

Focus on CSIR Research in Water Resources

Inter-SEDE: A new tool for interrogating trans-boundary basins

Trans-boundary waters may be defined as surface or groundwaters extending into more than one State. At least 263 trans-boundary waters are known to exist in the world, involving 145 countries. Some 60% of the global fresh water is found in these trans-boundary basins, revealing their critical importance to humankind. In Africa, trans-boundary water resources are even more vital, covering 61% of the total area of the continent, and providing an astonishing 93% of the available surface water.

In 2005-06, the CSIR contributed to a study led by *Phillips Robinson and Associates* of Namibia, on behalf of the Swedish Ministry for Foreign Affairs¹. The investigation addressed cooperation and conflict in trans-boundary basins, and also the potential for benefit-sharing (as opposed to the volumetric allocation of trans-boundary waters). Three case studies were included: the Jordan River; the Kagera River, extending to the Nile as a whole; and the Mekong River.

One output of the work involved a new tool for interrogating the dynamics of trans-boundary basins. This was termed the Inter-SEDE model, and is a practical tool produced to assist in developing a

more advanced understanding of the drivers for cooperation, conflict, and change over time in relation to trans-boundary waters. The Inter-SEDE technique involves the selection of specific indicators relating to the riparians of trans-boundary basins, and pertaining to three broad characteristics:

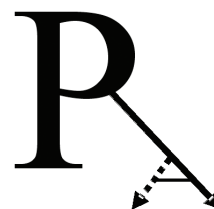
- security;
- economic development; and
- environmental factors.

Both numerically quantified indicators and semi-quantitative (descriptive) indicators can be employed in the procedure. Riparians are ranked in relation to each indicator, and then placed in five bands. This process allows the comparison of different trans-boundary waters to each other, in relation to the drivers affecting them and the relationships between the riparians. The use of the Inter-SEDE technique has already shown, for example:

- The over-riding importance of security-related issues, for the Jordan River basin. The high degree of securitization in the Jordan River basin has a number of consequences, one of these being that an approach involving benefit-sharing will be most unlikely to succeed (as the riparians simply wish to be allocated an adequate supply of the primary resource – water).

- The very strong influence of environmental factors in the Mekong River basin, driven especially by the 'flood pulse' and the massive downstream productivity created by the seasonal changes in flow.

Further development and use of the Inter-SEDE technique is currently being actively planned. Additional information is available from Dr. David Phillips of Phillips Robinson and Associates at <dphillips@iway.na>, or Dr. Anthony Turton of CSIR at <aturton@csir.co.za>.



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1. Phillips, D.J.H., M. Daoudy, J. Öjendal, S. McCaffrey and A. Turton (2006). Trans-boundary Water Cooperation as a Tool for Conflict Prevention and for Broader Benefit-sharing. Expert Group for Development Issues, Ministry for Foreign Affairs, Sweden.