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‘Latent’ Surplus Populations and Colonial Histories of Drought, Groundnuts, and Finance in Senegal

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This is the accepted version of an article published in Geoforum. It has not been formatted or copy-edited.

ABSTRACT

Amidst growing concern about the displacement of rural populations exposed to climate change, new financial instruments are increasingly being presented as key tools for the management of climate risks. Index-based agricultural insurance (IBAI) is a particularly key example. Recent critical work has pointed to the deeply neoliberal character of IBAI and like interventions. However, the promotion of new financial instruments in response to crises of agrarian production has a much longer history in Africa and elsewhere. This article draws on Marx’s concept of ‘latent’ surplus populations to trace out and explain parallels between IBAI and colonial interventions in Senegal’s groundnut basin. Approaching the question in this way, the article highlights the long-run historical co-production and interdependence of the Senegalese state and a political ecology of groundnut production in which relations of indebtedness and the exposure to variable rainfall of a fragile relative surplus population has long been crucial to the mobilization of cheap labour for groundnut production. IBAI is thus positioned as part of a recurrent trajectory of emergency financial interventions aimed at smoothing out the contradictions implicit in this socio-ecological configuration.

Keywords: Surplus Populations; Colonialism; Marx; Index Insurance; Climate; Senegal

1. Introduction

A number of authors have pointed to a growing mass of people expelled from agrarian livelihoods by structural adjustment, land grabbing, and accelerating climate breakdown (see Davis 2006; Sassen 2014). In journalist and policy accounts, concerns are growing about these trends leading to disorderly urbanization or migration to Europe (e.g. Pilling 2018; Lall *et al.* 2017). Senegal reflects many of these dynamics. There are growing worries about the viability of agrarian livelihoods, particularly in the Groundnut Basin. Groundnuts remain a key export crop, but the impacts of structural adjustment (see Oya and Ba 2013) have been compounded by a series of catastrophic droughts in the 1970s and 1980s which had lasting effects on vegetation and soil quality, compounded by increasingly unstable patterns of rainfall (see Brandt *et al.* 2013; Herrmann and Tappan 2013; Sarr *et al.* 2013; Sambou 2016; Turner 2016).

One key response to these concerns, in Senegal and globally, has been to develop new financial tools aimed at improving the management of climate risks by smallholder farmers. Proposals for index-based agricultural insurance (IBAI) are particularly prominent here (e.g. World Bank 2009; Ricome *et al.* 2017). IBAI are crop insurance schemes seeking to minimize administrative costs by de-linking claims from underlying damages, instead paying out when an ‘index’ variable (usually rainfall) reaches a threshold correlated with crop losses (see Miranda and Farrin 2012; Binswanger-Mkhize 2012). There is a growing critical literature about IBAI, rightly arguing that the financialized conception of risk underlying IBAI belies the socially and historically produced nature of climate vulnerabilities faced by poor agrarian communities (da Costa 2013; Isakson 2015; Johnson 2013; Taylor 2016). IBAI perpetuates, and even deepens, the financializing, neoliberalizing thrust of contemporary

climate and development governance. Studies of IBAI, in short, contribute to wider debates about the ways in which differential exposure to the effects of climate change are depoliticized through their articulation as calculable, governable ‘risks’, to be addressed through technical interventions aimed at promoting ‘resilience’ (e.g. Stanley 2013; Mikulewicz and Taylor 2019).

However, in a significant sense little of this is new. The narrative of agrarian crisis, impending depopulation of the countryside, and associated urban disorder was a prominent concern across colonial Africa dating to the 1930s (see Bernards 2018; Cooper 1996). As shown further below, the mobilization of financial techniques in response to such concerns has equally long roots. In Senegal, the rapid expansion of ‘*Sociétés Indigènes de Prévoyance*’ (SIPs), formed a core part of the response to concerns about agrarian crisis. SIPs were state-run, cooperative schemes widely adopted across French Africa. They were flexible institutions operated by local administrators, but generally performed two functions -- providing loans in seed and cash to farmers (predominant in cash-crop regions), and maintaining granaries (see Mann and Guyer 1999). They were nominally meant to be self-financing, with advances repaid (with interest) out of harvests. Although they are superficially quite different institutions, SIPs have a number of key features in common with IBAI, as shown further in sections 4 and 5. Both were articulated around ‘improving’ farmers’ planning and risk-management practices, sought to do so by reshaping patterns of indebtedness through which crop marketing was organized, linked into metropolitan circuits of financial capital through complex chains of state support and intermediation, and adopted or expanded in response to somewhat similar crises in agrarian production.

This article thus asks: how can we understand IBAI not simply in terms of neoliberalism or financialization, but as part of a recurring tendency of crisis-driven interventions based on new financial instruments in (neo)colonial agrarian regimes? In Senegal, we can situate both IBAI and earlier interventions in relation to the long-run development of a colonial political ecology of groundnut production in which intersecting patterns of indebtedness and exposure to variable rainfall are both deeply embedded and often crucial to the mobilization of cheap labour. The exposure of groundnut growing regions to fluctuations in rainfall is in large part the product of the particular configurations of space, nature, and labour through which colonial production was organized. It stems simply enough from the fact that groundnut production is primarily rainfed; but this in itself is a product of the particular historic conditions under which its expansion took place, and which were reinforced by the role that indebtedness and seasonal rainfall subsequently came to play in organizing groundnut production. This suggests that rather than treating IBAI solely as an extension of ever-widening processes of financialization or neoliberalization, we should understand it as the latest in a line of responses to crisis which have sought to shift farmers’ financial practices rather than address deep-seated social and ecological contradictions.

In theoretical terms, I develop this argument by engaging with Marx’s concept of ‘latent’ surplus populations, alongside his historical analyses of ‘The General Law in Action’ in the latter parts of Chapter 25 of Vol. 1 of *Capital*. Latent surplus populations refer to agrarian populations displaced (or threatened with displacement) without entering into waged work. For Marx, they represent a liminal category, ‘constantly on the point of passing over’ into seeking waged work (1990: 876). While they don’t regularly perform standard forms of wage labour, latent surplus populations remain embedded in capitalist circuits of accumulation -- notably by producing cheap primary materials. Marx’s discussion usefully suggests an understanding of these forms of exploitation as intersecting with patterns of ‘secondary’

exploitation (through e.g. rent, debt), uneven spatial development, and ecological vulnerabilities. This approach helps to situate IBAI in the longer trajectory of entanglements of indebtedness and exposures to variable rainfall with the particular modalities of groundnut production in Senegal, and to explain why interventions to manage climate risks frequently turn to finance. Configurations of space, nature, state, and capital have unquestionably changed over time, but we can usefully start answering the core question posed here by examining the ways in which their intersections have worked to mobilize irregular forms of work over the long run.

The article develops these arguments in four steps. The first section below briefly reviews Marx's discussions of latent surplus populations, and historical analyses of the 'general law in action'. The next section discusses the long-run trajectory of groundnut production. The following two sections examine the crises of the 1930s and the neoliberal era, respectively, highlighting the contradictory dynamics of efforts to restore production through public-private financial instruments.

2. Making latent surplus populations

The main theoretical claim in this article is that Marx's discussion of 'latent' surplus populations, and more broadly his historical discussions of 'the General Law in Action' in Chapter 25 of *Capital*, help unpick the ways in which IBAI and similar interventions slot into longer-running entanglements of ecology, secondary exploitation, and irregular labour.

While recent debates have tended to treat 'surplus populations' as a descriptive label for a segment of the population 'not needed' by capital for immediate exploitation through wage labour (e.g. Li 2010; 2017; McIntyre and Nast 2011; Tyner 2016), it is more usefully understood as a fluid and dynamic set of relations interpenetrated with wider working classes. Marx differentiates three 'modes of existence' of surplus populations, defined essentially by their spatial and temporal relation to wage labour. The 'floating' category refers to workers periodically displaced by cyclical restructuring: those workers who are 'sometimes repelled, sometimes attracted again in greater masses' (1990: 794). The 'stagnant' population consists of those reliant on 'extremely irregular employment' (1990: 796). Both categories are implicitly understood to be clustered in proximity to large-scale capitalist enterprises. By contrast, 'latent' surplus populations refer to rural populations whose livelihoods are disrupted by capitalisation, but who remain tied to agrarian spaces yet '*constantly on the point of passing over*' into (urban) wage work (1990: 795). To start out, it is worth observing that the defining trait of 'latent' surplus populations is not so much their 'irrelevance' to the productive needs of capital as the inherently *temporary* and *liminal* nature of their status as 'surplus'. Marx hints that such persistent 'non-connections' (to use Li's 2010 phrase) are in fact *vital* to the reproduction of capital:

the constant movement towards the towns presupposes, in the countryside itself, a constant latent surplus population, the extent of which only becomes evident at those exceptional times when its distribution channels are wide open. (Marx 1990: 796)

Marx suggests, then, that the formation of 'free' labour requires the re-configuration of rural spaces in order to allow the *persistence* of a fragile but never-quite-fully-dislodged 'latent' surplus population.

Understood along these lines, the 'latent surplus population' is an aggregate of ongoing patterns of practice, not a label for a discrete group of people. Individual workers will cycle between different modes of existence and between the 'surplus' and 'working' population.

‘Surplus populations’ as historical structures are the products of many such movements over a long period of time -- ‘a reality that time uses and abuses over long periods’ in Braudel’s phrase (1980: 31). This calls for an explicitly historical analysis of how latent surplus populations are produced, reproduced, and change over time and across space.

We can pull some clues about how such an analysis might look from Marx’s discussions of the ‘General Law in Action’ in the latter parts of Chapter 25, emphasizing the reconstitution of rural spaces in ways that facilitated irregular forms of exploitation. Firstly, surplus populations in this discussion remain subjected to what have been called ‘secondary’ forms of exploitation through debts, rent, and the like, stemming from the commodification of the means of survival (see Harvey 2006: 42; Soederberg 2014: 4). Secondary exploitation is closely linked for Marx to the mobilization of irregular forms of labour by surplus populations. In England, Marx notes in particular that the expulsion of agricultural labourers from large landholdings led to the clustering of impoverished workers into nearby villages, where speculators rushed to ‘buy scraps of land, which they throng as densely as they can with the cheapest of all possible hovels’ (1990: 840). The secondary exploitation of displaced peasants through these cottages laid foundations for deepening primary exploitation. Indebtedness, as a number of authors have recently noted, has historically often played a crucial role in mobilizing agrarian labour (see Gerber 2014; Toivanen and Krüger 2018). Indeed, as argued further in the case of Senegal below, this link between secondary exploitation and irregular labour exploitation seems to hold regardless of the specific form of property relations in place.

Equally, in Marx’s account the production and maintenance of latent surplus populations is a fundamentally spatial phenomenon. This is true in the first instance in that the category turns on patterns of mobility between rural and urban spaces. Marx also points to a series of spatial transformations -- re-grouping of populations, conversions of land for housing, the construction of transport infrastructure – needed to enable secondary forms of exploitation. At the same time, this bundle of spatial transformations entails the production of new social and ecological vulnerabilities. Marx’s notes are replete with references both to the vulnerability of emerging clusters of rural housing to disease outbreaks and to the seasonal and temporary character of incomes. All of this ultimately worked in tandem to deepen the vulnerability of surplus workers to irregular forms of labour exploitation: ‘The pauperism of the agricultural labourers is ultimately a motive for their eviction; it is also the chief source of their miserable housing, which breaks down their last power of resistance, and makes them mere slaves of the landed proprietors and the farmers’ (1990: 849).

The point here is that Marx’s approach can give us some purchase on how to make sense of the recurrence of financial interventions in the groundnut basin and elsewhere. Understanding (neo)colonial agrarian systems through the lens of latent surplus populations helps to capture not just how climate vulnerabilities are produced, but also how integral they are to the mobilization of cheap labour. Two points are important. First, ‘latent’ surplus populations often remain bound up with circuits of capital accumulation through diverse forms of labour exploitation, which are enabled by their continued subjection to ‘secondary’ forms of exploitation and often deepened by the production of new spatial and ecological configurations. Second, these are developments that necessarily need to be examined historically, and with an eye to the inter-working of long-run social and ecological structures with conjunctural dynamics. This is an approach, I argue, that can help us both to historicize the crisis tendencies of peripheral agrarian regimes, and also to explain the recurrence of the

kinds of financial interventions of interest here. In the remainder of this article, I develop these arguments empirically in an historical analysis of groundnut production in Senegal.

3. Latent surplus populations and groundnut production over the long run

Groundnuts were introduced in West Africa in the sixteenth century, and initially cultivated primarily in the Gambia river basin. The large-scale commercial production of groundnuts, though, started in the mid-nineteenth century, driven by growing demand for plant oils in industrializing France, coupled with the adoption of tariffs favoring French merchants (and hence, goods primarily from French colonial territories). In the decade between 1840 and 1850, groundnut exports from Senegal, by one estimate, grew from 1 metric ton to 5,000 (Moitt 1989: 27; *cf.* Brooks 1975), and continued to grow rapidly throughout the latter half of the nineteenth century, reaching 95 000 metric tonnes by 1898 (Moitt 1989: 27). We usefully understand the rapid growth of the groundnut trade in this sense as the opening of a ‘commodity frontier’ in Moore’s (2015: 63) terms -- a reconfiguration of space and nature to enable the renewed ‘commodity-oriented appropriation of unpaid work/energy’. Opening this frontier required a series of interlocking social, spatial, and ecological transformations which shaped the constitution of a considerable latent surplus population.

Two developments in the nineteenth century were particularly important. The first was the mobilization of various forms of unfree labour for groundnut production. Searing (1993) argues that the early extension of groundnut production in Senegal took place primarily in places that had been closely tied to the Atlantic slave trade, and where grain production was subsequently carried out by slave labour. The expansion of the groundnut trade was also heavily dependent on the mobilization of unfree labour from elsewhere in the region. Moitt (1989) traces the concomitant growth of imports of enslaved labour, primarily from the French Soudan (now Mali), into groundnut producing areas, as acreages under cultivation grew after 1850. French administrators in Senegal, and English officials around the Gambia, began to note in the mid-nineteenth century that the groundnut trade ‘had the effect of inducing native proprietors of slaves to retain them for the fruit of their labours, instead of being anxious to dispose of them when an opportunity arose’ (Swindell and Jeng 2006: 10). The second key development was transport networks facilitating the extraction of export crops. The construction of the Dakar-Saint Louis Railway in 1885 strongly shaped the geography of production. Access to the railway was an important determinant of the location of expanded groundnut production. Thiès, an entrepôt on the line, became a key focal point of the groundnut trade, expanding outwards as new road networks were built (Moitt 2001: 253-254). This helped shape the expansion of production into semi-arid areas where production was dependent on rainfall.

This set of transformations also helped pave the way for the establishment of French dominance in the region (Brooks 1975). The colonial state that emerged out of these processes was heavily dependent on revenues from cash crops, particularly groundnuts, and its control over the movement of exports. It acted subsequently to reinforce the continued widening of groundnut production in the early years of the twentieth century. These developments worked through and helped reinforced what Cooper (1994: 1533) has usefully labelled ‘arterial’ patterns of state power typical of colonial Africa more broadly – in which the direct application of violent power in and around strategically central cities and transport infrastructure was mixed with ‘indirect’, sporadic, and arbitrary patterns of authority elsewhere. This state structure had significant implications for the character of groundnut production itself – particularly the property regime under which it was carried out. There were efforts at formalizing private property throughout the nineteenth century, but

administrators had conceded by the early twentieth century that these had failed outside of Saint Louis and Dakar where in practice the administration lacked the capacity to implement them (Boudillon 1911: 12).

The continued expansion of the colonial export economy after 1900, particularly after the formal abolition of slavery, thus depended on the creation and exploitation of what we usefully understand as a latent surplus population, mobilized primarily through secondary forms of exploitation. Poll taxes -- annual fixed rates per head, regardless of income -- were a crucial means of creating dependence on cash incomes in the context of the formal abolition of slavery. One official would note in 1905 that: 'Our poll tax has enabled us to improve the African's moral character by giving him habits of work' (qtd. Idrissa 1993: 97). These taxes were generally successful at driving an increase in cash crop production, and particularly of groundnuts. Indeed, the poll tax worked in no small part by driving patterns of seasonal labour migration from elsewhere in Afrique Occidentale Française (AOF) to the groundnut basin (see David 1980; Klein and Roberts 1987). It was common for migrants to work as *navétanes* on larger landholdings during the groundnut season -- given a plot to work (with their own seed and tools) in exchange for some negotiated combination of fees payable after the sale of the harvest, a share of the crop itself, and/or a certain number of days per week of labour on the landlord's fields (David 1980: 178).

The poll tax worked in tandem with patterns of indebtedness revolving around the seasonal temporality of rainfed cultivation in mobilizing labour. By the early twentieth century, West African export economies were dominated by three trading companies: the French Compagnie Française de l'Afrique Occidentale (CFAO) and Société Commerciale de l'Ouest Africain, and the British United Africa Company (see Austen 1987: 130). All three operated what has usefully been described as a 'rudimentary "trading economy"', wherein manufactured goods of mediocre quality destined for immediate consumption... were offered, at greatly inflated prices, against agricultural products collected during the trading season' (Coquéry-Vidrovitch 1975: 597). The CFAO was the primary firm operating in Senegal, holding a virtual monopoly over groundnut exports from Senegal. The CFAO and its competitors typically bought groundnuts from traders, who would normally have purchased them from smaller merchants in direct contact with growers. Debts incurred to merchants for food, seed, and other subsistence costs during the dry season ('*la soudure*') were the most significant means of mobilizing groundnut production.

The intersection of debt and seasonal rainfall, then, was vital to the mobilization of latent surplus populations as irregular labour in this context. It allowed the production and extraction of cheap raw materials at minimal risk or cost to the CFAO. Indeed, by 1900, the CFAO was lobbying in Paris *against* the formation in AOF of concessionary property along the lines of those that granted millions of hectares in French Equatorial Africa and the Belgian Congo to rubber and timber plantations (CFAO 1900). This structure of property relations has had enduring impacts. As Oya (2001: 133) aptly notes 'Historically, colonists, capitalist entrepreneurs and, after Independence..., state institutions concentrated on the distribution, marketing and processing of the Senegalese export product... On the other hand, production was left to peasant farmers' (see also Founou-Tchuigoua 1981; Boone 1992). In short, capital was directly involved in profitable marketing and processing activities, while shifting the costs and risks of agricultural production onto a range of latent surplus populations, mobilized in part by patterns of secondary exploitation closely linked to seasonal rainfall.

These patterns of development have had two significant and enduring impacts. First, they worked to produce a state heavily dependent on earnings from groundnut exports, and deeply entangled with merchant capital (see Boone 1992). The expansion of poll taxes (probably inadvertently) deepened the state's dependence on groundnuts. In 1898, poll taxes worth about 15 thousand francs were collected, against colonial revenues of 3.96 million (Seligman 1900: 38). Poll taxes and other head taxes amounted to an average 39 percent of colonial revenue between 1907 and 1957 (Huillery 2014: 35). Table 1 shows the weight of Senegalese exports (of which groundnuts were by far the largest crop) in total customs earnings from AOF from 1916-1921. At the end of that decade, a report would note that 'in 1927, exports from Senegal represented 57 percent of the total commerce of [AOF]... this commerce is driven, at a rate on the order of 90 percent, by exports of groundnuts' (GGAOF 1928: 24-25).

Table 1 – Customs Receipts in AOF (in '000s of Francs). Adapted from Ministère des Colonies (1921: 102), author's calculations.

<i>Year</i>	<i>AOF Total</i>	<i>Senegal</i>	<i>Senegal as percent of total</i>
<i>1916</i>	<i>13523</i>	<i>8886</i>	<i>65.7</i>
<i>1917</i>	<i>20027</i>	<i>9730</i>	<i>48.6</i>
<i>1918</i>	<i>21685</i>	<i>11989</i>	<i>55.3</i>
<i>1919</i>	<i>37284</i>	<i>19093</i>	<i>51.2</i>
<i>1920</i>	<i>52167</i>	<i>29448</i>	<i>65.4</i>
<i>1921</i>	<i>46957</i>	<i>27626</i>	<i>58.8</i>

The second lasting effect was the production of vulnerability to seasonal and annual fluctuations in rainfall. As noted above, public and private investments were primarily made in the development of transport networks facilitating the extraction of export crops. Barring sporadic efforts to build deep wells (see Tignor 1987: 95), no comparable investments were made in irrigation in the groundnut basin. Even in the early twentieth century administrators were well aware of some of the contradictions inherent in this model. One report from 1923, for instance, suggests a need to build canals, reservoirs or other means of moving water from the Gambia and Senegal rivers:

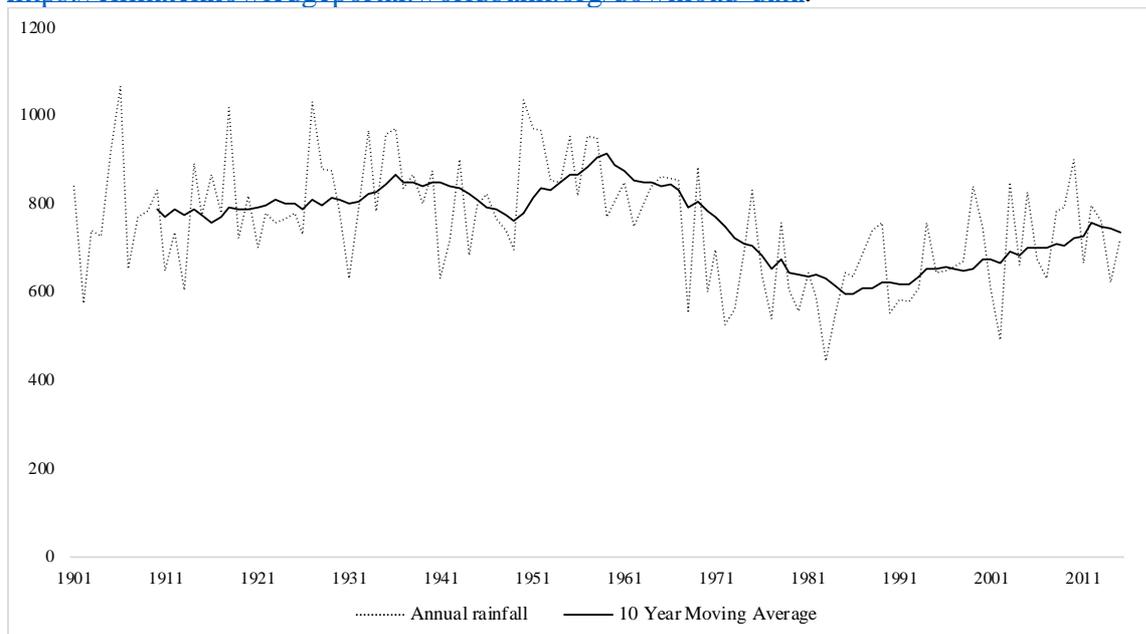
The commerce of Senegal is undermined by a growing shortage of water which increasingly restricts cultivation. It is incontestable that water table levels are falling and there is a scramble for water. Water provision is a function of seasonal rainfall, and it is highly unlikely that digging wells will do much to improve the situation. (CAF 1923: 389)

Crucially, though, the vulnerability to variable rainfall was intimately linked both to the particular patterns of secondary exploitation through indebtedness that worked to mobilize groundnut production in the absence of widespread enclosures, and difficult to alter given the systematic lack of investment in the production process. In something of a parallel to patterns recently highlighted by Mullenite (2019) in post-emancipation British Guiana, where underinvestment in flood management worked to drive down wages on sugar plantations by displacing relatively autonomous black communities, we can suggest here that the kinds of infrastructures that were and weren't constructed were intimately linked to the production of certain kinds of relative surplus populations. These uneven patterns of water access have

proven relatively durable. Estimates from the Food and Agriculture Organization continue to show a very limited proportion of cultivated area in general equipped for irrigation, and disproportionately lower levels of irrigation use in groundnut production than for other crops (FAO 2005). Recent studies have also shown that poverty levels and productivity in groundnut producing areas are relatively more vulnerable to rainfall fluctuations than elsewhere in Senegal (e.g. Cabral 2012), and that patterns of labour migration to and from the groundnut basin are still closely timed around seasonal rainfall variations (Martin-Gutierrez *et al.* 2016; Hummel 2016).

There are deep-rooted contradictions here: the close entanglement of groundnut production with seasonal rainfall also implies a configuration of labour and nature highly vulnerable to occasional failures of annual rains. At the same time, the particular ‘arterial’ geographies of property rights, capital, and state power identified above also inhibited investments that might raise productivity or mitigate these exposures. This despite the fact that colonial officials were, at times, aware of these tensions -- as in the call for investments in irrigation quoted above. These contradictions have been amplified in recent years as accelerating climate change has been manifested in more severe and more frequent droughts, and in considerably lower average rainfall than in the first half of the twentieth century (see Figure 1, also Brandt *et al.* 2013; Herrmann and Tappan 2013; Sarr *et al.* 2013; Sambou 2016).

Figure 1: Annual June-October total rainfall in mm, national average for Senegal, and 10 year moving average. Author calculations from World Bank climate data, available: <https://climateknowledgeportal.worldbank.org/download-data>.



The French colonial state, in short, depended for its own reproduction on the continued engagement in groundnut cultivation of a significant ‘latent’ surplus population reliant on precarious cash incomes from a variety of irregular forms of work, but not ‘absorbed’ by (urban) labour markets. The persistence of this latent surplus population, given the fragile socio-ecological conditions in which it took place, along with low returns to farmers and migrant labourers, has been subject to a number of crises driven by the conjunction of economic restructuring with weather and climate variations. Responses to these forms of crisis have often taken similar forms, seeking to shift the terms of secondary exploitation rather than fundamentally change these longer-run structures. I explore these dynamics over

the next two sections, starting with the adoption of SIPs in the 1930s here, and turning to tentative efforts at establishing IBAI policies in the aftermath of the collapse of these colonial systems and their immediate postcolonial replacements.

4. SIPs and the failed transformation of secondary exploitation

The first major episode of crisis took place in the early 1930s. There were a number of underlying factors here, which were compounded by poor rainfall in 1931. After WWI, tax increases -- in 1915, average taxes per head in AOF totaled F2.03, by 1927, 10.52 (Coquéry-Vidrovitch 1977: 131) -- intensified the reliance of Senegalese peasants (and the state) on groundnut production, and drove increasing numbers of migrants from elsewhere in AOF to migrate seasonally to the groundnut basin (see David 1980). The railway and road infrastructure through which the trading economy was operated was also extended considerably after WWI, generally through forced labour exacted from very much the same areas involved in groundnut production (see Fall 1993). The construction of a railway from Thiès to Kayes (in contemporary Mali) in the first decade of the twentieth century was driven in no small part by the desire to smooth the movement of groundnuts from inland areas towards the coast (Moitt 2001: 255).

Simultaneously, though, colonial trading companies were shifting towards higher-margin plantation crops, especially cotton and cocoa, which were primarily grown elsewhere. The CFAO expanded its operations considerably across West Africa, including into British territories and Central Africa. Plantation crops made up an increasing proportion of company revenues (see Coquéry-Vidrovitch 1977: 127). This shift was driven in no small part by the rapid growth of competing peanut exports from the Southern United States in the preceding decade. The coincidence of boll weevil infestation and rising wartime demand for plant oils in Europe drove a rapid conversion of acreages in the South from cotton to peanut cultivation. Some colonial administrators in West Africa, seeing both a danger from competing groundnut exports and declining prices (e.g. Ministère des Colonies 1921: 10-15), and an increasing need for (or, opportunity to provide) replacements for American cotton in French industry (Ministère des Colonies 1922: 263), were quite keen to promote the development of cotton plantations in AOF. Groundnut production in AOF, accordingly, peaked in terms of value in 1926, and in terms of tonnage in 1930.

These pressures were amplified by the deterioration of the transport networks that had facilitated groundnut exports -- administrators raised growing concerns about the inefficiency of the Thiès-Kayes railway in particular in the later parts of the 1920s (see Moitt 2001: 260). Transport problems were amplified from the start of the 1920s by accumulating losses of soil quality in the regions nearest to the Dakar-Saint Louis railway line which had been intensively cultivated the longest. Cultivation was gradually shifted east and towards the interior (see David 1980: 159). All of these trends, compounded by below average rainfall in 1931 (see figure 1), led to the collapse of the 1932 harvest.

These events did contribute to a significant movement of people into cities across AOF, especially Dakar. According to official statistics, the city's population expanded from 53 982 people in 1931 to 92 999 in 1936 (Coquéry-Vidrovitch 1977: 150). Apart from seeking to maintain customs payments on export crops and keep up the supply of cheap raw materials to France, then, efforts to restore groundnut production were also motivated by political and security concerns about Africans into urban spaces. One official would argue in 1938 that 'we must not create a proletariat which... would rapidly become dangerous for French

sovereignty' (qtd. Marseille 1982: 33). Officials saw the maintenance of a latent surplus population as a key imperative both politically and economically.¹

One of the key responses to these issues involved the dramatic expansion of SIPs and of seed credit disbursed through them. In doing this, administrators re-purposed an existing policy tool. SIPs were first adopted in Algeria in the late nineteenth century, and had been established in small numbers in AOF starting in 1910. As noted in Section 1, These were flexible institutions that served a variety of purposes in different contexts. SIPs were consistently justified in terms of the lack of foresight of indigenous populations in dealing with irregular rainfall. This dated to their earliest iterations in Algeria, where SIPs were introduced as a means of protecting 'those who by their lack of foresight are not able to long survive' periods of poor rainfall (Lecoq 1903: 1). This framing survived the translation of SIPs into AOF in general and their expansion in Senegal in particular in the 1930s with little modification.

The particular modalities of the expansion of SIPs in Senegal in the early 1930s effectively sought to resolve the crisis in groundnut production by (1) organizing and disciplining migrant labour and (2) by shifting flows of interest away from smaller traders operating in Senegal and towards metropolitan capital. Administrators identified a lack of affordable seed available as a critical hindrance to the renewal of groundnut production after the failed harvest. While there had been some increase in SIPs' activity in the 1920s, in 1930 seed advances amounted to 14 791 tonnes; in 1932 (the growing season following the failed harvest) the figure was more than double: 38 243, and hovered around 50 000 in the latter part of the decade (David 1980: 465). A particular emphasis was placed on SIPs as a mechanism for organizing migrant labour in Sine-Saloum in particular (at the time the most significant groundnut growing region), where SIPs took on an explicit role in distributing seeds on credit to arriving *navétanes* (David 1980: 102).

In effect, then, the rapid expansion of SIPs in the 1930s sought to restructure existing patterns of secondary exploitation away from merchants. This was a process very much driven by the colonial state and into which it worked to enroll financial capital. The *Caisse Centrale de Crédit Agricole Mutuel* (CCCAM), an agricultural bank modelled on the French *Crédit Agricole*, was established by decree in 1931. The CCCAM borrowed funds from the central government and private lenders in order to lend on to SIPs or to larger cultivators. SIPs distributed seed to farmers on credit, to be repaid with 25 percent interest out of the harvest. Effectively, these initial transactions 'saddled the Senegalese Provident Societies with a large debt' from the first years of the 1930s (Tignor 1987: 103), which was amplified because the price of seeds nearly tripled in the time between the planning and implementation of the expanded SIPs scheme (costing 29 million francs rather than the 10 million originally budgeted). The SIPs were forced to take out a 50-year loan to enable repayment (Tignor 1987: 103). This was followed in 1936 by the establishment of a *Fonds Commun des Sociétés de Prévoyance* as an intermediary for lending to individual SIPs.

The expansion of SIPs was contested, not least by the trading houses themselves, who continued to favour 'indebtedness arrangements as a way to bind individual cultivators to their firms and to make the conduct of trade relatively predictable' (Tignor 1987: 106). In practice, though, SIPs complicated this system by introducing a new source of seed credit,

¹ On these broader debates about urbanization, see Cooper 1996; Bernards 2018. In Senegal in particular, this also involved the suppression of industrialization, see Boone 1992.

but still fundamentally sought to keep latent surplus populations bound to groundnut production through relations of indebtedness (see Boone 1992: 46; Founou-Tchiouga 1981: 53). This was particularly the case given the extent to which the expansion of SIPs was oriented towards providing credit in seed. Merchants continued to be the primary source of credit for basic survival items during the *soudure*.

As a result, SIPs systematically struggled to collect repayments. The challenges posed by the persistence of merchant credit were reinforced by the decline of the railways (which were under close administrative control) and the increasing reliance of groundnut exports on truck transport networks largely under the control of Syrian merchants (see Moitt 2001: 263). This also facilitated an accelerated shift of cultivation away from relatively degraded soil in older groundnut regions close to the old rail network (see David 1980: 159). Arrears accumulated steadily throughout the 1930s and 1940s – in 1937-38, Senegalese SIPs reported arrears of 12 220 metric tons of groundnuts, by 1946-47, the figure was 57 278 (Tignor 1987: 112). However, the relatively short-lived nature of the 1931 drought and the eventual recovery of global prices, coupled with the shift of production towards areas with less degraded soil, ultimately led to the restoration and continued expansion of groundnut exports by the end of the 1930s. The underlying contradictions highlighted in Section 3 were resolved only temporarily by these shifts, though. They became increasingly acute after the end of formal colonial rule.

5. IBAI and the antinomies of neoliberalization

Here I want to return to the question of what is (and isn't) new about IBAI and contemporary patterns of dispossession. While IBAI is a distinctly neoliberal mode of intervention, and responds in part to the consequences of structural adjustment, we ought nonetheless to make sense of its truncated rollout in Senegal as an attempted response to the intensification of underlying contradictions highlighted above in the context of the rolling back of postcolonial institutions. We can also link the limited success of IBAI in Senegal to the way it intersects with the shifting configurations of indebtedness, labour, and ecology highlighted by the reading of Marx's writing on surplus populations developed here.

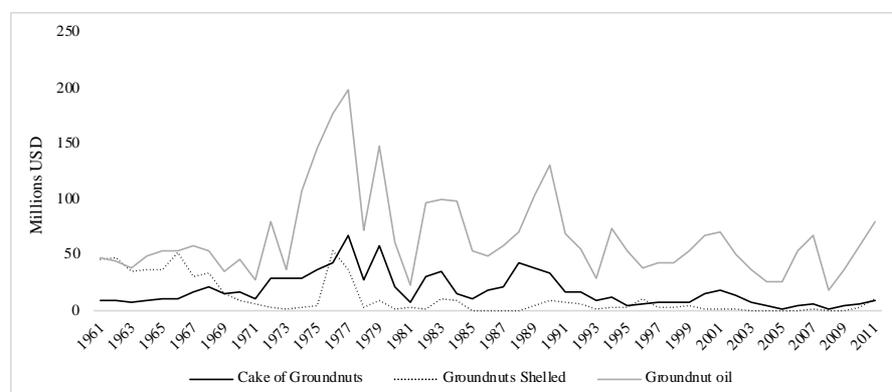
After the formal end of colonial rule, rural cooperatives organized along comparable lines to the SIPs continued to play a significant role in the organization of groundnut production. The newly independent government of Senegal issued '*Circulaire 32*' in 1962, articulating a vision of the shift of the cooperative movement from a tool of colonial domination to the 'vanguard' of the drive to empower and modernize the rural economy (See Tuck 1987; Mbodj 1992). The *Office National pour la Coopération et l'Assistance au Développement* (ONCAD) operated programmes distributing seed and equipment input credits in kind, with relatively low rates of interest to be repaid out of harvests. Again, the demand for credit was strong. Where in the ten years before the program, an average of 3 444 tonnes of fertilizer was distributed annually, during the period of its operation the figure was 47 000 (Tuck 1987: 83). Yet this took place alongside the ongoing tightening of climatic conditions – a secular decline in rainfall levels beginning in the 1960s, severe and extended droughts across the whole Sahel region in the 1970s, and accelerating problems of soil degradation and desertification (see Mackintosh 1989: 7). ONCAD's loan portfolio grew, but production began to decline. Figs. 2a and 2b show the broad trend in export volumes and values, respectively, since the 1960s, based on data from the FAO. While exports of semi-processed outputs somewhat offset declining cultivation volumes for a time in the early 1970s, the value and volume of exports have both become increasingly volatile. ONCAD, in this context, was effectively bankrupt by 1980 and was one of the first casualties of structural adjustment.

The collapse of ONCAD itself was a major reason why Senegal the first African country to take up a structural adjustment programme. The period of structural adjustment was marked by the dismantling of the complex structures of state intervention in agrarian economies and the partial commercialization of groundnut markets -- albeit in practice, the liberalization of marketing and processing was carried out somewhat piecemeal. SONACOS (a state-owned peanut processing facility) was privatized as late as 2006, and has subsequently been re-nationalized (see Oya and Ba 2013). Groundnut markets have nonetheless been marked by a substantial withdrawal of state credit and price control. This was rationalized, at least in part, as a restructuring in the interest of smallholders – the state, it was argued, artificially suppressed prices, so commercializing groundnut marketing would raise producer incomes (see e.g. Hathie and Lopez 2002). Structural adjustment, in short, can itself be read in part as an effort to resolve a long-run crisis driven by the accelerating contradictions of (neo)colonial groundnut regime, although as can be seen in Fig. 2, the success of structural adjustment in these terms was highly questionable.

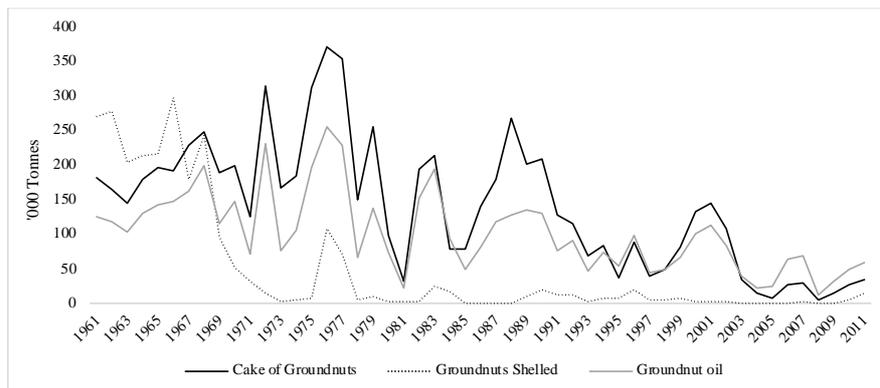
Groundnut production in this context has become increasingly volatile, and generally average production in the 2000s remained below that in the 1970s. Coupled with liberalization of investment, marketing, and property rights, this trend has driven a notable shift in agricultural investment away from the groundnut basin and towards the Senegal River basin in the north of the country, primarily for rice and maize production (see Koopmans 2012a; 2012b), as well as a minor boom in horticultural production in in the Cap Vert Peninsula, Thiès, and Saint Louis (overlapping somewhat with former groundnut growing regions) (see Baglioni 2015; 2018). The latter in particular are strongly shaped by efforts to resolve the longer-run crises of groundnut production. The state made serious efforts to encourage new forms of export cultivation, particularly by facilitating investments by foreign agribusiness firms in export horticulture in former groundnut-growing regions, in the 1970s; this laid much of the groundwork for export firms to take advantage of liberalization (see Mackintosh 1989).

Figure 2: Time-series of annual groundnut exports, 1961-2011, by value (a) and volume (b). Source: FAO data, available: <http://senegal.opendataforafrica.org/FAOTS2013Sep/trade-statistics-crops-livestockproducts-liveanimal-2013>

a)



b)



In this context, there have been deepening patterns of differentiation within the groundnut basin, with large and medium farmers, particularly those organized along more ‘capitalist’ lines, better equipped to profit from trading and marketing, employ more migrant labour, and lend money to smaller farmers (see Oya 2001). These trends have led to long-term shifts in forms of agrarian work. *Navétanat* arrangements, already in decline by the end of the colonial period as the eastward shift of groundnut production was accompanied by changes in land rights (David 1980: 407 *et passim*), appear to be virtually non-existent (see Oya 2015: 48). The increasing share of production taken up by medium and large capitalist farmers has led to a corresponding increase in seasonal wage labour, hired on a variety of different time-scales (ranging from 6-8 months to daily casual labour) (Oya 2015: 48-50). Nonetheless, the intersection of ecological vulnerabilities with indebtedness continues to be an important driver of labour mobilization. One survey in the late 1990s found that a substantial portion of wage labour was performed by failed small-scale farmers, particularly from the North of the groundnut basin, citing ‘land degradation, lack of inputs... and in most cases, lack of seed’, along with ‘an increasing indebtedness to local traders, due to bad seasons’ as major drivers of migrant labour (Oya 2001: 143-144). Migrant labourers in the Groundnut Basin are also reported to increasingly move between groundnut harvests and export horticulture (see Baglioni 2015; 2018). Crucially, this also suggests there is no rigid divide between wage labourers and smallholder farmers, as household survival strategies typically combine multiple forms of activity. In short, while the terms of employment prevalent in groundnut growing regions appear to be shifting, the basic reliance of the sector on irregular forms of employment, and the key roles of intersecting patterns of indebtedness and ecological vulnerability in the mobilization of labour persist.

Critically, while the importance of groundnuts as an export crop have declined dramatically, concerns about the volatility of groundnut production are, as in the colonial period, linked to fears of disorderly urbanization, and increasingly even outmigration to Europe. One report, for instance, notes that:

Poverty, rural exodus, and the degradation of natural resources have reached hitherto unthinkable levels. Un- and underemployment remain the lot of hundreds of thousands of working-age adults. With high population growth rates, these phenomena look set to be amplified... Increased efforts at clandestine migration to Europe in recent years, especially among the youth, underline the urgency of outlining effective economic policies to reduce poverty and offer young people a chance at a future. (Faye *et al.* 2007)

Against this backdrop, we can situate the turn to IBAI as part of a renewed series of policy efforts at maintaining a substantial latent surplus population through a new series of

interventions aimed at modifying the conditions for secondary exploitation without altering underlying configurations of capital, labour, and nature.

The government established the Compagnie Nationale d'Assurances Agricoles du Sénégal (CNAAS) in 2008. CNAAS is a public-private partnership, with financing from the Senegalese government and a pair of public-private banks (the Caisse Nationale de Credit Agricole du Sénégal [CNCAS] and the Banque Nationale Pour le Développement Économique [BNDE]), alongside donor support through the World Bank's Global Index Insurance Fund (GIIF) and the Banque Ouest Africaine du Développement (BOAD). This has been accompanied by wider efforts both in Senegal and in West Africa more broadly at developing regulatory frameworks supporting microinsurance as a means of providing alternative forms of social protection for agrarian and informal workers (see Bernards 2016).

A pilot study led by the World Bank was carried out in 2009 and recommended the establishment of an index insurance scheme as a 'safety net' for small farmers (see World Bank 2009). This is a safety net rooted in a fundamentally individualized and marketized conception of climate risk:

Access to formal risk financing instruments, such as insurance, can help Senegalese farmers transfer excessive losses to a third party (such as an insurance company) thus stabilizing household income, facilitating their access to credit, and ultimately enhancing their livelihoods. Thus, *risk management is essentially the responsibility of individual farmers and their extended households*. (2009: 3, emphasis added)

Insurance here is held up as a means of enabling small farmers to increase production by expanding their access to formal credit. This framing has been repeated across a number of policy documents about index insurance:

One reason for the low GDP contribution is that the productivity of the sector is low and must be developed. Irrigation projects along the Senegal river are one way to develop the sector. But this is not enough. Development means access to credit to buy seeds, machinery and fertilizer. Banks are reluctant to lend to farmers if harvests are threatened by droughts, floods, storms or insects. Insurance can be a catalyst here, because banks know that credits will be served even if disaster strikes. (SwissRE 2015: 7)

As with the adoption of SIPs, then, IBAI interventions in Senegal are ultimately aimed at reshaping patterns of borrowing and indebtedness in ways that are expected to lead to higher productivity -- in this case access for smallholders to formal credit from banks and microfinance institutions rather than to traders or larger farms. The links between these programmes and concerns about urbanization and outmigration are, as in the colonial era, often explicit. For instance, the World Bank's 'Insuresilience' initiative -- a key sponsor of the programme -- opens a discussion of Senegal in a recent annual report by noting that 'The population itself has more than doubled since 1990 to a total of 16.3 million. Large numbers of people are moving to the urban areas of Senegal, and infrastructure and food supply are consequently subject to increasing stress' (InsuResilience 2018: 29).

Contemporary insurance initiatives, in another parallel to SIPs, also seek to do so by incorporating these risk management practices into global circuits of financial accumulation. This again has been driven by the state much more than by financial capital. Here the complex networks of ownership and participation in CNAAS are worth unpicking. In the first instance, ownership in CNAAS is split between the Senegalese government, which held 36 percent of initial shares, a consortium of Senegalese and Ivoirian insurers and reinsurers (56 percent), peasant organizations (7 percent), with a small number of remaining shares held by

individual shareholders (CNAAS 2015). The scheme has also established partnerships with agricultural lenders operating in Senegal, including CNCAS (also part-owned by the state) to offer IBAI products to borrowers (Ndoye 2017). The state plays a critical role in underpinning flows of premium income by subsidizing payments up to 50 percent. Reinsurance is a particularly critical mechanism by which these income streams are circulated into financial markets. CNAAS policies are entered into a set of reinsurance arrangements covering 75 percent of premiums. SwissRE is the largest participant here, taking on 55 percent of CNAAS's ceded policies through a quota share treaty, another 35 percent of ceded policies are sold on to West African reinsurers (Sen-RE, CICA-Re, and Africa-RE) (CNAAS 2015). These forms of accumulation are substantially underpinned by the state and multilateral authorities. The day-to-day operations of CNAAS have been substantially financed by the BOAD, which has made loans in support of a number of procurement initiatives – including rain sensing equipment (CNAAS 2017) and integrated information systems (CNAAS 2015). The sale of policies is also primarily managed by a broker (PlaNet Guarantee Senegal), which is a subsidiary of Paris-based NGO PlaNet Finance Group, with capital held by a number of public, commercial, charitable organizations, including the World Bank's Insuresillience fund. PlaNet Guarantee has received significant support from major donors, including the World Bank, and British and German development agencies.

Like the SIPs, the trajectory of index insurance in Senegal is mixed. The number of policies and amount of premiums collected has grown fairly steadily since the first schemes were rolled out in 2011. In 2012, CNAAS had issued 2 325 policies,² paying FCFA 28 687 294 in premiums, against an insured value of FCFA 186 395 000. By 2015, the most recent published figures at the time of writing, those numbers had all more or less quadrupled -- with 8 962 policies, FCFA 124 301 461 in premiums, and FCFA 765 143 963 worth of crops (Ministère de l'Agriculture et de l'Équipement Rurale 2018: 8). On one hand, this is a significant rate of growth in a short period of time. On the other, this still represents a very small proportion of crops (and of the total population engaged in groundnut production). By one estimate, gross written premiums for microinsurance overall in Senegal actually *declined* by 35.93 percent between 2011 and 2014 (MIC 2016: 37). At least one previous study has also pointed to limited benefits for participant farms (Ricome *et al.* 2017).

We can make sense both of this mixed record and of the limited character of the intervention itself with reference to the wider patterns both of conjunctural crisis and of long run structures described above. A first key point is that uneven exposure to climate risks and informal patterns of indebtedness have both long been closely entwined with the mobilization of cheap labour for groundnut production. IBAI makes sense as an intervention in the context in which exposures to fluctuations in rainfall ultimately remain key foundations on which the mixed circuits of state enterprise and merchant capital marketing, processing, and distributing groundnuts work. Introducing new modes of financial practice has frequently both appealed as a policy intervention and proved difficult because particular forms of secondary exploitation driven by exposure to seasonal fluctuations in rainfall and the commodification of the means of survival are vital to the productive organization of the sector. IBAI, then, is a distinctly neoliberal mode of intervention, drawing heavily on wider narratives of 'risk management' and 'financial inclusion'. It is also perhaps especially problematic for this reason – individualized conceptions of 'risk management' underlying IBAI are a poor fit for

² The number of policies does not correspond to the number of individuals covered, as many of these policies were issued to cooperatives or producer associations rather than individuals.

the increasing stratification and growing reliance on wage labour visible in the groundnut basin. Yet, ultimately it also represents a new iteration of a longer pattern, and is best understood in terms of the long-run entanglements of state, ecology, and latent surplus populations involved in groundnut production.

6. Conclusion

The fact that repeated interventions have sought, with limited success, to mitigate the social and ecological limits of groundnut production in Senegal by turning to financial innovations rather than facilitating wider-ranging transformations is notable. Colonial and neoliberal efforts to rescue groundnut production were both ultimately doomed because they were premised on an understanding of an undifferentiated peasantry lacking adequate facilities for managing weather risk. They represent efforts to tinker with the configuration of nature and secondary exploitation through which latent surplus populations have been mobilized in the production of groundnuts for export. The 1930s crisis was ultimately resolved by renewed investments in transport infrastructures which enabled the extension of the commodity frontier, the recovery of world prices, and the short-lived nature of the drought in question. Contemporary efforts, meanwhile, are increasingly fraught in light of accumulating social and ecological contradictions -- as noted above, average rainfall has yet to recover to pre-1980s levels, most analysts expect more frequent and more severe droughts, soil and vegetation quality have failed to fully recover despite 'regreening'; and both the stratification of groundnut farms and seasonal wage labour are increasingly common.

Nonetheless, there are significant parallels between colonial and neoliberal interventions. These parallels suggest that a recurrent tendency of interventions to aim at smoothing out contradictions and mitigating social and ecological vulnerabilities in moments of crisis rather than facilitating wider ranging changes is more than bad policy, but is instead indicative of more fundamental dynamics. I have argued in the above that Marx's approach to studying latent surplus populations 'constantly on the point of passing over' offers us highly useful clues in unpicking these relationships. Marx helpfully emphasizes two related points: (1) the multiple temporalities of rural dispossession, and (2) the entanglement of secondary exploitation and ecological rhythms in mobilizing 'surplus' rural labour for the production of cheap raw materials.

This has three wider implications. First, in practical terms this study adds to a body of critical work suggesting that interventions like IBAI are likely doomed to fail, even on their own terms as means of extending 'access' to insurance (see da Costa 2013; Isakson 2015). Not only do such forms of climate adaptation fail to address underlying vulnerabilities, they have striking similarities to previous failed interventions. Second, and more generally, it suggests that the ways in which we talk about processes of dispossession, displacement, and the making of 'surplus' populations in neoliberal times could do with greater attention to the dynamic and fluid character of surplus populations themselves. This article in particular has highlighted the close entanglements of the state in Senegal with a system of agrarian production reliant on the incorporation of labour from variegated latent surplus populations. Rather than the 'non-absorption' of a certain segment of dispossessed peasants, then, we can usefully point to longer-run processes through which such latent surplus populations remain wrapped up in the circuits of capital. Finally, we can make sense of new modes of intervention with reference to the difficulties implicit therein. Interventions like IBAI are often talked about as extensions of wider processes of neoliberalization or financialization. Set in the longer context of the production and reproduction of latent surplus populations in

Senegal, however, their character as contingent responses to recurrent crises becomes more evident.

Acknowledgements

An earlier version of this article was presented at the 2019 International Studies Association Annual Conference in Toronto. Thanks are due to participants at that event, as well as to Leon Sealey-Huggins, Susanne Soederberg, and the anonymous reviewers at *Geoforum* for their comments on various earlier drafts.

Funding

Portions of this research were supported by the Social Science and Humanities Research Council of Canada, Postdoctoral Fellowship 756-2016-0297.

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