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Dispossessing irrigators: Water grabbing, supply-side growth and farmer resistance in India

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ABSTRACT

This paper examines, first, the conditions under which irrigating farmers are being alienated from their water through a state-led process of dispossession, and then, second, details the dialectical process of farmers' resistance to these efforts. The paper advances recent scholarship on water grabbing and 'accumulation by dispossession' by drawing on a case from northwestern India to explore the connections between non-agrarian economic growth, irrigated agriculture and farmer livelihoods. Specifically, it examines an urban water infrastructure development project that aims to provide water to Jaipur, the Indian state of Rajasthan's capital city, through the appropriation of an existing rural dam/reservoir complex built for irrigation and redirecting it to domestic, commercial and industrial uses. Drawing on an examination of policy documents and interviews with farmers and state planners, this paper argues that these transfers must be understood as a supply-side solution to support economic growth, where the lack of stable water supplies is a barrier to capital accumulation. The paper contributes to critical scholarship by showing that the processes underpinning water's reallocation are specific acts of *ongoing* 'dispossession' through extra-economic means under advanced neoliberal capitalism, which alienates water away from peasant producers towards new centers of capital accumulation, dialectically creating peasant resistance to these efforts.

1. Introduction

Water demand for domestic, commercial and industrial purposes is increasing globally as both a consequence and in support of economic growth. Indeed, by 2050 non-irrigation water demand is projected to increase by 55% (Global Water Forum, 2015). This is particularly the case in areas undergoing rapid demographic urbanization (McDonald, 2008). Yet most regions face constraints on the development of water sources that are not already allocated (Gleick, 2000). With irrigation accounting for over 70% of water withdrawals globally (UN, 2013b), irrigated agriculture is in the crosshairs of state planners and development donor agencies as a sector from which water could be reallocated to other uses. The two basic ways to reduce water usage in irrigation is through efficiency gains that would reduce irrigation demand or through the outright transfer of water away from irrigation. With the former, it has been estimated that the adoption of more efficient irrigation technologies (e.g. micro drip systems) could achieve a 10% reduction in irrigation withdrawals globally, doubling the amount of water available for non-agricultural purposes (International Rivers Network, 2003). Economists argue that this would also facilitate economic growth as more water would be made available for other uses (Scheierling, 2011; Gleick, 2014). With the latter, water transfers out of irrigation are a growing phenomenon (Molle and Berkoff, 2006). Where water rights are clearly defined, as in the western United States, cities and developers buy or lease water rights from farmers and compensate them for it (Gleick, 2014). Yet where water rights are not clearly defined (e.g. customary rights), as in the Global South, it is much more common to transfer water away from irrigation through various infrastructural and administrative processes often without farmer consultation (Mehta et al., 2012). In these cases, where farmers may not have access to affordable efficiency enhancing irrigation technologies and where they are not compensated for their reduced or eliminated water allocations, these transfers are likely to have negative effects on the livelihoods of irrigating households.

For instance, in India, which is projected to become predominantly urban by 2020 (GOI, 2001), the reallocation of water from irrigation towards cities is seen as a major issue (WCF, 2015; EPW, 2006). With 90% of water withdrawals currently going towards the irrigation sector (UN, 2013a), the country's largest cities, including Delhi, Bangalore, Mumbai and Chennai, are

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increasingly relying on inter-basin transfers away from irrigation to meet growing industrial, commercial and municipal demand (Van Rooijen et al., 2009). This has led to a number of ongoing conflicts, including interstate water disputes (Anand, 2007) and protests by impacted farmers (Birkenholtz, 2009a; Mukherji, 2005). Yet reallocations continue to proliferate. Coimbatore, a city of 1.6 million in Tamil Nadu, implemented a diversion away from irrigation in the 1990s (Lundqvist, 1993), while the rapidly growing IT city of Hyderabad also relies on water diverted from irrigation (Van Rooijen, 2004; Celio et al., 2010). So too, Visakhapatnam – the largest city in Andhra Pradesh – is now taking water from the Yeleru Left Bank Canal irrigation system (IWMI, 2009b; Mollinga, 2014). These transfers are not confined only to surface water. Groundwater, particularly in peri-urban areas, continues to be a target in virtually all of India's cities and its transfer has faced serious resistance by farmers in Kerala (Aiyer, 2007) and around Delhi, among other places (IWMI, 2009a; Narayanamoorthy and Deshpande, 2005; Mehta et al., 2014). While diversions of water away from irrigation are increasing globally, the precise conditions under which these transfers occur, the interests they serve, and their consequences for farmers' livelihoods, is in need of further examination. This paper investigates the following questions: (1) what mechanisms (e.g. formal and/or informal administrative procedures) do city and state governments employ to transfer water from irrigation to new centers of capital, including domestic, commercial and industrial uses primarily in cities and urban agglomerations; (2) what impact do these transfers have on farmer livelihoods; and (3) in what ways do farmers resist these efforts?

This paper examines these questions by drawing on a case from the northwestern Indian state of Rajasthan, where since 2009 the state's capital city of Jaipur has become reliant on transfers of water away from a dam–reservoir complex constructed in the 1990s as an irrigation project. Jaipur is India's 10th largest city with a population of over 3.1 million people and is expected to grow to 4.21 million by 2025 (UN Habitat, 2013). As elsewhere in India, urban demographic growth is serving as a rationale to transfer water away from irrigation towards cities. Yet, this shift is not only about demographics. The Asian Development Bank (ADB) (2007) recently projected that every $1 spent on water infrastructure for cities in Asia would return $6 in GDP growth, whereas this ratio was 1:1 in the agrarian sector. Therefore, the reallocation of water from irrigation to urban agglomerations is driven not only by changing demographics, but also by a political and economic shift favoring the expansion of GDP growth over agrarian-led development. In Rajasthan, for instance, this shift is embodied in "Resurgent Rajasthan," the Government of Rajasthan's effort to create a "growth enabling" investment environment, while taking advantage of Jaipur's proximity to India's capital city of Delhi, its highly skilled workforce, and its location as a transportation hub. The centerpiece of this growth strategy is Mahindra World City (MWC), India's largest Special Economic Zone (SEZ), located 20 km southwest of Jaipur. Started in 2007, MWC encompasses 3000 acres of state-subsidized business and social infrastructure, including private luxury apartments and villas, private golf courses and exclusive shopping centers. Most of this former agricultural land was acquired by the state through eminent domain from farmers unwilling to sell. Levien (2013), drawing on Harvey's (2003) notion of "accumulation by dispossession" (ABD) argues that state actions, such as eminent domain, represent a form of dispossession that are a central and necessary feature of advanced capitalism. Here, the state engages in multiple forms of 'extra-economic' coercion to overcome barriers to accumulation for private capital at the expense of peasant farmers. The present paper claims that the lack of reliable water is also a barrier to accumulation, where the state, acting through extra-economic means, engages in acts of dispossession to eliminate these barriers with devastating effects on agrarian livelihoods. Taken together, this represents a form of "supply-side urbanization," where increasing the supply of water to urban agglomerations and new centers of capital, such as SEZs, is a state-led capital accumulation strategy.

Fieldwork for this paper is ongoing and began in 2009 in the command area of the irrigation works. I draw on multiple and repeated in-depth interviews with irrigating farmers and Public Health Engineering Department (PHED) engineers, as well as analyses of policy documents and articles from the popular press. I also draw on research from the political ecology of water, and the "accumulation by dispossession" of resources (Perreault, 2013, see also Levien, 2013; Glassman, 2006) and "water grabbing" (Mehta et al., 2012) specifically to make three interrelated arguments. First, the state is creating water policies that render legitimate the reallocation of water away from irrigation towards higher surplus generating activities, while also relying on more informal means of water transfer. Second, farmers have historically made significant investments to access irrigation water and that these investments are now resulting in significant economic losses due to reductions in irrigation. And, third, farmers are resisting these efforts by capitalizing on gaps in state surveillance of irrigation and diversion infrastructure. Overall, the paper contributes to ongoing debates in the accumulation by dispossession (ABD) literature by showing that the reallocation of irrigation water towards domestic, commercial and industrial uses mostly in cities emanates from a governmental adherence to supply-side economic growth policies. Supply-side allocation policies incentivize the reallocation of water away from irrigation to benefit the state from both higher cost recoveries from non-irrigation water sales and from those sectors that are perceived to contribute more to GDP growth. In Marxian terms, the processes underpinning water's reallocation are specific acts of *ongoing* 'dispossession' through extra-economic means under advanced neoliberal capitalism, which alienates water away from peasant producers towards new centers of capital accumulation. These reallocations are dialectically producing peasant resistance.

The article proceeds in five further sections. In the next, I engage the growing literatures from the political ecology of water on "accumulation by dispossession" and "water grabbing" to put them into productive conversation. The third section introduces the precise study area for the paper, which is the Bisalpur Dam–Reservoir complex, located 130 km to the south of the city of Jaipur in south-central Rajasthan (see Fig. 1). This section also demonstrates the rationale and processes through which the state is alienating water from irrigation-dependent farmers towards new uses. In the fourth, I then present findings from the fieldwork to demonstrate the threats to agrarian livelihoods resulting from water transfers and associated reductions in irrigation, which dialectically produce farmer resistance. Here, I also discuss the water grabbing process as one of dispossession through the de facto enclosure of water and associated institutions (in this case both formal water supply state institutions but also rules, norms and laws) and infrastructure. In this way, ABD can be understood as a process that operates as a combination of institutions and infrastructures that effectively dispossesses farmers. The paper concludes with two final thoughts. First, it calls for future work that investigates the degree to which the vagaries of water supply in time and space impact both access to water for irrigation and in cities, while mutually constituting new hydro-sociologies (Budds et al., 2014) both in urban agglomerations and in irrigation-dependent agricultural areas. Second, the paper's findings point to the need to rethink ABD as a process that does not always lead to proletarianization, where dispossession of the means of production does not lead to wage-labor opportunities for dispossessed