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Political Geography 25 (2006) 438–458

Political Geography

www.elsevier.com/locate/polgeo

Hidden theories, troubled waters: International relations, the 'territorial trap', and the Southern African Development Community's transboundary waters☆

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Abstract

Much of the literature examining transboundary watercourses employs an implicit international relations framework. This literature, while helpful in understanding aspects of transboundary watercourses, routinely obfuscates many crucial factors. Specifically, such analyses are marked by: (i) a mis-theorization of the hegemonic structures at work, (ii) undue pessimism regarding the propensity for multi-lateral cooperation, (iii) an assumption that conflict and cooperation exist along a progressive continuum, (iv) a tenet that conflict is restricted to state competition, and thus a neglect of state collusion in violence against certain citizens, and (v) a depoliticization of ecological conditions. Bringing a geographical critique to bear on the IR framed literature illuminates such deficiencies and leads to a more grounded and holistic analysis of the politics of shared watercourses. A case study of the management of shared water resources in the Southern African Development Community is used to demonstrate, in a concrete way, what is obfuscated in the implicit IR approach and how a geographical critique is able to provide an analysis that is both more critical, and more insightful.

Keywords: Transboundary watercourses; Regime theory; Critical geopolitics; Southern Africa; Water discourse

☆ Originally presented at the 2004 ISA Annual Convention, Montreal, Canada, 17–20 March as "Building Regimes from the Top–Down: Shared Watercourses in the Southern African Development Community". Session: Negotiating Water, March 20, 3:45–5:30 pm.

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doi:10.1016/j.polgeo.2005.12.008

Introduction

As the Cold War dissolved, a new research agenda linking security and the environment through international relations (IR) theory gained momentum. One of the research program's most durable offshoots has been a body of literature examining transboundary water systems.[2] Yet, while the environment and security literature has critically questioned the implications of transposing IR theories into analyses of environmental governance (e.g. Dalby, 2002), in the research on transboundary water systems these issues remain largely unaddressed. In fact, in the majority of such work the theoretical underpinnings in IR – primarily through the subfield of international organizations (IO) – are implicit and unacknowledged.

The application of international relations (IR) theories – no matter how silent – sets the framework for the development of this transboundary water literature. This is most obvious in the literature's organization around a conflict-cooperation debate, a rationalist approach to actors and 'interests', the near circumscription of actors to states, and the focus on institutions as the primary way to engender cooperation by countering states' value-maximizing rationalist tendencies (du Plessis, 2000: 19–20). Indeed, with mounting critiques of the environment and security paradigm, the international water systems literature shifted its focus from international conflict to international cooperation. Nonetheless, the implicit theoretical basis in IR and its subfield IO remains unaltered.

The purpose of this paper is to render the IR/IO theorizing in the international watercourses research explicit, and thereby subject it to critique. This implicit IR theorizing is marked by: (i) a mis-theorization of the hegemonic influences at work, (ii) undue pessimism regarding the propensity for multi-lateral cooperation, (iii) an assumption that conflict and cooperation exist along a progressive continuum, (iv) a tenet that conflict is restricted to state competition, and thus a neglect of state collusion in violence against certain citizens, and (v) a depoliticization of ecological conditions. These arguments are pursued in two sections. First, in a theoretical section, the particular aspects of IR/IO theorizing implicit in the 'water discourse' are brought forward and literature from critical geopolitics, political ecology and the social production of nature is introduced to illuminate the issues in question from different perspectives. The second section demonstrates the importance of this theoretical exercise through a case study of shared watercourses in the Southern African Development Community (SADC).

The SADC's various programs for managing its internationally shared watercourses offer a particularly fruitful opportunity to explore the limits of IR/IO theorizing in the water discourse and the possibilities for other theoretical approaches to transcend them. Indeed, in Barnett's (2000: 277) very strong critique of IR approaches to international water systems leading to predictions for 'water wars', it is an analysis of Southern Africa that he calls for to expose the limitations of the approach. Regional history and circumstances challenge the underlying assumptions of IR/IO theory (particularly those related to the state as actor and its apolitical approach to ecological conditions), demonstrate the undue pessimism of theoretical expectations with respect to the development of multi-lateral cooperative management structures, and demand a more nuanced approach to conflict and cooperation that can only be achieved by stepping out of the 'territorial trap'.

[2] The environmental conflict literature is broadly divided into two groups that find conflict stemming from: (1) a scarcity of renewable resources, or (2) an abundance of non-renewable resources leads (Le Billon, 2001: 564). Although non-renewable resources have generated an active literature, among renewables water has figured most prominently. This is true both in policy assessments of the likelihood of conflict (Diehl & Gleditsch, 2001: 6) and international relations framed research (Hauge & Ellingsen, 2001: 38).

The SADC is comprised of 14 member states, 12 of which share international watercourses. These 12 – the Democratic Republic of Congo, Kenya, Tanzania, Malawi, Angola, Zambia, Zimbabwe, Botswana, Namibia, and the kingdoms of Swaziland and Lesotho – share from one (Lesotho) to nine (Mozambique) international basins with an average of four shared basins per country (Fig. 1). In 1997, 11 of the 12 basin-sharing states adopted the SADC Protocol on Shared Watercourse Systems (hereafter SADC Protocol). The SADC Protocol presents a regional management framework and regulatory structure for the use of 15 international watercourses. Separate protocols and management organizations exist for most of the region's international basins individually as well. These protocols form an important element of the politics and geography of water at the local, national and regional scales in the SADC, but fuller understanding necessitates delving beyond the interstate relationships they codify.

Transboundary water resources: making the discourse explicit

The implicit discourse

In the literature on transboundary water systems, or what du Plessis (2000) refers to as the 'water discourse', typically theorization is presented as detailed referencing of the associated empirical literature. Examples are numerous and span the decade and a half of associated research (Amery, 2002; Becker & Easter, 1999; Giordano & Wolf, 2003; Gleick, 1993).[3] This is not to say that there is an absence of theorization. Rather, as du Plessis (2000: 10) demonstrates, international relations theory – primarily through the subfield of international organizations (IO) I would add – is deployed in a 'subliminal' and 'axiomatic' fashion.

The fact that it is an IR/IO framework that is in use is not unknown to those producing research in the water discourse. In their review of the literature, Dinar and Dinar (2003) for example identify international relations as one of four primary approaches in the literature. Even so, the vast majority of the literature they review under this category does not use IR theory explicitly. Examples of overt IR/IO theorizing do exist (e.g. Jägerskog, 2002, 2003), but are rare. For the most part, when IR theory has been identified it has been the target of often strident critique in relation to the literature's earlier focus on 'water wars' (e.g. Barnett, 2000).[4] Still, most literature that critiques the conflict thesis neither mentions the implicit IR/IO theory nor seeks to transcend it. The work rather redirects the same implicit theoretical approach towards alternate conclusions that favour cooperation (e.g. Alam, 2002; Lonergan, 2001; Wolf, 1999).

This phenomenon of implicit theorizing in the 'water discourse' is exposed in depth by du Plessis (2000), who cites the work of Swatuk and Vale (2000b) as the single other instance of such a critique. In the five years since these papers were published, scant movement has been made to address their findings. Although both sets of critiques emerge from work related to Southern Africa, in the anthology *International Waters in Southern Africa* published three years later by the United Nations University neither of these works are cited and the implicit IR approach is applied throughout the collection (see Nakayama, 2003b).

[3] For reference to more examples, see (du Plessis, 2000: 10).

[4] The focus on 'water wars' gave the water discourse its initial start and was prominent in the research program until the late 1990s.

Fig. 1. Map of transboundary rivers in the SADC. Adapted from the CIA World Factbook (http://www.cia.gov/cia/publications/factbook/reference_maps/africa.html).

This paper seeks to foreground the IR/IO theorizing in the water discourse anew and to take the implications of doing so further. du Plessis' analysis is focused at the level of macro-theoretical debates and does not clarify the specificities of how IR/IO theories are mobilized. For example, he situates the implicit theorization in what he calls the 'neo-neo synthesis' of neo-realism and neo-liberalism, but makes no mention of the particular theories deployed (du Plessis, 2000: 18). Moreover, in the final analysis du Plessis advocates an [explicit] constructivist research paradigm to counterbalance the shortcomings of the implicit 'neo-neo' approach. This paper examines what is obfuscated by remaining entirely within an IR framework, by bringing approaches from outside of IR/IO to bear on analyses of international waters. This is not to deny the insights generated from the IR/IO influenced literature on international watercourses, but to attempt to push the analysis further by opening a discussion of its limitations.

In general the implicit theorization is linked to International Organizations (IO), a subset of IR, and focuses on international water basin organizations as 'regimes', seeking to elucidate how such regimes develop and how they are maintained and strengthened over time. Although the water discourse generally tends towards rationalist and positivist readings of IR (du Plessis, 2000: 22), it will be shown through this essay that normative theories are often used to understand the substance of watercourse agreements, that realist hegemonic stability theory is often invoked

to explain how such agreements are established, and their long-term functioning and stability is often understood through liberal theories of interdependence and reciprocity. Such broad theoretical selectivity is not uncommon in IO. Haggard and Simmons (1987: 499) attribute the cross-cutting application of theory in IO to the fact that prominent regime theories tend to address different dimensions of regime variance. Keohane (2001) further argues that a multi-theoretical approach is necessary to ensure that international organizations function non-exploitatively.

Implications of the regimes approach

From the vantage point of IR/IO exploitation is an interstate affair. By definition, its state as container/actor approach neglects the people represented (or unrepresented) within the states in question. Regimes are defined as the 'implicit or explicit principles, norms, rules and decision-making procedures around which actors' expectations converge in a given area of international relations (Krasner, 1983: 2). While this definition does not explicitly limit 'actors' to states, in practice most regime research is based 'wholly or predominantly upon state actor membership' (Evans & Newham, 1998: 471). Thus, while theorists are concerned with exploitation among states, exploitation within states is neglected. This is inadequate.

Agnew and Corbridge develop three central critiques of the state as actor model espoused by IR/IO (and the water discourse by consequence). These are: the reification of sovereignty as complete state control over a fixed unit of territorial space; the severing of domestic and foreign politics; and the state as prior to and a container of society (Agnew & Corbridge, 1995: 100). Combined, these are what Agnew (1994) refers to as the 'territorial trap'.

Of the territorial trap's three crutches, the water discourse has at times sought to redress the disjuncture of the international/domestic binary through tacit use of Putnam's (1988) two-level games. In such cases, the interactions between the international and domestic spheres are analyzed via game theory and the domestic sphere is represented as a holistic unit expressing elite (rational) interests (e.g. Giordano, Giordano, & Wolf, 2002). Thus, concerns regarding power and exploitation within the state are left unattended. For water resources, this is significant. As Rathgeber (1996: 49) rightly points out: 'In situations of scarcity, decisions about access to and use of water involve actors at the intergovernmental, governmental, regional, community, and household levels and often become highly politicized'.

Theories of regime development

Although some theorists explain the development of international organizations and regimes through cognitivist and constructivist considerations of norm development and diffusion, the water discourse generally turns to norm enforcement and norm purchase through the action of a hegemon to interpret the phenomenon. From a constructivist perspective, norms justify action; carry a history of communication among actors; are observable when ascribed to by a 'critical mass' of 'actors', and typically emerge from the domestic scale to be established internationally through international law and institutions (Finnemore & Sikkink, 1998: 892–893). From a rationalist perspective, norms can act as necessary precursors to international accords, but are often insufficient to ensure cooperation and are elusive when issues are highly contentious.

In terms of the water discourse, researchers have posited that cooperation between riparian states is possible 'only' when the dominant or hegemonic power accepts it or is coerced to do so through the action of an external power (Henwood & Funke, 2002: 184; Lowi, 1993: 203–204). The most frequently cited example is the role of the United States in establishing the Jordan

River regime (e.g. Jägerskog, 2002: 76). The 'only' above ignores the potential for the geography of the water resources and/or unique historical circumstances to affect relationships and outcomes, and expresses a narrow conception of hegemony. This conception of hegemony is that of hegemonic stability theory, which 'holds that hegemonic structures of power, dominated by a single country, are most conducive to the development of strong international regimes whose rules are relatively precise and well obeyed' (Keohane, 1980: 132). In this formulation, the influence of a hegemon is needed, not only for regime development, but also for regime maintenance (Keohane, 1980: 132).

From critical geopolitics quite another and more apt perspective on hegemony emerges. Agnew and Corbridge (1995) draw on the Gramscian theory of hegemony and Lefebvre's ideas of the production of space to argue that, while there is hegemony in any geopolitical order, hegemony does not require a hegemon but can come in the form of (and always comes with) an ideology that conditions the behaviour of actors in world politics. The hegemonic ideology of the contemporary geopolitical order, they argue, is market liberalism (Agnew & Corbridge, 1995: 17). This order is dominated by certain western states, integrated by worldwide markets and regulated by international monetary and trade organizations like the World Bank, IMF and WTO (Agnew & Corbridge, 1995: 193). Ó Tuathail (1996: 7, 249) links these ideas to governmentality where through 'degrees of force and reason … ordered visions of space, territory, and geography [are imposed] upon ambivalent lands, terrains, and cultures' to coincide with imperial imperatives and perspectives.

Political ecology oriented research on the Mekong clearly exposes this connection between hegemony as ideology and governmentality. Bakker's (1999: 209) finding that the Mekong 'has been transformed from a Cold War ''front line'' into a ''corridor of commerce''' expresses the role of hegemonic ideology in international river management most acutely. Indeed, it reflects the most recent geopolitical orders defined by Agnew and Corbridge (Cold War securitization and post-Cold War market liberalism). The work of Goldman (2004), focusing on the post-Cold War marketization of the Mekong, expresses the regulation of that hegemonic ideology by the World Bank as a process of governmentality, which is enacted through a development paradigm that is simultaneously green and neoliberal.

Moreover, when applied to the case of a regional level regime within the Global South (such as the SADC) hegemonic stability theory must necessarily give way to the view of hegemony as ideology *qua* governmentality.[5] Regionally speaking, notions of trust may be much more salient as the international relationships are much more direct, proximate and intimate. Thus, the 'leadership' status of the regional hegemon could come under question. Where relationships are good and the local hegemon is credible in a leadership role, it follows from Agnew and Corbridge (1995) that such a hegemon's range of actions would be limited to adherence with the dominant hegemonic ideology. Where the hegemonic relationship is under question, the regime will require the influence of external actors for its establishment. In the empirical 'water discourse', these actors are most often powerful funding organizations like the World Bank and Global Environmental Facility (GEF) through its implementing agencies (including the World Bank, UNDP, and UNEP) (see Duda & El-Ashry, 2000; Uitto & Duda, 2002). In its involvement with international water resource projects, the World Bank (1994: 10), for example, defines the core of its approach as 'the treatment of water as an economic good, combined with decentralized management and delivery structures, greater reliance on pricing and fuller participation by stakeholders'.

[5] This is a legitimate test of the theory as it is in keeping with Keohane's finding that issue-specific versions of hegemonic stability theory are better able to explain international regimes (Keohane, 1980: 144).

Theories of regime maintenance and function

Although a hegemon is deemed able to implant a functioning water regime for a particular watercourse, IO theories generally preclude multi-lateral cooperation at even the basin scale and especially beyond the basin at regional or global scales.[6] The reasoning given is that international watercourses are deemed to possess no international salience beyond their basin country boundaries and, by only engaging neighbours in upstream/downstream or river–boundary relationships, watercourses do not exhibit the characteristics of collective goods that would encourage broader international cooperation. Where cooperative structures do exist – and they are more frequent than not (see Wolf, 2000) – liberal theories of interdependence and reciprocity implicitly enter the water discourse.

Use of game theoretic arguments is widespread throughout the water discourse to determine the propensity for conflict/cooperation in various transboundary water scenarios, typically finding upstream–downstream scenarios to be 'least conducive to cooperation' (Bernauer, 2002: 6, 7).[7] Even where riparian countries have more complex relationships, as they most often do, the water discourse argues that 'asymmetric gains' remain a significant obstacle to cooperation (e.g. Waterbury, 1997). The most convincing method of overcoming this is cited as integration among the states involved (Bernauer, 2002). The implicit IO theory here is that of interdependence. Interdependence 'refers to situations characterized by reciprocal effects among countries or among actors in different countries' (Keohane & Nye, 1989: 8).[8] From the economic perspective of the World Bank, creating interdependence and thus cooperation on Africa's international water systems involve 'maximizing system values' – the economic value of water over the whole basin system – generally through investment in large-scale hydro-developments (see Sadoff, Whittington, & Grey, 2003: 27). Authors in the water discourse also argue that scarcity can create interdependence with respect to water supply and incentives to avoid conflict thereby (Dinar & Dinar, 2003: 1228).

The general consensus, however, is that developing such interdependence requires long-term commitments. Wolf (1997), for example, sees wider basin scale cooperation as achievable through integration only once 'equity' and 'control' problems between riparians are solved (Bernauer, 2002: 14). Taking the point further, Marty (2001) advocates a focus on 'clearly defined problems and specific, operational institutional arrangements' to seed cooperation, arguing that '[s]uccessful cooperation evolves over decades, not in years' (Bernauer, 2002: 14, 15). Tacit here is Keohane's (1986: 147) theory of reciprocity, where functionally specific regimes can evolve into more integrated ones over time through interaction and trust building, with greater trust enabling greater complexity.

In the water discourse, such 'reciprocity' is thought to develop through information sharing and joint or transparent information acquisition and interpretation. The success of interstate cooperation in the Mekong River Basin, for example, is often attributed to the transparency and

[6] IO theories of public goods using rationalist game theory are usually used to make these arguments.

[7] Bernauer's piece is a review of the most comprehensive studies of transboundary watercourse regimes, specifically the work of (Durth, 1996; Marty, 1997, 2001; Wolf, Natharius, Danielson, Ward, & Pender, 1999).

[8] Interdependence further postulates that some power can flow from the strongest 'actors' to the least dependent party (where the two differ), because changes in the relationship are least costly to that party (Keohane & Nye, 1989: 11). In the SADC, for example, Botswana is riparian on both the Orange (with Namibia and South Africa) and the Okavango (with Namibia and Angola), but contributes no stream flow to and derives no direct benefit from the Orange. Consequently, Turton predicts possibilities for Botswana to use its leverage within the Orange Basin to gain concessions from Namibia on the Okavango Basin (Turton, 2003: 151).

cooperative nature of the Mekong Committee's data collection (Nakayama, 2003a: 104; Wolf, 1997: 354). Likewise, the creation of scientific committees with representatives from all affected countries that focus on the joint development of 'sound' scientific information on the 'ecological status and sectoral uses' of water resources is credited with the development of trust between parties through the GEF experiences (Uitto & Duda, 2002). However, as Forsyth (2003: 1, 26–43) demonstrates for several environmental problems, 'social and political framings are woven into both the formulation of scientific explanations of environmental problems, and the solutions proposed to reduce them'. The GEF's policy of 'only fund[ing] projects with global dimensions that also help the North' is illustrative of the importance of Forsyth's point in this case (Payne, 2001: 193).

The water discourse not only draws on the sharing of information about water sources as a means to cooperation, but also tends to turn to measures of abundance and scarcity of water resources to bolster explanations of observed phenomena. Statistics on water availability and arguments about its importance for basic life and economic development have found their way into the quantitative and qualitative literatures in support of both conflict and cooperation. Given that IR/IO theory is ill equipped to critically approach issues related to natural resources, even with both sides of the debate covered much complexity is overlooked. As Le Billon (2001: 564) argues, common perspectives linking resources and conflict 'fail to take into account the socially constructed nature of resources, and in so doing, fail to explain why an abundance or scarcity of valuable resources is not a necessary or sufficient factor of conflict' (or cooperation).

In terms of water resources, it is their social *production* that is key to understanding patterns of resource use and to expanding concepts of conflict especially in relation to the potential coalitions of actors involved. The social production of nature refers to the transformation of nature through the processes of capitalist production. The key point is not the 'mastery' of nature, but '*how* we produce nature and *who* controls this production of nature' (Smith, 1984: 63). Importantly, this type of analysis shows that the production of nature crosses scales – local through to global – generating uneven development, and has 'conjoint ecological and social consequences' (Castree, 2000: 285).

Following from this, the dynamics of international water cooperation and conflict produce new geographies of water that simultaneously reinforce and reflect distributions of privilege and disadvantage within and between households, communities and states. Thus even where states cooperate, we must ask who (beyond the state as container) benefits and loses from such cooperation. Interdependence and reciprocity tell us how states that share important resources and infrastructure are compelled to cooperate and describe the benefits of increasing interaction over time. Significantly, interdependence and reciprocity do not address the experiences of individuals and communities residing in and around the basins, and, in maintaining the 'state as container' model of analysis, they are inattentive to more complex forms of conflict and cooperation that emerge when large-scale redevelopments of a region's hydrosocial geography are at stake.

Shared water resources in the SADC: challenging the water discourse

The state in context

Agnew and Corbridge's triadic critique of the state as actor IR/IO model of analysis becomes all the more compelling when applied to Southern Africa. Swatuk and Vale (2000a: 4) make the case quite powerfully in terms of two aspects of the IR/IO model: the reification of sovereignty and the state as container:

> 'In the African context, moving toward fundamental change means acknowledging realities too long denied: e.g. that borders are porous, that identities are malleable and multiple and rarely if ever cohere with state boundaries; that ''nationalism'', like ''sovereignty'' has directly led to and indirectly legitimated the deaths of millions of Africans since the early days of ''independence''. To reiterate a point, in the African Context the Westphalian sovereign state is more problem than solution.'

The remaining element of the triad, the severing of domestic and foreign politics, is also untenable. A cursory history of the SADC, alone, aptly demonstrates the link between domestic and foreign politics. The SADC's precursor, the Southern African Development Coordination Conference (SADCC), was formed in exclusion of South Africa to counteract its apartheid regime and regional power. With the end of apartheid, having changed its domestic politics, South Africa was invited into the SADCC. The connection between the domestic and the international is also visible in South Africa's post-apartheid water policies. Policies that began with enshrining water as a human right within the country's new constitution and endorsing the decentralization of water provision while keeping it under national control (Bond, 1999), have shifted to an internationally favoured neoliberal model that includes full-cost pricing as a step toward potential privatization and public–private-partnerships (Corder, 1997; Lester, Nel, & Binns, 2000: 252).

Indeed, the three pitfalls of the 'territorial trap' are often exhibited simultaneously. In the Okavango River basin, international environmental interests have at times halted the development plans of the basin states, thus challenging their sovereignty (Turton, Ashton, & Cloete, 2003: 358). In the 1980s, for example, Botswana's leaders were reluctant to sign the Ramsar Convention on Wetlands in order to avoid criticism of their intended developments – including three dams. Having cancelled their development plans under international pressure led by the International Union for the Conservation of Nature (IUCN) and supported by many Botswanans living in the basin, Botswana adopted the Ramsar Convention in order to stave off developments on the Okavango by the other (upstream) basin states (Swatuk, 2003: 127). Responding to its lack of sovereign ability to pursue its own plans on the Okavango, Botswana adopted domestic policies with international appeal that would lead to an internationally favoured position as the basin's ''environmental good guy'' (Swatuk, 2003: 135).

Water in context

On an overall regional water budget, the SADC's available consumptive water supply is comfortably above commonly cited water scarcity levels and, even with rising demand, will remain so well into this century. The expected rise in the current water stress ratio[9] of 1.4%–2.5% by 2020 remains well below even the 'low water stress' threshold of 10% (Heyns, 2002: 160). Regionally there is enough water. But this is due primarily to the presence of a single river, the Congo. National realities can be quite different. Regional runoffs from the SADC water system reduce dramatically from north to south and southwest. Southern restrictions are compounded by more erratic, unreliable and unevenly distributed rainfall (Heyns, 2002: 158). Indeed, South Africa, Namibia and Botswana are each already characterized as experiencing at least periodic scarcity and moving toward absolute scarcity in the coming decades (Heyns, 2002: 160).

[9] The water stress ratio used here is defined as: water stress = withdrawal/availability.

Such scarcity must be recognized as a product of its contemporary and historical socio-political contexts. This means transcending the IR simplification whereby scarcity is taken as a neutralized biophysical variable in state interactions. Importantly scarcity is neither a strictly biophysical phenomenon, a straightforward path to politics, nor evenly experienced. In the case of the Yorkshire drought, for example, the drought was 'produced' not simply through reduced rainfall but leaky pipes and a local attitude to the private water vendor that encouraged increased water consumption when the vendor called for people to curtail it (Bakker, 2003b; Martin & Osborn, 2001). Even if water scarcity were strictly a natural phenomenon, its resolution would remain a politically contested subject. Many discourses have emerged around water scarcity, often pulling policy in opposing directions (e.g. Derman & Ferguson, 2003; Nevarez, 1996). The common experience of water scarcity as 'droughts for the poor and floods for the rich' (Bond, Ruiters, & Stein, 2002: 271) is a phenomenon that IR approaches to scarcity are ill equipped to expose.

Likewise, Southern Africa's particular form of water scarcity cannot simply be expressed by equations that link population density and growth to availability of freshwater sources. As Swatuk argues, water scarcity in the SADC must be understood in terms of the legacies of colonial rule and global political–economic structures. In particular, colonial policies effected the dislocation of large segments of the indigenous African population onto marginal lands that are distant from water sources, the adoption of water intensive agricultural practices better suited to Europe than Southern Africa, and a segregated domestic water supply network that subsidized white households at the expense of the excluded indigenous population (Swatuk, 2002).

The history of the region has also resulted in a situation whereby Southern Africa's geography of water use is virtually the inverse of its geography of water availability. South Africa is the third driest country in the SADC, following Namibia and Botswana (Turton, 2003: 137). Yet, while possessing only 10% of Southern Africa's total water resources and one third of its population, South Africa is responsible for 80% of the region's water consumption (Van Wyk, 2000: 77). The geography of water consumption within South Africa is just as skewed. Although improvements have been made since the end of apartheid, as late as 2000, in excess of 75% of rural poor households did not have access to piped water or sanitation (Stavros, 2000: 143). The politics producing this scarcity are well entrenched. Whites in Pretoria, for example, have refused to pay their water bills to protest cross-subsidization programs that would extend water services to the city's surrounding townships (Bakker & Hemson, 2000: 6).

As Bakker (2003a) argues, often citizenship does not translate into entitlement for state services and exclusion from state services does not translate into immunity from their impacts. While spending for 'public' services is disproportionately directed toward a circumscribed urban elite, the experience of contemporary neoliberalized water provision in the Global South 'particularly for the urban poor' is the 'increasing territorialization of corporate power (both public and private), enclosure of the hydro-commons, and the increasing penetration of the interests of (largely urban) elites into not only rural areas but also peri-urban and economically marginal urban areas' (Bakker, 2003a: 333, 339). As such, what Bakker finds in the Global South are not networks of water provision, but archipelagoes.

Understanding water scarcity in the SADC as a socio-historical production is important for a variety of reasons, not the least of which is avoiding shallow arguments that equate scarcity with population growth. For the water discourse, moreover, putting scarcity in context also puts many of the assumptions of the implicit IO theory into sharp relief: water availability as a purely

physical variable that can be average over space is discredited; Swatuk and Vale's (2000a, 2000b) critique of the state as predatory is underscored in terms of water issues; and assumptions about who states represent are called into question. In short, it becomes clear that the management of international watercourses is not simply about the water that flows through them today, but the particular histories of how the water within them and the local human and environmental relationships to them have been produced.

The large-scale technosocial reproductions of the SADC waterscape in the form of interbasin transfers (IBTs) comprise one of the region's most significant examples of the above phenomenon. IBTs have further distorted and, for some, alleviated the region's skewed water geography. There are currently 13 international IBTs in the SADC, more than 20 domestic IBTs, and 70 plus dams (see Heyns, 2003: 10–31). International projects do not yet constitute a very large portion of the total annual water use but are slated to increase quite dramatically within the next decade, including two large-scale long-distance multi-country transfers.[10]

Developing the SADC protocol – exploring hegemony

The SADC member states began water regime negotiations in 1993 and produced a Protocol on Shared Watercourse Systems that was adopted by 11 of the 12 basin-sharing states in 1996, and entered into force in 1998 (Ramoeli, 2002: 106). In May 1997 the UN Convention on the Law of the Non-Navigational Uses of International Watercourses was adopted as a framework convention. The UN convention marked the culmination of 40 plus years of effort, but remains characterized as a principled 'ought' of a community of international experts that neither reflects nor concurs with state interests or practices, contains contradictory elements, and demonstrates a need for generality in universal rules (Bourne, 1996; McCaffrey, 1996; Wouters, 1996). Even so, the UN convention led the SADC to revise its own water protocol eliminating its newly found 'quite apparent' limitations and aligning it with 'internationally accepted norms in the field of shared watercourses' (Salman, 2001: 1004, 1021). The consequent Revised Protocol was adopted in August 2000.

It took seven years for the adoption and revision of the SADC protocol, whereas the expected time frame in the water discourse is decades. It has been argued that while such agreements promote cooperation, the trend is persistence of the status quo (see Giordano & Wolf, 2003: 76). Still, in an examination of the Zambezi water regime since the Protocol's adoption, Swatuk (2002: 518) found old and new management systems to co-exist, 'signaling the uneasy relationship … between old ideas of partial, exclusivist ''modernization'' and new ones of holistic, inclusive ''sustainable development'''. Thus, it can be said that the SADC protocol signals a transition in regional water management – albeit one that is tentative and partial.

Given that the water discourse posits that such cooperation (even bilateral) is possible only under the coercion (benevolent or otherwise) of the regional or an external hegemonic power, how has hegemony been orchestrated (or not) in this case? South Africa is the only plausible SADC candidate for regional hegemonic action, given that its economy is comfortably 10 times that of the other SADC member states combined (Chenje, 2003: 205). Despite its economic

[10] The first of these is to originate in Zambia, extracting water from the Zambezi and crossing Namibia and Botswana before reaching its final destination in a South African reservoir. The second is still in the design phase, but is set to involve an even larger-scale transfer from the Congo to either the Zambezi or the Okavango. Both of these projects are being negotiated through the SADC (see Heyns, 2002: 161–165).

power, Odén identifies five impeding factors to South Africa's successful pursuit of such a role. These include: inconsistencies between the theory and South African policy, the prohibition of such action by global actors, skepticism and low institutional capacity in the other SADC states, and insufficient domestic capability or support for such a regime within South Africa (Odén, 2001). Compounding these limitations are the regional geographies of water distribution and consumption described above. These have led to a perceived 'danger of [South Africa's] over-exploitation of limited water resources' (Henwood & Funke, 2002: 184) and accusations of it acting as 'the de facto upstream state' (Van Wyk, 1998: 67).

In the SADC case Agnew & Corbridge's ideas of dominant hegemonic ideologies as regulated by a variety of international organizations offers more insight. As discussed above, international processes, in the form of the UN convention, were central (although not unique[11]) influences in the development of the SADC water protocol. Mohamed, for example, credits the efforts of UNEP for the development of the regional initiative on the SADC Protocol and Salewicz sees UNEP as able to translate the existing ZACPLAN[12] into a functioning regime (Mohamed, 2003: 214; Salewicz, 2003: 129–131).

With the SADC water protocol established, UNEP has decreased its activities in the area. Other institutions like the GEF remain very active. The GEF has funded six multi-lateral freshwater projects in the region since the adoption of the SADC Protocol, contributing approximately US$77.7 million since 1996. These have been administered by a host of organizations including the World Bank, the International Bank for Reconstruction and Development, and the United Nations Development Program. Swatuk (2002: 522) describes the involvement of these and other institutions in the region's 'water architecture' as 'a constructed and self-referential ''epistemic community'' … that increasingly counsels market ''solutions'' to abiding problems of resource scarcity and inequitable access'.

The World Bank has funded SADC water projects independently of the GEF. The organization's criteria for successful international water management, as outlined in the technical paper *International River Basin Organizations in Sub-Saharan Africa* (Rangeley, Thiam, Andersen, & Lyle, 1994), are worth noting. These include: placing outputs before political aspirations; a focus on construction of works rather than planning; and support from external financing agencies. Planning is to be avoided as it involves political debate, negotiation and delays, whereas construction of works is deemed to proceed much more smoothly. Given that the organization views the region's water in terms of hydroelectric power and irrigation potential, of which it states that only 5% and 25% have been realized, respectively, one can expect that the construction of works is intended to be large scale. In fact the World Bank has been responsible for catalyzing and funding the building of Africa's two largest dams: the Kariba Dam in the Zambezi River Basin and the Lesotho Highlands Water Project (LHWP) (Bond et al., 2002: 273).

After the protocol – rethinking conflict vs cooperation

Many of the projects funded through organizations like the GEF work toward cooperation through basin-wide scientific knowledge-building projects, such as that administered by the UNDP on the Okavango Basin between Botswana, Angola, and Namibia. One oft cited purpose

[11] See (Heyns, 2002: 169).

[12] The Zambezi River Action Plan (ZACPLAN) is an agreement for the multi-lateral management of the Zambezi River Basin involving eight riparian countries.

of these knowledge-building projects is the strengthening of trust and cooperative basin management through increased interaction on basin issues, as per the theory of reciprocity. In the SADC, information dissemination and sharing are being advanced through the Protocol requirement that environmental impact assessments be promoted for all proposed projects in a basin (Bruch, 2003: 49), and through the use of the Internet as a forum for scientists and managers to share data and policy ideas (Salewicz, 2003: 128).[13] Although information sharing is viewed as a key tool for the development of a functioning regime at each scale of governance, the most significant interactions in the SADC are its extensive network of inter-basin transfer (IBT) projects. In fact, information sharing often follows proposals for such large developments rather than vice versa, as the theory would predict.

IBTs have been a feature of Southern Africa for decades, stemming from the region's particular form of water 'scarcity', which has led to high water demand in areas of low water availability (see above). The IBT projects seem a durable, and perhaps growing, feature of the SADC waterscape as they are deemed 'strategically important' in the South African context (Turton, 2003: 140) and are the focus of donor funding regarding water scarcity in the region (Turton, 2000: 147). From the water discourse perspective, these large-scale projects would be interpreted as building interdependence in the SADC. Such interdependence would be tied to the high amount of investment in the engineering works and to a host of interrelated regional public goods which water underwrites. Such goods include human health, alleviating poverty, food security and economic development. The limitation here is that conflict-cooperation in the provision of human security remains limited to the same sets of competing actors; the state represents its contained society against the interests of other states. Yet, when it comes to large-scale technosocial reproductions of national and international waterscapes, states and powerful actors may in fact collude with violent repercussions for particular social groups within the supposed represented societies.

IBTs are indeed highly controversial. Even when domestic, they have international impacts due to the multinational nature of the basins involved and the regional water geography. IBTs have been shown to have adverse ecological impacts in Southern Africa (Petitjean & Davies, 1988), complicate the principle of equitable and beneficial use of international watercourses (Heyns, 1995: 480), have adverse social and economic impacts in the basin of origin and/or to third-parties, and may lead to complex legal dilemmas (Yevjevich, 2001). Thus, while Heyns (2002: 173) describes IBTs in the region as 'act[s] of solidarity between states' in times of shortage, IBTs can prove highly controversial in just such instances – not only between but also within basin states.

Below, I present two case studies of particular international water sharing agreements in the SADC. The first is the Okavango Basin shared by Angola, Botswana and Namibia. The second is the Lesotho Highlands Water Project (LHWP) between Lesotho and South Africa. The first demonstrates the relevance of the SADC Protocol in inter-basin cooperation and thus the undue pessimism in the water discourse's position on the efficacy of multi-lateral cooperative water structures. It also demonstrates the importance of local ecological conditions in politics, and that even between states conflict and cooperation are not so straightforward. Rather than an either/or or an evolutionary continuum, conflict and cooperation can co-exist, and be oscillatory, and persistently partial phenomena. The second also adds complexity to the water discourses state level conflict-cooperation analysis. Looking beyond an interstate conflict-cooperation framework, the LHWP exhibits strong evidence of collusion on the part of elites across both

[13] The SADC water resources database is an example: http://www.fao.org/fi/alcom/wrd.htm.

countries to the benefit of the wealthy at the expense of more marginalized citizens. There, cooperation and conflict are occasionally between, but consistently across the states involved.

The Okavango basin

The Okavango is Southern Africa's third largest river. It is described as 'the river that never finds the sea'. Originating in the hills of Angola,[14] it flows along the Angola–Namibia border before crossing into Botswana where it metamorphoses into 15 600 square kilometers of channels and lagoons that provide a habitat for a vast array of flora and fauna. Approximately 1.3 million people live within the basin and gain their livelihoods from local tourism, fishing and agriculture. The waters of the basin also support many dwelling outside of it through IBTs to industry and urban settlements, particularly in Botswana and Namibia. In 1994, the three basin countries established the Permanent Okavango River Basin Water Commission (OKACOM) through which they agreed that all planned uses of the river basin would have to be discussed within the commission and approved by all three riparian states.

Namibia is the most water stressed of the three basin countries (a problem compounded by South African IBTs on the Orange). Namibia is experiencing significant urbanization in its capital Windoek, which is distant from any water source, and its only perennial river is the Okavango, which passes only briefly through its northeastern corner. A three-year drought (1996–1999) intensified water issues in the region. Namibia developed plans to construct a pipeline to transfer 20-million m^3 of water from the Okavango to Windoek in the project's initial phase, to be increased to 120-million m^3 in subsequent phases. Namibia developed its plans for water diversions from the Okavango and approved them outside of the OKACOM, presenting them to Botswana only upon completion 1996. This led to the view of OKACOM as simply a ''paper tiger'' (Ramberg, 1997). Simultaneously, the two states were engaged in a dispute over three small islands in the Okavango with Botswana occupying one of them militarily (Swatuk, 1998).[15]

For Botswana, despite its own development plans in the 1980s, Namibia's planned pipeline posed an unacceptable threat to the Okavango delta and the people, wildlife, and industry that depend on it. Namibia, on the other hand, with already high levels of water conservation, saw no choice in terms of providing water to its growing urban population. Namibia's situation was stark, ''The corpses of sixty thousand cattle, dead of thirst, littered the landscape'' (De Villiers, 2003: 260). Rainfall in 1999 enabled Namibia to comfortably meet its water demand. Namibia temporarily rescinded its development plans until faced with another cycle of drought lasting until 2001. In effect, the region has 'long-term emergency water needs' (Rothert, 1999). This climatic oscillation between wet and dry years is seen as a key variable in the hydropolitics of the basin (Turton et al., 2003: 356). Moreover, under pressure from Botswana, Namibia was forced to extend its environmental impact assessment to include Botswana and to consider other alternatives to the project, and a short-term solution of pumping water from an abandoned mine was pursued (De Villiers, 2003: 260). The existence of a regional cooperative structure has meant that such projects as IBTs, that were often undertaken unilaterally on sections of rivers within SADC states until the 1980s, must now be negotiated (Swatuk, 2002: 515), even if attempts are made to avoid it and settlement is not always forthcoming.

[14] In Angola, the Okavango River is called the Cubango River.

[15] This dispute would eventually be transferred to the ICJ for settlement (Van Wyk, 1998).

The Lesotho Highlands Water Project

Among the projects in the SADC region that the World Bank has helped to finance, the organization views the Lesotho Highlands Water Project (LHWP) as among the most successful. Lesotho is a small mountainous country surrounded on all sides by South Africa. Lesotho has a long history of exploitation by South Africa, which has given way to significant economic disparity between the two countries today. It is a common opinion that Lesotho's sole source of leverage vis-à-vis its neighbour is that it holds the headwaters of one of South Africa's major rivers, the Orange – the focus of the LHWP (e.g. De Villiers, 2003). From a state scale perspective, the LHWP brings much needed revenues and electricity to economically stressed Lesotho, supplies equally needed water for South Africa's industrial heartland in Gautang, and is an exemplar of interstate water cooperation and dispute settlement (e.g. Boadu, 1998). Constraining analysis to the state scale, however, obscures the uneven distribution of cost incurred and benefits accrued from the project. It also obscures the complex realities of conflict and cooperation by restricting their domain to interstate relations.

As such, the project has faced strong opposition from disaffected groups in both Lesotho and South Africa and some protest has been met with state repression (Bond et al., 2002: 167, 170). Many of Lesotho's Basotho question the legitimacy of the agreement (which includes the compensation measures for those disaffected) as it was negotiated in the 1980s between the then apartheid government in South Africa and the military dictatorship that it installed in Lesotho in 1986 (BBC, 1998; Squires, 1999). The complicity between powerful actors is also seen in government/corporate relations. South Africa's largest firm, Anglo American Corp, experienced labour unrest in 1996 at one of the dam construction sites. They called in the local police and at least five workers were killed (Bond et al., 2002: 139, 140). Violence also erupted in 1998, following a contested national election in Lesotho whereby the opposition supported by the Lesotho Defense Force (LDF) attempted to force the sitting 'unpopular' government to cede power. South Africa moved rapidly to protect its investment in the LHDP. Invited by the regime to intervene, South Africa sent troops to the dam site where – according to the Mail & Guardian as many as 16 LDF troops were 'massacred' and the Lesotho authorities impeded the killings from being tried in court (Brmmer & Gilmore, 2000).

The LHWP contains plans for the construction of five large dams of which three have been completed. The first, the Katse Dam is the tallest in Africa (186 m). It was followed by the Muela (55 m) and later the Mohale (146 m). These dams are supported by hundreds of kilometers of water tunnels, access roads, transmission lines and bridges (Hoover, 2001: 1). Water from the Katse began flowing to South Africa in 2000. By the Lesotho Highlands Development Authority's (LHDA) own estimates, approximately 20 000 people were adversely affected by the first two dams alone through the loss of homes and land used for agriculture and grazing (Horta, 1996). Many other important goods were rendered scarce by the flooding including fuel wood, thatch for roofing, river sand for bricks, grasses for local crafts, medicinal plants and wild vegetables representing a loss of as much as 45% of annual household incomes (Hoover, 2001: 7–9). Earthquakes caused by the filling of the dams have also been an issue (Jones, 1996).

Although under the project plan the livelihoods of affected people were to be no worse off, by the World Bank's own report the dams' effect on poverty reduction was 'minimal' and programs to redress the impacts of dispossession were under funded and unsuccessful. Of the programs, only education was deemed even 'moderately satisfactory' (Hassan, 2002: 15). This coincides with the Ombudsperson's report following community consultations in 2003 (Thakalekoala, 2003). Such hardships have disproportionately affected women (Rathgeber, 1996). This is not uncommon. As Rathgeber argues, women's needs are routinely depoliticized by

water planners, national governments, and donor organizations in order to facilitate project development through the elimination of a source of conflict.

In South Africa, the costs and benefits of the project have been skewed against the most marginal as well. In Johannesburg where the water is being received, it is mainly directed to already well-served high-income areas. In fact, due to the project's high cost combined with user-pay full-cost recovery policies for water services, the project has actually hindered water access for Johannesburg's urban poor (Bond et al., 2002: 133, 149). Under these circumstances, the water prices for the heretofore under-serviced poor have increased more rapidly than for any other group, such that the water has been priced beyond access and many have suffered disconnections. Research also demonstrates that the need for water from the LHWP could be alleviated through the reparation of much of Johannesburg's leaky apartheid era infrastructure, but given the high cost of the dam there is little money for such repairs and little incentive for demand side management when the dam costs are to be recovered through water sales (Bond et al., 2002: 150, 151, 157). Thus, in both South Africa and Botswana the distribution of costs and benefits from the LHWP is severely skewed to the disadvantage of more marginal citizens in both states. This is an all too frequent phenomenon that implicit IR/IO theorizing is unable to unmask.

Conclusion

Transboundary water systems present a complex set of issues for IR/IO theory demanding a broad picking of that literature. Taking du Plessis' finding that the water discourse tends towards rationalist and positivist readings of IR rooted in the 'neo-neo synthesis' further, this essay has detailed the specifics of which IR tools are applied and in what manner. The most prominently applied theoretical constructs are: normative theories to understand the substance of watercourse agreements; realist hegemonic stability theory to explain the establishment of such agreements; game theory borrowed from economics to predict the propensity of conflict versus cooperation; and liberal theories of interdependence and reciprocity to elucidate the long-term functioning and stability of transboundary water 'regimes'.

This nearly always-tacit application of a range of IR theories arguably reflects an awkward fit between IR/IO theory and transboundary water resource issues. Incontrovertibly, watercourses exhibit important characteristics that differ from those of issues that international organizations are typically formed to address, such as economics or technical standards. As such the literature is centered on a public goods paradigm, which applies only partially to transboundary watercourses. More specifically, the implicit IR approach tends to: (i) mis-theorize hegemony, (ii) adopt an unduly pessimistic stance vis-à-vis the propensity for multi-lateral cooperation, (iii) assume that conflict and cooperation exist along a progressive continuum, (iv) neglect the conflict and violence that states exact within their 'container', and (v) depoliticize ecological conditions.

Approaches from critical geopolitics, political ecology and the social production of nature are important antidotes to the above problems. They identify the territorial trap, thus helping to avoid it, bring in a more fitting perspective on hegemony, are well equipped to theorize ecological conditions as well as the social dynamics they reflect and propagate, and add complexity to examinations of conflict and cooperation by including non-state actors and expanding the view of states as strictly competitive to often collusive. These are necessary perspectives if the 'flood for the few and drought for the many' is to be recalibrated to achieve socially just ends. Distributive injustice with respect to water has many implications; basic survival, public

health, and economic security are but a few. When water becomes difficult to access, as in rural Lesotho following the development of the LHWP for example, the responsibility for collecting water frequently falls to women and girls, with negative consequences for female education and their income-earning opportunities.

Continuing to defer to IR/IO theories in the analysis of transboundary watercourse management can illuminate some issues but risks obfuscating many more. IR/IO theories have considered the development of international cooperation through interdependence and reciprocity, which can assist in the planning for cooperation and the avoidance of conflict at the state level. IR/IO theory also lends insight into the decision-making processes that occur at the state scale on international issues, processes that all too often neglect a variety of less-powerful interests. Indeed, those who govern states often operate within the logic of the territorial trap (Swatuk, 2003: 134). Still, the IR/IO approach does nothing to redress or critique this phenomenon but rather reflects (and perhaps propagates) the ideology through which it occurs. Moreover, the obfuscated daily realities of what water cooperation or conflict between states means for those dependent on the waters in question are far too important to be ignored. This is something that is quite cogently illuminated in the SADC.

Acknowledgments

I would like to thank Karen Bakker for her very helpful comments and for suggesting the title of this essay. I am also grateful to Mark Zacher and the participants and discussant at the ISA 2004 Negotiating Water Panel for their comments on an earlier version of this paper, and to David Pritchard for editorial assistance. I would also like to thank the two anonymous reviewers whose thoughtful comments were instrumental in rethinking this essay and the current form in which it is presented.

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