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Open for Business or Opening Pandora's Box? A Constructive Critique of Corporate Engagement in Water Policy: An Introduction

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ABSTRACT: The corporate world is waking to the realisation that improved water management is fundamental for future prosperity and human well-being. This special issue explores aspects of its response: from the application of an array of analytical tools such as water footprint accounting, risk filters and standards; water use efficiencies; derivatives and insurance mechanisms; to collaborative infrastructure and watershed projects; stakeholder engagement and attempts to influence water governance at all scales. Drawing on the papers in this issue the motivations for this new agenda are traced and its potential in helping to unlock some of our most intractable water challenges, or to open a Pandora's box of controversies are considered. Key concerns include the potential for diverging corporate and public interests; policy and regulatory capture; privileging of economic over social perspectives; process inequities; displacement of existing water management priorities, and the risks of misguided interventions which undermine institutional and hydrological sustainability. Reflecting on these and the state of research on the topic eight priorities for a constructive response are discussed: closing the legitimacy gap; evaluating outcomes; reviewing evaluative tools; representation and inclusiveness; conceptual and methodological groundwork; outreach; and involvement and mobilisation. In conclusion, corporate engagement on water has great potential as both a progressive or reactionary force. Debate, research, scrutiny and action are urged to differentiate the 'good', the 'bad' and the 'ugly' and to pose fundamental questions about sustainability and equity.

KEYWORDS: corporate engagement, water policy, water stewardship, shared water risk, legitimacy, creating shared value, standards, water disclosure, incentives, accountability, equity, transnational water governance

INTRODUCTION

Our strategic response to water is most rapidly developing into water policy engagement... Business is here, business is ready, business is acting, we're doing it through partnerships, we're doing it through alliances, we're doing it sometimes unilaterally and our driver is huge. Its income, its profit, its share ownership, its board of directors, so we have a very, very powerful motivation to act in this area... This approach [with the Water Resources Group] is an entrée into the Finance Minister's Office, into the Prime Minister's Office... engaging the right players, the right resources and authority... affecting the change that needs to happen in a very short time frame.

Greg Koch, Managing Director, Global Water Stewardship, The Coca-Cola Company, 2012

Over the past decade the level of activity on water and interest in water policy by corporate actors has grown at a formidable pace (Orr et al., 2009; CDP, 2011; Ceres, 2011). Distinct from established debates

about private sector involvement in water service provision, this new agenda concerns multinational commercial entities who use significant volumes of water to produce goods and services, and their adoption of new tools, partnerships, initiatives and roles to drive changes in the way they, and wider society use and manage water.

The opening quotation – a clear-eyed rationale for this engagement from a business perspective – hints at the dilemmas explored in this special issue. It airs the anxieties associated with powerful self-interested private entities undertaking increasingly sophisticated analyses and actions to influence and involve themselves in management of the definitive public good – water.

This introduction traces how the idea and existence of corporate water risks, disaggregated into those which are physical (disruption to production), reputational (damage to brand image) and regulatory (concerning legal action) have shaped the debate and driven action. Underpinning much of this new agenda is an ostensibly unifying concept of 'shared water risk' (Morrison et al., 2009; Pegram et al., 2009). The notion of shared water risk reflects the common pool resource dilemma that degraded and depleted water resources and inadequate supply have impacts across society; therefore, action to address these problems is in the shared interest, and requires shared, collaborative action. A further concept of 'water stewardship' is widely applied to corporate engagement on water, and emphasises the contribution a business can make to sustainable water management both within, and beyond the fenceline of its operations(Hepworth and Orr, *in press*). 'Fenceline' is used to denote the metaphorical and literal borders between activities or issues which concern internal business operations (within the fenceline) and the external environment, basin or political context within which a business operates (beyond the fenceline).

Knowledge of shared water risks is by no means new. Evidence of the serious and deep-rooted water issues facing society has been growing for decades (see Postel and Richter, 2003; Gleick et al., 2011, in Larson et al., this issue). Given a parallel decades-long drive for greater stakeholder involvement in resolving these issues, and for consideration of hydrological sustainability in business decision making (UN, 1992; Allan, 2003) rising corporate attention should surely be welcomed? For many working in the sector, the opportunity to harness the reach, influence and resources the private sector brings to the table is compelling. As evidence of this reach, the 58 companies reporting to the Carbon Disclosure Project's (CDP) Water Initiative represent a market capitalisation value of US\$2.49 trillion, equivalent to the GDP of a G5 country. Collectively they abstract more than 1598 billion litres of water per annum, equal to 0.6 litres per day for every person on the planet (Money, 2012). The agriculture sector is responsible for 92% of water consumption globally. The influence of the handful of multinationals controlling the international trade in agricultural commodities therefore places them at the heart of the global challenge for food and water security (Sojamo and Larson, this issue). Many of the companies involved in this new corporate water agenda operate in almost every country in the world with political and financial influence in excess of many nation-states, with spending on water similar to that of bilateral and multilateral donors.¹ In the words of Hoekstra and Mekonnen (2012, in Sojamo and Larson, this issue) "we cannot afford to not engage". Given the scale of corporate influence and control over water use, proactive and enlightened engagement holds great promise.

But this new corporate water engagement agenda also arouses deep concerns. These include polemical and political critiques, rooted in fears of spiralling power of business in global resource governance, private accumulation of the means of production and corporate takeover of the United Nations (Bruno and Karliner, 2000; Barlow and Clarke, 2002; Kay and Franco, 2012; Mehta et al., 2012). They also include related but more practical concerns, based on procedural flaws, untested assumptions and ill-informed effort, and the unintended consequences of these for social equity and

¹ For example The Coca-Cola company has invested almost US\$2 billion on water initiatives in the past decade (Koch, 2012), compared to DFID's estimated investment of US\$3 billion over the same period (based on extrapolation of reported DFID investment on WASH between 2006 and 2011; DFID, 2012).

the effective functioning of water management institutions, particularly in developing countries (Morrison et al., 2009; Hepworth et al., 2010). Critics anticipate a mounting threat of policy and regulatory capture which will drive the prioritisation of water allocation towards highest economic value uses over and above environmental, social well-being, livelihood and cultural uses. Vulnerability to capture is greatest in basins with weak and dysfunctional institutional arrangements, which also tend to be those in poor countries where shared risks are greatest and most is at stake in terms of human welfare and biodiversity conservation. Ironically then, the places where additional support for water management is needed most are the same places where this external support could most easily lead to unforeseen or undesirable consequences (Hepworth and Orr, *in press*).

As yet there is little evidence of whether corporate engagement on water is merely a cynical attempt by business to extend control over the resource; the emergence of 'bluewash' to maintain favourable brand images; or a cosy arrangement of mutual benefit between the companies and NGOs involved. Neither is there evidence that it is leading to any policy or practical changes, or benefits for the sustainable and equitable management of water. It is likely though that all these eventualities are possible. In order to guide this new interest towards outcomes of genuine societal benefit and guard against attendant hazards, the topic requires energetic study, analysis and reflection. However, although the grey literature on water-related business risk is now well established (Chapagain and Tickner, *this issue*), the research and scholarly response to date have been remarkably slow.

The intent of this special issue is to take a first step by corralling existing analyses and stimulating further empirically and theoretically based reflection on this new interest from the private sector. The articles presented take a range of methodological approaches to map and understand the landscape of corporate activity on water and observable or potential outcomes. They trace the motives and intent of corporate engagement, and propose and apply theoretical, analytical and conceptual frameworks through which to better understand and constructively respond to the challenges identified. Bringing these insights together frames opportunities and threats, identifies urgent intellectual and practical priorities, and establishes the topic as ripe for analysis and debate, as a primer for further work.

This introductory paper first (1) reflects on the articles, analysis and methodologies adopted by the contributors. Drawing on these a panorama of corporate engagement on water policy is attempted (2) before examining motives and drivers (3) behind this work, in order to delve deeper into the attendant dilemmas and to ask what's in Pandora's box? (4). Organising concepts and theories (5) applied in the issue are reviewed prior to a discussion of emerging priorities (6) and concluding remarks (7).

OVERVIEW OF ARTICLES AND APPROACHES ADOPTED BY CONTRIBUTORS

Chapagain and Tickner in their review of water footprinting (WF) chart the interplay between the development of tools to aid understanding of water risks and responses to these by business. They examine how measures of the invisible or virtual links between consumption of goods and distant impacts on water resources at the point of production through WF applications have been used. Acknowledging the critiques, methodological imperfections and potential perverse outcomes of the approach they urge 'golden rules' to guide its constructive deployment. They remind us that WF is not an indication of impacts or sustainability of water consumption, which are mediated by very many variables, but instead provide explicit spatial and temporal information about how water is appropriated for various uses, for the benefit of different groups.

Larson et al., review the spectrum of corporate strategies for mitigating water risk from a business perspective, and explore the powerful role of the financial services sector. They compile the mechanisms through which business risks are materialised drawing on examples of Levi Straus and GAP, (physical risk), PepsiCo and The Coca-Cola Company (reputational risk) and Nestlé (regulatory risk). Particularly revealing is the light they shed on the motivations behind corporate responses, and the evolution of weather derivatives and insurance: approaches not traditionally considered in the water

stewardship literature. Although their review of the limitations and hazards of these approaches, particularly in terms of social equity and promoting skewed investment, is relatively light, their contribution is extremely valuable as a scoping piece to guide future analysis.

Newborne and Mason review the extent, limits and implications of elevated private sector involvement in water governance and draw on company law to understand underlying motivations and priorities. Case studies of the beverage, tourism and energy sectors are used to suggest constructive ways forward given the potential risk of confusion about roles. They highlight the key dilemma that, despite private sector intentions to operate responsibly and maintain sustainable development, a company's ambitions, often driven by legal obligations to shareholders, target growth and increased overall use of water irrespective of any production unit efficiencies driven by stewardship efforts. This insight raises important questions about how water stewardship will play out in, for example, closed basins, where trade-offs between water allocations favouring company versus community benefit will inevitably be faced. Such questions help explore the legitimacy of corporate engagement in public policy and provide test cases for lofty concepts such as Creating Shared Value (CSV) (Porter and Kramer, 2011, in Daniel and Sojamo, this issue).

Sojamo and Larson's article examines how and why some of the world's largest food and agribusiness corporations are engaging in, and contributing to, the development and applications of tools, metrics and standards which they characterise as an emerging form of 'transnational water governance'. They develop comparative case studies of particularly powerful corporate agents: Nestlé, Bunge and Cargill, each a giant of the global virtual water trade and 'key agents' in water security but with differing corporate governance and stakeholder structures, and markedly different approaches to stewardship.

Daniel and Sojamo, examine the discourse and strategies of 11 large Food and Beverage (FB) companies, comparing 'pioneers' of corporate water engagement with competitors who face similar exposure to water risks, but which have been less visible in the emergent agenda. They categorise the range of strategies and review companies' sustainability reports over five years against their involvement across these. Using content analysis and word frequency searches they analyse the evolution of strategy on water and test a set of hypothesis. As discussed later, their application of institutional and critical theory to develop a framework of analysis is a particularly useful contribution in this nascent area of research.

Two papers presented are reviews which draw on personal communications and literature (Chapagain and Tickner; Larson et al.). Newborne and Mason, and Sojamo and Larson combine literature review, document analysis and triangulation with interview testimony from company, NGO and other representatives. Daniel and Sojamo innovatively combine these methods with discourse analysis to test hypotheses. Explicitly or in their construction, all the papers reflect the methodological challenges facing research on this topic. Specifically, ground-truthing claims and concepts; evaluating impacts and outcomes; developing or testing theory through analysis of secondary data, or gathering of primary empirical data is difficult because of data accessibility issues and the logistical and resource constraints on fieldwork across supply chains. These problems are amplified by the entrenched challenges of evaluating and attributing dispersed and deferred outcomes of water policy and management. Rigorous action research or case studies are potential responses to such methodological challenges but papers adopting these were not forthcoming. The significance of these issues, and the need for rigour and transparency in research design and reporting (for example, reporting on key informant selection, sources of bias) and the trade-offs of deductive versus inductive approaches are discussed in later sections.

WHAT ARE COMPANIES DOING?

Supported by substantial investment² the corporate response to perceived business risks on water has been wide ranging. Several authors have attempted taxonomies of corporate actions on water (WWF, 2009; Morrison et al., 2009; Larson et al., this issue). These tend to present a spectrum of gradually more sophisticated activities ranging from internal actions to improve water management, to lobbying of government to influence policy. CEO Water Mandate (2012a) provide a compendium of the many activities companies are involved with: efficient water use; effluent management; wastewater reclamation and reuse; community-level access to safe water, sanitation, and hygiene (WASH); storm water management and flood control; infrastructural finance, development, operation, or maintenance; sustainable agriculture; climate change adaptation and resilience; ecosystem and source water protection, restoration; monitoring and knowledge-sharing; engaging in participatory platforms; public awareness and education; water governance; and policy development and implementation. Examples are cited below to further explore how this water policy engagement is being realised.

Knowledge generation and strategy development

Companies are attempting an improved understanding of local and global water challenges and their exposures to risks. Larson et al. (this issue) identify the emergence of at least 20 'water stewardship tools' which they define as "numeric and narrative techniques for characterising water consumption, impacts and risks". Whilst the use of these tools may not directly influence public policy, their application, limitations and utility warrant critical review because of the path-dependency observed within corporate engagement (Daniel and Sojamo, this issue). That is, the ways in which companies attempt to understand water and water risks wield strong influence over their resulting response strategies. In this issue Chapagain and Tickner begin this (overdue) process by exploring the use of water footprinting in corporate settings.

With the advent and accessibility of water footprint (WF) accounting, companies and their critics have been able to ask far-reaching questions through assessments of water use. Although water accounting and productivity analysis have long been used by water scientists (see Dinius, 1972; Molden, 1997), work by Chapagain and Hoekstra to develop Tony Allan's virtual water concept into an accounting framework for the 'embedded' water in products and places (Chapagain and Hoekstra, 2004; SABMiller and WWF, 2009) captured the zeitgeist of the last decade.

Applied to consumption in the UK (Chapagain and Orr, 2008) WF made front page news by revealing that 62% of UK agricultural WF is embedded in virtual water in imported goods and alighted consumer and retailer attention on the global implications, and responsibilities attached to this virtual water use (Chapagain and Tickner, this issue). Applied at the product level, WF has allowed comparison of resource requirements across production sites, and across business portfolios, which has been used to identify priority locations and issues for investment to minimise water risks. Chapagain and Tickner report that WF use by SABMiller showed that in South Africa 98.3% of its WF was related to crop production which has since driven it into new stakeholder partnerships to address water scarcity in those locations. Loftier goals of using WF analysis to drive international trade and governance agreements and hydrologically sustainable patterns of consumption (Hoekstra, 2006) have yet to gain traction, though notably it is being used to explore water management and economic development scenarios, and policy decisions in water-stressed basins (Orr et al., 2009; Pegram, 2010; Hoekstra et al., 2012, in Chapagain and Tickner, 2012).

As a tool for communicating with and stimulating action on water by new audiences, WF has proved formidable, and Chapagain and Ticker, and Daniel and Sojamo (this issue) conclude that use of WF has

² According to Global Water Intel, "market leading analysis of the international water business", the corporate water stewardship business has grown from almost nothing in 2002 to become a US\$30 million per year market (Gasson, 2011).

motivated business leaders to address water risk. Common critiques of footprinting include its decoupling of volumetric water use and quality issues from all important local contexts, methodological and data challenges, and misinterpretation hazards brought by its reductive approach. The danger is that the methodological imperfection of tools like WF accounting may lead to non-optimal corporate and consumer responses and the perverse outcomes discussed in this issue.

Internal actions on water efficiencies and risk

Operational measures within the confines of a business such as water use efficiencies and management actions, measurement, reporting and disclosure are afforded less focus in this issue as they are less obviously tied to water policy 'beyond the fenceline'. Impressive reductions in water use per production unit reported in, for example Larson et al. (this issue), help to give credibility to claims around responsible water use. However, as with all water use efficiency initiatives, the use of 'freed up' water and the ultimate sustainability of withdrawals are important questions. Larson et al. (this issue) also help to explore the key assumptions underlying corporate engagement. For example, they reveal that as part of internal management responses companies are purchasing weather derivatives, rainfall indexed insurance and tradable water rights to hedge³ or protect themselves against risks and costs arising from reduced water availability. For example, a US clothing manufacturer could purchase rainfall options to protect itself from a poor cotton crop arising from below average rainfall in India. The growth of these instruments, at 18% per year, is staggering, from a first weather derivative trade in 1997 to a market worth US\$11.8 billion in 2010-11 (Larson et al., this issue). But the geographical relevance and availability of such approaches are limited because of reliance on historical climate records. Water rights trading is also constrained by high transaction costs, negative externalities and a reliance on effective enforcement (Larson et al., this issue) and so none of these approaches are particularly suitable to developing-country contexts.

The rise in the use of these financially based internal response mechanisms has three major implications for the new agenda of corporate water policy engagement. First, in privileging access to important mechanisms of risk mitigation to those who can afford, it raises important questions for the foundational notion of shared water risk upon which the legitimacy of corporate engagement on water policy is often drawn. Second, in providing differential water risk exposure they potentially undermine incentives to take actions to address material risk at local scales. Last, they have potential to reinforce patterns of investment which discriminate against developing-country contexts because data records or institutional architecture which these tools require are lacking.

Leveraging action in supply chains

Some companies are looking beyond direct operations and attempting to address water risks and impacts 'in the value chain', exerting what Sojamo and Larson (this issue) characterise as structural, or bargaining power. Here companies are beginning to assess value chain exposure to water risk to consider the impacts its products may have on water resources and how water challenges may impact their business, then mandating or encouraging improved practices throughout their supply chains. A range of tools and approaches are under development to guide this, ranging from the already discussed WF applications to identify priorities (SABMiller and WWF, 2009), water risk filters (WWF and DEG, 2012) to water stewardship standards which aim to guide the local responses of supply chain actors and certify responsible use (AWS et al., 2011).

³ A hedge is an investment position intended to offset potential losses/gains that may be incurred by a companion investment. In simple language, a hedge is used to reduce the risk of an investment by making an offsetting investment so that one will profit (or at least avoid a loss) no matter which direction the security's price takes. Hedging may reduce risk, but it is important to note that it also reduces profit potential. http://en.wikipedia.org/wiki/Hedge_%28finance%29 (accessed 29.09.2012).

Sojamo and Larson (this issue) characterise developments such as these as an emerging 'transnational water governance' regime and flag some of the hazards which emerge in parallel. Whilst the positive impact of exerting influence in this way is potentially formidable, challenges include the potential for unbalanced representation and low transparency in setting the rules which may affect the use of water resources by many stakeholders in the long term. Codifying objectives and driving responses which will be relevant and appropriate across the infinitesimally diverse water contexts existing in a global supply chain will also be a challenge.

Collective action and influencing governance

Where corporate activity on water begins to have more dynamic interactions with public policy on water is in the realm of collective action and attempts to influence governance. 'Stakeholder engagement' is used to describe a wide range of activities ranging from collaborative projects targeting information-sharing, basin-restoration and water supply and infrastructural improvements, to participating or convening platforms for discussion and oversight, to influencing policy. Activities which explicitly intend to influence governance include advocacy, lobbying, partnership, financial support, facilitation, or institutional strengthening at the local, watershed, state or national level (WWF, 2009). These are at the sharp end of corporate engagement on water policy, both in terms of the potential to drive progress, reputational risks for companies involved and the risk of public policy processes and outcomes being captured by corporate interests.

Newborne and Mason (this issue) identify mixed messages within these engagement activities which can include both charitable activities aimed at reputational benefits (such as Diageo's Water of Life initiative) and those aimed at tackling water risks to the business such as catchment protection. Larson et al. (this issue) cite an example of this latter activity by The Coca-Cola Company, which has committed to "replenish water used in finished beverages by participating in locally relevant projects that support communities and nature". Though no definition of 'replenish' is provided, activities under this banner include agricultural improvements; improvements to land cover; aquifer recharge; rainwater harvesting; leakage repair; and wastewater treatment. Other examples include Jain Irrigation Systems whose response to water risk has been to encourage rainwater harvesting, aquifer recharge, farmer training, drip irrigation and establishing dialogue platforms (Larson et al., this issue). Only a relatively small number of these stakeholder and watershed engagement initiatives exist, with little published evidence of outcomes (Chapagain and Tickner, this issue).

This issue also reflects on the efforts of the 2030 Water Resources Group (WRG), a collaboration between the Barilla Group, Coca-Cola, the International Finance Corporation, McKinsey & Company, Nestlé S.A., New Holland Agriculture, SABMiller, Standard Chartered Bank and Syngenta. The WRG aims to "transform water management and policy" with the aim of driving "better decision making"; however, as is explored, the analysis underpinning this work prioritises economic rather than social interests in the basin and is by no means 'neutral' (Newborne and Mason, this issue).

Other attempts to influence governance "to collectively address some of the most pressing water risks in cities and watersheds around the world" (WFP, 2011) include the Water Futures Partnership (WFP), a collaboration between GIZ, WWF, SABMiller but reflecting a common theme, there is little evidence of outcomes.

Also of note is a newly launched Internet-based Water Action Hub initiated by the CEO Water Mandate which "provides information on organizations that are interested or currently engaged in partnerships for collective action" (...) "in particular river basins or specific water action areas" (CEO Water Mandate, 2012c). Promoted as a 'dating agency' for companies keen to collaborate on water risk responses, including through influencing governance, its potential role in consolidating the power of corporate perspectives is a topic for further reflection.

MOTIVATIONS FOR CORPORATE ENGAGEMENT ON WATER POLICY

Companies seek to influence regimes to ensure that what comes out is practical and acceptable to their business.

Corporate sector interviewee (Daniel and Sojamo, this issue)

A clear understanding of what is motivating corporate engagement on water policy is important because it guides an improved understanding of ultimate end goals, and constructively, highlights risks and opportunities for progressive outcomes (Newborne and Mason, this issue).

The CEO Water Mandate in their recently published Guide to Water-Related Collective Action (CEO Water Mandate, 2012b), suggest that companies seek to manage water-related risks and stewardship opportunities to:

- i. ensure business viability by preventing or reacting to operational crises resulting from the inadequate availability, supply, or quality of water or water-dependent inputs in a specific location;
- ii. retain their local legal or social license to operate, or gain competitive advantage, by demonstrating to interested parties and customers that they use and share a precious natural resource responsibly, with minimal impacts on communities or ecosystems;
- iii. assure investors, financiers, and other stakeholders that water risks, particularly those occurring beyond the factory fence line, are adequately addressed; or
- iv. uphold corporate values and commitments related to sustainable development by contributing to the well-being of communities and the health of ecosystems and catchments in which they operate.

(CEO Water Mandate, 2012b)

The articles in this issue provide additional context and constructive insights on these drivers. Larson et al. (this issue) report that the financial services industry (FSI) is increasingly requiring and supporting due diligence on water and is funding water assessments, practice reviews and disclosure frameworks, seeking to quantitatively understand risk and drive risk management strategies for the sustainability and security of investments. That disclosure of water risk is now included in US Securities and Exchange Commission guidance and hints at the potential power of due financial diligence as a motivating factor. However, claims that this fully closes the loop on market drivers for sustainability (Aerts et al., 2008, in Larson et al., this issue) are overstated given a recent report which finds that water risk reporting remains weak and inconsistent (Ceres, 2012). Nevertheless, it is likely that these practices and the role of the FSI will evolve and play a significant role in shaping future corporate responses to water risk. As discussed next, it will be supercritical for the tools, indicators, metrics and standards applied by the FSI to be intelligently designed. Tendencies towards 'quick and dirty', overly reductive and potentially erroneous water risk mapping approaches currently being touted should be resisted.

Sojamo and Larson through their case studies of Nestlé, Bunge and Cargill, trace the role of consumer, investor and advocacy group pressure. Albeit based on a limited set of case studies, they propose that this influence is conditioned by features such as corporate structures (private versus publicly owned), number of stakeholders and brand visibility. Daniel and Sojamo (this issue) also find that reputational risks are more important drivers for those with global corporate brands to protect, whereas local, physical water risk seems to be an important driver for those known primarily through local brands such as food and beverage companies with a reliance on local water supplies and vulnerability to disruption. Parity with competitors and imitation – where companies follow the lead of pioneers – are also flagged and contribute to path-dependency in corporate responses. Companies newly engaging on water are following the pioneers, moving from internal actions to collaborative action and policy influence. As well as cooperation, Daniel and Sojamo (this edition) identify competition between companies (and the NGOs and agencies' working with them) to define the methodological tools, and for funding, visibility and legitimacy.

Articles also identify CSV as a newly articulated driver (Daniel and Sojamo; Sojamo and Larson; Newborne and Mason). CSV, as expounded by Porter and Kramer (2011), involves "policies and operating practices that enhance the competitiveness of a company whilst simultaneously advancing the economic and social conditions in the communities where it operates". As a corollary of addressing 'shared risks', the concept of CSV as an underpinning goal is compelling, and its attainment is likely to dictate the legitimacy of corporate engagement activity. But as is discussed in next section, water risks and values are not always equally distributed among water users, or open to being defined through narrow econometric analysis, or by any one interest group on behalf of others. The unmet operational challenges of accounting for, and reconciling these differences, and for defining verifiable evaluation mechanisms for measuring CSV, therefore currently undermine its potential.

Analysis of the motivating factors behind corporate engagement is particularly rich for designing a progressive, constructive response. The linkages between motivating levers and different types of response mean that undesirable and desirable responses (in terms of more equitable and sustainable water management) can be influenced by moving up the motivational chain to make or advocate for adjustments to each driver. For example, should financial institutions be asking the wrong questions of corporates, which then constrain investment in developing-country contexts because of overly reductive analytical tools (which tend to label much of the developing world as 'high water risk'), then improving the 'ask' and evaluative tools becomes the priority. If the most beneficial corporate responses are understood then the drivers for these can be targeted or better tools designed. A lack of objective evaluation across the agenda, or understanding of what constitutes the most appropriate corporate response in any given context currently undermines that opportunity.

WHAT'S IN PANDORA'S BOX? THE DILEMMAS OF CORPORATE WATER ENGAGEMENT

In addition to understanding motivations, familiarity with the hazards associated with this new corporate water engagement agenda is vital to guide an enlightened response in the water sector and beyond. But hazards to what?

With many changing and socially defined functions, uses and values, water is a highly complex common pool resource, and its management must continually reconcile trade-offs between multiple public and private interests. The public sector, often through River Basin Authorities (RBAs), Environment Protection Agencies (EPAs) or local government have traditionally been tasked to arbitrate trade-offs, and to manage, allocate, invest, monitor and enforce decisions on water which reflect agreed policy. Public policy usually prioritises the well-being of the citizens it serves through water management which delivers socially equitable, economically sensible and environmentally sustainable outcomes.⁴ Because of the importance (and difficulty) of decision making on water for this local well-being, the equitable representation of stakeholders within decision making, governance and oversight has been prioritised for at least 30 years through Integrated Water Resources Management (IWRM). Whilst there is general consensus that this is a viable and sensible way for society to approach water management, implementation and functioning of this model faces multiple challenges – lack of data, resources, capacity, investment, political authority, incentives and social legitimacy (Hepworth, 2009). This is particularly the case in developing countries which face relatively more severe water and institutional challenges. If the priority is to support the functioning of this system, to enable water management that supports poverty reduction and economic growth which are genuinely sustainable, then the new corporate agenda on water raises the dilemmas and concerns summarised in table 1. These are expanded on below to shed light on emerging intellectual, ethical and practical priorities.

⁴ See Hepworth, 2009, for an operational definition.

Table 1. The Pandora's box of controversies for corporate water engagement on water policy.

Dilemma	Summary	Sources and examples ⁵
<i>Conflicted interests</i>	CSV, addressing shared risks and working towards the public good are the stated logical rationale, but in many water management contexts interests are not shared, risks are not balanced, and values are contested. Whilst they must 'have regard to' local stakeholder needs, companies are often legally bound to prioritise the financial interests of distant shareholders. Corporate engagement on water can not be assumed to be 'neutral'.	Newborne and Mason Sojamo and Larson Daniel and Sojamo
<i>Policy and regulatory capture</i>	Companies can have relatively greater resources, knowledge and power compared to other stakeholders and the public sector. Water governance and institutions are vulnerable to intentional or unintentional processes of capture. Corporate engagement on water policy particularly in developing countries risks privileged treatment of their interests in policy formulation, decision making, enforcement and regulation.	Hepworth 2009 Morrison et al., 2009 Daniel and Sojamo Sojamo and Larson Newborne and Mason
<i>Privileged perspectives and consolidated power</i>	Commercial interests in water are increasingly networked, performing analyses which promote the allocation of water to highest economic value use. Highest economic value water use does not necessarily translate into optimal value use for social well-being in the basin, particularly where MNCs extract value for distant shareholders. There is a risk of consolidating and privileging powerful and persuasive perspectives of water management priorities.	Sojamo and Larson Newborne and Mason Hepworth et al., 2010
<i>Embedded process inequities</i>	Access to decision making and discussion forums, knowledge networks and processes for setting the 'rules' of corporate engagement on water risk being unbalanced or unrepresentative. Tools and techniques for corporate engagement may lack transparency or tend to prejudice against certain environments and geographies, often the poorest.	Newborne and Mason Daniel and Sojamo Sojamo and Larson
<i>Confused and displaced priorities</i>	Powerful and well packaged analyses, establishing 'new' agendas, or unfounded calls for policy reform may divert political attention and resources from pre-existing and more appropriate priorities. Tools developed to guide corporate engagement on water may misguide responses. Corporate initiatives may displace or undermine more legitimate and sustainable local solutions.	Morrison et al., 2009 Chapagain and Tickner Newborne and Mason
<i>Misguided interventions</i>	Some corporate actors, new to water management and its complex challenges initiate non-benign technologies or methods. Potential for unsustainable and undesirable outcomes attached to untested and novel approaches.	Interpreted from Larson et al. See Kumar et al., 2008; Calder, 2000

⁵ This issue, unless noted otherwise.

Conflicted interests

The NGO and company literature emphasises that corporate actors are motivated towards delivering public good outcomes (for example, Morrison et al., 2009; SABMiller and WWF, 2009; WWF, 2009; WFP 2011; CEO Water Mandate, 2012a, 2012b, 2012c; The Coca-Cola Company, 2012). Although the concepts of shared risk and CSV can be questioned in terms of how risks and values play out for different players, their central tenet – that companies share a need with the public for reliable water services and sustainable water resources management – is sound. This shared need goes beyond the provision of adequate water for production, consumption and ecosystem services. It also extends to a common need for public water managers to regulate water use by business in ways that are considered fair and equitable – in order to maintain social legitimacy and social licence to operate (although there are many contexts where these may be overlooked, or where incentives for these do not exist). The punchline for advocates of corporate engagement on water is that if there are no substantial water challenges and the public sector is doing its job in overseeing the sustainable management of water resources, there is little or no justification for business engagement in water policy.

Arguing that corporate engagement is neutral or benign becomes more difficult where water use is contested, such as in closed basins, overdrawn aquifers, under-capacity water supply systems, or where water quality objectives are disputed. In these situations there are likely to be trade-offs which demand expense or detriment to business interests – likely to lead to rapidly divergent conceptions of 'effective' and 'equitable' water management depending on which side of the 'fence line' one is on. Newborne and Mason (this issue) expose the legal hierarchy within which many corporates are legally bound to perform which underscores this dilemma. Although variable depending on the country of constitution, company law tends to elevate 'the bottom line' – the corporate interests of the company and its shareholders – above those of other stakeholders and the environment. As discussed later a priority for the legitimacy of corporate efforts on water is therefore to demonstrate the delivery of genuine, shared rather than private, value, through independent evaluation rather than through potentially subjective company claims.

Policy and regulatory capture

A primary concern about corporate engagement on water from a social equity perspective is that multiple processes of capture will work to exclude or subdue other stakeholder views, resulting in policy that favours narrow vested interests to the detriment of the public good. The high levels of access, resources, finance, opportunity, knowledge, logistical reach, and influence often enjoyed by the corporate sector predispose their policy engagement toward capture. Processes of capture share a set of features which make them hard to identify and guard against: they are subtle rather than mechanistic; work along a sliding scale of relative influence; can be unconscious or conscious, intentional or accidental; tend to involve thoughts and emotions rather than more tangible constructs; and the boundaries between legitimate lobbying and nefarious capture are blurred. What is more, there is sparse guidance or scholarly study on the issue (Morrison et al., 2009).

Whilst the articles in this issue do not present evidence of capture, they highlight the risks. Risks of capture are highest in developing countries because of relatively weak civil society oversight or other accountability mechanisms (e.g. tenacious media or select committee scrutiny), relative weakness of water ministries and their agents compared to ministries of industry and trade, and absence of data or capacity to counter convincing corporate analyses. Creation of firewalls for corporate lobbying through partnering with civil society, greater transparency and strengthening the voice of alternative perspectives therefore emerge as priorities. But this dilemma – the risk of capture – also brings into question the sophistication and suitability of some of the methods and content adopted by corporate actors in their approaches to influence governance, particularly where this is supported by charitable or public funds.

Privileged perspectives and consolidated power

Arguably the most pernicious form of capture is when it promotes or embeds policy and process which systematically benefits certain interests or perspectives in the long term. Within the corporate engagement agenda there is a risk that increasingly well-networked and well-informed corporate actors will promote water management regimes which work to secure their own interests through, in part, promoting the allocation of water to highest economic value use.

The consortium of MNCs comprising the Water Resources Group hosted by the International Finance Corporation aim to "transform the water sector" (WRG, 2009). The main thrust of the group's work has been via the 2009 report *Charting Our Water Future* which aims to inspire policy, investment and actions which release water for "allocation to highest value uses". The report builds on early work done by McKinsey & Company. Through a series of basin-by-basin analyses of future water availability against projected demand it presents supply-demand gaps and constructs marginal abatement cost (MAC) curves to illustrate options available to close the gaps and maximise economic productivity of water. This work is being heavily promoted to developing country governments to instigate reform in water resource allocation policy and practice, and is much in evidence in the water and finance ministries of Africa. It may generate useful high-level debate, but there are some important critiques relating to the methodology and the outcomes it promotes.

First, because economic values alone have been considered in the analysis, policy and action based upon it are likely to prioritise a narrow set of financially definable water uses, values and functions. Highest economic value water use does not necessarily translate into optimal value use for social well-being in the basin, particularly where MNCs extract value for distant shareholders. The risk is that this work and the policies it inspires could lead to disenfranchising local water users and actors in multiple basins who may have prior use rights or favour alternative non-economic priorities for water use. Second, the use of MAC curves has also been criticised for its lack of transparency (the methodology applied is proprietary), the poor handling of uncertainty, inter-temporal dynamics, interactions between sectors and ancillary benefits, and because the options considered would take decades to implement during which conditions are likely to change (Vogt-Schilb and Hallegatte, 2011).

Weak reflection of other priorities, such as social well-being, ecosystem integrity, livelihood sustenance, household resilience and food security, limits the value of the WRG output as a progressive tool. However, the WRG is the most organized and sophisticated industry activity aimed directly at influencing water policy, investments and allocation, and consequently has the most significant potential for positive and negative impacts. Their modus operandi, funding and spending (which potentially draws on public and charitable sources), and the success of what is perhaps the most blatant play to buy out the resource demands much greater scrutiny.

Embedded process inequities

Access to knowledge networks, decision making and discussion forums is not always open and processes for setting the 'rules' of corporate engagement on water risk being unbalanced and unrepresentative. Newborne and Mason flag the risks where corporate actors convene or engage in stakeholder decision-making platforms and query the balance of interests and balances of power. Unbalanced representation may operate at local, basin or national scales, such as in multi-stakeholder forums and internationally. So for example, the questions raised by authors in this issue about 'who is at the table' during the development of new 'global water governance regimes' are particularly relevant.

Drawing from Larson et al., and Chapagain and Tickner (this issue) suggests that some tools and techniques for corporate engagement tend to prejudice against certain environments and geographies, often the poorest. For example, where data are lacking the default response is often to label the location as posing high water risks for investors, despite the fact that these locations are often those in greatest need of investment.

Confused and displaced priorities

Several authors note the detriment risked by corporate engagement which fails to respect public and private roles, or to be cognisant and supportive of existing policies, institutions and efforts in water management (Morrison et al., 2009; Newborne and Mason; Chapagain and Tickner, this issue). They point out that progressive water policy and management architectures are now in place following the IWRM reforms of the past two decades, though difficulties with implementation and resourcing remain. "Public-private dialogue on water security and water management reform which brings us to the cusp of developing new normative approaches to water management" (WEF, 2010, in Newborne and Mason, this issue) is therefore likely to be unhelpful for many countries.

A sophisticated situational analysis is needed to provide understanding of why existing water governance institutions are struggling, where corporate support efforts are most suitable and how they should be entered into. Without this, corporate engagement efforts are in danger of diverting resources or political support, or undermining the sustainability of local, often newly established institutions. Examples include, establishment of water stakeholder forums in parallel to, or in competition with, pre-existing or more legitimate statutory stakeholder platforms; establishing new basin initiatives which undermine the authority, revenue flows or legitimacy of public water managers; performing compelling well-packaged analyses which drive political commitment and investment from limited water ministry coffers away from non-business related priorities; or displacing local revenue flows for water management through charitable actions.

A further issue is the apparent confusion, or poorly communicated intent of metrics of regulatory risk facing companies. For example, it is not clear whether in assessments of business risk, companies and their advisors see effective, vociferous regulatory activity as a boon or a bane. As the logic of shared risk goes, better regulation results in lower risks, and yet some risk assessment tools appear to link evidence of regulatory activity to higher water risk for companies. One can quickly imagine onward responses in developing countries eager to attract investment through ensuring the lowest-risk (read, weakly regulated) environment possible for business.

Misguided interventions

Alongside issues of institutional sustainability lie potential pitfalls concerning the hydrological sustainability of corporate engagement actions. Works carried out through unilateral or collaborative action at the basin level such as aquifer recharge, new supplies, afforestation, introduction of drip irrigation and agricultural water management are neither benign nor automatically beneficial (see Calder, 2000; Namara et al., 2005; Kumar et al., 2008). There is little evidence that companies involved or their partners are carrying out pre-project sustainability appraisal, safeguards or evaluations of these 'watershed improvement' works, or investing in longer-term maintenance and monitoring. There is therefore a risk of well-meaning projects resulting in undesirable hydrological outcomes and impacts, for example on the needs of users downstream of these interventions. This is particularly the case in poorly regulated, data-sparse developing-country basins where undesirable outcomes will have significant livelihood impacts on the poor communities dependent on the water resources at stake.

Airing these key dilemmas – of conflicted interests, capture, privileged perspectives, process inequities, displaced priorities and misguided interventions – supports consideration of priorities for a progressive response to corporate water engagement as shown in next section.

ORGANISING CONCEPTS AND THEORIES

A key aim of this issue is to stimulate the application of existing, or the development of new theory and conceptual frameworks to help the wider research, practice communities and the public to understand and respond to corporate engagement on water. Here the response is briefly reflected upon.

Sojamo and Larson highlight "the absence of robust theory for corporate engagement in global water security, management and governance" and a state of institutional ambiguity with no agreed norms, procedures or constitution. To construct an analytical framework for their paper they draw on the value chain governance theory, stakeholder theory and a political-economy-based classification of corporate power: instrumental power (influence via political lobbying and financing), structural power (bargaining position in value chains and in setting political agendas), ideational and discursive power (the ability to frame certain issues and debates). Through this framework they highlight power asymmetry in value chains. They present a convincing case for a concentration of power in the UK and US retail sector and brand name firms supplying them. These 'lead firms' exert power through their capacity to favour and switch between suppliers, driving them to comply with strategy and dictating demand. However, they theorise that these firms are in turn controlled via corporate social responsibility imperatives where success depends on meeting stakeholders expectations. They also draw on a CSR continuum, from 'weak' 'promotional' CSR ranging from marketing, basic compliance, image-driven to 'institutional' 'holistic' CSR and CSV driven by mutual dependence and obligations to stakeholders.

Daniel and Sojamo also apply an interesting mixture of theories to develop an analytical framework and develop a hypothesis concerning the path-dependency, cooperative and influencing strategies of companies. Neo-institutional theory helps them explain the imitating behaviour of companies seeking to gain legitimacy by aligning with pioneers. The neo-Gramscian theory, drawing from critical theory, has recently been used to understand the influence of non-state actors on global environmental governance regimes. Work by Newell and Levy, (2006, in Daniel and Sojamo) appears to be particularly insightful for understanding corporate engagement on water. Disaggregate contesting, resisting and non-intentional forms of corporate power, they suggest that companies use these in material, discursive and organisational strategies to create or challenge hegemony and to gain influence over institutions. . They also draw on Porter and Kramer's (2011) concept of CSV which is "based on connection between social and economic processes whereby companies reconceive products, markets productivity to enable local cluster development to generate innovation to benefit themselves and greater society" but report the lack of any real analytical framework for its application.

In summary, the application of this interesting mishmash of concepts and ideas – which mix neo-Marxist critical theory with the latest zeitgeist-grabbing notions of the knights of neo-liberalism at Harvard Business School – to understand the corporate water agenda reflects the formative nature of scholarly effort on the topic. That corporate water engagement demands us to look for or generate theories and concepts to better understand it is an exciting challenge for the research community. The challenge demands intensive research of concrete processes and outcomes – case studies, action research and organisational and policy ethnographies – and emphasise inductive and deductive approaches to generate new, as well as test existing, theory.

SOME PRIORITIES FOR PROGRESS

Eight emerging priorities for discussion and action are drawn from the preceding discussions and are presented here to help shape a progressive agenda on corporate water engagement.

Legitimacy (gaps). The concepts of CSV and mitigating Shared Risk feature heavily in discussions of corporate engagement on water but elude easy definition and evaluation. Given their core importance to these concepts the roles of social legitimacy and its attainment through accountability therefore need to be elevated to play a much greater part in this new agenda. Legitimacy describes the formal and informal ways in which processes, policies, structures and agents are validated and consequently empowered. Gearey and Jeffrey (2006) explore legitimacy in relation to water management and suggest that it is volatile, constantly under review and determined within a network of economic, social and political relationships, constantly in flux, but which legitimise or delegitimise policies, practices and

people. Legitimacy is gained through a cycle of achievement which is self-reinforcing so that when actors or processes attempt to demand validation without achievement then there is a dearth of popular support – a 'legitimacy gap'. Thus, it is likely that corporate engagement in water policy will face a legitimacy gap (certainly among communities, civil society and the wider water management community) unless it is able to demonstrate real value to stakeholders and provide confidence that ulterior motives, perverse outcomes and power and resource accumulation are guarded against.

Evaluating outcomes. Stemming from this need to demonstrate value, all the authors in this issue highlight the absence of appropriate systems and methodologies to provide evidence, test claims, and evaluate outcomes. For example, Chapagain and Tickner (this issue) conclude, "[i]t will be important that any outcomes and the role of companies in bringing them about are subjected to critical review". This also emphasises the importance of, and supports transparency, accountability and scrutiny to embed learning and legitimacy within the efforts of companies involved. Although this stands as one of the CEO Water Mandate's *Principles for Responsible Business Engagement* on water policy few corporate actors are yet to ensure that their efforts are subject to comprehensive and independent evaluation (although Diageo's Water of Life Initiative is a notable exception). This need for objective evaluation extends to NGOs and others critiquing the efforts of companies, who should take care not to obfuscate the issues by creating false demons.

Reviewing tools and metrics. Meeting this second priority introduces a third, the need to improve evaluative approaches and tools, to set and monitor achievement against clear goals for water resource governance and management performance. Outside of the potentially misleading volumetric metrics and loose definitions of water security, shared risks, and stewardship, the corporate engagement agenda currently lacks these. This is not unique to corporate engagement on water. Hepworth et al. (in press) in a systematic review of the global evidence base (almost 30 000 articles) on the performance of water resource management institutions find little empirical evidence linking water resource policy to economic and poverty reduction outcomes, despite the voluminous canon of literature on the subject.

Given the proliferation of 'water stewardship tools' the emphasis should be on 'better' tools rather than more,, and their utility and suitability should be constantly reviewed and improved upon to guard against inappropriate framings and misguided responses. In particular, there is a need for approaches which both maintain their applicability in the complex settings of developing countries, and can support evaluation – based on grounded evidence and validated assumptions and premises – of water stewardship performance.

Representation and inclusiveness. Linked to the development and refinement of these approaches is a need to ensure balanced representation in their design and evaluation processes. As authors in this issue point out, equitable representation within both local water forums and new 'transnational water governance' regimes by groups likely to be affected is central to both suitability of their content and legitimacy of outcomes. Corporate engagement must strive to ensure inclusivity, and to avoid unilateral setting and pursuance of advocacy goals. A potential example is provided by the Alliance for Water Stewardship's (AWS) development of a global water stewardship standard through a multi-stakeholder 'international standards development committee' (ISDC) made up of geographically balanced representatives from civil society, business and government (AWS et al., 2011). However, rigorous piloting will be required – with multi-stakeholder input and critical reflection at a local level – to test whether their resultant standard delivers its promise as an objective benchmark for responsible corporate performance on water.

Conceptual and methodological groundwork. As a formative area of research and study, a further priority is to sharpen the focus of the analytical lens and to improve methodologies for academic investigation and theoretical development and testing. Research topics are many – including for example the role and accountability of NGOs working in this space – and corporate engagement on water provides a rich and untapped vein of study. As discussed, there are significant methodological

challenges attached, but approaches such as case study and action research are promising responses – although these will require exacting methodological rigour and transparent reporting which are not always the norm in case study research on water (see Hepworth et al. in press; Yin, 2003).

Outreach. Relatedly, and based on delivery against several of these priorities, there is a need to keep the public and stakeholders such as government and civil society abreast of developments, opportunities and threats arising through the corporate water engagement. As is seen in this issue, stakeholder and consumer wants and needs play a critical role in driving corporate performance and knowledge delivered and packed in ways which are relevant and accessible will be critical to driving progress.

Involvement and mobilisation. Lastly, although increasing numbers of corporate actors are responding to water risk, they still represent a small fraction of global water users. Whilst their contribution is important, their interest should not divert attention or resources from other pre-existing priorities. This will be particularly important for donors and international development agents who need to ensure that other equally powerful arbiters of progress in water management – namely, public-sector actors receive appropriate levels of political and financial support. Focus is also required on the many companies and commercial water users which lack the incentives and interests to move to more sustainable modes of water use.

These suggestions of useful areas of focus are intended to invite further exploration, action, research and thinking on the emergent issues. They are unlikely to comprehensively reflect the full range of priorities across this rapidly growing and dynamic realm of activity and are merely intended as a starting point.

CONCLUSIONS

Corporate engagement on water is not a new phenomenon and its pedigree in driving positive change reveals the opportunities around the emerging water stewardship agenda (Hepworth and Orr, in press). Much of the investment in technological and institutional advances in water management which enabled the industrial revolution were driven by corporate advocacy (Goubert, 1989). The Mersey Basin Campaign initiated in 1985 in response to the 'dirtiest river in Europe' epitaph delivered widespread urban renewal, waterside regeneration and returned otters and salmon to the basin. It was driven financially and politically via business partnerships, notably with ICI, Shell and Unilever (EKOS, 2006). WaterAid, now UK's 'most admired charity', providing almost 16 million people with safe water in 27 countries, began life in 1981 as a water industry response to the UN Decade of Drinking Water and Sanitation (WaterAid, 2012). WaterAid continues to derive the majority of its untied funding from its links to the privatised UK water industry.

Private industry has always shared water risks with communities, government, politicians and the environment, but in the past the imperatives to act on these, and the means through which actions were taken, have differed to those emerging in today's highly branded, interconnected, globalised and increasingly water-stressed world. These changing circumstances see growing global corporate power, presence and reach, alongside a global communications revolution where mobile-phone activism can move incriminating images of corporate misconduct from field to front pages within minutes. This combination of corporate power potentially wielded with great integrity because of unparalleled public scrutiny on water-equity issues is a heady mixture of opportunity.

This paper has introduced the nature of corporate engagement on water policy and some of the dilemmas and priorities it brings. It emphasises that corporate engagement is not uniform but exists across a spectrum of activities determined by company interests, contexts, motivations and leadership personalities. Within this spectrum there exists the 'good', the 'bad' and the 'ugly'.

The 'good' are likely to differentiate their activities through demonstrable compliance with the CEO Water Mandate's own principles for responsible engagement: to advance sustainable water management; respect public and private roles; strive for inclusiveness and partnerships; be pragmatic and consider integrated engagement; and be accountable and transparent (Morrisson et al., 2009; CEO Water Mandate, 2012b). Based on rigorous, collaborative analysis of society's water risks and joining representative and legitimate advocacy platforms to demand improved performance on water, they could be a progressive force: incentivising institutional action towards jointly agreed targets through social accountability and public expenditure tracking could yield impressive results. Similarly, corporate commitment to the types of benchmarking and evaluation standards under development by the AWS through 'rule setting' which is subject to transparency and equitable representation could be transformative. By guiding contextually appropriate, risk-based water stewardship actions across supply chains and independent certification, such standards can provide intelligent measures of due diligence and much needed legitimacy to corporate efforts.

The 'bad' are likely to continue with activities which according to those working with them are "95% hot air, and meaningless", which "simply look good in the CSR report" (...) "but do diddly squat to make the world a better place".⁶

The 'ugly' are likely to pursue ideological goals towards a global debate and governance regimes which favour their own longer-term interests over those of wider society.

The difficulty is that in the current vacuum of evidence and without an energetic response from the research community it will be difficult to differentiate between these actors and their initiatives. It will therefore be difficult to direct support to the 'good', ask provocative questions of the 'bad', and generate a counterbalance against the 'ugly'.

The intent of this issue has been a constructive critique, to seek progressive routes forward given our difficult global-to-local water challenges and growing global inequity. None of the contributions provide convincing evidence for why corporates should not be engaging in water policy; nor do they provide evidence of positive outcomes, whilst the risks are apparent.

Neither do the articles explicitly pose the harder questions facing this new corporate engagement on water policy-questions which run to the heart of the wider 'green growth' agenda. These concern whether current models of neo-liberal economic development, with an emphasis on unbridled market growth can be maintained in the face of absolute limits on resource consumption. Such questions bring into focus the role of corporate advertising in driving consumption of purely market-created wants beyond basic or reasonable needs. Perhaps the absence of these questions is evidence of the ideological victory of neo-liberalism over the past 20 years, or of what Chiapello (2012) identifies as "the strength of capitalism" and its ability to "incorporate objections and attacks to ensure its robustness".

Given the momentum behind neo-liberal modes of consumption-driven development, trying to temper the hunger of markets for resources, to implant sustainability through concepts such as water stewardship or to reign in the application of power to protect the market's own needs may seem like attempting origami in a hurricane. This is particularly so, given the global economic crisis and the rising influence of the BRIC nations (Brazil, Russia, India and China) and the relatively weaker demands for ethically responsible performance which both phenomena have potential to bring. But to neglect the attempt would surely amount to a dereliction of duty for the progressive water research and management community.

⁶These are quotes from representatives of an international development agency, and an INGO respectively who remain anonymous not because they do not want these comments to be attributed, but because there was not time to secure their permission prior to publication.

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REFERENCES

- Aerts, J.C.J.H.; Botzen, W.; van der Veen, A.; Krywkow, J. and Werners, S. 2008. Dealing with uncertainty in flood management through diversification. *Ecology and Society* 13(1): 1-17.
- Allan, T. 2003. *IWRM/IWRAM: A new sanctioned discourse?* Occasional Paper No. 50. SOAS Water Issues Study Group. London: School of Oriental and African Studies/King's College London, University of London.
- AWS (Alliance for Water Stewardship); German Technical Cooperation (GIZ) and Marks and Spencer. 2011. Exploring the value of water stewardship standards in Africa: Results of the AWS Kenya case study. Washington, DC: Alliance for Water Stewardship.
- Barlow, M. and Clarke, T. 2003. *Blue gold: The battle against corporate theft of the world's water.* UK: Earthscan.
- Bruno, K. and Karliner, J. 2000. Tangled up in blue: Corporate partnerships at the United Nations. TRAC – Transnational Resource & Action Center. www.corpwatch.org (accessed 26 September 2012)
- Calder, I.R. 2000. Land use impacts on water resources. *Land Use and Water Resources Research* 1(2000): 2.1-2.14 www.luwrr.com (accessed 3 October 2012)
- CDP (Carbon Disclosure Project). 2011. CDP water disclosure global report 2011: Raising corporate awareness of global water issues. Prepared for CDP by Deloitte.
- CEO Water Mandate. 2012a. *Corporate water disclosure guidelines: Toward a common approach to reporting water issues.* August 2012. Oakland, CA, USA: Pacific Institute.
- CEO Water Mandate. 2012b. Guide to water-related collective action. August 2012. Pacific Institute/Ross Strategic/ Pegasys Strategy and Development/ Water Futures Partnership. Oakland, CA, USA: Pacific Institute.
- CEO Water Mandate. 2012c. Water Action Hub website, <http://wateractionhub.org/organizations/> (accessed 3 October 2012)
- Ceres. 2011. The Ceres Aqua Gauge: A framework for 21st century water risk management. Prepared in collaboration with WBCSD Water, IRRC Institute and Irbaris.
- Ceres. 2012. Clearing the waters: A review of corporate water risk disclosure in SEC filings. www.ceres.org/resources/reports/clearing-the-waters-a-review-of-corporate-water-risk-disclosure-in-sec-filings/view (accessed 28 September 2012)
- Chapagain, A.K. and Hoekstra, A.Y. 2004. *Water footprints of nations.* Delft, the Netherlands: UNESCO-IHE.
- Chapagain, A.K. and Orr, S. 2008. *UK water footprint: The impact of the UK's food and fibre consumption on global water resources.* Surrey, UK: WWF-UK.
- Chapagain, A.K. and Tickner, D. 2012. Water footprint: Help or hindrance? *Water Alternatives* 5(3): 563-581.
- Chiapello, E. 2012. Capitalism in the face of the ecological crisis. research@hec (accessed 22 September 2012)

- Daniel, M. and Sojamo, S. 2012. From risks to shared value? Corporate strategies in building a global water accounting and disclosure regime. *Water Alternatives* 5(3): 637-658.
- DFID (Department for International Development). 2012. *Water, sanitation and hygiene portfolio review, March 2012*. London, UK: DFID.
- Dinius, S.H. 1972. Social accounting system for evaluating water resources. *Water Resources Research* 8(5): 1159-1177.
- EKOS Consulting. 2006. Evaluation of the Mersey Basin Campaign. Report to Government Office North West. <http://merseybasin.org.uk/archive/items/MBC057.html> (accessed 28 September 2012).
- Gasson, C. 2011. The case for corporate water. Need to know and analysis. Global Water Intel, September 2011. www.globalwaterintel.com/ (accessed 10 October 2011)
- Gearey, M. and Jeffrey, P. 2006. Concepts of legitimacy within the context of adaptive water management strategies. *Ecological Economics* 60(1): 129-137.
- Gleick, P.; Allen, L.; Christian-Smith, J.; Cohen, M.J.; Cooley, H.; Heberger, M.; Morrison, J.; Palaniappan, M. and Schulte, P. 2011. *The world's water: The biennial report on freshwater resources*. Pacific Institute, Washington, DC: Island Press.
- Goubert, J.P. 1989. *The conquest of water: The advent of health in the industrial age*. Princeton, New Jersey, USA: Princeton University Press.
- Hepworth, N.D. 2009. A progressive critique of IWRM in sub-Saharan Africa. PhD Thesis, University of East Anglia, UK.
- Hepworth, N.D. and Orr, S. (in press) 2013. Corporate water stewardship: New paradigms in private sector water engagement. In Lankford, B.A.; Bakker, K.; Zeitoun, M. and Conway, D. (Eds), *Water security: Principles, perspectives and practices*. London: Earthscan Publications.
- Hepworth, N.D.; Hooper, V.; Hellebrandt, D. and Lankford, B. (in press) 2012. What factors determine the performance of institutional mechanisms for water resources management in developing countries in terms of delivering pro-poor outcomes, and supporting sustainable economic growth? DFID/CEE review 11-006. Collaboration for Environmental Evidence. www.environmentalevidence.org/SR11006.html
- Hepworth, N.D.; Postigo, J. and Guemes, B. 2010. *Drop by drop: Understanding the impacts of the UK's water footprint through the case study of Peruvian Asparagus*. London: Progressio/Water Witness International/CEPES.
- Hoekstra, A.Y. 2006. *The global dimension of water governance: Nine reasons for global arrangements in order to cope with local water problems*. Value of Water Research Report Series No. 20. Delft, the Netherlands: UNESCO-IHE.
- Hoekstra, A.Y. and Mekonnen, M.M. 2012. The water footprint of humanity. *Proceedings of the National Academy of Sciences* 109(9): 3232-3237.
- Kay, S. and Franco, J. 2012. *The global water grab: A primer*. Amsterdam: Transnational Institute (TNI).
- Koch, G. 2012. Risk and response: A business perspective on water security. Public lecture. Water Security, Risk and Society Conference 2012, Oxford University, 17 April 2012. <http://podcasts.ox.ac.uk/risk-and-response-business-perspective-water-security-video> (accessed 22 September 2012)
- Kumar, D.K.; Patel, A.; Ravindrath, R. and Singh, O.P. 2008. Chasing a mirage: Water harvesting and artificial recharge in naturally water-scarce regions. *Economic and Political weekly* 43(35): 61-71.
- Larson, W.M.; Freedman, P.L.; Passinsky, V.; Grubb, E. and Adriaens, P. 2012. Mitigating corporate water risk: Financial market tools and supply management. *Water Alternatives* 5(3): 582-603.
- Mehta, L.; Veldwisch, G.J. and Franco, J. 2012. Introduction to the Special Issue: Water grabbing? Focus on the (re)appropriation of finite water resources. *Water Alternatives* 5(2): 193-207.
- Molden, D. 1997. *Accounting for water use and productivity*. SWIM Paper No. 1. Colombo, Sri Lanka: International Irrigation Management Institute.
- Money, A.L.N. 2012. Managing what you measure: Corporate governance, CSR and water risk. <http://ssrn.com/abstract=2042564> (accessed 19 April 2012)

- Morrison, J.; Schulte, P.; Christian-Smith, J.; Orr, S.; Hepworth, N. and Pegram, G. 2009. *Guide to responsible business engagement with water policy*. Oakland, California, USA: Pacific Institute, CEO Water Mandate, United Nations Global Compact.
- Namara, R.E.; Upadhyay, B. and Nagar, R.K. 2005. *Adoption and impacts of microirrigation technologies: Empirical results from selected localities of Maharashtra and Gujarat states of India*. Research Report No. 93. Colombo, Sri Lanka: International Water Management Institute.
- NBI (Nile Basin Initiative). 2012. *Water and food security through trade: Water footprint, virtual water and the Nile basin*. Pegasys Strategy and Development.
- Newborne, P. and Mason, N. 2012. The private sector's contribution to water management: Clarifying companies' roles and responsibilities. *Water Alternatives* 5(3): 604-619.
- Newell, P. and Levy, D. 2006. The political economy of the firm in global environmental governance. In May, C. (Ed), *Global corporate power*, pp. 157-178. Boulder, Colorado: Lynne Rienner.
- Orr, S.; Cartwright, A. and Tickner, D. 2009. *Understanding water risks: A primer on the consequences of water scarcity for government and business*. London: WWF-UK.
- Pegram, G. 2010. *Shared risk and opportunity in water resources: Seeking a sustainable future for Lake Naivasha*. Godalming, UK: WWF and PEGASYS.
- Pegram, G.; Orr, S. and Williams, C. 2009. *Investigating shared risk in water: Corporate engagement with the public policy process*. Surrey, England: WWF-UK.
- Porter, M.E. and Kramer, M.R. 2011. Creating shared value: How to reinvent capitalism – and unleash a wave of innovation and growth. *Harvard Business Review* January–February 2011: 62-77.
- Postel, S. and Richter, B. 2003. *Rivers for life: Managing water for people and nature*. Washington, DC: Island Press.
- SABMiller and WWF. 2009. *Water footprinting: Identifying and addressing water risks in the value chain*. Surrey, England: SABMiller and WWF-UK.
- Sojamo, S. and Larson, E.A. 2012. Investigating food and agribusiness corporations as global water security, management and governance agents: The case of Nestlé, Bunge and Cargill. *Water Alternatives* 5(3): 620-636.
- The Coca-Cola Company. 2012. *The water stewardship and replenish report*. January 2012. www.thecocacolacompany.com/citizenship/pdf/TCCC_WSRR_2012_FINAL.pdf (accessed 29 September 2012)
- UN (United Nations). 1992. Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992. New York, USA: UN.
- Vogt-Schilb, A. and Hallegatte, S. 2011. *When starting with the most expensive option makes sense: Use and misuse of marginal abatement cost curves*. Policy Research Working Paper Series No. 5803. Washington, DC, USA: World Bank.
- WaterAid. 2012. www.wateraid.org/uk/about_us/financial_review/default.asp accessed 25/1/12
- WFP (Water Futures Partnership). 2011. *Water futures – Addressing shared challenges through collaborative action*. GIZ, SABMiller, WWF.
- WEF (World Economic Forum). 2010. Global risk report – An initiative of the Risk Response Network. Geneva. <http://riskreport.weforum.org/> (accessed 14 March 2012)
- WWF and DEG (Deutsche Investitions und Entwicklungsgesellschaft mbH). 2012. *The water risk filter*. <http://waterriskfilter.panda.org/> (accessed 26 September 2012)
- WWF. 2009. *Understanding water risks. A primer on the consequences of water scarcity to government and business*. WWF Water Security Series No. 4. Godalming, UK: WWF-UK.
- Yin, R.K. 2003. *Case study research: Design and methods*. 3rd edition. Thousand Oaks, CA, USA: Sage Publications.

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