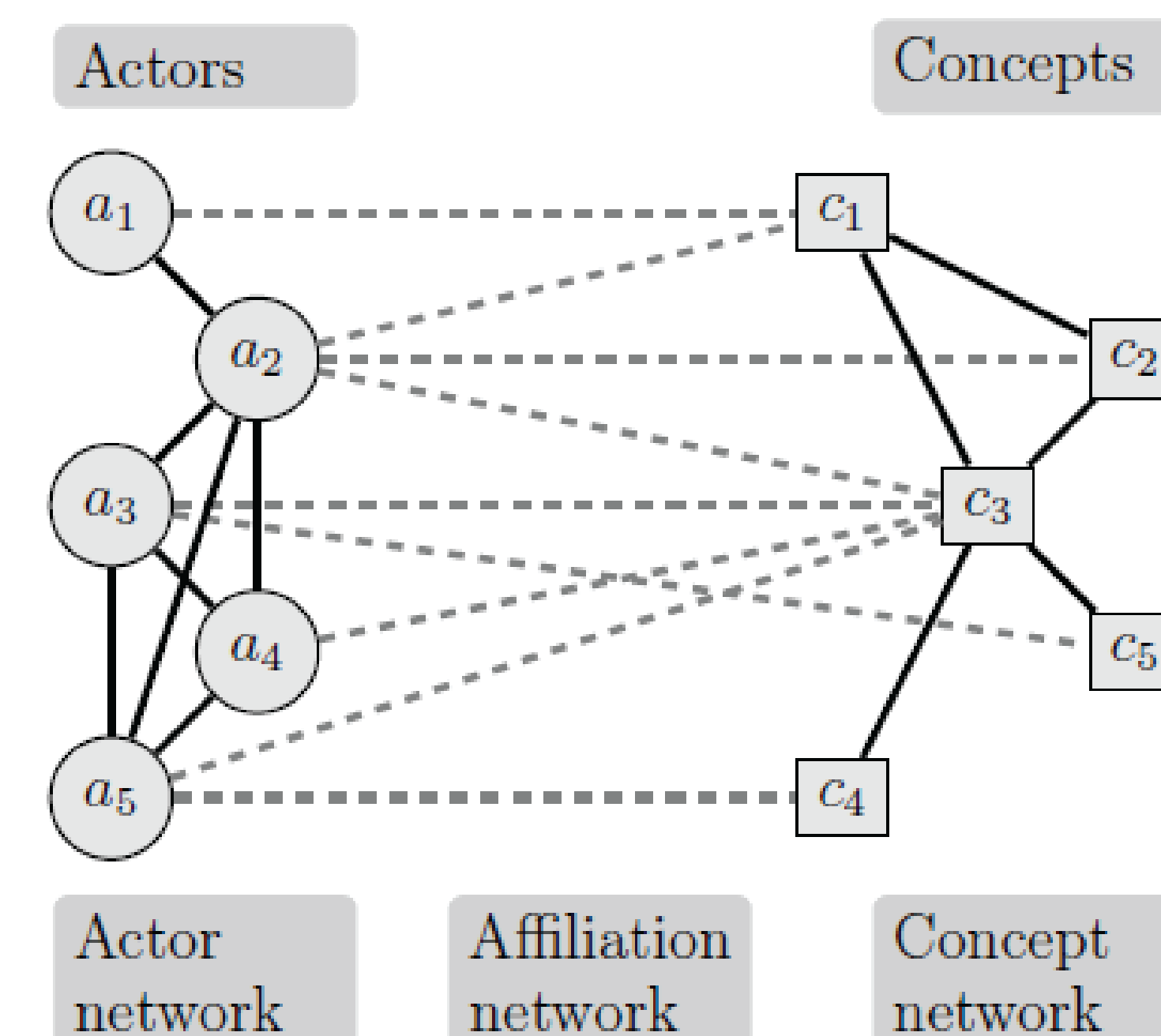
- Interviews to key stakeholders, review of key policy documents and secondary data

Stage 2: Survey to Members of Different Stakeholder Groups the Pantanal (Quantitative)

- Collect data about different notions of value at different levels of abstraction
- Subsequent statistical analysis using conventional methods
- *Plus:* network analysis to understand complex interrelationships between stakeholders' values and preferences ("concept networks")

Stage 3: Stakeholder Negotiation Simulation

- Representatives of different stakeholder groups simulate negotiations around different water governance instruments
- To test how values and unavoidable trade-offs between different values affect the preferences for and choice of different water governance instruments



Source: Leifeld, P. (2011): *Discourse Networks and German Pension Politics*, PhD dissertation, Department of Politics and Public Administration, University of Konstanz.

EXPECTED OUTPUTS

- PhD dissertation
- 4-5 articles in academic journals, such as *Ecological Economics*, *International Journal of Water Resources Development*, *Scottish Geographical Journal* etc.
- Presentations at international scientific conferences, e.g. from the European Society for Ecological Economics (ESEE), American Association of Geographers (AAG), Society for Conservation Biology (SCB), Institute of British Geographers (IBG) etc.
- Presentations in Scotland at Scottish Freshwater Group meeting and SRUC-SEPA conference
- Dissemination of policy briefs with recommendations for stakeholders to Brazilian and Scottish institutions

RELEVANCE FOR SCOTLAND AND THE HYDRO NATION VISION

- Conceptual contribution to the new Water Resources (Scotland) Act, especially with regard to non-monetary values of water and how can they be used to inform water policy making
- International recognition for Scotland's expertise in governance of water resources
- Strategic Partnership with other nations in developing their water governance framework
- Improved cooperation on water issues in an international network of researchers