University of Windsor

Scholarship at UWindsor

Political Science Publications

Department of Political Science

7-1-2020

Incommensurable languages of value and petro-geographies: Land-use, decision-making and conflict in South-Western Ghana

William Otchere-Darko Università degli Studi di Milano-Bicocca

Jesse Salah Ovadia University of Windsor

Follow this and additional works at: https://scholar.uwindsor.ca/poliscipub



Part of the Development Studies Commons, and the Political Science Commons

Recommended Citation

Otchere-Darko, William and Ovadia, Jesse Salah. (2020). Incommensurable languages of value and petrogeographies: Land-use, decision-making and conflict in South-Western Ghana. Geoforum, 113, 69-80. https://scholar.uwindsor.ca/poliscipub/21

This Article is brought to you for free and open access by the Department of Political Science at Scholarship at UWindsor. It has been accepted for inclusion in Political Science Publications by an authorized administrator of Scholarship at UWindsor. For more information, please contact scholarship@uwindsor.ca.

Incommensurable Languages of Value and Petro-Geographies: Land-Use, Decision-Making and Conflict in South-Western Ghana

William Otchere-Darko
Department of Sociology and Social Welfare
University of Milan-Bicocca
Piazza dell'Ateneo Nuovo, 1, 20126 Milan, Italy
Tel: +1-3136031018

Email: williamotcheredardarko7@gmail.com

and

Dr Jesse Salah Ovadia, Associate Professor (Corresponding author)
Department of Political Science, University of Windsor
401 Sunset Avenue, Windsor, ON N9B 3P4, CANADA
Tel: +1 519 253 3000 X 2353

Email: jesse.ovadia@uwindsor.ca

<u>Abstract</u>

Petroleum in Ghana has created new dilemmas for land control and spatial planning. This paper explores petro-geographies using the concept of "incommensurable values" to situate the multiple, conflicting, and intersecting values and framings attached to land. We identify languages of value used by non-state actors that reflect the need for social-market investments, gainful employment, food security, and protection from expropriation and pollution. We find that these languages are incommensurate with those of state actors, who emphasize efficiency, competitiveness, and voluntariness in pursuit of the "highest and best use of land and petroleum resources". The spatial outcomes reflect a singularization of local incommensurable land values into commensurable spatial forms, creating an enabling environment for private and centralized extractive capital. Rural displacement and urban gentrification have become the costs of speculative "oil city projects" and "petro-industrial hubs". The central government, state agencies, oil companies, and other stakeholders, have engaged in "value-legitimation" processes reflecting different values, backgrounds, and power positions. These processes delegitimize local conceptions of value in land, creating new contradictions and avenues for conflict. As a result, local knowledge and values are replaced with logics of market deregulation and "efficiency" in a "locking-in" of a new approach to planning and spatial development that will have significant impacts on economies, livelihoods and food security.

1. Introduction

While the impact of resource extraction on conflict, corruption, the environment, economic development, and local livelihoods has been well-studied, this paper explores the impact of petroleum on land-use planning, governance of land and resources, and understandings of the value of land.

The discovery of oil and gas (OG) in 2007 had profound implications for resource extraction and institutional change in Ghana, presenting new dilemmas for land control and spatial planning. The discovery attracted major international interest. From 2007 to 2014, 41 international OG companies (IOCs) applied for prospecting licenses (Obeng-Odoom, 2014: 52). Crude oil is now third behind minerals and cocoa in Ghana's export earnings (GHEITI, 2015; 2018).

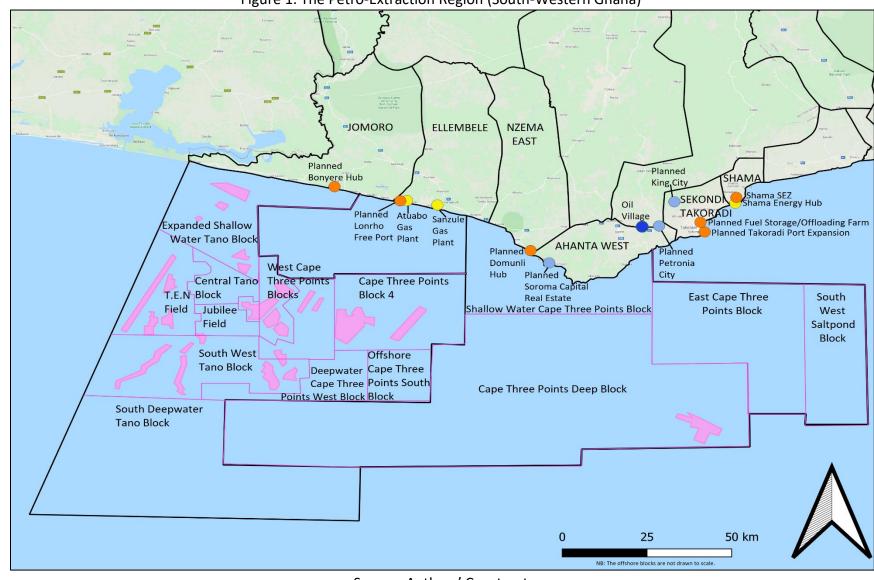


Figure 1. The Petro-Extraction Region (South-Western Ghana)

Source: Authors' Construct

(Onshore Data: Authors' Fieldwork, 2017-2018; GoG-NITA, 2019; Google Maps, 2020; Offshore Data: SRI, 2019)

While Ghana's OG-resources are offshore in the Gulf of Guinea, the petro-extraction region (PER) includes south-western Ghana, where much of the onshore ancillary activities happen (Figure 1). The emergence of the petroleum economy has transformed the region into one "newly-valued" for its petroleum resources (Bridge, 2014: 5-6). The PER is made up of six contiguous political districts with a population of about 1 million and a land area of 4,514.2sq.km (GSS, 2014a). Over 63,000 hectares of land in the PER have been handed over to petroleum-related land-uses including gas processing, crude oil storage and transportation, administrative offices and facilities for over 170 foreign and domestic OG-service companies (Sam and Buckle, 2017: 8; Fiave, 2017: 73; Otchere-Darko, 2020).

Ghana's PER is characterized by unique entanglements of land. There are industrial, financial, environmental, and agricultural interests, with varied tenure regimes. Such a complex context cannot be understood simply through the politics of extraction (de Grassi and Ovadia, 2017). Rather, the policies, practices, and decision-making processes adopted in the PER reflect multiple land interests and stresses on land. There is constant contestation over both the framing of these interests and ultimate outcomes. The central government, state agencies, OG companies, and other stakeholders have engaged in "value-legitimation" processes reflecting different values, backgrounds, and power positions. These processes also delegitimize local conceptions of value in land held by various non-state actors in the PER.

This paper examines why and how policies, practices, and decision-making on "land-value" evolves in new resource-industrial locations such as Ghana's PER. We focus on languages, framings, policies, and spatial outcomes of specific articulations of land-value as well as institutional practices regarding land-use in terrains of uncertainty, conflicting interests, and

entangled decision-making. Bearing in mind Graeber's (2001: 105) description of value as things that activate the desires of "those who recognize it" thereby "mov(ing) them into action", we define "value" as the weighted outcome of a decision problem (Costanza et al., 2015: 166). We note that a plurality of languages of land-value overlay the OG production process with (often singular) outcomes of struggles over petroleum management. We identify three distinct languages of value used by non-state actors and two used by the state/parastatal organizations. Our findings explore both the significance of language for understanding interests and how incommensurable languages and conceptions of land-value are held by different actors. Petroleum is at the centre of a transformation occurring in the PER (seen as a "petroleum hub" or "oil city") and in Ghana as a whole (increasingly defined by its petroleum extraction).

For non-state actors in the PER, land-value is realized through 1) customary stewardship, 2) communal benefit, and 3) protection from proximal risks. Specifically, chiefs and related kinship groups (who are land custodians) aim to capture the revalorized land rents driven by the OG production. These actors contest with the state over nationalized oil rents and with fellow kinship groups for pieces of land. They also aim to benefit and reduce risk by leveraging land to create community shareholder value (CSV) through shareholder agreements with OG companies. They are ultimately unsatisfied by the land-values espoused by OG companies and NGOs, whose conceptions of land-value stress voluntary corporate social responsibility (CSR) initiatives and carbon-offset projects.

State actors' conceptions of land-value however hinge on real-estate and other higherearning OG-investments including the creation of a "petro-industrial hub". The state's conceptions of value points toward logics of land efficiency in pursuit of the "highest and best use of land". State logics legitimize land for OG-services and formal businesses and delegitimize local informal businesses. These proposals, informed by logics of market deregulation, "efficiency", and "public benefit", also de-legitimize "indigenous" conceptions of value held by non-state actors.

These processes have impacted institutional change in the PER, particularly the de-jure recentralization of rents and land usurpation. These changes are facilitated by centralized petroleum laws and compulsory land acquisition. Unlike in Ghana's mining industry, the central state intervenes directly to negotiate compulsory land acquisitions for the OG industry. This exemplifies the recentralization of power. The normative practices of subnational planning, which are more reflective of local knowledge and values, have been altered as powers shift upwards to the central state and sideways to parastatal agencies and international firms. The recentralization also puts local land-owning elites and the central government in direct contention. The local elites vie to benefit more from their lands while the central government "closes down" customary notions of land-value and "locks-in" land policy changes to OG production through a legal regime that better serves the interests of national elites and OG companies. While cognizant of the need to avoid romanticizing the local and customary (and acknowledging the complex role of traditional chiefs in this transformation), we contend that these transformations promote a narrow view of land-use planning in the PER that will have significant impacts on economies, livelihoods, and food security. Together, these changes jeopardize the possibilities for petro-development (Ovadia, 2016a) in Ghana.

The subsequent section argues for "incommensurable values" in examining the multiple and conflicting land interests and stresses on land within "petro-geographies" as sites where such

values can be singularised. The research methodology is then outlined in Section 3. Section 4 shows how land control policies and practices have historically complemented resource-extraction in Ghana, setting the stage for current OG extraction. Sections 5 and 6 examine incommensurable approaches to value by state and non-state actors in Ghana's PER (south-western Ghana). The attendant institutional changes are then explored in Section 7. The paper concludes in Section 8, highlighting implications for land governance, institutional change and local development.

2. Theoretical Approach: Petro-Geographies and Incommensurable Values

Petro-geographies can be loosely defined as regions experiencing the spatial imprint of petroleum-industrial activities in their landed and ocean territories. Petro-geographies are also the assemblage of everyday spaces of consumption produced through fossil-automobility, ports, airports, and even the philanthropic activities of petroleum companies (Huber, 2009; Hein, 2013; Arboleda, 2016; Hein and Sedighi, 2018). We draw attention to petro-geographies as sites where incommensurable values are singularized. Petro-geographies rework local languages and conceptions of value (economic and non-economic) across ocean and land through narrow institutional and market framings, policies, and practices. This process results in spaces curated for private and state extractive capital.

The paradigmatic petro-geography in Africa has been Nigeria. Watts (2003, 2009) highlights institutional change in the Niger Delta region, characterized by centralized and corrupt authoritarian governments/oil companies countervailed by an insurgent form of subnational ethnic claims-making over rents, land and livelihoods. Here, we contribute the case of south-

western Ghana, a region not characterized by such violent expropriation nor insurgent countermovement, but by contestations over land-use policies, practices, and decision-making processes.

Offshore petroleum is an amalgamation of offshore extraction and logistics governance embedded in onshore spaces (Chalfin, 2018). With the discovery of natural resources such as petroleum, multiple and often conflicting land-values emerge as different "webs of interests" (Meinzen-Dick and Mwangi, 2009), and are reactivated, entrenched or transformed. Petrogeographies are landed sites of capital that "rework and produce spaces and subjectivities" through discursive framings, new institutions and infrastructure assemblages (Le Billon and Sommerville, 2016).

Different actors in south-western Ghana are guided by incommensurable approaches to value. As discussed by Mazzucato (2018), scholars have attempted to understand value through both physiocrat (George, [1879]2006; Quesnay, [1759]1972) and Marxist frameworks (Luxemburg, [1913]1951; Harvey, 2003). According to the physiocrats, value is derived from land and its agro-mineral surpluses. In contrast, the Marxist labour theory of value posits an organic-relation between land and labour. This relation links the expropriation of land to the creation of a labour class whose value is limited to the socially necessary time inputted into commodity production (Marx, 1887: Part 8; Harvey, 2018: 55-56, 194-195). Land dispossession in petrogeographies represents an alienation not just from the historically embedded labour time that communities have expended on their lands but also its calorific values.

In contrast, under neoclassical/liberalism, subjective exchange-value is emphasized, and individual utility is seen to determine commodity-value (Hayek, 1944). Value becomes the

product of equilibrium between the monetary-price one is willing to pay or accept for a good. Hence, land and natural resources become transitive commodities exchangeable in the market like any other by willing parties. Nature is therefore standardized through monetary abstractions that aid in comparability, commensurability and exchange (Funtowicz and Ravetz, 1994; Martinez-Alier, 2002; Costanza et al., 2015). Market transaction is given primacy by assuming a social-vacuum around exchange (O'Neill, 1993: 119). Markets are thus deemed impersonal and concerned only with governing access to resources (Boone, 2013: 5).

Physiocrat, Marxist and neoclassical theories of value are situated within purely economic realms. However, the pluralist school posits value from the premise of a fundamental incommensurability between economy and environment. Specifically, it goes beyond the physiocrats' singular fixation on taxation and the inattentiveness to the mode-of-extraction in the labour-value theory (Bunker, 1985: 25; Hornborg, 1998; Moore, 2015, Ch 2). It also goes beyond the exchange-determinism of neoclassical/liberal value which discounts social and environmental issues (O'Neill, 1993).

Incommensurable values are the results of ecological distribution conflicts arising out of social metabolism (Martinez-Alier, 2009). Analysing incommensurable value-languages makes possible a practical comparability of "multiple, conflicting, and yet legitimate" forms of value that are "not reducible" to each other (O'Neill, 1993: 99-100; Munda, 2004). Here, land is part of a complex interdependent system, introducing issues of complexity and incommensurability in decision-making, especially in resource-extraction regions.

Pluralist notions of incommensurable value have been applied in analysing issues of forest conservation, biopiracy, pollution, property rights, mining, and more (Martinez-Alier, 2000;

Martinez-Alier et al., 2010; Avici et al., 2010; Takeda, 2014). Although its conceptual flexibility allows for analysing "dramatic events" (e.g. direct evictions and violence that typifies resource extraction), less attention has been paid to the "mundane land transitions" that achieves similar results (Li, 2014). This paper attends to the latter transformations, which involve policies, practices and institutional decision processes. Studies of such "mundane and stealthy transitions" are more common in agrarian studies (see Hall et al., 2011; Li, 2014; Rigg et al., 2016). With the exception of a few studies such as Le Billon and Sommerville (2016), there is less of a focus on the mundane in the literature on petro-extraction regions.

3. Methodological Approach

We use a mixed-method approach (Creswell and Clark, 2011), grounding our analysis in key expert interviews, policy documents, and other empirical data. A non-probabilistic purposive sampling method was used to select the interviewees, to identify actors with expertise on the topic. In total, 31 key informant interviews were conducted, consisting of two sets of actors: *state actors* (i.e. planners, environmental agencies, and free zone agencies at the central and subnational level) and *non-state* actors (chiefs, OG companies, NGOs, and journalists). The interviews were 25-45 minutes long, conducted by a co-author.

Informants were selected on the basis of the information we expected them to provide. Chiefs and related kinship groups were selected since over 80% of Ghana's lands are entrusted to them under allodial and usufruct land rights (Kasanga, 2003). Representatives from the oil companies were interviewed to understand their increasing economic and spatial footprint in the PER. NGO representatives were interviewed regarding their community development activities

relating to petroleum impacts. Planners, environmentalists, and lands administrators, were interviewed since they recommend and approve spatial developments and formulate spatial plans, as codified in the national planning policy (GoG, 2016). The free zone agency was interviewed because they provide incentives for investors including facilitating land-access (GFZA, n.d.).

Our research included policies on land-use, mining, petroleum-extraction and institutional functions. Longitudinal data was also analysed with archival data on land-use permits, deed transfers and food prices from 1997 to 2017. In analysing our data, we used critical discourse analysis (Fairclough, 2001b) to examine the connections between language, policies and practices in the PER. Using MAXQDA 2018 software, the discourse analysis involved categorizing and coding interviewee responses and policy content into themes; focusing on framings, interests, agreements, exclusions and counter discourses (Martinez-Alier et al., 2010: 157).

Language is significant for understanding interests and detecting how multiple-pathways and feedback loops of discourses are translated into a practice of singularity. For instance, within policy, competing interests are delegitimized through exclusion of non-official voices, the use of rhetorical power, bias towards promotional rather than dialogical policy-content etc. (Carabine, 2001; Fairclough, 2001a). Such framings also help to understand the significance of policy-jargons, as well as their linkages to desired material and regulatory outcomes (Russi, 2007). Framing draws attention to "particular aspects of reality" by omitting other aspects (Entman, 1993: 54). In emerging petro-geographies characterized by multiple and conflicting land-values,

an analysis of incommensurable languages of value allows for unpacking institutional decisionmaking and their spatial outcomes.

4. Resource Extraction and Land Control in Ghana

Land control policies, practices and institutional changes have historically accompanied resource-extraction in Ghana, enabling the "assembling" of land and pursuit of further extraction. Between the late 1800s and Ghana's independence in 1957, colonial land-expropriation laws were introduced through policies on land administration, planning and infrastructure for mineral-extraction. For instance, the 1876 Public Lands Ordinance was an attempt by the British colonial government to lay claim to "waste lands" (Gold Coast, 1903: xii, 215-222) and limit non-instrumental/non-productive land-uses.

In what is now Ghana's PER, the 1876 ordinance was contested through indigenous social movements (Owusu-Ansah and McFarland, 1995: xxxviii). After independence, the central state expropriated local lands through laws on compulsory acquisitions and "unclaimed lands" while nationalising mineral rights. Unsuccessful attempts were also made to curtail chieftaincy power by entrusting the collection of land rents and mineral royalties in local councils rather than chiefs. Chiefs and other land-owning kinship groups received royalties from local councils, establishing a form of dependence on statutory institutions (Rathbone, 2000: 55).

During Ghana's structural adjustment era, Petroleum and Mining laws were passed in 1984 and 1986 respectively. The mining law had a weaker state presence with more private sector and shareholder involvement compared to the petroleum law. Further local governance

and land administration laws in 1993-2008 gradually inserted the land-custodianship role of chiefs under statutory monitoring frameworks.

Post-2007, Ghana developed a new petroleum legal regime with the Petroleum Commission Act of 2010, Petroleum Revenue Management Act of 2011, Petroleum Local Content Regulations of 2013, and Petroleum (Exploration and Production) Act of 2016 (Ovadia, 2016b; Graham and Ovadia, 2019). The legal framework governing land-use, ocean-use, and environmental management in the PER was updated by the Guidelines on Large Scale Land Acquisitions of 2015 and a new land bill that is currently being debated in parliament. Finally, the national planning policy as well as the Local Governance Act were updated in 2016. These changes were meant to facilitate OG-extraction, infrastructure hubs and related real-estate projects while pre-empting the post-2008 global "land rush" (Cotula, 2012; Pedersen and Buur, 2016).

The 2016 Petroleum (Exploration and Production) Act, specifically sections 72 and 94-cc, mandated changes to compulsory land acquisition, making the central state a "middle-man" of sorts in land acquisitions for private OG companies, unlike the 2006 Minerals and Mining Act (section 73), in which land-owners engaged in direct negotiations with companies. In the PER, specific spatial development framework (SDF) plans and structure plans, as well as new planning practices, were introduced to manage gas pipeline corridors, coastal territory, OG-themed real estate and risk-zoning. Land took on a more pronounced role in the PER, drawing in different actors with varied values. These interests mediate and influence institutional practices and relations; resulting in a recentralized but dispersed regulatory structure on policy formulation, compulsory acquisition, land speculation and environmental management.

5. Opening Up: Land "Values" by Non-State Actors

This section discusses the various land-values expressed by non-state actors in the PER (chiefs, NGOs and OG companies), pointing to wide-ranging possibilities for land. These conceptions of value highlight notions of use, effect/benefit and ownership. They fall into three categories: 1) customary stewardship, 2) communal benefits, and 3) proximal risk. Communal benefit is further divided into: i) CSV, ii) CSR, and iii) subsistence-value. As Figure 2 shows, these notions of value lie beyond the understandings of state actors, thereby representing a more expansive approach to land-value.

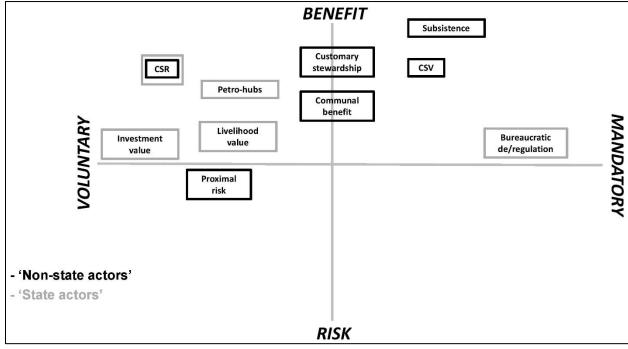


Figure 2. Languages of Land-Value in the PER

Source: Authors' Construct

5.1 Customary Stewardship

Customary Stewardship is a language of land-value used by chiefs to reassert land authority and relations of dependence against rival groups. The value of land as a customary property is emphasized here against the increasing land-pressures of the OG economy. Land-ownership disputes have occurred between chiefs, kinship groups, and seasonal labourers (Boone, 2013: 115-126), triggered by the emerging petroleum economy.

The introduction of OG production has reinvigorated long-standing disputes between chiefs, kinship groups, and sharecropping-labourers, especially when petroleum companies intend to purchase lands (Otsuka et al., 1998; Kasanga and Kotey, 2001; Boone and Duku, 2012; Boone, 2013). Customary stewardship entails the capturing of revalorized land rents (economicvalue) by land-owning actors driven by OG production. This has taken specific forms. In peri/urbanized areas conducive for private petroleum companies such as Ahanta West and Sekondi-Takoradi, there are struggles to break-up chief/kinship-owned land (Interview, Nana Kwamina XI, 16 March 2018). In more rural areas such as Ellembelle, land compulsorily acquired by the state for large-scale petroleum projects has led to squabbles over compensations (Interview, OASL-Western Region, 1 March 2018). Lower-ranked chiefs also aim to prevent elite capture of land rents by higher-ranked chiefs. These forms of conflict focus on "trickling down" revenues from land sales and potentially "decentralize rent-seeking" behaviour (Schoneveld, 2017: 129). Customary Stewardship is used to reinforce territoriality, denoting custodianship, ownership, and proximity to land and sea by chiefs, kinship groups, and local communities. This reinforcement is necessitated by the emergence of the OG industry.

5.2 Communal Benefit

Notions of Communal Benefit highlight the locally-socialized benefits of land. Local land-owning elites position themselves in direct contestation with the central government over the nationalized OG rents. Communal benefit is used to argue for livelihood enhancement projects and employment prospects. Communal benefit entails the expectation of localized OG-rents because "Ideally, the land is for us all" (Interview, Nana Quaicoe III, 10 April 2018). In areas with customary lands, chiefs can grant permission to community members to cultivate food crops on local lands. Hence, when such lands are affected by the OG process, chiefs are sometimes seen as the last resort to provide alternative lands and employment opportunities for affected community members (Interview, Chiefs, 2018; Asamoah, 2014: 102). For instance, Ablo and Asamoah (2018: 4) show that over 40% of sampled land-affected farmers in the Atuabo gas plant project accessed lands through chieftaincy permissions (Figure 1). Under "communal benefit" therefore, chiefs/kinship groups in the PER position themselves in direct contestation with the central government over the nationalised OG rents. Here, issues of petro-rents and land rents are contested by chiefs/kinship groups against the central government (Obeng-Odoom, 2014; Frimpong, 2015; Eduku, 2016).

At the core of the conflict lies an inconsistency in the OG-rent structure compared to rent arrangements for mining in Ghana. This inconsistency has been a bone of contention for traditional authorities in the Western Region (see Mohan et al., 2018). The territoriality of OG production is deeply immersed "in the proprietorial, institutional and cultural-political structures of the nation—state" (Bridge, 2008: 413). Demands from the PER for a customized OG-rent system have therefore been "scaled back" to entail disparate projects, programmes and funding

initiatives by the OG companies (Interviews, seven chiefs and three OG company Community Liaison Officers, January to October 2018). Under "communal benefit", as described below, three specific forms of value emerge.

5.2.1 Community Shareholder Value

CSV demands from non-state actors imitate the corporate languages of the shareholder economy in pursuit of a different logic; locally-socialized forms of land rent in a centralized OG rent structure. With CSV, land is leveraged for communal shares as a condition for OG companies to use specific communal lands (Interview, Nana Armo III, 12 April 2018). This entails the drafting of shareholder agreements between communities and investors as a condition to lease land. Such agreements have been introduced on a small-scale within the Lonrho Free Port project where the community owns 19% of the project (Interview, FONGhana, 4-12 April 2018; Interview, COLANDEF, 18 September 2018; Asamoah, 2014: 101). CSV has diffused into the land-valuation languages of other chiefs, who hope to expand the idea into future deliberations with potential OG tenants (Interview, Obrempong Dekyi XIV, 9 March 2018; Interview, Kwamena V, 18 March 2018).

CSV is thought to provide continuous and mandatory economic benefits to both OG companies and host communities. It potentially creates a "quasi ground rent arrangement" and coerces capital to function as a "landed entity" with seasonal harvests/shares. The arrangement also reflects the pervasiveness of the shareholder economy and the communities' willingness to imitate the corporate behaviour of firms. Its logic of continuous benefits and communally-

appropriated rents (George, [1879]2006) introduces a new form of land-use transaction that state actors must consider in decision-making.

CSV avoids transferring alienable land-rights and instead highlights usufruct rights through shareholder agreements, thus maintaining possibilities for plural rights with social and market elements. However, there are concerns regarding the legal resources needed by communities to draft such agreements (Interview, FONGhana; Interview, COLANDEF; Interview, Nana Kofi II, 21 March 2018). CSV also runs the risk of locking-in benefits to existing community members, potentially excluding other people (e.g. future migrants, non-indigenes).

5.2.2 Corporate Social Responsibility

CSR is a form of community benefit based on voluntary investments in projects undertaken by the OG companies without a need for any binding requirement. Unlike CSV, CSR mostly denotes one-time (sometimes multiple) voluntary project-funding for communities. CSR therefore entails the "scaling back" of community demands to encompass funding for projects/programmes, cash transfers and employment opportunities based on the voluntary initiatives of the OG companies. NGOs such as COLANDEF, WRCF, and Hɛn Mpoano have been active facilitators of petro-funded CSR projects in the PER. CSR has been used as a mitigation measure for land-owners affected by compulsory land acquisition. However, this approach does not address the core issues of land-alienation and food security, which have become increasingly salient in the PER.

5.2.3 Subsistence-Value

Subsistence-value emphasizes directing the influx of OG-related investments to address petroleum-driven food insecurity in the PER. There is tentative correlational evidence of a decline in Ghana's agricultural growth since OG production began (ACEP, 2016). Urbanized districts such as Sekondi-Takoradi, Shama and Ahanta West face land-stresses and subsistence issues linked to the OG industry and industrial farming: e.g. rubber, oil palm (Interview, Gyabin V; Interview, Han Mpoano, 14 February 2018). See also CRC (2012: 38). Farmlands have been acquired and land-access restricted to construct the Atuabo and Sanzule gas plants, pipelines and other land bank reservations (Figure 1). This has affected hundreds of farmers and over 85 villages notably in Atuabo, Nyankrom, Asemda, Anokye and others in the Ellembelle, Ahanta West, Shama and Sekondi-Takoradi districts (Asamoah, 2014; Sam and Buckle, 2017: 8). Companies like Ghana Gas, ENI, and Halliburton have become new landlords of extractivism in the PER, akin to the old large-scale cash crop land-owners (see section on Public Benefits). Over 63,000ha of arable land in south-western Ghana have been lost to petro-related infrastructure and investments (Sam and Buckle, 2017: 8; Fiave, 2017: 73; Otchere-Darko, 2020).

A substantial 35% of the PER workforce are engaged in agriculture (WRCF, 2017a). This percentage is higher in rural areas with cheaper land. Rural displacement occurs in two ways: first by enclosing land required for food security, and second by transforming the economy through a technologically intensive industry that does not require local labour. Dispossession by the OG industry is contributing to food price increases, as shown in Figure 3, which compares food prices before and after OG discovery.

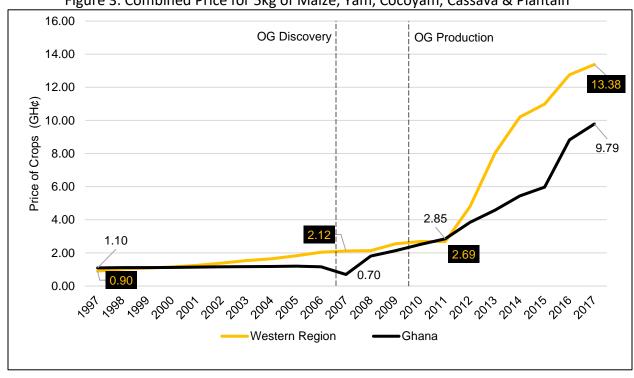


Figure 3. Combined Price for 5kg of Maize, Yam, Cocoyam, Cassava & Plantain¹

Source: MOFA (2018)

The population increase in the PER from 2000-2010 was 45.6%, which is more than the regional (23.5%) and national (30.4%) increases (GSS, 2014a). The population increase after OG discovery also triggered housing demand and intensified construction activities. The period of OG discovery is correlated with increases in locally grown food prices in the Western Region (which includes the PER) that are greater than the national average. The impact of the OG discovery can also be seen on the cost of living in the PER (GSS, 2014b; DAI and WRCF, 2016: 6). Overall, the need for food security has become a central aspect of land-value.

⁻

¹ For Western Region, 2011 data was missing, 2010 data was used instead. GH¢5.4 = €1 (Source: https://themoneyconverter.com/ as at 30/05/2018).

5.3 A Source of Proximal Risk

Proximal Risk highlights the metabolic and calorific values neglected in the PER in the struggle over OG-rents. Incidents of hazardous spills by the OG industry, such as the 2010 Kosmos Energy spill, have resulted in compensation paid to the central government (Yeboah, 2011) while the PER bears the environmental cost. Even "normal" operational emissions consist of harmful gases and potential health complications (Tullow-Ghana, 2009: xx, xli; Nyarko et al., 2011). Communities proximal to OG industries—particularly fishing communities—identify environmental issues as top priority since they bear the most immediate brunt of OG production (Ayifili et al., 2014: 346). The ocean territory has been a site of whale deaths, algae blooms, and sargassum spills affecting local fishermen (FONGhana, 2014). Proximal risk is the notion that both land and ocean areas in the PER face risks that should be proportionally compensated for beyond nationalized oil rents. Thus, land and ocean territory used in the OG process are not only deemed as sources of benefit but also of proximal risk (environmental, health and ultimately livelihood) for PER communities (Interview, Armo III; Interview, Dekyi XIV; Interview, Journalist A, 7 December 2018).

The notion of "proximal risk requiring reward" has also influenced the practices of some NGOs, who have categorized PER communities into high, medium, and low risk zones, and have fashioned their interventions accordingly (Interview, WRCF). One proposed intervention is for the use of forested lands and mangrove areas (in the Amanzure wetlands) for carbon sequestration projects. Under this proposal, OG companies would purchase carbon-credits from forest-land owners (Interview, Hɛn Mpoano; Interview, FONGhana; Interview, Ahanta West DA, 12 February 2018; Interview, Western Region EPA, 14 February 2018). This proposed project is

spearheaded by NGOs such as Hɛn-Mpoano and FONghana together with other international development agencies. Such schemes (REDD+, BBOP) are thought to create a "win-win" situation for land-owners and OG firms. The carbon-credit proposal connects with the language of global civil society, international institutions, donor agencies and IOCs. It denotes a "scale-jumping" strategy used by social movements "to take their concerns beyond the local level" (McMaster and Sheppard, 2006: 17, quoting Smith 2006). However, carbon sequestration promotes a neoliberal environmental fix that greenwashes land-commodification (Castree, 2008a; 2008b) and diverts communities' conception of "risk requiring reward" into further marketization to only benefit forest (land) owners.

6. Closing Down? Land "Values" of State Actors

This section shows the forms of land-value pursued by state actors. These approaches fit into logics of investment and usurpation of land and OG-rents. The state (central and subnational) conceives of land-value along two major lines: 1) bureaucratic de/regulation, and 2) public benefits. The notion of public benefits is further divided into: i) investment-value, ii) petro-industrial hubs and iii) livelihood-value. The languages of value used by non-state actors—emphasising customary stewardship, communal benefit and proximal risk—are singularized through central state usurpation of power and the subnational state's emphasis on "efficient" land-use (Figure 2).

6.1 Bureaucratic De/Regulation

Under Bureaucratic De/Regulation, the central and subnational state emphasize the use of market/efficiency planning logics to facilitate higher-earning land-uses. As mentioned above, there have been new land-use policies for the PER. These include not only new legislation, but also subnational SDFs and structure plans (AWDA, 2010; COWI, 2012; MEST and Jubilee-Partners, 2012a-c; MEST and Tullow, 2012; MESTI, 2013). However, the settlement patterns of the OG companies directed the plans, rather than vice versa (Interview, Ahanta West DA; Interview, Ellembele DA, 18 January 2018; Interview, COLANDEF). Figure 4 shows planning-permits issued before and after OG discovery in the PER. It shows a spike in industrial-permits, and thus in spatial developments on land, after 2007. The emergence of downstream gas processing activities also drove industrial-permit demands in 2014. These industrial developments are slowly directing the new spatial development plans of the PER.

However, not all forms of economic activities have been allowed to dictate spatial plans. Informal commerce, although recognized in some structure plans (MESTI, 2013; MLGRD, 2017), has come under intense bureaucratic scrutiny in practice since OG production began in 2010.

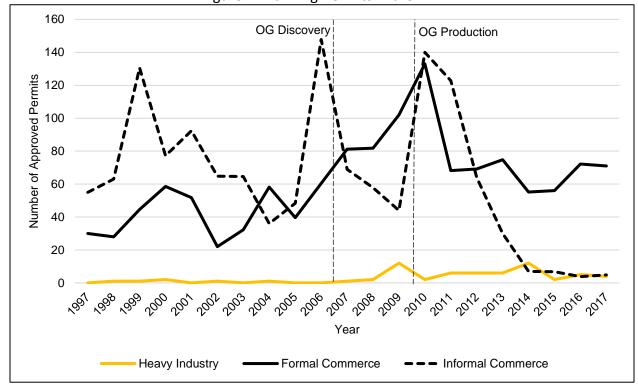


Figure 4. Planning-Permits in the PER

Source: Permit Data from PER Spatial Planning Departments

As one spatial planner put it:

the temporary structures were... destroying the aesthetics of the metropolis. Every corner you go, you'll see a temporary structure there. So, the decision was to, basically, clear most of them from the ceremonial and major routes in the metropolis. So, all those structures were cleared off. Then they put a halt to granting permits on temporary structures just to curb this (Interview, Planner A, 2018).

Informal land-use restrictions are in furtherance to enabling "efficient" land-use. While OG settlement patterns drive spatial policy, pre-existing informal land-uses are delegitimized because OG facilities create "higher-earning land-uses": i.e. high ground rents and reduced cost

of tax collection (Interview, Ahanta West DA; Interview, STMA A, 16 March 2018). For example, some 500 informal commercial structures were destroyed in 2015, displacing over 2,000 local vendors, to construct a \$65 million mall (Fiave, 2017). These restrictions also bolster efforts to create an image of the PER as a "petro-extraction hub". They neglect the role of informal economy as an avenue through which locals tap into the OG industry, owing to its low direct employment. On average, 94% of business establishments in the PER are informal (GSS, 2016).

A similar logic of increased revenue and low cost is applicable to formal commerce (Figure 4). Formal commerce rose in 2007 in anticipation of OG production. Over 4,400 businesses registered in Sekondi-Takoradi from 2010-2013 (Ackah et al., 2019: 349). However, since 2010 pressure for land has increased rents and land competition (see Table 1).

Table 1: Company Deeds in the PER

| 1 / | |
|-----------------|-----------------|
| Year | Number of Deeds |
| 2008 (from Feb) | 78 |
| 2009 | 60 |
| 2010 | 50 |
| 2011 | 76 |
| 2012 | 159 |
| 2013 | 63 |
| 2014 | 149 |
| 2015 | 165 |
| 2016 | 154 |
| 2017 | 107 |

Source: Lands Commission

"Efficiency" logics are also applied to environmental management practices in dealing with community risks. The carbon sequestration projects proposed by NGOs have also been propped up by the local EPA (Interview, Western Region EPA) and acknowledged by local planners (Interview, Ahanta West DA). The environmental role of state actors thereby shrinks to facilitating a marketplace for trading pollutants. Overall, the spatial outcomes of the

"bureaucratic de/regulation" approach to land-values entail a rise in formal commercial and industrial land-use and a steep decline in informal land-uses.

6.2 Public Benefits

Public Benefits refers to specific "public" goods and services gained from the OG process in the PER. It is an attempt by the central and subnational governments to reconcile the nationalized OG-rent system with localized demands for benefits. The state seeks public benefits through voluntary projects as well as land investments and usurped petro-industrial hub projects (MEST and Tullow, 2012; MEST and Jubilee-Partners, 2012b; STMA, n.d.). This approach contrasts with the language of "communal benefits" used by non-state actors, which emphasizes the need for customized and mandatory advantages from OG production. As the sections below describe, three forms of value emerge under Public Benefits. In all three, OG companies are integral to the "benefits" sought by state actors.

6.2.1 Land for Investment Projects

Land valued for attracting investment concentrates on the sale/lease value of OG-related infrastructure, real-estate and other OG-induced investments. The OG discovery has sparked various related forms of investment activities in the PER. Land has been a major consideration in OG investment decisions. Such investments are seen as the expected outcomes of land de/regulation, especially by the subnational state.

Local development policies actively court "higher-value" OG land-uses to gain, for example, rents from OG-related spatial developments. In contrast to non-state actors'

preference for CSV investments, the subnational state frames land as ripe for private investment and talks about "developable land" with "relative usability" (AWDA, 2010: 17-18; STMA, n.d.: 19). Other frames include "unencumbered", "derelict", "underutilized", "virgin" or "abandoned" lands (MEST and Jubilee-Partners, 2012a: 10; MESTI, 2013: 76; GFZA, n.d.). This represents a form of "statistical picturing" of land's "investability" (Li, 2014: 594), signalling to investors to enter the OG process (Interview, STMA B, 8-13 March 2018; Interview, Journalist A). Together, the influx of formal commerce, heavy industry and corporate land purchases (through speculative capital from international and local actors) have edged out local informal commerce. Worryingly, land investments in petro-regions generally follow a pattern of initial flow of speculative capital, an ensuing period of decline, and a final exit of non-profitable speculators (Le Billon and Sommerville, 2016).

While non-state actors explore the potential for CSV as a form of investment, state actors focus on the standard practices of development exactions and the possibility of public-private partnerships to provide continuous benefits to state coffers. In Ghana's PER, this pattern has resulted in vacant land and absentee landlords. Altogether, over 3,000ha has been earmarked for future special economic zones (SEZs) (Sam and Buckle, 2017: 8). About 70% of planned infrastructure projects in Jomoro, Ellembele and Sekondi-Takoradi districts are incomplete (Ackah et al., 2019).

There is also the growth of "leisure real-estate", identified by state actors as a strategy to locally retain the revenue of the OG labour class (AWDA, 2010: 37; MEST and Jubilee-Partners, 2012a: 21; MESTI, 2013). Since OG production, there has been a strong growth in hotels and guesthouses (Figure 5) serving OG workers who do shifts, live temporarily in the PER, and have

specific days offshore (Ablo, 2012: 61). The spike in leisure real-estate permits subsequently declined due to the saturated supply market and limited OG workforce, although the effect observed in 2008-2009 may have also been enlarged by the global financial crisis.

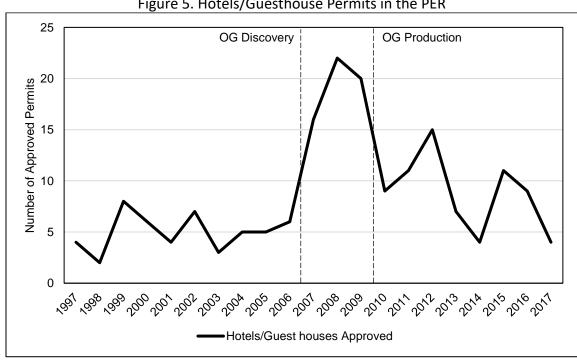


Figure 5. Hotels/Guesthouse Permits in the PER

Source: PER Spatial Planning Departments

Lands are also speculatively held for future "leisure real-estate" projects. Apart from the completed "Oil Village" project, other oil-themed real-estate projects such as "King City" (1,000ha) and "Petronia City" (809ha) are yet to be built in the PER (Obeng-Odoom, 2014: 101; Kermeliotis, 2013; Rendeavour, 2018). See Figure 1. Housing for local people is left to the private market amidst these high prices and speculation activities (Interview, STMA B; Interview, Journalist A). While rural inhabitants face threats of land displacement, urban inhabitants are susceptible to land price and rent increases. In Sekondi-Takoradi, rent for a furnished two to three-bedroom house in wealthier areas is between US\$2,000 and US\$8,000. Other areas have seen monthly rent increases from US\$12 to US\$46 (Eduful and Hooper, 2015: 294; Fiave, 2017: 66-69).

6.2.2 Value through the "Industrial Hub"

The notion of "hub-value" denotes the potential creation of a petro-industrial growth pole by the central government in the PER. This notion points toward attempts at OG-driven industrialization in Ghana (Phillips et al., 2016: 38; WRCF, 2017b). Terms such as "economic hubs", "transit hubs", "coastal development belt hubs", and "growth centres" point to the PER as a competitive geoeconomic space that "outbids the rival cities of the ECOWAS subregion" in attracting various forms of industrial investment, export, commerce, and air and sea port traffic (MEST and Jubilee-Partners, 2012a).

Parastatals such as Ghana Investment Promotion Centre (GIPC) and Ghana Free Zones Authority (GFZA) facilitate investments through land banking and SEZs with the purpose of creating such a hub (Interview, Ahanta West DA; Interview, GFZA; Peace FM Online, 2018). The Atuabo and Sanzule gas plants, expansion of existing energy hubs in Shama and the mooted Lonrho Free Port project are all geared towards this petro-hub (Interviews, six planners). An assortment of land banks – created through compulsory acquisitions, ad hoc pronouncements, and land bank deals – are also geared toward the petro-hub. Notable here is the planned 8,000ha Bonyere/Domunli petroleum hub in the Jomoro and Nzema East districts (Kaku, 2019; Interview, Jomoro DA, 17 January 2018). See Figure 1. The hub strategy is aimed at imitating other global petro-geographies, to signify the meeting point of capital for national development. It underscores the desired permanence of the OG industry's benefits for state actors, seeking to

foster national development goals of industrialization. For the OG firms, their interest may be temporal and dependent on the resource reserves available (Interview, Community Liaison Officer), leaving open the question of the sustainability of both logistics/infrastructure and petroindustrial "hubs" after reserves are depleted.

6.2.3 Land and Livelihoods

The notion of livelihood as articulated by the subnational state actors represents programmes and projects to support those directly or indirectly affected by the OG process. It underscores concerns over food security (see Figure 3) and employment generation in the PER caused by dispossession of local communities. Alternative employment is not likely to be in the OG production process given that it has only 7,000 employees (Panford, 2016: 37, 101). However, "capacity building" projects have been attempted by OG companies to provide locals with technical skills for the industry. Other compensatory "alternative livelihood" programmes (inland fishing, aquaculture, vocational training) have also been pioneered by OG firms and NGOs as CSR programmes (MEST and Tullow, 2012: 68; MEST and Jubilee-Partners, 2012b: 57). Perhaps because of the expectation of CSR interventions, state actors have made scant attempts (outside policy statements) to address the need to revalorize the food crop industry (by promoting subsistence-value). They are content to leave these community needs to be filled by the voluntary CSR approach of the OG firms, although this approach does not address the core issue of land-alienation.

7. Locked-In: Transformation through De/Legitimation

New languages, framings, policies, and practices are serving to "lock-in" new governance structures at the level of the PER. A hollowing-out (fragmentation) of subnational governance powers is underway. Such powers are transferred upwards to the central government and sideways to land banks, OG companies, development consultants, and NGOs (Interviews, two DAs).

The transformation is evident in the following description of an intended project in the PER: "there is this proposal from the Ministry of Energy to establish [Project x]. They actually came in for site inspection... They chose [here] because the project is very big, and they needed a very big land space. Also, the proximity to the sea" (Interview, Planner B, 2018). The reference to "they" highlights the non-involvement of Planner B in projects happening in her/his own jurisdiction.

Another interview describes the preparation of SDF plans following OG discovery: "...what I can say is at the end of the day the district seems unaware of that plan. I know they did extensive engagements—stakeholder engagements—[and] that at the district assembly some actors were involved in the data collection exercise but at the end of the day, it took my [own actions] to get that document [SDF]" (Interview, Planner C, 2018). Planner C's lack of access to information about new developments in her/his district demonstrates the central government's outsized role in creating the SDF.

The central government is recentralising planning and governance powers over OG production in the PER, although on paper local governance is devolved. The identification of lands for large-scale OG projects in the PER is characterized by top-down pronouncements followed by

compulsory land acquisition, thus intensifying *de-jure* state power (Acemoglu et al., 2005). These render PER-level planning agencies as administrative rubber-stamps of spatial developments in their jurisdictions.

Secondly, this hollowed-out governance structure has ushered in new territorial practices in the PER. This has resulted in different normative and regulative practices for subnational planning actors. Planners in the PER find themselves in an uncharted territory whereby normative planning practice requires consideration of coastal territory, pipelines, gas production factories, and industrial waste. However, their powers are limited to land permitting and attracting OG land investments. Environmental protection initiatives are increasingly under the ambit of NGOs that monitor risk zones (e.g. WRCF) or initiate carbon sequestration proposals (e.g. Han Mpoano, FONGhana). This dispersed territorial regulatory structure points to the inadequacy of local planners' capacity and power to effectively regulate and straddle the partly-landed, partly-offshore nature of OG production (Interview, Jomoro DA). The result is that OG companies, donor agencies, and NGOs are increasingly at the helm of initiatives that would previously have come out of municipal planning offices.

Thirdly, the dispersed regulatory structure goes beyond practical planning into policy formulation. The PER's spatial plans were drafted by private international and Accra-based planning consultants, sometimes with minimal knowledge or input from PER planning actors. This has increasingly tied the development direction of the PER to OG production. Overall, districts in the PER have curated their economy to the anticipated investor and donor interest in the OG industry (Interview, Ahanta West DA), as evidenced in the "Oil Village", "King City" and "Petronia City" initiatives.

The nation-wide policy guideline to create local SDF plans was first realized in the PER, due to funds made available by IOCs and NGOs (Acheampong and Ibrahim, 2016: 12-13). As described by Planner B: "There was no municipal-wide guide or a long-term vision for the district until the SDF that was prepared. Even that spatial development framework, it was because of the oil" (Interview, Planner B, 2018).

The assigning of OG funding and related revenue streams in the nation's long-term economic planning has also locked-in the PER's economic trajectory to the uncertainties of OG production. The stipulations of the nationwide development framework require plans to cover a 15 to 20-year timespan. For OG-driven subnational planning, this entails a susceptibility to unpredictable funding streams, volatile global OG markets, a post-oil depression and difficulties in upscaling (Bauer, 2013: 1).

Lastly, changes in territorial regulation can be seen in the processes of compulsory land acquisition for the OG sector and its contrast with the legal regime for land acquisition in the mining sector. As described by one commentator;

currently, if you look at the Petroleum Exploration and Production Act 2016 [sections 72 and 94-cc], in terms of negotiations [to compulsorily acquire lands], the law says that the Petroleum Commission [a state company] will negotiate on behalf of the [OG] companies, which for us is not a good position. Because in the Minerals and Mining Act 2006 [section 73], the land-owner or the property owner has direct negotiation with the developer. But in the Petroleum Act, it has changed so that the Petroleum Commission will do that on behalf of the company. I think, this is not a good position (Interview, FONGhana, 2018).

By confining OG-rents to capital only, local land-owning elites (chiefs and related kinship groups) in the PER are put in direct contestation with the central government, creating a "weak-rivalry" between these actors. Under such a situation, rural elites may position themselves as rivals to the central government, even though they have low bargaining power (Boone, 2003: 2, 29-38). In the PER, local landed elites are limited by the centralized OG rent-structure and the partly-offshore nature of OG production. This restricts their possibility to bargain with lands.

8. Conclusion

This paper first analyses the specific land-valuation languages, framings, policies and practices in the PER and their significance for understanding interests and power relations. Non-state actors conceive of value along the lines of customary stewardship, communal benefit, and proximal risk. However, Ghana's OG discovery has hastened a shift toward state conceptions of bureaucratic de/regulation and public benefits.

The transformation underway in the PER and incommensurability of the languages of value used by state and non-state actors create new contradictions and avenues for future conflict. For example, the state's land acquisition activities, which are premised on one's "compulsion to sell/accept compensation" does not allow room for resisting land-expropriation (Georgescu-Roegen, 1966; Martinez-Alier et al., 1998; Costanza et al., 2015). Additionally, and without essentializing the inequities that exist in local customary elite ownership systems, it is important to recognize that the use of one-time compensation for compulsorily acquired lands fails to address issues of food security, tenure and intergenerational security.

The central state is interested in using land to drive petro-industrial "hubs", while the subnational state's interests lie in private real-estate and other OG-induced investments. However, most of the outlined projects are incomplete. Both the central and subnational governments neglect community "livelihood" concerns related to the programs of OG companies and NGOs. There is a mismatch between the priorities of the central/subnational state and local communities. Where the latter calls for community-shareholder value, the former prefers private and industrial investments in land. The central state applies a broad national rent system instead of a subnational-customized one. In so doing, it seeks to replace local notions of "territoriality" with a vision of a national "hub". Territoriality denotes custodianship, ownership and proximity to land and sea by chiefs, kinship groups, and local communities. However, the state focuses on petro-industrial hubs as the meeting point of capital for national development. Where communities call for food security, environmental protection, and employment, voluntary CSR initiatives are initiated focusing on programmes that neglect issues of land-alienation and insufficient compensation.

The state's policy framings of land-value are codified into unambiguous and defensible policies to enable land banking, compulsory land acquisitions, the creation of SEZs, and development corridor projects. Local spatial policy formulation is funded and drafted by petroleum companies, investors, international development agencies, and private planning consultants. Thus, the development direction of the PER is increasingly tied to petroleum production. As a result, low-income urban residents as well as rural dwellers have been displaced or seen new restrictions on their use of land. Urban informal land-uses, low cost housing, rural

farmland and ocean territories are being held for industrial-commercial petroleum developments as well as speculative land holdings for "new city" projects and "petro-hubs".

Our main argument is that the state's land-use framings of value are reshaping policies and practices of planning in the PER. The central government exercises significant *de-jure* forms of power over land identification, acquisition, negotiation, and compensation for OG projects to recentralize control over land and planning activities in the PER. Guided by the vague and potentially unsustainable notion of creating a petro-industrial hub, the central government is delegitimizing local conceptions of value in land and legitimizing specific land-value practices. At the same time, subnational planners are forced to operate in the limited domain of market-based land-use planning while the PER is entangled in environmental, economic, and social issues all manifested in land-use.

We have shown "the gradual unmarked way" in which old practices erode or are "resignified" in land-use policy and practice in PERs by paying attention to "the blocked paths and dead ends that go unnoticed" (Li, 2014: 181). In this erosion, incommensurable values are only framed into simplified discourses, while practices and funding streams create discursive outcomes. Incommensurable languages of value signal the "locking-in" of a new approach to planning and spatial development that, while not necessarily wholly attributable to the emergent OG industry in Ghana, is nevertheless accelerated by the OG process.

The influx of OG-funding streams and related land investments have rendered planning policy as an afterthought to practice. Planners create policy to fulfil the cultural-cognitive role of the PER as an oil city. The power recentralization has also created a weak-rival relationship (Boone, 2003) between the state and land-owning elites, as the elites vie to benefit more from

their lands. Rather than pursuing petro-development, the central government pursues short-term political and economic gains. In doing so, it relinquishes the developmental possibilities of OG resources and imperils not only the citizens of the PER, but all Ghanaians.

References

Ablo AD (2012) Manning the rigs: A study of offshore employment in Ghana's oil industry. Master's dissertation, Department of Geography. University of Bergen, Norway.

Ablo AD and Asamoah VK (2018) Local participation, institutions and land acquisition for energy infrastructure: The case of the Atuabo gas project in Ghana. *Energy Research and Social Science* 41: 191–198.

Acemoglu D, Johnson S and Robinson JA (2005) Institutions as the fundamental cause of long-run growth. In Aghion P and Durlauf SN (eds), *Handbook of Economic Growth*. Amsterdam: Elsevier, pp. 385-472.

ACEP (2016) Sacrificing cereals for crude oil: has oil discovery slowed agriculture growth in Ghana? Available at: https://new-acep-static1.s3.amazonaws.com/working-reports/SACRIFICING+CEREALS+FOR+CRUDE.pdf (accessed 1 December 2019).

Acheampong R and Ibrahim A (2016) One nation, two planning systems? spatial planning and multi-level policy integration in Ghana. *Urban Forum* 27: 1-18.

Ackah I, Osei E, Xavier F, Tuokuu D and Bobio C (2019) Oiling the wheels of sub-national development: an overview of development plan implementation in the Western Region of Ghana. *Extractive Industries and Society* 6(2): 343-357.

Arboleda M (2016) Spaces of extraction, metropolitan explosions: planetary urbanization and the commodity boom in Latin America. *International Journal of Urban and Regional Research* 40(1): 96-112.

Asamoah VK (2014) Ghana's emerging oil and gas industry: livelihood impact of the Ghana Gas processing plant at Atuabo in Western Region, Ghana. Master's dissertation, Department of Geography. University of Bergen, Norway.

AWDA (2010) Ahanta West spatial development framework.

Bauer A (2013) Subnational oil, gas and mineral revenue management. New York: Natural Resource Governance Institute. Available at:

https://resourcegovernance.org/sites/default/files/documents/sub oil gas mgmt 20160809.p df (accessed 21 May 2019).

Boone C (2003) *Political topographies of the African state*. Cambridge: Cambridge University Press.

Boone C (2013) Property and political order in Africa. New York: Cambridge University Press.

Boone C and Duku DK (2012) Ethnic land rights in western Ghana. *Development and Change* 43(3): 671-693.

Bridge G (2008) Global production networks and the extractive sector. *Economic Geography* 8(3): 389-419.

Bridge G (2014) Resource geographies II. Progress in Human Geography 38(1): 118-130.

Bunker SG (1985) Underdeveloping the Amazon. Chicago: University of Chicago Press.

Carabine J (2001) Unmarried motherhood 1830-1990: a genealogical analysis. In Wetherell M, Taylor S and Yates SJ (eds), *Discourse as data*. Los Angeles: SAGE, pp. 267-310.

Castree N (2008a) Neoliberalising nature: the logics of deregulation and reregulation. *Environment and Planning A* 40(1): 131-152.

Castree N (2008b) Neoliberalising nature: processes, effects, and evaluations. *Environment and Planning A* 40(1): 153-173.

Chalfin B (2018) On-shore, off-shore Takoradi: Terraqueous urbanism, logistics, and oil governance in Ghana. *Environment and Planning D* 37(5): 1-19.

Costanza R, Cumberland JH, Daly H, Goodland R, Norgaard RB, Kubiszewski I and Franco C (2015) *An introduction to ecological economics*. London: CRC Press.

Cotula L (2012) The international political economy of the global land rush. *Peasant Studies* 39(3-4): 649-680.

COWI (2012) Western Region spatial development framework.

CRC (2012) Hen Mpoano (Our Coast) Annual Report 2012.

Creswell JW and Clark VL (2011) *Designing and Conducting Mixed Methods Research*. California: SAGE.

DAI and WRCF (2016) Community perceptions and socio-economic survey. Available at: http://wrcfghana.org/archives/publications/community-perceptions-economics-ghana-western-region (accessed 15 November 2018).

De Grassi A and Ovadia JS (2017) Trajectories of large-scale land acquisition dynamics in Angola. *Land Use Policy* 67: 115-125.

Eduku PA (2016) Western region chiefs demand over 20% oil revenue allocation. Available at: http://citifmonline.com/2016/08/19/western-region-chiefs-demand-over-20-oil-revenue-allocation/ (accessed 22 October 2018).

Eduful A and Hooper M (2015) Urban Impacts of Resource Booms: The Emergence of Oil-Led Gentrification in Sekondi-Takoradi. *Urban Forum* 26: 283-302.

Entman R (1993) Framing. Communication 43(4): 51-58.

Fairclough N (2001a) The discourse of new labour. In Wetherell M, Taylor S and Yates SJ (eds), *Discourse as data*. Los Angeles: SAGE, pp. 229-266.

Fairclough N (2001b) Critical discourse analysis as a method in social scientific research. In Wodak R. and Meyer M. (eds), *Methods of Critical Discourse Analysis*. London: SAGE, pp. 121-138.

Fiave R (2017) Sekondi-Takoradi as an oil city. *Geography Research Forum* 37(1): 61-79.

FONGhana (2014) Increase of whales washed ashore in Ghana. Available at: http://fonghana.org/?s=whale (accessed 29 October 2019).

Frimpong, ED (2015) Western region chiefs express 'anger' over oil revenue, *Graphic Online*, 30 January. Available at: https://www.graphic.com.gh/news/general-news/western-region-chiefs-express-anger-over-oil-revenue.html (accessed 22 October 2018).

Funtowicz SO and Ravetz JR (1994) The worth of a songbird: ecological economics as a post-normal science. *Ecological Economics* 10(3): 197-207.

George H [1879](2006) Progress and poverty. New York: Robert Schalkenbach Foundation.

Georgescu-Roegen N (1966) *The entropy law and the economic process*, Vol 5. Cambridge, MA: Harvard University Press.

GFZA (n.d.) GFZA profile. Available at: https://gfzb.gov.gh/gfza-profile/ (accessed 16 October 2018).

GHEITI (2015) Final GHEITI report on the oil/gas sector-2014. Accra: Ministry of Finance. Available at: https://eiti.org/sites/default/files/migrated-files/gheiti-2014-oil-gas-report.pdf (accessed 14 January 2019).

GHEITI (2018) Final GHEITI report on the oil/gas sector-2016. Accra: Ministry of Finance. Available at:

http://www.gheiti.gov.gh/site/index.php?option=com_phocadownload&view=category&download=210:2014-annual-activity-report&id=28:2014&Itemid=54 (accessed 14 January 2019).

GoG (2016) Ghana Land Use and Spatial Planning Act 925.

GoG-NITA (2019) Ghana Open Data Initiative Dataset. Available at: https://data.gov.gh/search/type/dataset (accessed 1 August 2019).

Gold Coast (1903) Ordinances of the Gold Coast colony, Vol. 1. Stevens and Sons, London.

Graham E and Ovadia JS (2019) Oil exploration and production in sub-Saharan Africa, 1990-present: trends and developments. *The Extractive Industries and Society* 6(2) 593-609.

Graeber D (2001) Toward an anthropological theory of value. New York: Palgrave.

GSS (2014a) District Analytical Reports, 2010.

GSS (2014b) Ghana Living Standards Survey: Poverty Profile, 2005-2013.

GSS (2016) Regional Business Report, 2014.

Hall D, Hirsch P and Li TM (2011) Powers of exclusion. Singapore: NUS Press.

Harvey D (2003) *The new imperialism*. Oxford: Oxford University Press.

Harvey D (2018) *Marx, capital and the madness of economic reason*. New York: Oxford University Press.

Hayek FA (1944) The road to serfdom. London: Routledge.

Hein C (2013) Between oil and water. In Bhatia N and Casper M (eds), *The Petropolis of Tomorrow*. New York: Actar, pp. 437-447.

Hein C and Sedighi M (2018) Iran's global petroleumscape. *Architectural Theory Review* 4826: 1-26.

Hornborg A (1998) Ecosystems and world systems. World-Systems Research 4: 169-177.

Huber MT (2009) Energizing historical materialism. *Geoforum* 40(1): 105–115.

Kaku D (2019) Support Akufo-Addo's government to establish a petroleum hub in Jomoro - MP to Constituents. *Ghana Web*, 2 May. Available at:

https://www.ghanaweb.com/GhanaHomePage/NewsArchive/Support-Akufo-Addo-s-government-to-establish-a-petroleum-hub-in-Jomoro-MP-to-Constituents-743027 (accessed 2 December 2019).

Kasanga K (2003) Current land policy issues in Ghana. In Gropo P (ed), *Land reform: Land settlement and cooperatives*. Rome: FAO, pp. 141-154.

Kasanga K and Kotey NA (2001) Land management in Ghana: building on tradition and modernity. International Institute for Environment and Development.

Kermeliotis T (2013) Africa's 'new cities': Urban future or utopian fantasies? *CNN*, 30 May. Available at: http://edition.cnn.com/2013/05/30/business/africa-new-cities-konza-eko/index.html (accessed 22 October 2018).

LANDESA (n.d.) What we do: RIPL in Ghana. Available at: https://www.landesa.org/what-we-do/ripl/ghana/ (accessed 22 October 2018).

Le Billon P and Sommerville M (2016) Landing investments and assembling investable land in the agricultural and extractive sectors. *Geoforum* 9: 1-39.

Li TM (2014) Land's end. Durham, NC: Duke University Press.

Li TM (2017) Rendering land investible: five notes on time. Geoforum 82: 276-278.

Luxemburg R [1913](1951) *The accumulation of capital*. London: Routledge.

Martinez-Alier J (2000) Environmental justice, sustainability and valuation. Harvard Seminar on Environmental Values. Available at: http://ecoethics.net/hsev/200003txt.htm (accessed 5 June 2018).

Martinez-Alier J (2002) The environmentalism of the poor. Cheltenham: Edward Elgar.

Martinez-Alier J (2009) Social metabolism, ecological distribution conflicts, and languages of valuation. *Capitalism Nature Socialism* 20(1): 58-87.

Martinez-Alier J, Kallis G, Veuthey S, Walter M and Temper L (2010) Social metabolism, ecological distribution conflicts, and valuation languages. *Ecological Economics* 70(2): 153-158.

Martinez-Alier J, Munda G and O'Neill J (1998) Weak comparability of values as a foundation for ecological economics. *Ecological Economics* 26(3): 277-286.

Marx K. (1887) Capital, Vol. 1. Moscow: Progress Publishers.

Mazzucato M (2018) The value of everything. London: Penguin Random House.

McMaster RB and Sheppard E (2006) Scale and geographic inquiry. In Lam N, Quattrochi D, Brown D and McMaster RB (eds), *Scale and geographic inquiry*. Malden, MA.: Blackwell Publishers, pp. 1-22.

Meinzen-Dick R and Mwangi E (2009) Cutting the web of interests: pitfalls of formalizing property rights. *Land Use Policy* 26: 36-43.

MEST and Jubilee-Partners (2012a) Sekondi-Takoradi structure plan.

MEST and Jubilee-Partners (2012b) Nzema East spatial development framework.

MEST and Jubilee-Partners (2012c) Sub-Regional Spatial Plan for the Six Coastal Districts in Western Region.

MEST and Tullow (2012) Shama spatial development framework.

MESTI (2013) Aiyinase-Atuabo structure plan.

MLGRD (2017) Ghana urban management pilot project: Sekondi Sub-Metro.

MOFA (2018) Food price for Western Region and Ghana 1997-2017, Sekondi.

Mohan G, Asante KP and Abdulai A (2018) Party politics and the political economy of Ghana's oil. *New Political Economy* 23(3): 274-289.

Moore JS (2015) *Capitalism in the web of life*. London: Verso.

Munda G (2004) Social multi-criteria evaluation. *European Journal of Operational Research* 158(3): 662-677.

Nyarko E, Botwe BO, Lamptey E, Nuotuo O, Foli BA and Addo MA (2011) Toxic metal concentrations in deep-sea sediments from the jubilee oil field and surrounding areas off the western coast of Ghana. *Tropical Environmental Research* 9–10: 584-595.

O'Neill J (1993) *Ecology, policy and politics*. London: Routledge.

Obeng-Odoom F (2014) Oiling the urban economy. London: Routledge.

Otchere-Darko W (2020) Land Value(s), institutional change and new petro-geographies in Ghana and Tanzania. PhD dissertation, Department of Sociology and Social Research, University of Milan-Bicocca, Italy.

Otsuka K, Quisumbing AR, Payongayong E and Aidoo JB (1998) Women's land rights and agroforestry development in the transition to individual ownership: a study of western Ghana and Sumatra. International Food Policy Research Institute and Tokyo Metropolitan University.

Ovadia JS (2016a) The Petro-Developmental State in Africa. London: Hurst.

Ovadia JS (2016b) Local content policies and petro-development in Sub-Saharan Africa: a comparative analysis. *Resources Policy* 49: 20-30.

Owusu-Ansah D and McFarland DM (1995) *Historical Dictionary of Ghana*. Metuchen, NJ: Scarecrow Press.

Panford K (2016) *Africa's natural resources and underdevelopment*. New York: Palgrave MacMillan.

Peace FM Online (2018) Gov't planning to develop Sekondi-Takoradi into petroleum production city, 28 August Available at:

http://www.peacefmonline.com/pages/local/news/201808/361448.php (accessed 1 November 2018).

Pedersen RH and Buur L (2016) Beyond land grabbing. Geoforum 72: 77-81.

Phillips J, Hailwood E and Brooks A (2016) Sovereignty, the 'resource curse' and the limits of good governance: a political economy of oil in Ghana. *Review of African Political Economy* 43(147): 26-42.

Quesnay F [1759](1972) Quesnay's tableau économique, Edited and Translated by Kuczynski M and Meek RL. London: Palgrave MacMillan.

Rathbone R (2000) Kwame Nkrumah and the chiefs. *Transactions of the Royal Historical Society* 10: 45-63.

Rendeavour (2018) King City. Available at: https://www.rendeavour.com/projects/king-city/ (accessed 22 October 2018).

Rigg J, Salamanca A and Thompson EC (2016) The puzzle of east and southeast Asia's persistent smallholder. *Rural Studies* 43: 118-133.

Russi D (2007) Social multi-criteria evaluation and renewable energy policies. PhD dissertation, Department of Economics and Economic History, Universitat Autònoma de Barcelona, Spain.

Sam B and Buckle F (2017) The implications of infrastructure investments on land and livelihoods-experience from the Western coastal region of Ghana. World Bank conference on land and poverty. Washington, DC: The World Bank.

Schoneveld GC (2017) Host country governance and the African land rush. *Geoforum* 83: 119-132.

SRI (2019) Springfield E&P Completes Deepwater Campaign at the West Cape Three Points Block 2 offshore Ghana. Available at: https://steelguru.com/gas-oil/springfield-e-p-completes-deepwater-campaign-at-the-west-cape-three-points-block-2-offshore-ghana/553058 (accessed 30 April 2020).

STMA (n.d.) Investment opportunities in STMA. Sekondi-Takoradi.

Takeda L (2014) *Islands' spirit rising: reclaiming the forests of Haida Gwaii*. Vancouver: UBC Press.

Tullow-Ghana (2009) Ghana jubilee field phase 1: Draft environmental impact statement. Available at: https://www.tullowoil.com/Media/docs/default-source/operations/ghana-eia/environmental-impact-statement/jubilee-field-eia-non-technical-summary.pdf?sfvrsn=2">https://www.tullowoil.com/Media/docs/default-source/operations/ghana-eia/environmental-impact-statement/jubilee-field-eia-non-technical-summary.pdf?sfvrsn=2">https://www.tullowoil.com/Media/docs/default-source/operations/ghana-eia/environmental-impact-statement/jubilee-field-eia-non-technical-summary.pdf?sfvrsn=2">https://www.tullowoil.com/Media/docs/default-source/operations/ghana-eia/environmental-impact-statement/jubilee-field-eia-non-technical-summary.pdf?sfvrsn=2">https://www.tullowoil.com/Media/docs/default-source/operations/ghana-eia/environmental-impact-statement/jubilee-field-eia-non-technical-summary.pdf?sfvrsn=2">https://www.tullowoil.com/Media/docs/default-source/operations/ghana-eia/environmental-impact-statement/jubilee-field-eia-non-technical-summary.pdf?sfvrsn=2">https://www.tullowoil.com/Media/docs/default-source/operations/ghana-eia/environmental-impact-statement/jubilee-field-eia-non-technical-summary.pdf?sfvrsn=2">https://www.tullowoil.com/Media/docs/default-source/operations/ghana-eia/environmental-impact-statement/jubilee-field-eia-non-technical-summary.pdf?sfvrsn=2">https://www.tullowoil.com/Media/docs/default-source/operations/ghana-eia/environmental-impact-statement/jubilee-field-eia-non-technical-summary.pdf?sfvrsn=2">https://www.tullowoil.com/Media/docs/default-source/operations/ghana-eia/environmental-impact-statement/jubilee-field-eia-non-technical-summary.pdf?sfvrsn=2">https://www.tullowoil.com/Media/docs/default-source/operations/ghana-eia/environmental-impact-statement/jubilee-field-eia-non-technical-summary.pdf?sfvrsn=2">https://www.tullowoil.com/media-summary.

Watts M (2003) Economies of violence: more oil, more blood. *Economic and Political Weekly* 38(48): 5089-5099.

Watts M (2009) Oil, development, and the politics of the bottom billion. *Macalaster International* 24: 79-130.

WRCF (2017a) Ghana district profiles. Available at: http://wrcfghana.org/publications (accessed 25 November 2019).

WRCF (2017b) Leveraging lessons from the oil sector to maximise opportunities from the one district one factory initiative. Western Region Coastal Foundation. Available at: http://wrcfghana.org/archives/events/leveraging-lessons-oil-sector-maximise-opportunities-one-district-one-factory-initiative (accessed 1 November 2018).

Yeboah S (2011) Did Kosmos pay fines to Ghana on moral or technical grounds? *Ghana Business News*, 8 June.