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## **The Commodification and Exploitation of Fresh Water: Property, Human Rights and Green Criminology**

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### **Abstract**

In recent years, both developing and industrialised societies have experienced riots and civil unrest over the corporate exploitation of fresh water. Water conflicts increase as water scarcity rises and the unsustainable use of fresh water will continue to have profound implications for sustainable development and the realisation of human rights. Rather than states adopting more costly water conservation strategies or implementing efficient water technologies, corporations are exploiting natural resources in what has been described as the “privatization of water”. By using legal doctrines, states and corporations construct fresh water sources as something that can be owned or leased. For some regions, the privatization of water has enabled corporations and corrupt states to exploit a fundamental human right. Arguing that such matters are of relevance to criminology, which should be concerned with fundamental environmental and human rights, this article adopts a green criminological perspective and draws upon Treadmill of Production theory.

### **Keywords**

Green criminology, eco-crime, Treadmill of Production, bottled water, water governance, water privatization, water security

### **Introduction**

‘On 28 July 2010, through [Resolution 64/292](#), the United Nations General Assembly explicitly recognized the human right to water and sanitation and acknowledged that clean drinking water and sanitation are essential to the realisation of all human rights.’ (United Nations, 2013).

Conflicts over fresh water, notably in arid regions such as the Middle East and Africa, have occurred for thousands of years (Barnaby, 2009; Pacific Institute, 2014). These historical disputes have arisen from water scarcity in areas scourged by drought and able to access only finite water resources. In more recent times, the politics of water, driven by entities seeking to profit from water shortages and government moves to tax freshwater, have led to riots, arrests and deaths in countries such as Bolivia and Ghana (Bennett, 1995; Olivera, 2004) as well as countries of the affluent West. These water conflicts have included unprecedented police clashes and deaths of innocent civilians in South Africa (BBC News, 2014a); the United Nations intervention in Detroit, USA after weeks of public protest (Burns, 2014); and hundreds of thousands of people protesting in Ireland (BBC News, 2014,b; Irish Times 2015). These events indicate that the privatization of water has become a criminological issue for states whether or not their citizens are experiencing water scarcity or water abundance. Such unrest promises to escalate in an era of growing water shortages.

Surprisingly then, criminological scholarship examining issues associated with fresh water is scarce but the body of work that does exist provides critical contributions. Most works have focussed on the pollution of water supply, local waterways and tablelands from (legal and illegal) industry, transportation and mining activities (Grabosky, 1989; Smandych and Kueneman, 2010; Pearce and Tombs, 1998); or the privatization of water for corporate interests (Benton, 1998; White, 2003). In order to add to criminological scholarship, this article draws on green criminology to explore the legal and political frames underpinning fresh water exploitation. For our purposes, green criminology encompasses (but is not restricted to) studies that contribute to the ‘pursuit of social justice and human rights’ by identifying and exposing environmental problems and exploring them within the context of entrenched inequalities and historical trends (South and Brisman, 2013:99). Specifically, this article integrates political economy theories, in particular ecological Marxism and treadmill of production (ToP) (Lynch et al, 2013; Stretesky et al, 2013) into an analysis of fresh water governance.

The article begins by examining the legal constructs of property and rights relating to water with a particular focus on governance of the Commons. This discussion highlights the role of the state and corporate entities in undermining access to water through the creation of various legal constructs, as well as the conflict between capital accumulation and nature (Stretesky et al, 2014). After presenting the context and theoretical approach, the article explores two case studies: the privatization of public water supplies in the London and Thames Valley region,

England; and the global market for bottled water. The article adds to green criminological scholarship by weaving together a developing theoretical approach with analysis of the legal and political constructs underpinning freshwater governance and grounding this analysis in discussion of two examples.

### **Treadmill of Production and Ecological Disorganization**

Lynch and Stretesky (2014:139) argue that green crimes occur concomitantly with human induced environmental harms. Environmental ‘problems’ are thus perpetuated by modes of production that form an essential component of contemporary ‘local and global political economies’ (ibid). For Stretesky et al (2014) the taken-for-granted assumptions that present ongoing economic growth and fiscal prosperity as a necessary and essential social and global good must be challenged. Drawing on Allan Schnaiberg’s 1980 ecological Marxism and his Treadmill of Production theory, Stretesky et al (2014) demonstrate how market-oriented, advanced neo-liberal societies are responsible for ongoing environmental harm. Central to ToP is that capitalism, with its expanding technologies, is intrinsically environmentally destructive. For Schnaiberg (1980) and Gould et al (2004), the extraction of natural resources, the deforestation of woodlands and habitats, and the exploitation of flora and fauna, are essential ingredients in the capitalist ToP process that results in ‘ecological disorganization’. The treadmill is driven by a perpetual need to service consumer society, with the supply and demand of expanding markets and trade-oriented economic policies underpinning contemporary globalised international relations and providing the fabric and essence of environmental despoliation. The ongoing commercialisation and commodification of products, resources and global commons, for example, fuel the treadmill through expanding trade and consumption. As such, governing rationales premised on capitalist ideologies are, according to Stretesky et al (2014), both responsible for environmental destruction and incapable of redressing ongoing harm. The inability to reverse environmental damage or the ‘law of entropy’ is crucial to their critique of ecological disorganization. According to this critique, the commercial processes of production exploit and manipulate the natural environment for power and profit and as a result, disrupt, reorganise and disfigure the ecological balance that sustains environmental stability and development. This article integrates the essence of ToP, namely a political economy analysis of ‘production, conservation and entropy’ (Stretesky et al 2014:20) as they relate to fresh water and in doing so, critiques the role of both state and corporation in perpetuating environmental damage and injustice.

## **Fresh Water Issues**

Fresh water constitutes only 2.5% of all water on our planet, however, the majority of this small amount remains captured in ice caps and other inaccessible areas (Black et al, 2009; Cullet, 2009). Currently, one billion people worldwide have irregular access to safe drinking water (WaterProject, 2013) and the United Nations Department of Economic and Social Affairs has identified 45 countries that experience severe water stress or scarcity, the majority of which are in Africa. By 2030, humanity's annual water requirements will exceed current sustainable supplies by forty per cent (USICA, 2013).

Unequal access to fresh water has been exacerbated by a number of converging factors. The UN Water Report outlined the top ten drivers of water scarcity as: agriculture; climate change and variability; demography, economy and security; ethics, society and culture (e.g. equity); governance and institutions; infrastructure; politics; technology and water resources (including groundwater and ecosystems) (UNESCO, 2012: 4). Accordingly, the major causes of water scarcity (e.g. agriculture and climate change) directly relate to the overriding emphasis on economic growth over environmental and human health.

Water scarcity has been cast by the United Nations in economic terms of excess demand and limited supply. More specifically, the Food and Agriculture Organization of the United Nations (FAO) has identified several dimensions of water scarcity. These dimensions are: (i) scarcity where there is a physical lack of water availability (e.g. during droughts); (ii) deficiencies in the infrastructure required for controlling, storing, distributing and accessing water; (iii) institutional inability to deliver the required water services ('economic water scarcity') (FAO, 2008). This definition of water scarcity does not prioritise a particular regulatory response but it does construct water scarcity as an economic issue, including through use of the words 'demand', 'supply' and even 'scarcity'. If water scarcity is an economic issue, the argument that naturally follows is that a market-based approach should be taken to address water issues. But this approach ignores the fact that capitalist development and market approaches have been among the causes of water scarcity. This point aligns with political economy theories, grounded in ecological Marxism, regarding the ways in which capital accumulation and production relationships (property rights, trade liberalisation etc) degrade and destroy water, which is one of the natural resources on which production and humanity rely (see e.g., O'Connor 1998: 128).

As a result of scarcity and recognition of its value, fresh water is becoming an increasingly lucrative investment. As one hedge-fund advisor remarked, an emerging worldwide fresh water scarcity is providing 'serious profit opportunities for those in the know... The Aqueduct Alliance database/ maps will show where those opportunities are located... If you play it right... the results of this impending water crisis can be very good' (Nelson, 2012). The burgeoning fresh water industry is estimated to be worth 1 trillion US\$ a year and has produced major new corporate conglomerates such as the Aqueduct Alliance (which brings together Goldman Sachs, General Electric, Coca Cola, Dow Chemicals, United Technologies, Talisman Energy and Bloomberg). These large transnational corporations, some with dubious and reprehensible records of water abuse and contamination, are now creating databases that chart water supplies and identify risks and opportunities for business.

The Institute for Water Management suggests that the main reason that fresh water availability is now raising serious questions is poor governance, including a lack of commitment from ineffective institutions that should be addressing and mitigating the drivers of water scarcity outlined above (Molden, 2003:17). This leads to the suggestion that poor water governance can drive water scarcity - although it could also be a critical tool for challenging current unsustainable and unjust uses (Morgan 2011: 3). The authors agree with this latter point and suggest that as green criminology brings to light how legal arrangements are constructed and why they have failed to ensure the sustainable and equal distribution of water, it could play a role in shaping what good water governance is.

Market-based solutions are generally seen as the preferred governance arrangements for dealing with fresh water issues. This is evident in international water policies, such as principle 4 of the *Dublin Statement on Water and Sustainable Development 1996*, which provides that 'Past failure to recognise the economic value of water has led to wasteful and environmentally damaging uses of the resource'. It is also clear in the inclusion of water in the world trade regime through the General Agreement on Trade in Services, and by the promotion of water privatization by international institutions. Those promoting water privatization include: international water companies,<sup>i</sup> consultancy firms,<sup>ii</sup> state organs and international financial institutions. Specifically, the World Bank (1993) has played a major role in promoting water privatization to developing countries as part of its structural adjustment programs (see e.g. McDonald and Ruiters 2005: 32).

Because corporations cannot be held directly accountable for human rights breaches or acts that might be conceived as ‘ecocide’ (Higgins et al, 2013), it is questionable whether deregulation through neoliberal state governance is the ‘good governance’ response required for providing and sustaining water access on an equitable basis. Regulatory preferences for market-based responses tend to reflect the interests of powerful trans-national corporations (TNCs) over water users (encompassing human and non-human animals). Lynch and Stretesky (2003: 233) explain that such an approach stems from a corporate ‘...emphasis on reduced self-regulation, greater corporate control, a reduction in law and a greater reliance on forms of power for influencing law and its enforcement’. To expand on this, the focus on market-based approaches to freshwater issues is aligned with how good governance and ‘common sense’ are currently constructed in mainstream discourses. This construction takes place through the mobilisation of images and messages of greenwashing, pro-environmental concern and corporate social responsibility as well as political donations from the private sector. Such an approach directs attention away from the fact that it is corporate interests that both drive the degradation and devastation of water sources and create selective and exclusionary forms of control over access to fresh water.

### **Legal and Political Constructs in Freshwater Governance**

Freshwater governance has a number of underlying doctrinal foundations. These doctrines are: sovereignty; property (including private property and common property); and rights and entitlements to water (Fisher, 2009:61). These will be briefly outlined to explore legal constructs that support state and corporate interests in relation to fresh water, often at the expense of local interests and future generations of water users.

#### *Sovereignty*

States have permanent sovereignty (ultimate authority) over natural resources within their territory. Private parties can exploit natural resources and may have the relevant legal consent, or property or contractual rights, to access and use these. However, notionally, States can prevent or stop such activities if they provide compensation to the private entity. UN *Resolution 1803* affirms that sovereign rights override the legal rights of others such as contractual or property rights, explaining, for example, that expropriation of the resources can be done by sovereign states ‘...for reasons of public utility, security or national interest’ and

this is because exportation for public purposes overrides ‘...purely individual or private interests, both domestic and foreign’.<sup>iii</sup> This means that, theoretically, a state can expropriate freshwater sources that private entities have control over. The issue is then state involvement in unsustainable, unjust water exploitation. Here, sovereignty acts as a significant barrier to international review of such activities despite the involvement of TNCs.

The Restrictive Theory of Territorial Sovereignty has received international support in its application to water,<sup>iv</sup> and has been incorporated into international case law.<sup>v</sup> Principle 21 of the Stockholm Declaration provides that while States have ‘...*the sovereign right to exploit their own resources*’ this right is tempered by ‘*the responsibility to ensure that activities within their jurisdiction or control do not cause harm to the environment of other States or areas beyond the limits of national jurisdiction*’.<sup>vi</sup> The principle is further reflected in the Rio Declaration,<sup>vii</sup> a number of multi-lateral environmental treaties,<sup>viii</sup> and in international principles more generally such as the principle of good neighbourliness.<sup>ix</sup>

Two binding legal instruments regulating fresh water sources are the UN Conventions on the Law of Non-Navigational Uses of International Watercourses<sup>x</sup> (UNWC) and the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention).<sup>xi</sup> Both of these instruments only recently came into force and are largely based on the Restrictive Theory of Territorial Sovereignty. The predominant focus of the UNWC is balancing uses of watercourses flowing between state boundaries, while the focus of the Water Convention is water quality issues and the ecological connections between water and land resources (Tanzi, 2000: 5). Despite these differences, the two conventions are complementary as they each provide a framework for bilateral and multilateral agreements and they provide a link between water quantity and water quality. Furthermore, they both directly refer to international law principles related to equity and sustainable development. However, these instruments do not directly address, or provide guidance on, the privatization of water. Nor do these legal instruments emphasise the need for states to regulate domestic industries to protect the human right to water and pursue sustainable development. This, coupled with their lack of state signatories, prevents the instruments from addressing some of the issues that flow from water privatization (Rieu-Clarke and Loures, 2009).

In relation to the privatization of water, the restrictive theory of territorial sovereignty may be useful where the fresh water is in a transboundary source (e.g. a river), but this principle does not allow international involvement in relation to purely domestic fresh water sources.

Because of this, the theory has limited application to issues stemming from water privatization, particularly so as most water sources are not transboundary. From a green criminological perspective, the law is limited in a way that supports through omission the expansion of the capitalist system, potentially at the expense of promoting sustainable and equal distribution of water. This void in international law, coupled with the growing role of TNCs at all levels of governance, suggests that state sovereignty is increasingly being chipped away at in the area of water governance. The capacity of TNCs (particularly those involved in fresh water privatization), to have so far avoided effective regulation, illustrates the extent of their power and influence.

### *Property*

The application of property law to fresh water sources has become part of the search for a solution to the global water crisis where cost-effective technologies alone can only make small inroads into meeting the challenge of a multidimensional issue (Chong et al, 2010; Shannon et al, 2008). Subsequently, the ‘commodification of water’, largely through use of legal avenues, has been represented as an innovative and efficient approach to water conservation. However, this transference of water from a ‘public good’ to a ‘private commodity’ has also been widely condemned (Benvenisti, 1996: 388).

In this context, common property refers to an identifiable group of people (e.g. a local community) holding a right to use over a specific fresh water resource. Each member of the group has the right to use, provided this is in accordance with the norms and rules for management of the resource (Fisher, 2009: 69). Accordingly, where water users communicate and establish clear arrangements for use, and these institutional arrangements involve monitoring and sanctioning, then it will likely result in mutual gains (Williamson et al., 2003: 13–14).

If entities can withdraw from water resources, but they have not negotiated and created arrangements for such withdrawals, or if there is no or little authority to create or enforce rules, then the water source is not common property (Blonquist, 1998: 1–2; Ostrom et al., 1994: 15). In these situations, the water resource is more likely to be unsustainably used as it becomes a ‘free for all’ or an ‘open access resource’ (Ostrom et al., 1994: 15). Arguably, any potential collective benefits will become a lost opportunity (a ‘tragedy of the commons’).



A state can choose whether to accept that a freshwater source is part of ‘the commons’ or whether it is an ‘open access resource’ that is potentially being misused or at least inefficiently used. This allows corporate, government and other interests to argue that the water source should be privatised in order to protect it. In these situations both states and corporate interests play a critical role in constructing water as a ‘problem’ as well as ‘property’.

Yet, fresh water sources do not fit neatly within the bounds of property law. In particular, freshwater sources beneath the ground, or flowing through rivers generally, cannot become private property because the water is constantly moving and flowing into other water sources or geological containers. As an alternative to privatization, a large body of work illustrates that user self-governance, where users are cooperative and develop self-governing institutional arrangements, can manage shared resources more efficiently and sustainably than privatization (See, e.g., Ostrom, 2010; Cavalcanti et al 2013; Sarker et al 2014).

Nevertheless, water on privately owned or leased land can be considered private property depending on the applicable domestic laws (Dudley, 1992: 759). In fact, a water molecule will be subject to different property rights as it follows the natural cycle. Porter (2014: 10) uses spring water in Texas as an example of this and explains that once a water molecule is released from underground, it is privately owned by the landowner. As the water molecule flows into a river, the state owns it and it becomes subject to public property rights. As a result of this legal construct, water sources connected to land have fuelled land and water grabbing. In fact, (Rulli et al., 2013) found that ‘land and water grabbing are occurring at alarming rates in all continents except Antarctica’. These findings indicate the harms associated with shifting legal constructs in relation to property and water where there are not similar legal protections in place for local community water users.

Another way to obtain private property rights over water resources is to be granted these rights from the state. Resourceful corporations, as opposed to local communities or users, are perhaps best able to negotiate these complex dealings, especially where custom and customary laws are traditionally used to sustainably manage water resources. TNCs and international finance institutions have encouraged developing states to formulate legally strong and enforceable systems of property rights while at the same time reducing barriers to

foreign investment. Leading to a situation where TNC private property rights over water interfere with the customary and human rights of local communities.

In summary, private property rights over water are created by the state and the uptake of this legal fiction is influenced by private entities through lobbying, contractual arrangements and international laws and agreements. Granting private property rights over water is one way states enable corporate entities to expand the freshwater economic sector, which in turn both increases withdrawals of freshwater and decreases the access of others to freshwater. There is a clear intersection here between expanding notions of private property and the underlying rationale of ToP that capitalism continually expands and in doing so is environmentally destructive. In relation to property over fresh water then, corporate entities that control (or have power over) fresh water sources are owners of a means of production, which gives them the ability to profit from such production (e.g. from water users or supply). These actors are then able to reinvest these profits into production systems (e.g. increased irrigation, expanded bottled water markets, or value-added water products) that in turn expand consumption and production, which in this context means ever increasing withdrawals of water.

A green criminological perspective views the expanding private ownership over water, which is constructed as a way to respond to fresh water environmental and social issues, as a method employed by states and driven by private actors to speed up the treadmill. As Schnaiberg et al (2000: 4) argues, underpinning this regulatory approach is the ‘...untenable, almost magical, sense that any type of economic expansion will reduce social and ecological problems’.

### *Rights and Entitlements*

The appropriation of fresh water under property rights regimes can be incompatible with guaranteeing human rights, and particularly the right to water and food (Bakker, 2007). McClanahan (2014: 408) argues that the privatization of water raises ‘issues of equitable access’ and also fails to deliver the kind of effective service that private sector investment and control is supposed to deliver. In fact, according to McClanahan, ‘privatization can result in reduced water quality’, a point supported by White (2009: 68-69) who argues:

Corporatization of state agencies—the processes by which agencies are managed as corporate, profit-seeking entities—has led to serious issues of water quality in the

developing world. Either by mismanagement of treatment operations in the pursuit of profits, or in the denial of safe water to impoverished populations unable to afford the high costs of privatized water, as many as 5 million people—primarily children—die each year from illnesses caused by poor-quality drinking water or reduced access to affordable clean water.

The issue of private control and human rights breaches illustrates a conflict between private property rights and human rights, and suggests that a rights-based, comprehensive criminological inquiry is needed into the impacts of water privatization. Significantly, the privatization of water under property regimes has fuelled resistance to the recognition of a human right to water. For example, countries such as Canada and companies such as Nestle, were opposed to such a human right, allegedly because of concerns that it may create a legal barrier to privatising water sources (Clark, 2010). Despite progress, the human right to water is only recognised in non-binding legal instruments, and so whether or not the right is enforceable is still debatable. While the construction of water as a commodity has flourished due to the privatization of water, the acceptance of a human right to water has struggled for acceptance.

If a human right to water continues to be recognised and strengthened at the international level, then states will be under more pressure to fulfil this right (Shue 1996: 62). Such an obligation will include taking actions to ensure corporate entities do not interfere with the right, whether the entities are involved in water pollution or providing access to water. Yet, this presupposes that the state will try to meet its human rights obligations as a response to international pressure. Meanwhile, corporate entities are still able to operate in a regulatory void where they are generally not held liable for human or environmental harms.<sup>xii</sup>

While international actors have been somewhat successful in creating a human right to water in recent times, implementing such a right in the context of the globalised, capital accumulation model is incredibly problematic. The trend towards states creating private property rights over water, and the ensuing corporate control over water in order to accumulate capital and wealth, is at odds with redistributing and sustainably using freshwater sources. More broadly, the inability of human rights to protect fresh water users, again illustrates an underlying conflict between capital accumulation and environmental and human health. In this way, green criminologists, the authors included, need to heed the argument of Lynch et al (2013: 1009) and not ‘shy away from connecting capitalism to ecological crime’.

## **Summary of Legal Constructions and the Privatization of Water**

The shift described here represents the successful neo-liberal commodification of nature, new in its breadth and implications but tracing ToP theories and more generally ecological Marxism. Regulatory discourses related to the privatization of water are based on the idea that capital accumulation and profit maximization in relation to water increases access and improves equality and efficiency. This 'common sense' is reinforced by the discourses that construct water privatization as a legitimate policy objective for the attainment of water security and through the existing legal frameworks that have created this ability to privately own water. Moreover, the inability of human rights to protect access to water, illustrated by the lack of enforcement mechanisms, and the lack of effective international laws regarding fresh water issues, shows how any resistance is weakened by the globalized, capitalist model.

At the same time, the way water issues are framed in socioeconomic and legal spaces reinforces market-based responses as reasonable and appropriate ways to address the underlying human need for water. The privatization of water, expansion and exploitation, indifference and irresponsibility, are all constructed as legal and legitimate. But they are not without their costs and injustices. These are points of interest to law and to criminology, and, in particular, to green criminology that is concerned with relations between humanity, other species and the environment. Crime in this sense refers to both 'existing legal definitions of environmental crime, as well as sociological analyses of environmental harms not necessarily specified by law' (Walters 2010, 180).

## **Green Criminology and the Exploitation of Water**

The above legal constructions identify governing principles that perpetuate market models of regulation and create inequities and injustices in the distribution of fresh water. As discussed, the eminent political economist and Nobel Laureate Elinor Ostrom argued that legal instruments, like the ones outlined above, undermine the necessary collective action needed to sustainably develop global commons (Ostrom, 1990). When the atmosphere, water, soil and air become commodities for commercial exchange, not only are the essentials of human life unevenly accessed and distributed but such global commons are threatened by governance models that prioritise trade over preservation (Ostrom, 1994; Ostrom and Hess, 2007).

With regard to water, White (2003:67) argues that a green criminology approach would note that:

the financial attraction of privatising and commodifying drinking water is perfectly understandable. First, it is obviously a basic requirement of human life, water is always needed, and therefore, marketable. Second, restricted quantities of clean water make it a particularly valuable property for those who own and control it....

Following these points, there are a number of examples we could explore to emphasise the relevance of a green criminological analysis to freshwater, for example: theft of water (Global Initiative, 2014; Njeru, 2012); water-related corruption and violence; water market price fixing (Kenya Water for Health Organisation, 2009: 27). In order to build upon this emerging area, the following sections explore through a green criminological lens the corporate exploitation of freshwater in two contexts. The first is the development of privatized markets for public water supply using the London water company, Thames Water, as an example. The second context is the market for bottled water. Both examples illuminate the inherent injustices and inequities in international regulatory arrangements that privilege and mobilize corporate capital over global commons leading to what Schnaiberg (1980) refers to as 'ecological disorganization' (essentially, unstable ecosystems).

#### *Privatising Water in a Dysfunctional Market: Thames Water Company*

In the UK, examining the record of the privatized water companies, the investigative journalist Nick Cohen (2013) argues that successive governments have been negligent by allowing 'dubious companies ...to take over a vital national interest.' In line with the conflict between fundamental human rights and capital accumulation, as well as the legally-attributed goal of profit-maximisation, these companies have not behaved with probity or in the best interests of their customers. Cohen finds that these water corporations are involved in:

...widespread tax avoidance ... hidden ...behind the high walls of commercial confidentiality [and] [m]ost egregiously, they have loaded their books with debt, not to improve Britain's decaying network of sewers and pipes, but to provide fantastic returns to investors from a captive market of consumers.

Although Cohen's criticisms extend to all the privatized water companies in the UK, he focuses on the example of Thames Water, which is the provider of water and wastewater services for most of Greater London and several counties of South-East England. Similar to the situation in developing countries, the privatization of Thames Water generated high profits and returns to shareholders but the logic of privatization as a way to draw in private

investment thereby freeing public funds for other projects, was proven false. Thames Water has required government funding to enable it to build a new and much needed super-sewer through London. Nor was the average citizen a beneficiary of this privatization through dividends. This is because what followed was not a share-owning democracy, as promised by advertising campaigns and capitalist ideologies more generally but rather share-ownership concentration among investment institutions and consortia. In this particular case, Cohen observes that Thames is 'controlled by a consortium led by Macquarie, an Australian bank' yet:

Despite making healthy profits for years, the company is too enfeebled by debt to fund a major building project without taxpayer support. ... If it were a respectable company operating in any kind of functioning marketplace, Thames Water would have had to have changed its ways years ago or go bust.

This example highlights the dysfunctional state of the water market as a result of corporate concentration. Furthermore, it indicates that the privatization of water is very functional for a few but much rests on financial behaviour that in other contexts and to other audiences might be construed as close to fraud and criminal tax avoidance. In relation to Thames Water, Cohen found that:

The level of debt is the thread that ties incompetence, negligence, tax avoidance and over charging together. It allows private equity firms to leverage their original investment and increase their returns exponentially. It also allows them to escape tax. If they raise equity, they must pay tax on profits before they can give dividends to shareholders. If they raise loans, however, they can charge the interest payments against tax.

Carrington and Barnes (2013) reported on an investigation by the Observer newspaper in November 2012. This investigation 'revealed that three of Britain's biggest water companies paid little or no tax on their profits in 2012 while generously rewarding their executives and investors.' Likewise, Boffey (2012: 6-7) draws on research commissioned by the M.P. Simon Hughes and carried out by Martin Blaiklock, a former director of utilities at the European Bank for Reconstruction and Development. This research investigated the 'workings of the maze that was Thames Water's company accounts and others' and the findings of this exercise are particularly stark. Blaiklock discovered:

...a system that ...is letting down the customers and the taxman and one that appears to be repeated across the UK, where 75% of water companies are owned by private equity firms. The first part of the jigsaw is an annual bumper dividend paid to investors or to companies which are often their own subsidiaries, sometimes offshore, and which rip out funds that publicly owned waterworks might once have kept aside for infrastructure investment.

As well as setting up convoluted ownership structures, including subsidiary holdings based in tax havens such as the Cayman Islands, the water companies deliberately pursue a twin strategy of paying out large dividends (to external investors but also to their owners) and also paying off the large debts incurred by these same owners when they borrowed the money needed to buy the water companies. As Blaiklock concluded, the result 'was undoubtedly a severely weakened balance sheet' (Boffey, 2012: 6). This in turn means that the profits of the water companies have been diverted away from their liabilities and so they become 'unable to invest in large-scale projects and ... ever more reliant on rises in water bills to pay their way', and on the support of government to subsidise major infrastructure projects (Boffey, 2012: 6).

In addition to all this, corporate tax arrangements building on these high levels of debt repayment and capital allowances allow companies to be exempt from, defer or offset various taxes. As Boffey (2012: 6) reports, the examination of the UK water industry pursued by Blaiklock and Hughes 'discovered that little corporation tax is being paid by major water companies – in some years none at all.' For example:

Thames water enjoyed a tax rebate of £79.6m in 2011-12 and paid just £26m in tax the previous year, despite a net cash inflow for that year of £943.1m. Yorkshire paid just £2.9m [in 2011] and £11.1m in the year before, despite an operational profit of £303m. In 2012, for the regulated part of Anglian water's business, the company paid no corporation tax at all. In 2011 it paid £500,000 corporation tax on the profits and in 2010 it was £1.4m.

For Hughes, the M.P. who raised this issue with the House of Commons Public Accounts Committee, the question was whether there is 'a particular problem in the water industry, which is a regulated monopoly with high capital requirements and which allows companies to reduce the capital stock of the utility while lowering their tax liabilities ...?' (quoted in Boffey, 2012: 6).

This question aligns with the role – and weakness – of regulatory oversight or intervention. The Thames example clearly illustrates a lack of effective governance arrangements in line with ideals around transparency and equality before the law. The environmental record of the various privatized water companies emphasises the ineffectiveness of regulatory decision-making. Cohen noted that in nine years up to 2013, these companies ‘polluted waterways and beaches about 1,000 times’ but ‘two-thirds of the spillages resulted in a caution without further punishment. The remaining third attracted fines of £10,800 on average.’ Cohen’s acerbic judgement is that ‘No private equity manager will wake up screaming at such sanctions.’

This record has drawn political attention from some but little or no action. Carrington and Barnes (2013) have reported that cases of pollution caused by water companies ‘have included sewage illegally pouring into a harbour for more than a year’ and in other cases cover-ups occurring when managers destroyed data and ‘coerced colleagues to falsify records’. The authors argue that according to data gathered from the Environment Agency (EA) under freedom of information rules such offending shows no sign of being in decline. This shows not only poor decision-making by regulators when choosing which companies to lease public water systems to, but also a lack of effective law enforcement. Responding to this record, Joan Walley M.P., Chair of the Parliamentary Environmental Audit Committee has said ‘In law, the ‘polluter pays’ principle is supposed to deter companies from damaging the environment, but in this case the penalties appear to be so pitiful that water companies seem to be accepting them as the price of doing business. The [UK] Sentencing Council must ensure that courts take into account the profits made from environmental crimes and that fines have a sufficient deterrent effect.’ Clearly, the state is facilitating ecological disorganization here through omission, which ensures that the ToP continues unaffected.

These criticisms of privatization do not imply a naive belief that water can simply flow, from capturing falling rain to meeting domestic and industrial consumption demands, without cost. Younger (2012) addresses this matter while also pointing out that questions of supply and cost also raise the issue of equity, in relation to *how much* access and quantity different consumers can or should have available to them. As Younger (2012: 107) queries, ‘While few would argue with the principle of ensuring safe drinking water and basic sanitation for all, where do we draw the line?’ The response, that does not lead to byzantine and exploitative private arrangements, would be that publically owned water supply and sewage disposal services should be funded through an effective, progressive taxation system. In this way, the



poor have equal access to water with fewer costs while the wealthier provide most of the funding through tax.

The privatization of the control of water supply, purification and delivery infrastructures provides one example of contemporary problems arising from turning a public good into a profit-yielding commodity. Another example, extraordinary when thought about seriously, is how filling plastic bottles with water and selling them at a very profitable margin has become an enormously successful global industry.

### *Bottling water for profit*

Environmental issues associated with bottled water include the release of pollutants from manufacturing, transporting and disposing of the bottles, the dependence on fossil fuels to carry out these activities and the hydrologic impacts of extracting groundwater (Gleick and Cooley 2008). As a result, Younger (2012: 104) describes the bottled water industry as ‘a scandalous waste of energy, money and carbon emissions.’ Despite these impacts and access to free tap water, the popularity of bottled water has generally increased in developed countries. Yet, bottled water is not an entirely new phenomenon. While today’s marketing of bottled waters plays on symbolic images of purity and claims of their contribution to physical and mental revitalisation, earlier trades in bottled waters made similar claims. The spiritual properties of holy waters were marketed to medieval pilgrims as part of a significant industry with brands related to sources of origin; a trend which continued in the fashion for bathing in and drinking spa waters in the 18<sup>th</sup> and 19<sup>th</sup> centuries (Salzman 2012: 23). Importantly, this changed with the introduction of better systems of water purification and the introduction of chlorination, leading to the early 20<sup>th</sup> century decline in the market for bottled waters. According to Gleick (2010a:116), today’s mass consumption of bottled water is ‘an act of economic, environmental and social blindness’ that is economically rational only to producers and retailers, not to consumers. The emphasis on consumption of bottled water has led to a variety of campaigns seeking to reduce bottled water demand.

The marketing of bottled water as a healthier alternative to tap water has created distrust in public water supplies that in turn expands the market, and so the profit, of companies involved in the bottled water industry. In other words, creating this distrust, which is not based on evidence (see e.g. Younger 2012: 105), creates a new way to build profits in line with the treadmill of production. In addition, the State has played a role in reinforcing bottled water popularity. This is particularly evident in the case of the reduction in the provision of

drinking fountains in public spaces, which is closely related to building codes and regulations that determine if and how many water fountains are required. Across the U.S.A., New Zealand, the U.K. and Canada reports of fewer water fountains in public spaces have been made (Nelson Mail 2008; Pierre-Louis 2015; The Guardian 2010; Linton 2011). Much relevant academic literature focuses on the lack of water fountains in schools and possible links between this and the incidence of overweight children (e.g. turning to sweetened drinks as an alternative to water) (see e.g. Muckelbauer et al). Building code influences on the removal of water fountains can also be seen in cases of newly constructed stadiums across the U.S.A. (Gleick 2010b). For example, Duncan's (2010: 47) analysis of an incident in 2007 at a new football stadium at the University of Central Florida is an interesting example of the reinforcement of the market for bottled water. For the first game of the season during summer, 45,000 people gathered in a stadium built without water fountains and with enough bottled water for sale for only approximately half the fans at a price of \$3 per bottle. By the end of the game, 18 spectators had been taken away by ambulance and many more treated for heat stroke. The building code required only one fountain per 1000 seats 'as long as bottled water was available'. As Duncan writes, the requirements of 'the building code hint at the extent to which neoliberal ideas have become embedded in ... common sense reasoning' (Duncan, 2010: 47-48). In other words, the idea that bottled water for a price can replace free water fountains strengthens the expansion of the market and shapes public perceptions regarding tap water.

### **Concluding observations**

Ultimately, responses to water scarcity are shaped by the capitalist need to maximise profits and accumulate assets. The human right to water, the ecological limits of fresh water sources and the need for genuine sustainable development remain secondary considerations and the logic of privatization and economic efficiency prevails (Gleick 1998b: 571-2). The way water is constructed in law and policy, as part of the commons or privately owned, determines what and who drives that agenda.

By using legal doctrines, these state and corporate entities construct freshwater sources as something that can be owned or leased. For some regions, the privatization of water has enabled corporate monopolies and corrupt states to exploit a fundamental human right and created new forms of criminality. Arguing that such matters are of relevance to a criminology that should be concerned with fundamental environmental and human rights, this article

begins to develop a green criminological perspective on water (see also White, 2003). This involves exploring the ways in which corporate power, supported and sponsored by government initiatives and legal frameworks, monopolises an essential global resource with often devastating environmental and human consequences.

Today, despite the efforts of some international and national bodies and NGOs, many still live in day-to-day conditions where they are unable to meet their water needs. This creates new degrading and damaging problems like water theft and has affected local ecologies, food supplies and natural aquatic systems. Yet elsewhere water is in abundance, and processing, bottling or piping it, makes enormous profits for the private ‘owners’ of a naturally produced ‘public good’. Ironically, despite the fact that the market has put a value on the price of water, in places where it is abundant, water is often ‘de-valued’, wasted and polluted. In terms of crimes or harms against humanity and the planet, what we do to and with water - diverting it, polluting it, withholding it, privatizing it, bottling it, stealing it, and so forth – provides a substantial and urgent regulatory and research agenda.

The way forward is to work for legal and governance frameworks that prioritise the human right to water and ecological sustainability over private interests. Such frameworks should be informed by user self-governance approaches (Ostrom 1990) to create institutional and regulatory arrangements for sustainable use of water. Whether this approach is successful depends on the context, yet it has proven to be effective in relation to water when it is part of the commons (see, e.g., Sarker et al 2014; Cordery 2010). Regardless, such an approach provides an avenue outside of private property rights that is worth exploring in future research projects.

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<sup>i</sup> The three largest international water companies are Veolia Environment (France); Suez Environment (France) and the ITT Corporation (US). These companies are primarily involved in water supply and waste management. See, ETC Group (18 January 2012). ‘World’s 10 Largest Water Companies’ (18 January 2012). Available at:

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<sup>ii</sup> For instance, international consulting firm, KPMG, supports the privatization of water. See, KPMG (December 2012). *Financing Water Infrastructure Beyond 2015*. Available: <<http://media.aws.stwater.co.uk/upload/pdf/KPMG-Financing-Water-Infrastructure.pdf>> accessed 30 May 2015.

<sup>iii</sup> See, e.g., United Nations, 1962 General Assembly Resolution 1803 on Permanent Sovereignty over Natural Resources (GAR 1803), GA Res. 1803 (XVII) / 17 UN GAOR Supp. (No.17) at 15 / UN Doc. A/5217 (1962).

<sup>iv</sup> As evidenced in the *Helsinki Rules on the Uses of the Waters of International Rivers*, Report of the Committee on the Uses of the Waters of International Rivers (August 1966) (London, International Law Association, 1967). Further evidenced in the surrounding literature e.g. Hanqin, 1992: 48.

<sup>v</sup> *Lake Lanoux Arbitration (France v. Spain)* (1957) 12 R.I.A.A. 281; 24 I.L.R. 101 Arbitral Tribunal, November 16, 1957, ‘As far as this litigation is concerned, the following topics may be particularly borne in mind: the sovereignty in its own territory of a State desirous of carrying out hydro-electric developments; the correlative duty not to injure the interests of a neighbouring State....’ Recognised limitations on territorial sovereignty- ‘common, peaceful enjoyment of the waters of rivers flowing on the territory of the two States’ And the right of each country to execute works for public utility cannot supersede the right of common utility. ‘The Sovereignty of the Contracting States over the waters of successive rivers which flow on their territories is not absolute but is made subject to modifications arrived at between the two parties’.

<sup>vi</sup> *Declaration of the United Nations Conference on the Human Environment*, 21<sup>st</sup> plen mtg, ch 11, A/Conf.48/14/Rev. 1(1973) (16 June 1972) (‘Stockholm Declaration’).

<sup>vii</sup> See, 1992 *Rio Declaration on Environment and Development*, UN Doc. A/CONF.151/26 (vol. I) / 31 ILM 874 (12 August 1992) Principle 2 (‘Rio Declaration’).

<sup>viii</sup> See, e.g., *Convention on Biological Diversity*, opened for signature 5 June 1992, 1760 UNTS 79; 31 ILM 818 (1992) (entered into force 29 December 1993) art 3.

<sup>ix</sup> The principle of good neighbourliness is contained in Art 74 of the UN Charter, Principle 24 of the *Stockholm Declaration*, Principle 27 of the *Rio Declaration*. (For more information, see Solanes, 2009: 117–118). Whether the good neighbourliness principle is part of customary international law is debatable. On this point, see e.g., Lynham, 1995.

<sup>x</sup> 1997 *UN Convention on the Law of the Non-Navigational Uses of International Watercourses*, opened for signature 21 May 1997, 36 ILM 700 (1997); G.A. Res. 51/229, U.N. GAOR, 51st Sess., 99th mtg., UN Doc A/RES/51/229 (1997) (entered into force 17 August 2014) art 3(a) (‘UNWC’).

<sup>xi</sup> *Convention on the Protection and Use of Transboundary Watercourses and International Lakes*, adopted 17 March 1992, United Nations, Treaty Series 1936, p. 269 (entered into force 6 October 1996), as amended by United Nations Economic and Social Council, Economic Commission for Europe, Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Amendment to Articles 25 and 26 of the Convention, by decision III/1, following proposal by the Government of Switzerland MP.WAT/2003/4, 20 August 2003, amendments (entered into force 6 February 2013) (‘Water Convention’).

<sup>xii</sup> See, e.g., UN Human Rights Council and UN Special Representative Professor John Ruggie, ‘Guiding Principles on Business and Human Rights: Implementing the United Nations “Protect, Respect and Remedy” Framework’ (Human Rights Council 17th Session, Agenda item 3, 16 June 2011) <<http://www.business-humanrights.org/SpecialRepPortal/Home/Protect-Respect-Remedy-Framework/GuidingPrinciples>>.