Limits of policy and planning in peri-urban waterscapes: The case of Ghaziabad, Delhi, India

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ABSTRACT

The notion of the waterscape has been proposed to capture the interconnectedness of economic, political, cultural and social processes embedded in water. More recently recognised, yet still relatively under-theorised are waterscapes that are 'in-between' the city and the periphery. This article focuses on peri-urban Delhi, specifically the area around Ghaziabad. We show that peri-urban waterscapes do not fit into existing urban or rural planning models because these same models largely fail to recognise the peri-urban interface as a distinct form of territorial development. As a result a diverse range of mobilisations around water relevant to the peri-urban poor are systematically undermined while power asymmetries that shape access to water remain unrecognised. Peri-urban spaces thus continue to be planned as if in a transition towards urban modernity despite the complex social, political, technological and cultural realities these spaces represent. The failure to address current limits of policy and planning in peri-urban waterscapes has long term implications for the resilience, sustainability and transformative adaptation of both city and periphery.

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1. Introduction

Urbanisation and peri-urbanism in the Global South have challenged the model of the 'bacteriological city' which is prevalent in the global North (Gandy, 2006). This is the model of universal water and sanitation provision - usually public- that followed on from the water and sanitation reforms of the 19th century 'Great Stink' in industrialising Europe[1] (Mehta & Movik, 2014; UNDP, 2006). In cities of the Global South large populations continue to lack access to state supplied water (UNDP, 2006; WHO, 2010). Panda and Agarwala's (2007) study in the context of urban Delhi, refers to the "worrisome" situation of inadequate provision and poor implementation of schemes and programmes pertaining to water and sanitation services. Problems of inadequate access to water and sanitation are further exacerbated by an expanding slum population that is placing huge pressures on existing civic infrastructure, especially for drinking water and sanitation. It is further broadly recognised that urban water access and sanitation are often heavily contested and highly politicised (Bakker, 2008; Björkman, 2014; Castro, 2004; Swyngedouw, 2005).

The peri-urban interface has seen a dramatic increase in the concentration of poverty and environmental degradation in recent years that challenges the logic of universal access to water (UNFPA, 2007). Scholars have since long argued about the problematic position of the per-urban interface, characterised by administrative and jurisdictional ambiguity, environmental degradation and marginalisation (Dupont, 2005; Marshall, Waldman, MacGregor, Mehta, & Randhawa, 2009; Narain & Nischal, 2007). Yet the peri-urban interface has only recently come into view in relation to water and sanitation scholarship, water and development activism and policy (Allen, Dávila, & Hofmann, 2006; Kurian & McCarney, 2010; Mehta, Allouche, Nicol, & Walnycki, 2014; Randhawa & Marshall, 2014; Revi,

2008). A number of studies that focus on the relationship between water resources and peri-urban livelihoods identify important links between income activities and water availability (Allen et al. 2006; Díaz-Caravantes & Sánchez-Flores, 2011; Prakash, Singh, & Narain, 2011). In addition, water for drinking and other domestic uses such as food preparation, hygiene and sanitation that tend to be met by the peri-urban poor through informal means of water allocation are also identified. For example, an increasing number of informal vendors and small-scale private entrepreneurs have been able to profit from the lack of state water provision by selling bottled water to poorer peri-urban populations (Solo, 1999). These various water allocation strategies that are rapidly emerging in peri-urban interface areas still remain under-theorised. Planning ambiguity in the peri-urban further suggests that peri-urban water allocation takes place in the absence of a clear regulatory framework and under ambiguous water safety standards that do not ensure neither good quality or sufficient quantity of water (Davilla, Budds, & Minaya, 1999).

There is still a marked lack of attention to how peri-urban waterscapes, proposed to designate urban hydro-social flows (Swyngedouw, 1999, 2004, 2005), are being constituted and re-defined. The neglect of the peri-urban interface is partly a reflection of the power relations at play and the growing tendency of urban planners, policy actors and urban environmental campaigners to prioritise urban middle class and elite interests (Díaz-caravantes & Wilder, 2014; Karpouzoglou, 2012; Narain, 2014; Veron, 2006). There is therefore a need for peri-urban research to address more carefully power asymmetries shaping access to water in peri-urban areas (Díaz-caravantes & Wilder, 2014). Alankar (2013) notes elsewhere in the context of Delhi, that planned localities with secured rights to land and piped water supply receive around 225 lpcd while for the informal colonies water supply often falls to as low as 50 lpcd. However, social inequalities previously perceived to be exclusively urban, are becoming reproduced in peri-urban spaces suggesting that inadequate or unsafe water provision is not merely the result of a weak or inefficient state service delivery mechanism. Middle class citizens residing in peri-urban gated communities have managed to secure access to water and sanitation infrastructure and remain far better served by formal policies than the peri-urban poor. At the same time the acceleration and spread of neo-liberalisation and gentrification of urban and peri-urban spaces (Davis, 2004: 23) present a unique set of material and social realities that ultimately shape urban trajectories for resilience, sustainability and transformative adaptation in urban planning and water sectors alike (Hordijk, Sara, & Sutherland, 2014; Revi et al., 2014).

Peri-urban Delhi, specifically the area around Ghaziabad, presents four key 'problems' in terms of the conceptualisation of waterscapes. One, peri-urban waterscapes do not fit into existing policy and planning models. They represent territories in-between urban and rural which are more than a simple mixing of the two (Wandl, Nadin, Zonneveld, & Rooij, 2014). Two, peri-urban waterscapes challenge us to break down conventional divides (seen also in cities) between waste and supply as well as water, waste and sanitation. Three, collective activities which take place in these spaces do not fit binary models of either formality or informality, licit or illicit and labour or consumption. As such they challenge contemporary debates on waterscapes that neglect the significance of poor peri-urban water users who have been forced to fend for themselves and are often caught in a vacuum of legality and illegality (Chatterjee, 2004; IDS, 2010; Ramanathan, 2006). Four, peri-urban spaces are seen as problematic and in a transition state towards a greater urban modernity by policy-makers and some academics. Yet as we describe, they remain permanently and persistently in-between, because this serves the power dynamics between the poor and

politicians, middle class employers and their labourers as well as between the middle class elite and the working class.

This article thus seeks to challenge this problematic and 'anomalous' status of peri-urban waterscapes. It does so by providing an internal account of the social dynamics that produce the material reality in Ghaziabad by following the flows of water and waste within it. This example will hopefully help rethink how to conceptualise peri-urban waterscapes, the dialectics between formality and informality within them and also provide concrete areas for policy engagement. The article begins with an overview of conceptual and practical issues concerning peri-urban waterscapes. Next, the methodology and study field sites are described. The empirical sections then focus on flows of water and power as well as flows of waste in Ghaziabad and how these are marked by exclusion. The discussion and conclusion raises questions about how to re-imagine issues concerning water, its provision and sustainability in these charged settings.

2. Linking the waterscape notion with peri-urban liquid dynamics

2.1. The waterscape as a relational concept

The waterscape notion describes the intertwined dialectics of the material and non-material, shaping access and distribution to water (Bakker, 2003; Budds, 2009; Swyngedouw, 2006). It is a relational concept that situates water within social, natural, material and discursive processes (Swyngedouw, 1999). This relational perspective is useful since it keeps open the ontological question of what water is, thereby encapsulating "multiple tales of socio-nature" (Bouleau, 2014; Swyngedouw, 1999: 446).

Further expanding upon questions that surround the production of nature (Smith, 1990) and the production of space (Lefebvre, 1991), political ecologists such as Eric Swyngedouw seek to understand the dialectic relationship of capitalist development and the production of socio-natures such as those that a waterscape typically encapsulates. Swyngedouw and Heynen (2003; 910-1) argue that "who gains from and who pays for, who benefits from and who suffers from particular processes of socio-environmental change […] is not independent from class, gender, ethnicity or other power struggles and, in fact, often tend to be explained by these social struggles". In this mode of inquiry, the waterscape is a highly politicised space enmeshed with contradictions, inequalities, and conflicts between powerful and disenfranchised actors, as well as, class struggles (Marshall et al., 2009; Mehta, 2003). The waterscape as a contested space further reflects power asymmetries, socioeconomic inequalities, and other distribution factors, such as the ownership of land. Waterscapes may also encapsulate different symbolic and cultural meanings to different people (Baviskar, 2007).

In the context of cities, the waterscape notion is further linked to the production of urban nature and unjust urban geographies (Lawhon, Ernstson, & Silver, 2014; Swyngedouw, 2006). From this perspective, the material conditions that comprise urban environments are controlled, manipulated and serve the interests of the elite at the expense of marginalized populations (Heynen, Kaika, & Swyngedouw, 2006; 6). Recent work that focuses on environmental injustices and rights violations in shaping 'access' to water in urban and peri-urban Delhi (Alankar, 2013; Mehta et al., 2014), on the one hand, and political ecology perspectives that take into account interactions between the production of waterscapes, environmental governance, and middle-class environmentalism on the other also allude to this (Baviskar, 2003, 2007; Zimmer, 2012). As we later show, while peri-urban waterscapes are fraught with their own