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TITOLO TESI / THESIS TITLE

Land Value(s), Institutional Change and New Petro-Geographies in Ghana and Tanzania.

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Abstract

This research examines how land value is framed, legitimised and contested in Africa's emerging petro-extraction regions. The research uses case studies from Ghana's Southwestern region (from 2007 to 2017) and Tanzania's Lindi-Mtwara region (2004- 2017). Theoretically, the research uses the concept of "*incommensurable values*" to situate the multiple, conflicting and intersecting values attached to land. The theory of incommensurable values has traditionally attended to the distribution of "goods" and "bads" beyond economic notions of value, especially in regions of resource extraction and land expropriation. Within this theory however, the focus has been restricted to violent expulsions of local communities as the dominant means of expropriation, with less attention paid to the mundane policies, institutional framings and bureaucratic practices that achieve similar results. Additionally, empirical work on such mundane policies, framings and practices have been limited to studies of agrarian change.

This research thus examines *why and how policies, practices and decision-making on "land value" evolve in petro-extraction regions* in Southwestern Ghana and Lindi-Mtwara, Tanzania.

The methodology involves key expert interviews, secondary research data, reports by government and third sector organisations as well as longitudinal data on land permits, land transfers, food prices and other development statistics.

The dissertation notes a plurality of framings of land value that overlay the petroleum production process with often singular outcomes. It shows that local landed elites (Chiefs, Kinship Groups and Village Associations) in these regions conceive of land value along lines of "mandatory community benefits", "environmental risk compensation" and the "maintenance of intergenerational livelihoods". These local conceptions of value are used to contest the State and petroleum companies over petroleum rents, land expropriation, gentrification, energy security as well as food security issues driven by the oil and gas economy.

Central and local government actors as well as petroleum companies in Ghana and Tanzania however impose notions of "market value", "efficiency benefits" and "opportunity cost" to land value in these regions. These are underlaid by framings of land use efficiency, competitiveness, voluntariness and resource nationalism. This is realised through policy outcomes that highlight land-banking, compulsory land acquisitions, the creation of special economic zones and petroleum-driven planning policies. The research thus shows that the States' land value policies and practices and the underlying framings largely invalidate subnational conceptions of land value. Such emerging petro-geographies are therefore the outcomes of the singularisation of local incommensurable land values into commensurable spatial forms by the State (central and subnational) to create an enabling environment for private and centralised extractive capital. Such singularisation results in spatial outcomes entailing petro-industrial hubs, high-end real estate, speculative new city projects, illegalisation of pre-existing informal land uses, urban gentrification, rural land dispossession as well as the promotion of voluntary petroleum charity projects. The research thus shows how emerging African petro-geographies look to emulate the success stories of global oil cities and newly industrialising economies, in contrast to earlier rounds of African petro-extraction geared towards post-independence modernisation objectives.

The framings and policies of land value by the national and local governments in the petroleum economy are also instituting a centralisation of local governance powers in the petro-extraction regions. Particularly, the central governments in Ghana and Tanzania limit local conceptions of non-instrumental land value through the compulsory acquisition of lands for (speculative) petro-industrial projects. This closes down customary notions of land value. In Southwestern Ghana, this governmental expropriation of local lands together with petroleum-driven planning policies "lock-in" the prospects of land use to petroleum production and furthers a legal regime that serves the interests of central government elites and petroleum companies. For Lindi-Mtwara, there is a stronger centralisation of governmental powers characterised by the irreversible transfer of rural lands to the central government for reasons of petro-industrial projects.

This research hence serves as a contemporary update of the local conceptions and contestations of land value in the political economy of land and resource extraction in Africa. It expands the notions of value struggles to encompass emerging petro-geographies in Africa. Additionally, it calls attention to rethinking how pluriform land values are recognised in planning policies, land formalisation and investment as well as the institutionalised distributive injustices of petro-extraction.

Abstract (Italian)

Questa ricerca esamina come il valore fondiario viene inquadrato, legittimato e contestato nelle emergenti regioni petroestrattive africane. La ricerca è focalizzata su casi studio provenienti dalla regione sudoccidentale del Ghana (dal 2007 al 2017) e dalla regione di Lindi Mtwara in Tanzania (2004-2017). Dal punto di vista teorico, la ricerca utilizza il concetto di "*valori incommensurabili*" per situare i valori multipli, contrastanti e intersecanti legati alla terra. La teoria dei valori incommensurabili è stata tradizionalmente attenta alla distribuzione di "beni" e "mali" al di là delle nozioni economiche di valore, specialmente nelle regioni di estrazione delle risorse e di espropriazione delle terre. All'interno di questa teoria, tuttavia, l'attenzione si è concentrata sull'espulsione violenta delle comunità locali come mezzo di esproprio dominante, prestando meno attenzione alle banali politiche, strutture istituzionali e pratiche burocratiche, che ottengono risultati simili. Inoltre, il lavoro empirico su tali politiche, inquadramenti e pratiche è stato limitato agli studi sul cambiamento agricolo.
Questa ricerca ha dunque indagato *perché e come le politiche, le pratiche e il processo decisionale sul valore dei terreni si evolvono nelle regioni di estrazione petrolifera* nel sud-ovest del Ghana e nel Lindi-Mtwara, in Tanzania.
La metodologia prevede l'analisi di vario materiale empirico: interviste con esperti chiave, dati di ricerca secondari, relazioni del governo e delle organizzazioni del terzo settore nonché dati longitudinali su permessi fondiari, trasferimenti di terreni, prezzi dei prodotti alimentari e altri dati statistici sullo sviluppo. La tesi osserva la pluralità di inquadramenti del valore del terreno che si sovrappongono al processo di produzione di petrolio con risultati interessanti (spesso singolari).

La dissertazione mostra che le élite locali dei terreni (capi, gruppi di parentela e associazioni di villaggi) in queste regioni concepiscono il valore del territorio sulla base di "benefici comunitari obbligatori", "compensazione del rischio ambientale" e "mantenimento dei mezzi di sussistenza intergenerazionali". Queste concezioni locali di valore sono utilizzate per contestare lo Stato e le compagnie petrolifere su ricavi petroliferi, espropriazione delle terre, gentrificazione, sicurezza energetica così come sulle questioni di sicurezza alimentare spinte dall'economia del petrolio e del gas.

Gli attori del governo centrale e locale così come le compagnie petrolifere del Ghana e della Tanzania hanno tuttavia imposto nozioni di "valore di mercato", "benefici di efficienza" e "costo opportunità" al valore del terreno in queste regioni. Questi sono sostenuti da definizioni di efficienza dell'uso del suolo, competitività, volontarietà e nazionalismo delle risorse. Ciò si realizza attraverso interventi politici che mettono in evidenza il land-banking, le acquisizioni obbligatorie di terreni, la creazione di zone economiche speciali e le politiche di pianificazione basate sul petrolio. La ricerca mostra quindi che le politiche del valore fondiario degli Stati, le pratiche e gli inquadramenti sottostante invalidano ampiamente le concezioni subnazionali del valore fondiario. Tali petro-geografie sono pertanto i risultati della singolarizzazione di valori locali del terreno incommensurabili in forme spaziali commisurabili da parte dello Stato (centrale e subnazionale) per creare un ambiente favorevole al capitale estrattivo privato e centralizzato. Tale singolarizzazione si traduce in risultati spaziali che comportano hub petro-industriali, immobili di fascia alta, progetti speculativi di nuove città, illegalizzazione di usi informali preesistenti dei terreni, gentrificazione urbana, espropriazione di terreni rurali e promozione di progetti volontari di beneficenza petrolifera. La ricerca mostra quindi come le emergenti petro-geografie africane stiano emulando le storie di successo delle città globali del petrolio e delle economie di recente sviluppo, in contrasto con i precedenti cicli di petro-estrazione africana orientati verso obiettivi di modernizzazione post-indipendenza.

Le definizioni e le politiche del valore fondiario da parte dei governi nazionali e locali nell'economia petrolifera stanno anche istituendo una centralizzazione dei poteri di governance locale nelle regioni di petro-estrazione. In particolare, i governi centrali in Ghana e Tanzania limitano le concezioni locali del valore non strumentale dei terreni attraverso l'acquisizione obbligatoria di terreni per progetti (speculativi) petro-industriali. Ciò chiude le consuete nozioni di valore fondiario. Nel Ghana sudoccidentale, questa espropriazione governativa delle terre locali insieme alle politiche di pianificazione basate sul petrolio "bloccano" le prospettive dell'uso del suolo per la produzione di petrolio e favoriscono il regime legale che serve gli interessi delle élite del governo centrale e delle compagnie petrolifere. Per il Lindi-Mtwara, vi è una più forte centralizzazione del potere governativo caratterizzata da un trasferimento irreversibile di terreni rurali al governo centrale per progetti petro-industriali.

Questa ricerca serve quindi come un aggiornamento contemporaneo delle concezioni e contestazioni locali del valore del terreno nell'economia politica della terra e dell'estrazione delle risorse in Africa. Espande le nozioni di lotte di valore per includere le emergenti petro-geografie in Africa. Inoltre, richiama l'attenzione sulla necessità di ripensare a come i valori pluriformi dei terreni sono riconosciuti nelle politiche di pianificazione, nella formalizzazione delle terre e negli investimenti, nonché nelle ingiustizie distributive istituzionalizzate della petro-estrazione.

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All interpretations of statements, interview extracts and analysis of data (primary or secondary) in the dissertation are my own.

William Otchere-Darko

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List of Acronyms

- ACEP – African Centre for Energy Policy
- AfD - Agence Française de Développement / French Development Agency
- AFRCD – Armed Forces Revolutionary Council Decree (Ghana)
- Am. – Amended
- AOGR – African Oil and Gas Report
- AU – African Union
- AWDA – Ahanta West District Assembly (Ghana)
- Bcf – Billion Cubic Feet of Gas
- BMZ – Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung / German Federal Ministry for Economic Cooperation and Development
- BOST-Ghana – Bulk Oil Storage and Transportation Company Limited Ghana
- C.A. – Constitutional Amendment
- CCA – Clean Cooking Alliance
- CCG – Christian Council of Ghana
- CCRO – Certificate of Customary Rights of Occupancy (Tanzania)
- CLGF – Commonwealth Local Government Forum
- CNN – Cable News Network
- CNOOC – China National Offshore Oil Corporation
- CNPC – China National Petroleum Corporation
- COLANDEF – Community Land and Development Foundation (Ghana)
- CPTDC – China Petroleum Technology and Development Corporation
- CRC – Coastal Resources Centre of the University of Rhode Island
- CSR – Corporate Social Responsibility
- CSV – Community Shareholder Value
- DFID – United Kingdom Department for International Development
- EAUMF – Edward A. Ulzen Memorial Foundation
- ECOWAS – Economic Community of West African States
- EEA – Embodied Energy Analysis
- E.G. – Example
- EIA – Environmental Impact Assessment
- EIA (U.S.) – U.S. Energy Information Administration
- EMA – Environmental Management Act (Tanzania)
- ENI – Ente Nazionale Idrocarburi / National Hydrocarbons Authority
- EPA – Environmental Protection Agency
- ESRF – Economic and Social Research Foundation (Tanzania)
- EWURA – Energy and Water Utilities Regulatory Authority (Tanzania)
- FAO – Food and Agriculture Organisation of the United Nations
- FCOC - United Kingdom Foreign and Commonwealth Office Collection
- FES-Gh – Friedrich-Ebert-Stiftung Ghana
- FEST – Friedrich-Ebert-Stiftung Tanzania
- FONGhana – Friends of the Nation Ghana
- FPSO – Floating Production Storage and Offloading Vessel
- FTSE – Financial Times Stock Exchange
- GASCO – Gas Company Tanzania
- GDP – Gross Domestic Product
- GFZA – Ghana Free Zones Authority
- GHEITI – Ghana Extractive Industries Transparency Initiative
- GIPC – Ghana Investment Promotion Centre

- GIZ – Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH / German Society for International Cooperation
- GNA – Ghana News Agency
- GNPC - Ghana National Petroleum Corporation
- GoG – Government of Ghana
- GoT – Government of Tanzania
- GPHA – Ghana Ports and Harbours Authority
- GREL – Ghana Rubber Estates Limited
- GSS – Ghana Statistical Service
- ICFG - Integrated Coastal and Fisheries Governance Project (Ghana)
- IEA – International Energy Agency
- ILO – International Labour Organisation
- IMF – International Monetary Fund
- JDA – Jomoro District Assembly (Ghana)
- JDI – Japan Development Institute
- KOICA – South Korean International Cooperation Agency
- L.I. – Legislative Instrument
- LAP – World Bank's Land Administration Project
- LCA – Life Cycle Analysis
- LGS – Local Government Service (Ghana)
- LNG – Liquefied Natural Gas
- M&PEPTL – Mauriel & Prom Exploration Production Tanzania Limited
- MEM – Ministry of Energy and Minerals (Tanzania)
- MEST – Ministry of Environment, Science and Technology (Ghana)
- MESTI – Ministry of Environment, Science, Technology and Innovation (Ghana)
- MFA – Material Flow Analysis
- MLF – Ministry of Lands and Forestry (Ghana)
- MLGRD – Ministry of Local Government and Regional Development (Ghana)
- MLHHSD – Ministry of Lands, Housing and Human Settlements Development (Tanzania)
- MOFA – Ministry of Food and Agriculture (Ghana)
- MOFEP – Ministry of Finance and Economic Planning (Ghana)
- MOFP – Ministry of Finance and Planning (Tanzania)
- MoU – Memorandum of Understanding
- MW – Mega Watts
- NBS – National Bureau of Statistics (Tanzania)
- NDC – National Democratic Congress (Ghana)
- NEEC – National Economic Empowerment Council (Tanzania)
- NEMC – National Environmental Management Council (Tanzania)
- NESP - National Economic Survival Programme (Tanzania)
- NGL – Norpalm Ghana Limited
- NGO – Non-Governmental Organisation
- NIE – New Institutional Economics
- NLCD – National Liberation Council Decree (Ghana)
- NORAD – Norwegian Agency for Development Cooperation
- NPA – National Petroleum Authority (Ghana)
- NPP – New Patriotic Party (Ghana)
- NRCD – National Redemption Council Decree (Ghana)
- NYSE – New York Stock Exchange
- OASL - Office for the Administration of Stool Lands (Ghana)

- OG – Oil and Gas
- OGJ – Oil and Gas journal
- OIE – Original Institutional Economics
- PER – Petro-Extraction Region
- PES – Payment for Ecosystem Services
- PNDC – Provisional National Defence Council (Ghana)
- PNDCL – Provisional National Defence Council Law (Ghana)
- PSA – Petroleum Sharing Agreement (Tanzania)
- PURA – Petroleum Upstream Regulatory Authority (Tanzania)
- RAS – Regional Administrative Secretary (Tanzania)
- RCI – Rational Choice Institutionalism
- REDD(+) – Reducing Emissions from Deforestation and Forest Degradation
- ROaG – Reporting Oil and Gas (Ghanaian website)
- RSPO – Roundtable on Sustainable Palm Oil
- SAP – Structural Adjustment Programme
- SARDC - Southern African Research and Documentation Centre
- SDF – Spatial Development Framework (Ghana)
- SEZ – Special Economic Zone
- SINOPEC – China Petroleum and Chemical Corporation
- SONGAS – Songo Songo Gas Energy Company (Tanzania)
- SP – Structure Plan
- SPILL – Strategic Plan for the Implementation of the Land Laws (Tanzania)
- STAMICO – State Mining Corporation (Tanzania)
- STMA – Sekondi-Takoradi Metropolitan Assembly (Ghana)
- T.E.N. – Tweneboah Enyenra Ntomme Oilfields (Ghana)
- TANESCO - Tanzania Electric Supply Company
- TANU – Tanganyika African National Union (Tanzania)
- Tcf – Trillion Cubic Feet of Gas
- TCPD – Town and Country Planning Department (Ghana)
- TDP – Tanzania Data Portal
- TEITI – Tanzania Extractive Industries Transparency Initiative
- TIC – Tanzania Investment Centre
- TOGY – The Oil and Gas Year (Publishing Database)
- TPDC – Tanzania Petroleum Development Corporation
- UNCTAD – United Nations Conference on Trade and Development
- UNECA – United Nations Economic Commission for Africa
- URT – United Republic of Tanzania
- USAID – United States Agency for International Development
- UTT – Unit Transfer of Tanzania
- VETA – Vocational Education and Training Authority (Tanzania)
- VRA – Volta River Authority (Ghana)
- WRCF – Western Region Coastal Foundation (Ghana)
- WWF – World Wide Fund for Nature

CHAPTER ONE

1.0 Introduction

The world's next oil and gas (OG) resources are projected to come from African countries in the coming decades (EIA, 2010: 2). The West African coast has been described as the "*world's next frontier for oil*" with an estimated 4.1 billion barrels of oil discovered in the offshore territories of Ghana, Sierra Leone, La Côte d'Ivoire, Liberia and Senegal; according to the U.S. Energy Information Administration (EIA, 2010: 2, 28).[1] Coastal East Africa, especially Tanzania and Mozambique, are also considered as emerging global nodes of natural gas with about 217 trillion cubic feet of offshore gas reserves (Ernst & Young, 2012: 3; Amanam, 2017: 2).[2]

Such "*frontier*" framings deem these regions as sites of "*bountiful emptiness*" both imagined and constructed, as spaces devoid of people, histories and claims but full of potential (Li, 2014a: 592; Bridge, 2001).

In reality, while these identified frontier areas of petroleum resources are offshore, the onshore ancillary activities are conducted in the proximal local coastal regions of the various countries. This is the case for Ghana's Southwestern region and Tanzania's Lindi-Mtwara region which saw increased OG production activities in 2007 and 2004 respectively. These local regions host various petroleum industry operations including gas processing, crude oil storage and transportation, administrative offices as well as

[1] Oil was discovered in Ghana in 2007 and Sierra Leone in 2009 with further offshore explorations in La Côte d'Ivoire, Liberia and Senegal (EIA, 2010: 28).

[2] Significant quantities of offshore gas were discovered in Tanzania and Mozambique (2010). There have also been new oil and gas discoveries in Uganda (2006) and Kenya (2012) (Ernst & Young, 2012: 3; Oxfam, 2017: 3).

facilities for foreign and domestic OG-service companies. These regions also host various indirect OG infrastructure and related real estate projects.

In all, over 63,000 hectares of lands in Southwestern Ghana and 33,000 hectares in Lindi-Mtwara have been inserted into these petroleum-related activities (Author's Fieldwork, 2017-2019; see appendix 3). However, the impacts of the petro-extraction go beyond direct land acquisitions. Both regions entail urban and rural areas, with a combined population over 3.1 million and economies re-activated by the activities of OG companies (GSS, 2014a-f; URT, 2016a, 2016b; Author's Fieldwork, 2019; FEST, 2015: 209). They also represent some of the most biodiverse regions for their respective countries and local populations; with the populace using lands for agricultural, commercial and cultural purposes under varied tenure regimes. The emergence of a petroleum economy transforms such locations into areas "*newly-valued"* for their OG resources (Bridge, 2014: 5-6). Hence, land is entangled in various industrial, financial, environmental and agricultural interests with the emergence of the OG economy, raising questions of how land is used, occupied and valued.

This research therefore analyses how land value is framed, legitimised and contested with the emergence of oil and gas extraction in these emerging petro-extraction regions. Using case studies from Southwestern Ghana and Lindi-Mtwara, the research analyses "*How and why policies and practices on 'land value' evolve in new petro-extraction regions?*". The research will show the evolution in the land-economy of new petro-extraction regions as products of their historical processes and current contestations.

Specifically, the research focuses on the *languages, framings, policies and spatial outcomes* of specific articulations of land value as well as its *impacts on changes in institutional practices*. The research thus focuses on two sets of actors in each case study region; non-state actors (land-owners/users, OG firms, NGOs) as well as state actors (central and local governments). The focus of the research is situated within theoretical debates on value and empirical research on land value-contestations.

1.1 Research Problem

Theoretically, the research uses the concept of "*incommensurable values*" (value-pluralism) to situate land value as an intersection of the physical, ethical, cultural, economic and even caloric perspectives of land (O'Neill, 1993; Martinez-Alier et al., 1998; Martinez-Alier, 2001, 2002, 2009; Li, 2014b). Incommensurable values are the results of ecological distribution conflicts arising out of social metabolism (Martinez-Alier, 2009). The policies, practices and decision-making processes adopted in the petro-extraction regions (PERs) reflect multiple stresses on land. There is constant contestation over both the framing of these interests and ultimate outcomes. The focus on incommensurability thus goes beyond the confines of a single standard of valuation. One of its critical imports is to highlight how physiocratic, Georgist, Marxist and neoclassical value theories are situated within purely economic realms. The research opens the possibilities for land value beyond the physiocrats' materialist focus on land, beyond the Georgists' singular fixation on land taxation, beyond labour-determinism as value and beyond the exchange-value fixation of neoclassical economists. As petro-extraction is increasingly extended to regions where preserved lands, fallow lands and sensitive environmental and cultural areas lie outside the purview of the market, for instance, the Georgist remedy for

socialising land rents becomes a limited notion of land value. Environmental pollution effects on land, air and water bodies would also largely go unexplored in the Marxist labour value theory, resulting in an undervaluation of natural production. A price theory of value (neoclassicals) also disregards the natural production processes as well as the social context of land use and resource extraction.

Empirically, the research situates "*mundane"* land transitions (Li, 2014b: 3) in a contemporary African energy context and expands the notions of value struggles beyond violent land expropriations. The concept of "*incommensurable values*" has originally been utilised to analyse value struggles that emphasise the more direct, violent land contestations and dispossession, with case studies from Canada, India, Brazil, Nigeria, Thailand, Spain, and Japan (Martinez-Alier, 2000, 2002; Takeda, 2014). However, apart from Martinez-Alier's (2000) Nigeria case, research on value struggles have been confined to analysis of agrarian change. Even then, the Nigerian case study focuses on the 1970s to1990s value struggles typified by the experiences and narratives of direct violent expropriation.

Similar research that highlight mundane land transitions focus on agrarian change, with case studies particularly from Southeast Asia. Tania Li's (2014b) exposition of land transitions using the indigenous highlanders of Sulawesi (Indonesia) is an example of the intersection of different economic and social logics in dispossessing (especially small-scale) landowners. The work of Hall, Hirsch and Li titled *Powers of Exclusion* also draws empirical breath from Thailand, Laos, Cambodia, Vietnam, Indonesia and the Philippines (Hall et al., 2011). Rigg et al. (2016) also discuss the logics behind smallholder resistance to agrarian change in East and Southeast Asia, while Vijayabaskar & Menon (2018)

highlight land dispossession through state-neglect in Southern India, centring the interplay of compulsion and voluntariness in such dispossessions. In effect, the above-mentioned empirical works do not highlight "mundane" land transitions in the energy sector, even though land issues in the contemporary agrarian and energy sectors are increasingly intersecting. This intersection is not only evident in the fungibility of food-fuel-feedstock production but also in the increasing salience of energy security issues similar to that of food security (Harvey & Pilgrim, 2011; Cotula, 2012; McMichael, 2013; Hornborg, 2013; Huber & McCarthy, 2017).

This research thus expands the empirical breadth of incommensurable value struggles beyond violent expropriation and agrarian change to analyse petro-extraction in Ghana and Tanzania. It examines how plural and incommensurable land values are singularised through state policy diffusion, valuation technologies, and institutional functions that enable land alienation and petro-extraction. It also shows how communities subvert and co-opt dominant notions of land value through calls for energy and food security, livelihood benefits, intergenerational employment prospects, social investments and even non-commodified land values. The research is relevant for understanding the contemporary political economy of value, land, and resource extraction in Africa, positing the imposition and subversion of values as central. It responds to the call for examining the local (subnational) effects of petro-extraction in Africa (Obeng-Odoom, 2015; Must, 2018). It also contributes to highlighting how different energy sources produce "*distinctive"* spaces (Huber & Mccarthy, 2017: 3). Overall, the research is divided into nine chapters.

1.2 Summary of Chapters

Chapter three analyses and periodises the concept of "*value*" from different theoretical canons to facilitate an understanding of their intersections as pluralist/incommensurable forms of value. It begins with an analysis of the physiocratic and Georgist, Marxist as well as neoclassical value-theories. The chapter finally settles on pluralist/incommensurable value theory, focusing on its relevance for analysing land and the complexity of resource extraction in contrast to the other value-theories. It shows how the concept of "*incommensurable values*" posits value from a fundamental difference between the economy and environment. It goes beyond the physiocrats' and Georgists' singular fixation on market languages of land value, beyond the labour-value theory which pays less attention to the mode-of-extraction; as well as beyond the price-fixation of neoclassical value which discounts the social and environmental embeddedness of exchange and resource extraction. Incommensurable values envision value from its physical, ethical, cultural, economic and even caloric perspectives. Land therefore becomes part of an interdependent system which introduces issues of true uncertainty and complexity in decision-making, especially in resource-extraction regions.

Chapter four makes an argument for a pluralist view of institutional creation, functions and change. This chapter analyses how institutions integrate or undermine incommensurable values looking at Marxist institutional critiques and neoclassical (particularly new institutional) economic prescriptions. The chapter criticises the attribution of institutional functions to the structured lenses of class domination, a Marxist institutionalist argument that neglects the complexity of institutional structures and relations, for instance, in cases of ecological complexity and uncertainty. The chapter also

criticises the neoclassical (new institutional economics) view of institutions, deemed as facilitators of exchange and transaction cost reduction. The chapter hence settles on pluralist institutional theories focusing on the varied functions and tools used by institutions to integrate/delegitimise incommensurable values, paying attention to the complexity of institutional relations over time and space (i.e. formal and informal institutions, de-facto and de-jure power struggles, as well as bargaining between institutional scales). This expanded view of institutionalism forms the basis for analysing institutional change in Southwestern Ghana and Tanzania's Lindi-Mtwara regions.

Using policy archives from 1892 to 2017, chapters five and six show how strategies of land control (land standardisation, surveying, notions of unclaimed lands, and compulsory acquisition) are by-products of resource extraction in Ghana and Tanzania through historical inheritance of institutional practices from the colonial and post-independence eras. It shows that, between the late 1800s and the mid-20th century, colonial land expropriation laws were introduced in both countries through policies on land administration, planning, and infrastructure for mineral extraction. After independence, indigenous governments expropriated local lands through laws on compulsory acquisitions, unclaimed lands and nationalisation of mineral rights. With petroleum discovery in both countries in the 2000s, Southwestern Ghana and Lindi-Mtwara became sites for industrial investment and speculative land development. With this discovery, land became re-valorised, re-regulated, and took on a more pronounced role as a site of struggle. The chapter is important to show the historical evolution of policies, technologies and institutional practices, setting the stage for value struggles within the petroleum economy as the latest layer of extraction.

Chapters seven and eight serve as the main analysis chapters, by discussing the specific land-valuation languages, framings, policies and practices used in Southwestern Ghana and Lindi-Mtwara as well as their attendant institutional changes.

Here, non-state actors in Southwestern Ghana conceive of value along major lines of "*customary stewardship*", "*communal benefit*", "*proximal risk*" as well as "*land outside market valuations*". These articulations of land value emphasise the territorial, economic, environmental, calorific and non-instrumental conceptions of land. Similarly, locals of Lindi-Mtwara stress the "*communal benefits*" of land while strongly arguing for the "*material value*" of gas resources (to solve energy security issues) as well as for compensation values to reflect *"intergenerational livelihood"* prospects. This also emphases the material, economic and temporal values of land.

Much of the language of the state (both central and subnational governments) in the two case studies however fall into framings of land use efficiency, competitiveness, voluntariness and resource nationalism. These framings underly the articulations of land value by the Ghanaian state (to enhance "*bureaucratic de/regulation*", "*public benefits*" and "*livelihood value*") as well as the Tanzanian state (highlighting notions of "*national resource value*" and "*public benefits*"). The states' land value languages and the underlying framings thus largely invalidate community conceptions of land value. In reality, these framings of the state governments are adopted in pursuit of the highest and best use of land and OG resources. It is also to emulate flagship global petro-geographies by developing industrial hub projects through framings of efficiency and competitiveness. In Tanzania, the state additionally frames the gas economy around resource nationalism to demand accountability from private OG companies while subordinating lands in Lindi-

Mtwara as thoroughfares to transport gas resources to larger cities. To reconcile local calls for benefits, the framing of *voluntariness* is espoused by central and local governments in both countries to enhance voluntary corporate social responsibility (CSR) projects, although the results have been piecemeal.

These framings of land value are codified into unambiguous and defensible policies to enable land-banking, compulsory land acquisitions, the creation of special economic zones (SEZs) and development corridor projects especially by central governments and parastatal agencies. For local governments, especially in Southwestern Ghana, spatial policy formulation has been funded and drafted by OG companies, investors, international development agencies and private planning consultants; hence the development direction of Southwestern Ghana is increasingly tied to OG production. The result has been the gentrification of low-income urban areas (in Southwestern Ghana) as well as direct land-displacement of rural folk and restriction of local fishing territory in both case study regions. Issues of food security, pollution risks and employment are thus left to CSR-projects and ineffectual land compensation payments. The spatial outcomes of these policies have imprinted on Southwestern Ghana and Lindi-Mtwara as emerging petro-geographies. The research shows that petro-geographies are outcomes of the singularisation of incommensurable land values into commensurable spatial forms by the state (central and subnational) to create an enabling environment for private and centralised extractive capital. These are enabled by the framings of land value by the state codified in institutional policies and practices, with little tangible local benefits. In Southwestern Ghana, this is manifested in the delegitimisation of informal urban land uses and the compulsory acquisition of rural farmlands coupled with ineffective

compensation processes. These expropriated lands are replaced by industrial-commercial OG uses as well as large-scale land holdings for "*new city*" projects and "*petro-hubs*". This is similar for Lindi-Mtwara, minus the new-city projects. Here, petro-geographies are situated as built-up and worn-down spaces characterised by evolving discourses and framings of land value. In contrast to classic African petro-geographies and new-city projects such as Abuja, Port-Harcourt, Tripoli and Benghazi deemed as post-independence modernisation projects (Hein, 2013; Keizeiri, 1983; Ali et al.; 2008; van-Noorloos & Kloosterboer, 2017: 5), this research uses Southwestern Ghana and Lindi-Mtwara to show how emerging petro-geographies have a speculative and imitative logic. They look to emulate the success stories of new global cities built around the oil industry as well as those developed through petro-industrial clusters in Southeast Asia, the Gulf nations and the likes of Houston and Aberdeen (van-Noorloos & Kloosterboer, 2017: 2, 6). Emerging African petro-geographies such as Oyala and Luanda also point to this imitative logic (van-Noorloos & Kloosterboer, 2017). The spatial imprint of petro-geographies thus dissolves notions of urban and rural by enmeshing such regions as points of urban agglomeration attached with rural "*operational landscapes*", as relational spaces of extraction and production (Brenner 2014; Brenner & Schmid, 2016). Additionally, chapters seven and eight show that the framings of land value and its codified policies, practices and spatial outcomes are linked to changing institutional practices and power relations. With the emergence of the OG economy, local governance powers in Southwestern Ghana and Lindi-Mtwara are increasingly centralised. This is done through the increased arbitrary declaration of intended projects by the national governments and parastatal agencies followed by the use of compulsory land acquisition

laws. In Southwestern Ghana, this is coupled with a fragmented structure of spatial policy formulation spearheaded by OG companies, investors, international development agencies and private planning consultants. In Lindi-Mtwara, the outcome of this increasing centralisation is the burgeoning of informal institutional practices around land acquisition to circumvent both local and central government bureaucratic control. Nonetheless this narrowed and centralised institutional structure has not tackled the proximal environmental fallouts of the OG economy, as local governance resources are constrained and proposed solutions have been ineffective, unenforceable, and in Southwestern Ghana, tied to land ownership. The research also shows that institutional change is also legitimated by cultural-cognitive elements through policies and practices that naturalise land dispossession and resource rent capture to establish these areas as the next petro-geographies. In Lindi-Mtwara, village registration and land-mapping serve as the fundamental cognitive scripts to delegitimise local land use contestations by the central government to enable the activation of "*dead capital*" (de Soto, 2000) and the pursuit of petro-extraction. Additionally, in Southwestern Ghana, planners and other institutional actors frame land value, create policies and perform practices to fulfil the cultural-cognitive role as "*oil-cities*" especially in the more urbanised Sekondi-Takoradi (See Obeng-Odoom, 2014; Eduful & Hooper, 2015; Fiave, 2017; Mabe, 2013). In the two case studies, institutional practices are akin to "*monocropping*" (Mkandawire, 2009; citing Evans, 2004: 44) where, with the emergence of the OG economy, central and local government practices are dictated by and limited to particular framings of efficiency with unclear distributive outcomes, hence side-lining local contentions of the plurality of land values.

The materiality of oil and gas products as domestic energy sources has also granted national and parastatal agencies (including utility companies) the legitimacy to such forms of centralisation to repress subnational land values. This is especially so for Tanzania, characterised by energy security issues. In Southwestern Ghana, the offshore nature of the petroleum sector also grants the central and local governments the ability to bypass the landed effects of the OG economy on local communities and landowners. Local landed elites are not directly part of the OG rent structure, nonetheless they benefit from the rising land and rent prices in the PER. However, for landless and low income locals, they face the direct impacts of governmental policies and practices as well as the competitive effects of petroleum companies, investors and increased populations. This manifests in food security issues, lack of employment, economic and spatial displacement as well as unmitigated pollution effects.

The final chapter (chapter nine) synthesises the findings of the research by situating value struggles into notions of incommensurable values. The chapter also suggests possibilities for de-centring land values and retooling institutional practices to recognise incommensurable values.

All these aforementioned chapters are foregrounded in chapter two which details the methodology for the research. It outlines the research objectives and defines the concepts operationalised therein (specifically the concepts of "*Value*", "*Institutional Change*" and "*Petro-Geographies*"). Here the research defines value as "*The weighted outcome of a decision problem*" (adapted from Costanza et al., 2015: 166). It also uses Graeber's (2001: 105) description of value as things that activate the desires of "*those who recognise it*" thereby "*mov(ing) them into action*". Chapter two also justifies the use of a

paired comparative case study approach, which allows for an intensive study of Southwestern Ghana and Lindi-Mtwara to foreground future cases of emerging African petro-geographies.

CHAPTER TWO

2.0 Methodology

This chapter sets the context of the research by interrogating how language is used for framing problems and its application to resource allocation. Following the introductory chapter, this chapter further unwraps the social context of policy making vis-à-vis its use in de/legitimising incommensurable values. It also outlines the resulting research-questions and defines their inherent concepts. Specifically, the chapter defines the concepts operationalised for the research; that is "*Value*", "*Institutional Change*" and "*Petro-Geographies*". The chapter additionally outlines four criteria for selecting Southwestern Ghana and Lindi-Mtwara as case studies; highlighting their spatial structure, functional-economic make-up and the timeline of resource extraction while cognisant of their institutional differences. The fieldwork, data collection, analysis and interpretation methods as well as issues of positionality and research limitations are also examined.

2.1 Research Objectives and Research Questions

Language is significant for understanding interests because one can detect how multiple-pathways and feedback loops of language discourses are translated into a practice of singularity. In policy and practice, language and visual imagery are used to communicate frames (Lakoff, 2010: 74). Interests are better understood through the framings of problems and solutions through dominant discourses (Carabine, 2001; Fairclough, 2001).

Framing entails "*diagnosing and defining*" some aspects of a problem to communicate its salience (textually) to audiences in order to "*evaluate and prescribe*" solutions for the problem (Entman, 1993: 52-53). Framing thus draws attention to "*particular aspects of reality*" by omitting other aspects (Entman, 1993: 54). By themselves, words are not frames, but can be utilised effectively to "*activate desired frames*" (Lakoff, 2010: 73). Particularly for framing issues of resource allocation (Hallahan, 1999: 217-219), the final decisions taken ultimately result in the distribution of various "*goods and bads across different groups both spatially and temporally*" (Martinez-Alier et al., 1998: 277-278). The "*regulatory intentions*" of dominant discourses (which, for instance, end up in official policy) do not necessarily lead to the realisation of desires outcomes (Carabine, 2001), but is also useful for litigating away competing interests.

In theory, policy can be described as decisions taken by mandated actors on a specific issue, entailing formal statements or positions, subsequently implemented by an institution (Keeley & Scoones, 2003: 22). In practice however, policy contains "*broad courses of actions, or inaction or a web of interrelated decisions that evolve over time during the process of implementation*" (Keeley & Scoones, 2003: 22). Within policy, competing interests are delegitimised through exclusion of non-official voices, the use of rhetorical power, bias towards promotional rather than dialogical policy-content, to name a few (Carabine, 2001; Fairclough, 2001; Keeley & Scoones, 2003).

Hence, an analysis on incommensurable languages of value allows for unpacking institutional decision-making framings and interests codified in policy and/or implemented in practice, inherently emphasising specific interests and delegitimising others (Munda, 2004; Russi, 2007).

Incommensurable values thus bring attention to the inactions and excluded perspectives that overlay institutional policy decisions and its spatial outcomes. Analysing incommensurable value-languages therefore 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). Specifically, for this research, attention is paid to incommensurable land values in petro-extraction regions (PERs). Thus, the objectives of the research are;

1. To analyse how the emergence of a petro-extraction economy influences notions of land value.
2. To analyse how and why 'land value' is framed in particular ways by state institutions with the emergence of a petro-extraction economy.
3. To analyse how such framings influence land policies, practices, spatial outcomes and institutional practices in petro-extraction regions.

In effect the research aims to answer the following questions and sub-questions;

How and why policies and practices on 'land value' evolve in new petro-extraction regions?

- What are the specific land-valuation languages used by local communities and state institutions in the petro-extraction regions (PERs)?
- Why is land value framed by state institutions in particular languages in the PERs?
- What are the effects of the state's framings on land-use policies and spatial outcomes in the PERs?
- What are the implications of such framings, policies and spatial outcomes for institutional change in the PERs?

The research thus examines "*the gradual unmarked way*" in which old practices erode or are "*re-signified*" and new ones take their place (Li, 2014), with the emergence of a petro-extraction economy. In outlining the construct validity of the research (Yin, 2018:87), the concepts operationalised in examining the research-questions are subsequently expounded upon.

2.2 Definition of Concepts

- The research defines "*value*" as "*the weighted outcome of a decision problem"*.

This is based on Costanza et al. (2015: 166) who define valuation as "*the relative weights we give to the various aspects of the decision problem*". Here, valuation functions as "*a system of cultural projection*" which orders a way of thinking relating to the environment and mirrors "*particular perceived realities, worldviews, mind sets and belief systems*" (Brondízio et al., 2012: 3). According to Graeber (2001: 105), valuation activates the desires of "*those who recognise it*" thereby "*mov(ing) them into action*". Following Martinez-Allier et al. (2010: 157) and Munda (2004), the research traces the usage of land in the oil and gas (OG) process, its different (and contested) interpretations by actors, the chronology of their stated values, the imposed land values as well as their spatial outcomes and institutional implications.

- The research also defines institutional change to encompass evolving institutional relationships such as formal – informal, local – national, de facto – de jure as well as public – private relations that are constituted in and result from practices that de/legitimise incommensurable values; practices such as material appropriation, rule-formation,

normative functions and ideological justification of institutional decisions (Helmke & Levitsky, 2004; Boone, 2003, 2013; Gintis & Bowles, 1981; Scott, 2014).

- For this research, petro-geographies are loosely defined as subnational regions experiencing the spatial imprint of new petro-industrial activities in their landed and ocean territories.

The outlined concepts are analysed in the context of the cases studies' causal relations (internal validity), generalisability to emerging petro-geographies (external validity) and availability of reliable data (Yin, 2018: 87). The case for Southwestern Ghana and Lindi-Mtwara are therefore made.

2.3 Case Study Selection

Case study analysis unearths an intensive context-dependent knowledge that provides a foundation for context-independent expertise of a larger class of cases (Flyvbjerg, 2010: 221; Gerring, 2004: 342). It also affords a way of defining cases (Gerring, 2004). Particularly for such research dealing with the central question of "how" and "why" policies and practices on land value evolve in new petro-extraction regions, case study analysis provides the appropriate explanatory tools (Yin, 2018: 43-45). Within the case study approach, this research utilises a paired comparative case study approach using Southwestern Ghana and Lindi-Mtwara as "*most-similar*" case studies (Tarrow, 2010). With "most-similar" case studies, independent variables are controlled for (i.e. the common systemic characteristics of the land use and resource governance structure of the two respective countries) with attention paid to the dependent variable (the outcome of land value frames in establishing policies, practices and spatial outcomes of the new

petro-geographies). Most similar cases allow for an intensive study of cases that foregrounds future large-N studies such as emerging petro-geographies in Africa (Tarrow, 2010: 234)

The study focused on emerging African petro-geographies which are subnational regions experiencing the spatial imprint of new petro-industrial activities in their landed and ocean territories. Specifically, both Southwestern Ghana and Lindi-Mtwara were selected as case studies based on four criteria.

The primary reason for their selection is the spatial structure of the petroleum-extraction processes. In both cases, the oil and gas extraction activities are offshore thus allowing for an analysis of their onshore spatial effects, without large-scale (and often violent) land displacements akin to open surface gold mining for instance. The two regions are connected to the offshore petroleum-extraction process through ancillary onshore facilities and logistical hubs. Both cases are also contiguously urban and rural, thus defying the "*methodological cityism*" that characterises much urban studies research (Angelo & Wachsmuth, 2015; Brenner, 2014; Brenner & Schmid, 2015; Kipfer, 2018).

The second criterion for their comparison is the functional-economic structure of the cases. Southwestern Ghana and Lindi-Mtwara are not the primary functional economic regions for their respective countries. They are not capital cities and they contain what Roberts (2014) refers to as "*secondary cities*" which are sub-national centres providing a primary niche economic function for their countries (p. 37-38). For instance, Sekondi-Takoradi is arguably the third-ranked city of Ghana's "*golden triangle*" which refers to the country's three most populous and economically vibrant cities; the other two cities are

Accra and Kumasi (GoG, 2015). In a 2018 World Bank study, Huang et. al. (2018) also classified Mtwara municipality as one of seven secondary cities in Tanzania characterised by a low population density (21 per hectare at the ward level), net outmigration, paucity of spatial planning and informal employment. Despite this status quo of these cities, their larger regions of Lindi-Mtwara and Southwestern Ghana function as vital petroleum-extraction hubs for their countries, with new logistical hubs such as ports and harbours emerging, and old ones revalorised. Indeed, the locations of the two case studies as coastal petroleum-extraction regions along the Gulf of Guinea and Indian ocean make them pivotal entrepots to West and East Africa respectively. In a sense, this typifies the role of both cases as secondary spaces in their national hierarchy; relatively undeveloped compared to the primary capital spaces yet providing a nationally (and arguably globally) strategic economic function. Southwestern Ghana and Lindi-Mtwara were thus selected because they serve as the primary petroleum-extraction regions for Ghana and Tanzania.

Aside the spatial and functional economic convergences, the third criterion is the temporal commonality of the petroleum-extraction processes in the two regions. Oil and gas production have become the latest layers of resource extractivism in Tanzania (extraction since 2004) and Ghana (2007), having been through historical phases of mineral resource extraction such as gold, bauxite and even Tanzanite gemstones in the imperial-colonial, dirigiste and neoliberal structural adjustment eras. In both countries, these historical phases of extraction were complemented by policies on land and institutional practices that were often created, inherited or modified to perpetuate resource extraction. Such temporal commonalities allow for an analysis of how the pre/existing laws on land use,

compensation, values and institutional practices to name a few, impact contested land values in the current petro-extraction regions.

These historical convergences have their divergences as well. Indeed, the immediate post-independence era policies in Tanzania were introduced and sustained in a highly centralised institutional context compared to Ghana's post-independence political context which was truncated by frequent governmental overthrows from the 1950s to 1980s. The institutional differences between the two cases, as the fourth criteria for selecting the cases, will help give context to, for example, the disproportionately higher number of policies introduced in Ghana's land and resource sector over the years. It also sets the context of the institutional variations, born out of their historical trajectories. With Ghana's land tenure structure, allodial rights are entrusted to families, clans and indigenous communities. In Tanzania's case, allodial rights (radical title) are entrusted in the President, who then gives occupancy rights to Village Associations and urban dwellers. Thus, the research also attends to how these differences influence multiple, conflicting and intersecting societal values attached to land at different scales in the petroleum economy. With an emphasis on "most similar" case study analysis (Tarrow 2010), these institutional divergences are viewed through the lenses of institutional functions in de/legitimating incommensurable values (i.e. material appropriation, rule-formation, normative functions, ideological legitimation etc.) as well as institutional relations and its evolution over time (i.e. formal – informal, local – national, de facto – de jure, public – private etc.). For this research, such relations within the PERs would manifest as relations within communities, between communities, between communities and petroleum firms,

between communities and sub/national governments, between communities and NGOs etc.

Southwestern Ghana and Lindi-Mtwara as petro-geographies thus provide the "*force of example*" and a depth of analysis to advance a comprehension of new petro-geographies in Africa (Flyvbjerg, 2010: 228, 236, 242; Gerring, 2004: 348). The increasing discovery of new petroleum resources in African countries adds a new layer of resource extraction to their historically extractivist economies. A comparative approach to case studies thus allows for an analysis of the interplay of historical and contemporary causal linkages and outcomes (Ragin, 2014: 35, 51). This research thus pays attention to these linkages in the emerging petro-geographies (as chapters five and six will show). The fieldwork and data collection process provided the impetus for the depth of analysis.

2.4 Fieldwork and Data Collection

The first phase of data collection involved six-months of fieldwork in Southwestern Ghana (November 2017 to April 2018), with subsequent ad-hoc field visits. Here, I mapped case study actors and relations, undertook stakeholder interviews, and collated data on land-use permits from the six planning jurisdictions in Southwestern Ghana. The second phase of data collection entailed secondary data on Lindi-Mtwara region; including policies, published research, secondary survey and third-sector publications. These published and unpublished works covered issues of gas extraction, land-use policy and practice as well as institutional governance. Access to the Tanzania secondary resources was also aided by support from local and international NGOs and research clusters (specifically *HakiMadini*, *Lindi Association of NGOs*, *University of Dar-es-Salaam*, *REPOA, Mkwawa*

University College of Education as well as the *Chr. Michelsen Institute*). In effect, primary and secondary data were used for the Southwestern Ghana case study while secondary data was used for the Lindi-Mtwara case. See summary in table 2.1.

For both case studies, a mixed-method approach was used, combining both quantitative and qualitative data sources (Creswell & Clark, 2011). For case study research, such an approach provides multiple triangulated sources of data to establish linkages between phenomenon and context (Yin, 1984: 13).

The research focuses on two sets of actors in both Southwestern Ghana and Lindi-Mtwara; non-state actors (landowners/users, OG firms, NGOs) as well as state actors (central and local governments).

A non-probabilistic purposive sampling method was used. This helped to identify respondents with expertise on the research-questions.

For Southwestern Ghana, I interviewed 31 key experts for a duration of 25-45 minutes each. For non-state actors, interviews were conducted with *seven paramount and community chiefs*[3], six of which were done in the local language – Asante Twi – and subsequently translated to English in text. Additional interviews include, *six representatives from third sector organisations* and *four representatives from OG companies (specifically Tullow and ENI petroleum companies)*. The choice of chiefs and kinship groups was to explore the articulations of land value by the actors with allodial

[3] The Chieftaincy Act 2008 defines a chief as an individual from the appropriate family and lineage who has been properly selected and enthroned/enskinned with respect to the existing customary laws (GoG, 2008). Thrones and skins are emblematic of the chiefs' seats of power and sources of authority; thrones are usually in reference to chieftaincy institutions in Southern Ghana while skins denote that of Northern Ghana (Kasanga & Kotey, 2001: 13).

and usufruct land rights in Southwestern Ghana (see figure 5.2). Representatives from the petroleum companies were also interviewed to understand their increasing economic and spatial footprint in Southwestern Ghana. NGOs in Southwestern Ghana were also interviewed due to their increasing salience as conduits of communication between communities and petroleum companies; in some case such NGOs implement community development projects planned by the OG companies.

Regarding state actors in Southwestern Ghana, interviews were conducted with *seven development and spatial planners*, *two representatives from customary lands and valuation departments*, *two personnel from the Environmental Protection Agency (EPA)*, *the head of the Social Welfare Department, a representative from the parastatal investment facilitator (Ghana Free Zones Authority) and a private consultancy (The Consortium Company).* Clarifications were also sought (through personal email communication) from two local experts on food security and environmental issues (see appendix 1). The choice of interviews with planning, EPA and lands departments was to explore emerging notions of land value from the perspective of subnational agencies in charge of recommending and approving spatial developments and formulating spatial plans in the six coastal districts that make up Southwestern Ghana. The mandate of these agencies is codified in Ghana's *2016 Land Use and Spatial Planning Act* (GoG, 2016a: section 35 to 37).[4] A member of Ghana Free Zones Authority was also interviewed to

[4] According to the 2016 Land Use and Spatial Planning Act, the offices of spatial planning, development planning, EPA and lands commission are part of the 'Technical sub-committee' that recommends spatial developments in the districts. They are also part of the 'District Spatial Planning Committee' that approves these spatial developments in every district. Other constituents of the sub-committee were not interviewed since they were not directly linked to the spatio-technical nature of the topic of enquiry. The non-interviewed actors include the District/Metropolitan Chief Executives as well as the Departments of Public Works, Roads, Disaster Prevention, Fire Service and District Health (GoG, 2016a: sections 35 to 37).

unpack the central government's land investment strategies in the petroleum economy in Southwestern Ghana. The private planning consultancy (The Consortium Company) was also interviewed regarding their role in drafting spatial plans in Southwestern Ghana. The head of the Social Welfare Department was also interviewed due to the organisation's role in providing policies, protective services and social development interventions for vulnerable groups in the country, including the land-dispossessed (Interview, Social Welfare Department, 2018). I also informally attended various meetings held by the oil companies, planners, chiefs and communities in Southwestern Ghana to observe deliberations on community grievances and forms of coordination at the local level. I also collected data on new spatial planning policies, public speeches, journalistic reports and existing NGO research in Southwestern Ghana. Various archival data on land use permits, corporate land purchases and food prices were also gathered (see pictures 2.1 to 2.3 as well as appendices 4-6).

Picture 2.1: Planning Permits - Archive Room (Sekondi-Takoradi)

Source: Author, February 23, 2018 *(Sekondi Takoradi Met. Assembly Office; Southwestern Ghana)*

Picture 2.2: Planning Permits - Ledger Book (Shama)

Source: Author, December 6, 2017 *(Shama District Assembly Office, Southwestern Ghana)*

Picture 2.3 Meeting between Oil Company, Local Community Chiefs and Fisherfolk

Source: Author, December 6, 2017 *(Conference Hall, Raybow International Hotel, Southwestern Ghana)*

For the Lindi-Mtwara case study, the sources of information are derived from secondary research focusing on the constituent municipalities, districts and villages. The secondary data also encompasses publications on local and national bureaucrats as well as the gas companies operating in Lindi-Mtwara. Notable secondary research is the 2015 baseline report by Tanzanian policy think-tank *Economic and Social Research Foundation (ESRF)* which documents the socio-economic and environmental impact of Tanzania's gas economy on Lindi-Mtwara communities (Shanghvi, 2014). The ESRF study was based on a sample of 137 household-heads from the Madimba, Songo Songo, and Nanguruwe wards in the Lindi-Mtwara region focusing on local development issues impacted by the production of gas (Shanghvi, 2014: 9-10, 21). Madimba and Songo Songo are sites of two power plants in Lindi-Mtwara (see figures 6.1 and 6.2). The study additionally involved two focus group discussions with the ten participants each from Lindi-Mtwara District Councils and Regional Government members (Shanghvi, 2014: 9-10, 50). The focus group discussion was themed around various gas-related issues; on citizen and local government involvement in decision making vis-à-vis the national government, on issues of land conflict, public expectations, community benefits and socio-environmental effects of the gas production (Shanghvi, 2014: 9-10, 50). Additional secondary data was sourced from a peer reviewed study by Must (2018)[5] which analyses community grievances that led to protests (and violent state reactions) in 2012-2013 regarding the piping of the newly found gas from Mtwara to Dar-es-Salaam. The study involved 835 quantitative and semi-structured interviews sampled from six districts in the Lindi-Mtwara region; Mtwara

[5] Published in the "Journal of African Affairs" volume 117 issue 466.

Mikindani, Mtwara Rural, Lindi Rural, Lindi Municipality, Tandahimba and Newala districts (Must, 2018). See map 6.3.

Another cited secondary qualitative research was Kamat's (2017) ethnographic peer reviewed research which examines discourses of development attached to the emerging gas economy; it contrasted central government perspectives with that of sceptic discourses by rural Mtwara villages (Kamat, 2017).[6] The research involved 160 quantitative interviews, 24 in-depth interviews and four focus group discussions with six persons in each focus group (Kamat, 2017: 307). Additionally, the findings of Ahearne and Childs (2018)[7] are cited. Here, the authors use 60 interviews and five focus group discussions with the Lindi-Mtwara populace to examine the local articulations of marginalisation with the emergence of the gas resources, which manifested in protests and state reprisals in Mtwara in 2012-2013. See appendix 1 for details of these cited secondary research.

These secondary research encompass local government bureaucrats who oversee rural and urban land-use planning in Lindi-Mtwara as stipulated by Tanzania's *1998 Guidelines for Participatory Village Land Use Management* as well as the *2007 Urban Planning Act* (MLHHSD, 1998; GoT, 2007). See tables 6.3 and 6.4. The secondary research also encompass village residents in Lindi-Mtwara who are tasked with approving village land allocations as stated in Tanzania's *1999 Village Land Act No. 5* (FAO, 1999). See table 6.3. Village lands make up about 70% of Tanzania's land area, and Lindi-Mtwara is largely rural (German et al., 2011: 15; Landlinks, 2016: 13). As figure 6.2 will show, village council

[6] Published in the "Journal of Human Organisation" volume 76 issue 4.
[7] Published in the "Journal of East African Studies" volume 12 issue 4.

members in Tanzania are elected by the local adult population in the constituent villages and since village land transfers must be agreed by the village councils as a first step, local populations in Lindi-Mtwara (in principle) have a direct role in overseeing rural land occupancy rights in their jurisdictions (CLGF, 2017). Hence, local village populations in Lindi-Mtwara are prime actors in terms of land-use occupancy in their jurisdictions. In Ghana's case, it is chiefs and kinship groups who are the prime actors of rural and urban land, in terms of ownership and occupancy rights (Kasanga & Kotey, 2001). See figure 6.2. The suitability of the local Lindi-Mtwara populace and household-heads for the analysis in this research (via the secondary data) was therefore based on these considerations.

The secondary research for Lindi-Mtwara was then complemented with reports and press releases from government institutions, local government agencies, civil society and media organisations as well as industry reports from the gas companies.

Additionally, historical policy documents were reviewed for the two case studies; these policies concentrate on land use, mineral/petroleum-extraction and institutional policies. For Ghana, 128 historical policy documents were reviewed (spanning 1852 to 2017). Similarly, for Tanzania, 71 historical policy documents were reviewed (from 1895 to 2017). The aim of this policy review was to set the context of how resource extraction activities interface with evolving policies on land use, compensation, land values and institutional practices. The historical policy analysis helps situate the topic of enquiry to interrogate how current contestations of land values in the petroleum-extraction regions are activated by institutional inheritances, inertia and policy diffusion. Table 2.1 is a summary of the research-questions, methods and sources of data.

Table 2.1: Summary of Research Design

RESEARCH QUESTIONS	VARIABLE(S)	DATA REQUIRED	METHOD	DATA SOURCES	
				PRIMARY	SECONDARY
What are the specific land-valuation languages used by local communities and state institutions in the petro-extraction regions (PERs)?	Stated values by actors on what land should be used for (inside and outside) the OG production process.	Evidence (in speech and text) on what land should be used for in the PER.	⊛ Discourse analysis of key expert interviews. ⊛ Content analysis of policy documents.	***Ghana*** *17 key expert interviews (non-state actors).* ⊛ Local chiefs. ⊛ Oil companies. ⊛ NGOs and civil society. ⊛ Private development consultants.	***Ghana*** ⊛ NGO reports. ⊛ Newspaper publications. ⊛ OG industry reports. ***Tanzania*** ⊛ Village councils and residents. ⊛ National, regional, district and ward policies on land use, resource extraction and institutional functions. ⊛ National, regional, district and ward environmental regulators. ⊛ Peer reviewed research. ⊛ NGO reports. ⊛ Newspaper publications. ⊛ Gas industry reports. ⊛ Village councils and residents.
Why is land value framed by state institutions in particular languages in the PERs?	New (or amended) national level policies on land use criteria and petro-extraction.	Evidence (in speech and text) on what land should be used for in the PER.	⊛ Discourse analysis of key expert interviews. ⊛ Content analysis of policy documents.	***Ghana*** *14 key expert interviews (state actors).* ⊛ District spatial planners. ⊛ Regional land administrators. ⊛ Regional and district Environmental and Social welfare agencies. ⊛ Parastatal agencies.	***Ghana*** ⊛ National, regional and district policies on land use, resource extraction and institutional functions. ⊛ Newspaper publications. ***Tanzania*** ⊛ National, regional, district and ward policies on land use, resource extraction and institutional functions. ⊛ National, regional, district and ward environmental regulators. ⊛ Peer reviewed research. ⊛ NGO reports. ⊛ Newspaper publications. ⊛ Gas industry reports. ⊛ Village councils and residents.
What are the effects of the state's framings on land-use policies and spatial	⊛ Outcomes of land-use planning decisions over time. ⊛ Impact of land-use	⊛ Data on land use change. ⊛ Local livelihood statistics (food security, energy, local amenities,	⊛ Time series data analysis. ⊛ Field observations. ⊛ Discourse analysis of	***Ghana*** *Key expert interviews (previous interviewees).* ⊛ District spatial planners.	***Ghana*** ⊛ National, regional and district policies on land use, resource extraction and institutional functions. ⊛ NGO reports. ⊛ Newspaper publications. ⊛ OG Industry reports. ⊛ Secondary photographs.

outcomes in the PERs?	planning decisions over time.	house and rent prices).	key expert interviews. ⊛ Content analysis of policy documents.	⊛ Regional land administrators. ⊛ Regional and district Environmental and Social welfare agencies. ⊛ Parastatal agencies. ⊛ Regional food and agriculture agency. ⊛ Field photographs.	***Tanzania*** ⊛ National, regional, district and ward policies on land use, resource extraction and institutional functions. ⊛ National, regional, district and ward environmental regulators. ⊛ Peer reviewed research. ⊛ NGO reports. ⊛ Newspaper publications. ⊛ Gas industry reports. ⊛ Secondary photographs. ⊛ Village councils and residents.
What are the implications of such framings, policies and spatial outcomes for institutional change in the PERs?	Stated and/or implied evidence of transformed land-use planning and governance practices within OG-production period.	⊛ Evidence of changing land-use governance and competences. ⊛ Evidence of changing land-use planning powers.	⊛ Field observations. ⊛ Discourse analysis of key expert interviews. ⊛ Content analysis of policy documents.	***Ghana*** *Key expert interviews (previous interviewees).* ⊛ District spatial planners. ⊛ Regional land administrators. ⊛ Regional and district Environmental and Social welfare agencies. ⊛ Parastatal agencies. ⊛ Oil companies. ⊛ Environmental NGOs. ⊛ Local chiefs.	***Ghana*** ⊛ National, regional and district policies on land use, resource extraction and institutional functions. ⊛ NGO reports. ⊛ Newspaper publications. ⊛ OG industry reports. ***Tanzania*** ⊛ National, regional, district and ward policies on land use, resource extraction and institutional functions. ⊛ National, regional, district and ward environmental regulators. ⊛ Peer reviewed research. ⊛ NGO reports. ⊛ Newspaper publications. ⊛ Gas industry reports. ⊛ Village councils and residents.

Source: Author's Construct (2019).

2.5 Data Analysis and Interpretation

For key expert interviews (table 2.1), I transcribed and analysed them using MAXQDA software (*6-month student license*). Six out of the 31 interviews had to be transcribed from Asante Twi to English. The interview analysis involves categorising and coding interviewee responses into themes and making connections between such responses in terms of agreements, counter discourses, historical references and linkages of ideas to outcomes (Entman, 1993; Lakoff & Lakoff, 2010; Carabine, 2001). In the analysis, certain quotations are anonymised to guard against undue professional repercussions of critical insights provided by certain interviewees.

The analysis of policy is situated in theories of language, discourse and framing concepts. I use the discourse analysis and interpretation of published policy documents to assess the production of such policy (for instance, Who sponsored the publication? Who provided the technical expertise?). I also assess its content in terms of nominalisation, its dialogical and/or promotional nature, the inclusion of non-official voices or alternative policy proposals as well as how and what boundaries of legitimacy are established (Carabine, 2001; Fairclough, 2003; Wetherell et al., 2001).

Primary and secondary quantitative data are also analysed and visualised through tables and line graphs (showing discrete and longitudinal data of development statistics for the two case studies). As is already evident, footnotes are occasionally used in cases where its inclusion in the main text would truncate an argument or the coherence of a sentence.

The interpretation of this research is fundamentally based in theories of environmental anthropology on incommensurable values[8] as well as its connections to and divergence from physiocratic and Georgist[9], Marxist[10] as well as neoclassical value theory[11]. It is also situated in emerging works on value theory which stress a decentring of economic notions of value (Graeber, 2001; Gudynas, 2017; Mazzucato, 2018; Bollier, 2016; Moore, 2015). The research is also based on emerging conceptualisations of space from the extractivist perspective (Brenner, 2014; Obeng-Odoom, 2014, 2015; Hein, 2013; Hein & Sedighi, 2018; Arboleda, 2016). Institutional changes and practices are also analysed through theories that highlight pluralities in how institutions are created and function as well as how they relate and evolve over time (Gintis & Bowles, 1981; Scott, 2014; Helmke & Levitsky, 2004; Acemoglu et al., 2005), especially in the African context (Boone, 2003 and 2013).

The analysis and interpretation was also done keeping in mind issues of positionality and reflexivity.

[8] Costanza et al. (2015), O'Neill (1993), Martinez-Alier et al. (1998), Martinez-Alier (2001, 2002, 2009), Funtowicz & Ravetz (1994), Vatn (2000), Fischer- Kowalski & Haberl (2015), Bunker (1985), Hornborg (1998, 2013), Li (2014b).
[9] George ([1879] 2006; 1898), Kuczynski & Meek (1972).
[10] Marx (1844, [1859] 1973, [1867] 1976, [1894] 1981, 1895, 1906), Harvey (1972, 1976, 1985, 1996, 2003, 2004, 2005, 2010, 2018), Luxemburg ([1913] 1951).
[11] Hayek (1944), Demsetz (1967), World Bank (1975, 1992), Deininger & Binswanger, (1999), Feder & Feeny (1991), Alchian & Demsetz (1973), de Soto (2000), Deininger (2003), Deininger & Feder (2014).

2.6 Positionality and Reflexivity

Undoubtedly, my background, training and experience influenced to a degree my choice of topic, the related case studies I could choose from as well as my data collection and analysis methods. Being an African of Ghanaian origin, trained in certain fields and experienced in particular institutional practices, I am a product of a certain epistemic geography and bear a positionality that requires recognition.

First, my identity as a Ghanaian undoubtedly influenced my understanding of notions of land value and institutional practices. In *The Magical State*, Fernando Coronil (1997) lays out the forms of state-making carved around petroleum extraction in Venezuela. In Ghana, the influence of resource-extraction in constructing a sense of national identity – forged for instance through the country's flag depicting an abundance of mineral wealth and rich forests – kindled my focus on emerging petroleum-extraction regions in Africa. During my fieldwork, I was also advantaged by my Ghanaian nationality in accessing institutional permissions and my ability to speak Twi (a language which forms part of the Akan group of languages variedly spoken in parts of Southwestern Ghana) was pivotal. On the other hand, I was also disadvantaged by my inability to access permissions from Tanzanian authorities for a similar primary fieldwork in Lindi-Mtwara. My research clearance application for Tanzania was not approved in time by the Tanzania Commission for Science and Technology to embark on a primary research. Hence, I had to rely on research clusters, secondary works and informal contacts to obtain data and key insights on Lindi-Mtwara; the triangulation of different sources aided in the relevancy and accuracy of these data sources.

Secondly, my institutional training was a motivating factor in the types of institutions deemed necessary for this research. I was trained as a development planner in Ghana and as a spatial planner in Europe through my university education. In the early parts of my training, my approach to land use and spatial planning was more technically-oriented than critical. With experience, it became clear that 'the technical is political'[12]; a realisation that compelled me to question the 'taken-for-grantedness' in institutional practice and to explore alternative pathways of how land is used, occupied and valued in an emerging extraction economy.

My past professional experience within the rank and file of Town Planning and Land Management Institutions in Ghana, also drove my initial motivation to centre these institutions and land owners in my research. In 2010, I interned in the Brong-Ahafo region (in Midwestern Ghana) at the Sunyani Municipal Town and Country Planning Department. Additionally, in 2012-2013, I did my national service at the Brong-Ahafo Lands Commission Office in Sunyani. In one way, this shaped my experience in terms of institutional functions amid changing context. As a national service person at the Lands Commission Office, I became part of a nationwide land information digitisation project, digitising thousands of land ownership documents by inputting the data into an in-house software. Even though my experience influenced my interest in this area of research, I had no prior networks within similar institutions in Southwestern Ghana and Lindi-Mtwara. Indeed, my first time in Southwestern Ghana was for the fieldwork. Additionally, my first time analysing secondary research and seeking out experts on Lindi-Mtwara was as a

[12] If I may re-adapt the famous feminist saying; 'the personal is political' (Hanisch, 1970).

result of this research. During my fieldwork, my insider knowledge (experience and training) within land use planning and land management institutions enabled me to quickly focus on the relevant data and expert insights needed, while my outsider status (no prior networks to the case study areas) helped maintain neutrality in interviews. This helped me maintain, dare I say, an insider/outsider balance in my research (Mullings, 1999: 340, 348-349).

2.7 Possible Limitations

Despite the recognition of my positionality and my efforts to calibrate for them in my research, there are limitations to point out. At face value, case study research as this one can be constrained by its lack of breadth and replication across multiple cases. Here, the research minimises this by involving triangulation methods (Oppermann, 2000) thus integrating discourses from key expert interviews, policy documents, available data, press releases and secondary research. Since case study analysis helps to zoom in on social realities as they occur in practice (Flyvbjerg, 2006: 234-235), the use of such multiple data sources helps to limit the subjective influence on interpretations and conclusions. In order to piece together an exhaustive picture of how (petro) capital is shaping political processes, especially in the global south, it is important to combine such scholarly and "*para-scholarly*" literature (Ferguson, 2006: 195).

A second limitation of the study is that although the fieldwork interviews consisted of state bureaucracies in charge of planning, environmental protection, social welfare, land investment and valuation (rating), the research could have benefitted from an extended pool of insights from professional land valuers regarding compensation, since they are at

the heart of land valuation in Africa (Obeng-Odoom & Ameyaw, 2011). I handled this limitation in three ways. One, as part of chapters five and six, I traced how different criteria for land compensation have evolved in Ghana and Tanzania from the 19th century to now. Two, I used the empirical chapters (seven and eight) to analyse *inter alia* land policy outcomes and land valuing practices in the PERs, including interview insights from the land valuation rating division in Southwestern Ghana (Interview, Lands Valuation Rating Office, 2018) and highlighted the inconsistencies in Lindi-Mtwara's land valuation methods through secondary research (Wangwe et al., 2017: 7, 13; M&PEPTL, 2014: 33-35, 54-57; Kamat, 2017: 309). Lastly and relatedly, I used insights and inputs from secondary field research, particularly showing how the expertise of professional valuers are used in compulsory acquisition and compensation practices in Ghana's PER (see Obeng-Odoom and Ameyaw; 2011; Obeng-Odoom, 2012a; Ablo and Asamoah, 2018). These secondary research point to the fact that professional valuers usually subscribe to different market-based methods of valuation (Wangwe et al., 2017; 7; Obeng-Odoom & Ameyaw, 2011: 276-277) and may not usually agree on market value (Ablo & Asamoah, 2018: 197). Yet the outcomes of their practices are marred in ineffectual and inadequate compensation amounts in the PERs. These combined strategies are used to fill the lacuna in the research.

2.8 Chapter Summary

The chapter argues that a focus on incommensurable languages of value allows for unpacking institutional decision-making framings and interests codified in policy and/or implemented in practice. Following from this, the research argues for tracing the land use patterns in the oil and gas process, examining the varied interpretations and chronology of values by actors and juxtaposing them to the imposed land values as well as their spatial and institutional outcomes. In effect, the research-questions focus on contestations and outcomes of land value frames in establishing policies, practices and spatial outcomes in new petro-geographies; focusing on state and non-state actors as the two pivotal groups in the research. The case studies for such an analysis were selected based on emerging and near-contemporaneous petro-extraction regions in Africa with ancillary facilities on onshore lands, thus allowing for an exposition of mundane institutional policies and practices at play. The case studies were also situated within their national functional-economic roles while fleshing out their institutional differences. Mixed-methods and data triangulation were used in the fieldwork and analysed in light of the variations in data access and availability. The subsequent theoretical chapters (on "*The Political Economy of Land Value*" and on *"Institutions and Institutional Change"*) set the stage for the empirical methodology mapped in this chapter.

CHAPTER THREE

3.0 The Political Economy of Value

This is the first of two chapters that outlines the theoretical framework of the research. As stated in the methodology chapter, enunciating land values in the PERs of Southwestern Ghana and Lindi-Mtwara requires an engagement with various lines of enquiry on the concept of value. Hence, this section analyses and periodises the concept of "*value*" from different theoretical canons in comparison with the concept of incommensurable value. Dissecting "*value*" in the two case studies is a complex process; different actors in Ghana's and Tanzania's PERs are guided by various approaches to value, requiring exposition. The two chapters analyse different theories of value, how land is conceptualised in these theories and the forms of institutional practices that emanate from them.

The chapter begins with an analysis of the physiocratic and Georgist approaches to value (section 3.1), as well as the Marxist (section 3.2) and neoclassical economic value-theories (section 3.3). The chapter finally settles on pluralist/incommensurable value theory (section 3.4), focusing on its relevance for analysing land and the complexity of resource extraction in contrast to the other value-theories.

Section 3.1.1 argues that the physiocratic and Georgist approaches to land value fundamentally aligns with price notions of land value. Particularly, the Georgist social reform strategy of socialising land rents does not address fundamental inequalities in land ownership and may also negatively impact areas such as preserved lands, fallow lands

and sensitive ecological and cultural areas that lie outside the purview of the market, as the two case studies show.

Section 3.2.1 also argues that Marxist labour theory of value pays less attention to the mode-of-extracting from nature (e.g. natural resources) and its ecological footprint, processes that do not readily submit themselves to Marxists' immaterial notion of value as socially necessary labour time. The chapter will show that while Marxists argue that labour is expropriated and underpaid in the capitalist production process, proponents of incommensurable value criticise that the work of – for instance – nature is not paid at all.

Section 3.3.1 also shows that the subjective theory of value equivocates nature (natural resources) into an exchangeable commodity. In relation to petro-extraction regions, such a value theory deems the differential qualities of, for instance, clean air and arable soil as commensurate with a monetary equivalent. This is also reflected in its institutional argument that equivocates the right to clean air with the right to profit. Hence the concept of incommensurable value is used to criticise the subjectivists' asocial approach to exchange value which emphasises the individual as the unit of analysis, extended into institutional models that emphasise "*methodological individualism*" (Agboola, 2015; Spithoven, 2019). Here, the extension of such individualism into areas of property and environmental relations ignores power relations and public goals beyond land use efficiency and reduction of transaction cost.

Subsequently the argument for pluralist notions of value is made in Section 3.4.2 introducing economic and non-economic notions of value, particularly that of "*intrinsic value*" which articulates for the non-human and for the unborn. Notably, the subjectivists'

fixation on calculability and modelling is criticised for ignoring the power relations inhered in abstracting from nature for commensurable market exchange. In effect the chapter criticises the economic-determinist notions of value in the landed, labour and subjectivist (neoclassical) value theories.

3.1 Land(ed) Theory of Value: The Physiocrats and Georgists

The physiocrats argue that agricultural (and mining) land is the source of all value. Physiocratic theory emerged from 18th - 19th century French feudal-agrarian society. Here, agricultural surplus was deemed as the main source of the wealth of nations, as argued by François Quesnay and A.R.J. Turgot (Kuczynski & Meek, 1972; Mazzucato, 2018). Quesnay was the physician and advisor to King Louis XV with Turgot becoming France's Finance Minister in the 18th century (Obeng-Odoom, 2016; Mazzucato, 2018). Physiocratic theory was also a critique of the mercantilist economic theory at the time (most notably Adam Smith's Wealth of Nations, [1776] 1999) which argued that value emanates from a nation's ability to engage in foreign trade, especially in precious minerals (Mazzucato, 2018).

Under physiocratic theory, a nation's "*productive class*" was its farmers and miners who worked on land, followed by its "*sterile classes*" (households and artisans) who spurred subsistence, manufacturing and services. The theory criticised the usurpation of land rents by the "*proprietary classes*" (feudal kings and land-owning elites) who exploited the productive classes (Kuczynski & Meek, 1972; Mazzucato, 2018). In effect, the physiocrats provided a theoretical interpretation to land's primacy as a source of wealth in feudal-agrarian societies, and the underlying exploitation by different classes (Haila, 2016: 209).

Physiocratic thought became an influential part of the ideas of land reformers in the industrial era, most notably Henry George in the 19th century. George was widely influenced by the classical-economists of his day, building on the physiocrat's notion of the fundamental subsistence basis of land, on David Ricardo's theory of land rent and on John Stuart Mill's notion of landlords as an unproductive class (Ricardo, [1817] 1974; Mill, 1848; cited in Haila, 2016: 48, 64, 79). Both physiocrats and Georgists recognised the unequal processes through which economic rent is formed and criticised the activities of landowners who exacted and privatised rents from labouring farmers (George, [1879] 2006: 237; Obeng-Odoom, 2016: 28). However, George did not subscribe to agricultural land as the only source of value like the physiocrats (George, 1881: 153; cited in Obeng-Odoom, 2016: 29). His concern was with the urban poverty wrought on cities in the industrial era, prescribing land reform as the major social reform to remedy it (Haila, 2016: 68).

In his book *Progress and Poverty,* Henry George ([1879] 2006) defined the value of land as "*the price of monopoly*" (George, [1879] 2006: 90,189). In other words, the ability to monopolise the rent-yielding potential of land, is what produces its value;

"*It is this capacity of yielding rent that gives land its value…. Land value does not arise from its productiveness or usefulness. No matter what its capabilities, land has no value until someone is willing to pay for the privilege of using it*" (George, [1879] 2006: 90).

According to George, this monopoly notion of land value results in the private exploitation of the "*fruits of labour*" on land;

"*Land is required for the exertion of labour in the production of wealth. Therefore, to control the land is to command all the fruits of labour, except only enough to enable labour to continue to exist*" (George, [1879] 2006: 162).

In George's thesis, poverty is not caused by the absence of capital nor by the limitation of nature but rather by the private accumulation of land rents (George, [1879] 2006: 155). George ([1879] 2006) argued that land rent is not a private product but rather is socially produced through dense populations and agglomeration of economic activities (George, [1879] 2006: 155). When privatised, land rent affects labour's wages (e.g. by increasing housing and living costs) as well as profits accrued to capital (Obeng-Odoom, 2016: 30). Hence, George suggested strategies to socialise such monopolised land rents; that is to tax land rent (called single tax). This is to be done by separating land rents, deemed as socially-produced, from private improvements on land (George, [1879] 2006: 178-180). Here, the socially-produced marginal rent would be publicly appropriated (taxed) while landowners' direct improvements on land is privately kept (George, 1898: 150). The public appropriation of rents would entail taxation of both used and unused lands, thereby preventing land speculation and rent-seeking. Land owners would thus receive payments based on their individual improvements on the land (George, [1879] 2006: 254). This would curtail rent-seeking by property owners and would bestow land benefits based on the productive improvements to the land (George, [1879] 2006: 254).

Unlike the physiocrats who emphasised a "*laissez faire, laissez aller"* role of the state[13], George favoured a state that actively restricted private appropriation of land rents. (George, 1881: 153; cited in Obeng-Odoom, 2016: 28-29). The resulting 'single tax' accrued on the land would then be used for public projects. Despite these differences, physiocrats and Georgists identified land as a metric of value and the need to tax

[13] Meaning "*clear the ways and let things alone!*" (Obeng-Odoom, 2016: 28-29).

economic rents, with the latter outlining strategies to socialise the private monopolisation of land value.

In its policy relevance at the time, 18th - 19th century French physiocrats argued that France's colonial policy should expand from slave trading to cash-crop cultivation and gold-mining, emphasising the role of monopoly land value and rent-capture in such policies (Røge, 2008). As Finance Minister, Turgot also started land reforms to socialise land rents in France; an initiative cut short by the French revolution (George, 1881: 159; cited in Obeng-Odoom, 2016: 29). In effect, these proposals did not fundamentally change French colonial or internal land policy, although its principles were used to legitimise French colonialisation of Algeria, Senegal and parts of West Africa (Newbury & Kanya-Forstner, 1969).

Georgist-thought was influential in further theorisation and land-reform praxis. For instance, in his 1899 novel titled *Resurrection*, Leo Tolstoy deemed Georgist-style land reform as a panacea against society's ills and the injustices of private land ownership (Haila, 2016: 68, 79). Sun Yat-Sen in 1912 China also rolled out a policy to equalise land rights by taxing land values (Haila, 2016: 69-71). British socialist organisations such as the Fabian Society were equally avid proponents of George's taxation of land rents as part of British economic policy in the 19th to 20th century (Haila, 2016: 77; Rudman, 1962). However, as will be shown in chapters five and six, monopolisation of land value and rent-extraction were very much part of British colonial policies and practices abroad in countries like Ghana and Tanzania.

Physiocratic and Georgist land value-theories still resonate today in economic and ecological thought. For physiocratic theory, the concept of land value has seen a resurgence since the 2008 financial crisis, emphasising the primacy of land value that is evident in emerging large-scale land acquisitions, hyper-extraction, biofuel plantations and carbon sequestration initiatives. For instance, in a paper titled *The Fossil Interlude: Euro-American Power and the Return of the Physiocrats*, Hornborg (2013) stresses how climate change and biofuel energy transition are driving a reversion to land as a direct source of energy-value, similar to the pre-industrial era physiocrats (Hornborg, 2013; also see Huber & Mccarthy, 2017).

The Georgist tradition of equalisation of urban land-rents also resonates today, through proposals such as land value taxes (see Haila, 2016: 79-80), calls for betterment taxes (Obeng-Odoom, 2014: chapters 7 & 8) and existing applications of such taxes (Rybeck, 2015; Haila, 2016). At the 2018 World Bank Land and Poverty conference in Washington D.C., Economist Paul Collier delivered a plenary presentation and suggested the socialisation of land-rent as a form of urban land reform policy in African cities to fund public projects (Collier, 2018). Additionally, in terms of ecology, it is argued that general environmental regulation and social taxation can withstanding the wastage and privatisation of scarce 'environmental assets' (Stillwell & Jordan, 2004). Retrospective compensation (social taxation) of industrial pollution is also touted as a strategy to 'account' for the negative impact that pollution wreaks on land's economic value and the surrounding air quality (Tideman, 1998; Bosquet, 2000). As section 3.4 will also show, issues of land value are prominent in Carbon Sequestration Programmes and Payment for Ecosystem Services (PES) initiatives; initiatives which emerged from the notion that

environmental pollution can be mitigated by paying land owners to plant trees as a form of offsetting. However, these practical applications of physiocratic and Georgist theories are not without critique.

3.1.1 Critique of Land(ed) Theory of Value

The contributions of the physiocrats and Georgists highlight land as a unique factor of production requiring specific approaches and policies in how it is used and valued. However, at a foundational level, both theories are deeply steeped in economic languages of value. Physiocrats like Quesnay equates value to price, arguing that;

"*…it should be value which makes up for quantity rather than quantity which makes up for value*" (Kuczynski & Meek, 1972: *pages vii, ix*[14]).

Marx (2000; chapter 2) also criticised the materialist approach to value taken by the physiocrats "*independently of the social form*"; the social form being the appropriation by the capital of the surplus value created by labour (Marx, 2000; chapter 2). George ([1879] 2006, 90, 189) also ascribed land value to "*monopoly*". His land reform programme to socialise monopoly land rents, however, does not fundamentally change the derivative benefits of land for private landowners, even if it prevents speculation. Landowners' ability to use lands for credit-collateral, for example, is still bequeathed to them, and not to the landless beneficiaries of the socialised land value rents. In this way, the accumulation of capital and the perpetuation of inequality is unceasing, even if socialised land taxes reduce poverty. Hence, Marx and Engels were critical of George's piecemeal approach

[14] I maintained the Roman numeric page numbering structure of this source and other documents with such numbering. Such documents contain both Roman numerals and regular numbers.

and prescribed the nationalisation of land as the only effective radical equaliser (Haila, 2016: 48-49; Munro, 2013: 221). As will be shown in chapters seven and eight, land value, even if hinged on some form of social monopoly rent, is deemed to have values beyond economic valuation. As petro-extraction is increasingly extended to regions where preserved lands, fallow lands and sensitive environmental and cultural areas lie outside the purview of the market, the socialisation of monopoly land rents becomes a limited notion of land value.

Secondly, in terms of George's analysis ([1879] 2006), the distinction between social rent and private improvements on land was not clearly made. George even acknowledged the possibility of "*accidentally taxing some [private] improvements*" (George, [1879] 2006: 238). Following from this, George did not make clear the distinction between possession of land and its use, often using them interchangeably (Pullen, 2012: 122). In this sense, in regions where the unused land elicits value beyond economic notions (e.g. preserved lands, fallow lands, culturally sensitive areas), such lands would be taxed. As the case study chapters will show, the non-use of land sometimes elicits value beyond economic notions of land productivity.

The physiocratic and especially Georgist approaches hence situated land as central to value production in the industrial era, while Marxists focused on labour as the source of value.

3.2 Labour Theory of Value

The physiocrats and Georgists ascribed a primacy to land at a perilous cost to the neglect of labour, especially in an 18th - 19th century period of burgeoning industrialisation. Marxist (and Ricardian) labour theories of value recognised the industrial revolution and its reworking of the relation between land and labour. Marx analysed value through a relational and dialectical analysis of use value and exchange value (Harvey, 2009: 154). Use value points to the physical properties of a commodity, that is, its material uses for satisfying human needs (Marx, [1867] 1976; Harvey, 2009: 154; Felluga, 2011). It applies broadly to "*objects, activities and events*" that are necessary in particular social contexts (Harvey, 2009: 154). To have use value, a commodity must have a need to satisfy. This leads to Marx's dialectical analysis of use and exchange value in the commodity form. Here, use value is "*an active carrier of exchange value*" for the owner of the commodity; in other words, for the owner, the commodity is merely a means of exchange (Harvey, 2009: 155-156). However, for the potential buyer, the commodity serves as a consumer good, as use value, to satisfy her/his material needs. A commodity's use value is thus realised by its…

"…*mutual exchange of places: they pass from the hands of those for whom they were means of exchange into the hands of those for whom they serve as consumer goods*" (Harvey, 2009: 156).

Hence for capitalism "*only by being realised as exchange values can [a commodity] be realised as use values"* (Marx, 1970: 43; cited in Harvey, 2009: 156). In effect, commodity exchange entails "*use values exchanged for each other*" between the owner and potential consumer (Marx, 1970; cited in Harvey, 2009: 155).

The exchange is however enabled by a comparison to a third element, money, which functions as a *"universal equivalent"* (Marx, [1867] 1976; Felluga, 2011). However, money's role as a universal equivalent of exchange masks the "*the social process of applying socially necessary labour to objects of nature to yield up material objects (commodities) suitable for consumption (use)*" (Harvey, 2009: 156).

This leads to Marx's definition of value, as the *socially necessary labour time embodied* in commodities (Marx, [1867] 1976: part 8; Harvey, 2018: 55-56, 194-195). In effect, money hides the socially necessary labour time embodied in commodities. This contrasts with Smith ([1776]1999) and Ricardo ([1817] 1974) who argued that the best measure of a commodity's value resided in the *labour activities commanded* and *labour-time embodied* in commodities respectively. Value, for Marx, is a social-relation, yet an immaterial but objective force (Harvey, 2010: 33, 128, 2018: 5). Commodities are thus characterised as "*congealed quantities of homogeneous human labour*" (Marx, [1867] 1976: 128; cited in Harvey, 2010: 18). The social necessity of a commodity is thus borne out of its use-value (usefulness) at a particular time (Harvey, 2010: 20-22). "*Socially necessary*" points to the usefulness of a good/service at a particular time. In other words, someone must want or need the commodity and be able to pay for it to be socially necessary (Marx, [1867] 1976: 128; cited in Harvey, 2010: 20, 24; 2018: 55).

The capitalist therefore realises profit by producing and reproducing socially necessary commodities for exchange.

This production process and the profit motive require assembling the factors of production (including land) and maintaining a wage relation with labour (Harvey, 2010: 109-134).

Here, the capitalist gains profit through surplus value created by labour. Surplus value (profit) is the additional value created by labour in excess of its wage equivalence (Marx, 2000). In other words, labour expends more labour time than they are waged, they are however paid in wages only sufficient enough to maintain their subsistence. Surplus value thus emanates from the workers' surplus labour; that is, the labour time above and beyond what they are waged. The more labour power is exploited, the higher the capitalist's surplus value. A crude modern-day example of such surplus value could be the difference between productivity and wages.

Compared to other commodities, land has special characteristics regarding use and exchange value. Its location and quantity are fixed. Its necessity (use value) is also indispensable to human activity. However, its exchange value can be affected by locational advantages. In some sectors, there is frequency in the land exchange market (e.g. rental housing, retail sector) while in others it is not (e.g. owner-occupied housing, public facilities). In effect, compared to other commodities, land is used frequently and for longer durations than it is exchanged (Harvey, 2006: 338; 2009: 157-167). The permanency of land renders it as a means of "*storing and enhancing wealth*" in the capitalist economy, thus becoming a source of current/future use and exchange values (Harvey, 2009: 159).

To deeply understand land, Marx's foregrounds the labour theory of value within a historical materialist analysis to highlight the relation between land, labour and capital. In *Economic and Philosophical Manuscripts of 1844*, Marx argued that the dispossession of peasant populations from landed social relations to industrial capitalist economies

resulted in a rift which severed labour from their original landed means of production, transforming them into a wage-labour class (Marx, 1844). This "*primitive accumulation*" of land hence resulted in the robbing of both the land/soil and the labourer by the forces of capitalist production (Marx [1867] 1976: chapter 27; Harvey, 2010: 116, 234; Munro, 2013: 218). A class of wage-dependent labourers therefore emerged on a large industrial scale (Harvey, 2010: 318). As Marx notes;

"*…in tearing away from man the object of his production, therefore, estranged labour tears from him his species life, his real species objectivity, and transforms his advantage over animals into the disadvantage that his inorganic body, nature, is taken from him*" (Marx, 1844: 75-78).

In other words, this estrangement of labour from land ("*nature is taken from him*") means the denial of access "*to the means of production, from command over the labour process, the product and the surplus value*" (Harvey, 2018: 195). This alienation is what Bellamy Foster refers to as "*metabolic rift*" (Foster, 1999).

Value as the socially necessary labour time embodied in commodities thus represents "*socially alienated labour*", that is;

"…alienated labour exploited by capital in production, secured by private property and commodity exchange in price-fixing markets" (Harvey, 2018: 55-56,194-195).

Luxemburg ([1913] 1951) similarly posits an "*organic relation*" between land and labour whereby dispossession from land results in the alienation of the labourer. Thus the socially necessary condition for capitalism to thrive is for "*the capitalist [to] produce and reproduce the worker as the active but alienated subject capable of producing value*" (Harvey, 2010: 251).

The utility (excuse the pun) of Marx's analysis here is to show the discrepancy between "*the labour time congealed*" in producing a commodity vis-à-vis labour's alienation from the surplus value of its outputs; an alienation linked to separation from land and dependence on industrial wages (Harvey, 2010: 83). Through market exchange and the appropriation of surplus value, labour is alienated from land, from its labour power and from the products of its work (Marx, [1867] 1976; cited in Harvey, 2010, 128; 2018: 55-56).

The development of private property and the enclosure of land in the capitalist economy are therefore deemed as the products of labour's alienation and reproduction. Pre-capitalist feudal landed property relations, with its caste-like hierarchies, was replaced by new social relations between bourgeois capital and labour under industrial capitalism (Marx 1963; cited in Munro, 2013: 219). Under industrial capitalism, the ability to charge ground rents and privatise property became the new social relation, manifesting in the enclosure of rural lands and the increasing commodification of urban industrial lands (Munro: 219-220). This new social relation was fundamentally hinged on the separation of labour from land;

"*Private property thus derives from an analysis of the concept of alienated labour — i.e., alienated man, estranged labour, estranged life, estranged man……although private property appears as the basis and cause of alienated labour, it is in fact its consequence…..Later, however, this relationship becomes reciprocal. It is only when the development of private property reaches its ultimate point of culmination that this, its secret, re-emerges; namely, that is (a) the product of alienated labour, and (b) the means through which labour is alienated, the realisation of this alienation*" (Marx, 1844: 81).

In effect, under industrial capitalism and beyond, the landed-property class became important to capitalism for three reasons. First, it served as a prerequisite and condition for capitalism through the expropriation and separation of labour from land (Harvey, 2006: 358-362).

Secondly, notwithstanding the landed property class' unproductiveness and its siphoning of rents from industrial capital and labour, it also provides "*a legitimising function for all forms of private property*" (Harvey, 2006: 360). Landed property thus provides an ideological legitimation to the concept of private ownership for industrial capitalists[15] and for labour as well (Harvey, 2006: 358-362).[16] Private property and the appropriation of rents are therefore the "*socially necessary conditions for the perpetuation of capitalism*" (Harvey, 2006: 358). Here, four types of rent relations exist between the landlord, labour and capital. *(i) Monopoly rent*, linked to the unique characteristics of land, characteristics which buyers are eager to obtain at higher than normal prices, for instance, prestige and status locations. This usually occurs at an individual level. *(ii) Absolute rent*, linked to barriers to entry. Private property and land enclosure are barriers to entry writ-large; absolute rent is thus at a class level. Absolute rent can be created for instance through lobbying by a real estate group for favourable policies. Both monopoly and absolute rent are absorbed by landlords in land prices and not reflected in product prices. Hence capital tries to keep both forms of rent "*strictly within bounds…and of sporadic occurrence*" (Marx, 2006: 360-361). (iii) *Differential rent I or DR1*; this is linked to the locational and resource endowments of land while (iv) *Differential rent II (DR2)* is a form of rent created

[15] The ideology that if land can be privately owned, then anything can be privatised and commoditised (Harvey, 2006).
[16] Private homeownership as an aspiration of the working class (Harvey, 2006).

by the injection of capital into the production process (Munro, 2013: 224-245; Harvey, 2009: 179-184 citing Marx, 1895; Harvey, 2006: 349-358; citing Marx, 2000). Both forms of differential rent are reflected in the price of commodities produced by capital.

The third role of landlords to capitalism is they sometimes enhance competition between industrial producers, especially in industries that use land as a means of production. This is done by landlords "*taxing away excess profits that are relatively permanent"* (Harvey, 2006: 360-261). Through such land rents, landlords can tax DR1, that is, capitalist producers' excess profits linked to resource and locational endowments, hence undercutting the producers' advantage over competitors. This forces the producers to seek out DR2 by investing more than normal capital into their production, establishing only a temporal advantage over competitors who will eventually inject similar capital in their production process to equalise the rate of profits in that industry (Harvey, 2006: 358-362; Munro, 2013: 223-224). By undercutting the producers' permanent advantage over competitors into a temporal one, competition is enhanced in the industry, resulting in the search for other forms of surplus value, often entailing the exploitation of labour power. The role of the landlord to capitalism, and its implication for the labour theory of value is thus pivotal.[17]

Today, the alienation of labour from land still exists, albeit manifested in new ways. Marx ([1867] 1976) highlighted the process of "*primitive/original accumulation*" evidenced by the colonial dispossession of indigenous populations and enclosures of rural English lands. Harvey (2004, 2010, 2018) updated this notion in the post 1970s financialised era

[17] The second and third roles of the landlord might not apply to the case of the owner-occupied family farm or owner-occupied private mines (see Harvey, 2006: 365).

looking at "*accumulation by dispossession*", focusing on the enclosure and commodification of genetic materials, habitat degradation, industrialised agriculture and the opening up of cheaper global "*resource complexes*" (Harvey, 2010: 311, 2018: 36). Such resource complexes include compulsory land acquisitions for special economic zones and industrial land banks in rural areas as well as slum clearances and economic displacement in urban areas. These contemporary enclosures ultimately force people off their lands for resource extraction and monopoly rents (Harvey, 2004, 2010, 2018). It also manifests spatially through rural-urban migration, creating a surplus labour population, once again reinforcing the organic relation between land and labour. It thus creates a cycle of displacement in both rural and urban areas, reproducing alienation across different geographies and time-scales (Harvey, 2004, 2010, 2018).

In the end, according to Marx, the way forward against the quagmire of value is to rethink use value itself, totally abolish exchange value and eliminate value as socially necessary labour time (Harvey, 2018: 59). To Marx, the nationalisation or communal ownership of land and the means of production are key panacea against the alienation of labour from land; a condition that is foundational to capitalism (Haila, 2016: 65, 67; Munro, 2013: 229).

Marxist theory of value, and especially its underlying historical materialist arguments have also come under criticisms.

3.2.1 Critique of Labour Theory of Value

The labour theory of value and its derivative analysis of labour-estrangement and land-displacement has especially been criticised by ecologists. Specifically, ecologists criticise Marxists' over-estimation of the labour time invested in commodities and underestimation of nature's physical, material or energetic value. Ecologists argue that the process of commodity production involves material inputs such as resource endowments, sub-soil nutrients, clean air and water (Bunker, 1985: 31-45). Hence, Marxists' labour-value determinism is criticised for subordinating nature to human labour, resulting in the undervaluation of nature and overvaluation of labour in the production process (Bunker, 1985: 31). See section 3.4 on pluralist/incommensurable value theory. Additionally, Marxist notions of value are criticised for undervaluing domestic and other unpaid labouring activities that enable social reproduction and subsistence to facilitate economic value-production (Moore, 2015: chapter 2).

Secondly, particularly for natural resource extraction, the labour theory of value is critiqued for side-lining other forms of non-economic exchange such as the material exchanges that characterise the resource extraction chain. In cases of resource-extraction, the critique goes, Marxist analysis fails to theorise the limited material characteristics of natural resources, even if labour is compliant and dead labour (technology) is unlimited (Fischer-Kowalski & Haberl, 2015: 103, 110-111; Martinez-Alier, 2002: 31; 2009: 69-70). For instance (*based on an example by Bunker 1985*), consider Region-A where crude oil and gas resources are extracted and traded with Region-B which has the technology to refine the crude oil. With increased extraction, the costs of ecological clean-up and in/direct pollution will increase at Region-A while Region-B

(through its refinery technologies) generates economies of scale with increased refining processes (Bridge, 2008: 407, 412; Bunker, 1985: 25). This process cumulates into economies of scale and infrastructure for Region-B, allowing the latter to make further claim to more resources and land from Region-A (Bunker, 1985: 32, 47; Hornborg, 1998: 173). Conversely, extraction in Region-A results in a "*disarticulated economy*" enclaved and insulated from its adjoining regions while concentrating on capturing OG rents (Bunker, 1985: 26-29). Here, Region-B becomes the arena where more social power and technology is generated, at the expense of Region-A (Bridge, 2008: 412; Bunker, 1985: 35). Within the labour theory of value, the ecological imprint in this scenario would largely go unexplored resulting in an undervaluation of the mode-of-extracting the resources.

Developments in ecological Marxist thought have however countered such critiques by highlighting the role that nature played in Marx's analysis. Smith (1984), Foster (1999), Swyngedouw and Heynen (2003) highlight Marx's notion of "*metabolism"* as the "*material or energetic exchange*" mobilised through social relations "*of control, ownership and appropriation*" and co-produced by labour and natural resources. As already stated, Foster (1999) refers to Marx's (1844: 75-78) concept of alienation as "*metabolic rift*" and Harvey (2004, 2010, 2018) has updated Marx's ([1867] 1976) concept of "*primitive accumulation*" for contemporary times. Harvey (2018) also retorts that the desire by critics of Marxism to incorporate these other unpaid activities (e.g. natural resources, domestic work) into value production is counterproductive for the potential *"oppositional politics*" necessary for a post-capitalist economy (p. 89-90). Nonetheless, these various forms of (ecological) Marxist analysis are criticised for focusing on the labour theory of value as the binding thread that subsumes both nature and labour into this metabolic capitalist

process. In other words, it assigned primacy to the capitalisation of labour rather than the appropriation of unpaid ecological work (Moore, 2015: chapter 2). It is the intersection between historical materialism amid a theory of value as an immaterial force[18] that makes resource extraction an awkward concept in Marxist analysis.

From the physiocrats and Georgists attribution of value to land, to the Marxist focus on labour, the subjectivists (neoclassical economists and related theorists) focus on exchange as the source of value.

3.3 Subjective Theory of Value

In contrast to the physiocratic, Georgist and Marxist arguments that centre value in the sphere of production, the subjective theory of value focuses on the sphere of exchange through the logic of the market (Lichtenstein, 1983: 41; Munro, 2013: 222). Value here is considered as a product of economic exchange.

Classical economists like Jeremy Bentham ([1780] 1970) set up the foundation for the subjective theory of value. Bentham introduced the concept of utilitarianism, arguing that individual actions could be judged by its goodness or badness of consequences; such actions aimed at increasing pleasure and reducing pain, i.e. hedonistic utilitarianism (Bentham, [1780] 1970). Here, the marginal utility[19] of a commodity to satisfy these individual desires (at the exchange market) is seen as a measure of a commodity's value (see summary in Lichtenstein, 1983: 44). Applied to land, the hedonistic approach posits

[18] Value limited to labour time and its monetary representation (Harvey, 2010: 33, 128; 2018: 5).
[19] Herman Gossen is credited for expounding the marginal utility concept (Gossen, 1854; cited in Lichtenstein, 1983: 45-48).

"*individual natural rights*" to land for satisfying individual desires under market exchange (Obeng-Odoom, 2018: 316-318).

Neoclassical economists like Stanley Jevons (1871), Carl Menger ([1883] 1963) and Léon Walras ([1883] 2014) are credited for further – mathematically – developing the concept of marginal utility, triggering a paradigm shift from classical economics. These neoclassical economists argued that the value of a good was not based on the conditions of its production (as in the Marxist labour theory of value), nor individual hedonistic desires (as in classical economics) but rather its ability to meet the tastes and preferences of the individual consumer, be it hedonistic or otherwise (see summary in Lichtenstein, 1983: 48-53). Jevons and co. used formal and analytical mathematical models to link value to marginal utility and individual preferences, albeit maintaining the classical economic precepts of individualism, the "invisible hand"[20], perfect competitition and scarce resource allocation in market exchange (Agboola, 2015: 413; Lichtenstein, 1983: 48-49).

In effect the neoclassical variant of subjective value theory is hinged on three basic assumptions, according to Agboola (2015). First is "*methodological individualism*", where the individual is the basic unit of analysis and action. Secondly, "*methodological instrumentalism*", that is, individuals are self interested with clearly defined preferences and perfect information, the preference orderings mathematically connected to utility functions. And thirdly, "*methodological equilibration*", built on the notion of market equillibrium as an inevitable result of demand and supply, highlighting commodity exchange values (Agboola, 2015: 414-415).

[20] Smith ([1776] 1999).

Friedrich Hayek in *The Road to Serfdom* (1944) provides one of the first neoclassical economic critiques to planning institutions by highlighting the subjective theory of value. Hayek begins by highlighting "*individuality*" as a push-back against the forms of "*collectivism*" that existed in the 1940s (Hayek, 1944: 4). Hayek argues that collectivism (or centralised forms of governance) requires large volumes of information in decision-making, culminating in unchecked specialism, discretionary use of power and an inability to provide an "*all-inclusive scale of values*" (Hayek, 1944: 62). Hayek further argues that the potential for political freedom (via economic freedom) can be realised by facilitating individual utility and subjective choice-making rather than through dictated choices of centralised governance (Hayek, 1944: 25-26). Individuality for Hayek thus connotes;

"…the respect for the individual man qua man….the recognition of his own views and tastes as supreme in his own sphere…. and the belief that it is desirable that men should develop their own individual gifts and bents" (Hayek, 1944: 14).

In this sense, subjective individual preferences determined what was useful; such preferences judged by their goodness or badness of consequences. Decisions are therefore made by focusing on individuals' subjective welfare which…

"…cannot be adequately expressed as a single end, but only as a hierarchy of ends, a comprehensive scale of values in which every need of every person is given its place" (Hayek, 1944: 60).

Such ends can be achieved through monetary value, by buying and selling in the marketplace. Hayek notes that the marketplace is where *"individuals [are] allowed, within defined limits, to follow their own values and preferences"* and social ends become necessary within the areas *"where individual views coincide*" (Hayek, 1944: 60-63). The governance or planning of such a marketplace is to be undertaken by setting the legal

framework and an enabling environment for the individual execution of different plans, rather than centralising the ends to which resources should be used. Put simply;

"Planning and competition can be combined only by planning for competition, but not by planning against competition" (Hayek, 1944: 43).

Hayek used "*planning*" in reference to centralised institutions that allocate national resources and plan national development, including land-use planning institutions.

For Hayek, the risks that centralised governance or planning monopoly pose to personal liberty and choice is far greater than the risk of individual private monopolies; arguing that the latter can be disciplined by market-competition unlike the former;

"*Private monopoly is scarcely ever complete and even more rarely of long duration or able to disregard potential competition. But a state monopoly is always a state-protected monopoly – protected against both potential competition and effective criticism*" (Hayek, 1944: 202-203).

By extension, individual subjective values offer the choice for individual preferences in comparison to centralised collective power. Individual decisions, tastes and preferences must therefore be mapped onto a value system that abstracts such choices. For the subjectivists, the most effective value-system for such mapping is the money-exchange market. Money, according to Hayek, offers the chance of freedom against a centralised and dictated aggregation of choices. It is;

"one of the greatest instruments of freedom ever invented by man…it opens an astounding range of choice to the poor man" (Hayek, 1944: 94-95).

Money – through prices – offers the chance for the satisfaction of individual wants. Hence commodity-value is to be determined by the monetary-price one is willing to exchange for it. Such value metric also offers the possibility to accept loss of a commodity in monetary form. In other words, the subjectivists argue that the money-exchange market offers the

best possibility to pay for a commodity or accept compensation for its loss. Hayek deems prices as carrying information about individual preferences (Haila, 2016: 211). Hence individual subjective utility and price determine value.

The focus on exchange value was also evident in neoclassical land use theories, which "*equated utility and exchange value at the margins*" (Harvey, 2009: 161). Urban economists like Park et al. (1925), Harris & Ullman (1945) and especially Alonso (1964) and Muth (1969) all analysed urban land use by positing utility-maximising individuals trading off land space, accessibility and centrality within income limits, in effect bidding for land uses in locations where the additional satisfaction equals the marginal utility of that extra cost (Harvey, 2009: 161; Haila, 2016: 49-50). These concepts were based on the neoclassical theories of rent which generalised the concept of rent to all factors of production, defined as "*the return to a scarce factor of production*" (Harvey, 2009: 177; Haila, 2016: 51). Hence rent applied not just to land. Rent for all factors of production was seen as either monopoly or absolute rent due to the manipulation of supply, or as a marginal earning above the next best alternative, i.e. opportunity cost (Ricardo, [1817] 1974; Robinson, [1933] 1959; Samuelson, 1970; see summaries in Haila, 2016: 51-53; Harvey, 2009: 185).

Hayek noted that the governance of exchange processes should entail a minimal government role, at most setting the legal framework for market competition (Hayek, 1944; 43-44). However, as will be shown in the critique section, the departure of

neoclassical economics from its classical roots[21] by focusing on methodological individualism rendered it positivist and asocial in its analysis. This, coupled with its idealism of perfect information, limited its ability to examine ambiguities in land and property rights (Lichtenstein, 1983: 55; Obeng-Odoom, 2018: 319, 323). To fill this gap, new institutional economics (NIE) stepped in, and provided…;

"….*firmer foundations of human behaviour [and] an analytical approach to the study of the property market which emphasises the institutionally contingent nature of real estate exchange, thus placing real estate within its socio-economic context*" (Agboola, 2015: 412).

NIE complements neoclassical economics by highlighting "*the consequences of human behaviour on exchange interactions as well as the emergence of institutions to create order and structure such exchange relations*" (Agboola, 2015: 412). Under NIE, the abstract utility maximising individual becomes an institutionalised character (Spithoven, 2019: 443).

NIE pioneers like Douglass North drew their influences from Coase's (1960) analysis of the social cost in industrial production, in which Coase argued that if legal rights are assigned from the onset between firms and communities, both parties would engage in costless negotiation over negative externalities resulting in efficient production (Coase, 1960; 15-16). North (1990) applied Coase's argument to land, arguing that ambiguities and costs of land information impede efficient land exchange, hence the need for institutions to assign clear property rights. Such clear property rights would minimise constraints in exchange by reducing the transaction costs, the argument goes. Such

[21] The classical roots which centred on the analysis of the social relations of production (Lichtenstein, 1983: 55).

transaction costs include the cost of information, negotiation, monitoring and tenure enforcement (Haila, 2016: 53).

North's argument was central to NIE thinking, which sought for an institutional approach to address uncertainties and contractual hazards in human exchange (Agboola, 2015: 424). NIE thus intersects with similar theories on public choice, property rights, institutional change and path dependence (Agboola, 2015: 425). Chapter four sheds light on the variations in NIE and similar approaches to institutions.

The point here is not to equate NIE to neoclassical economics. Indeed, institutions are central to NIE and treated as exogenous to neoclassical economics (Agboola, 2015: 417, 424). NIE also assumes that individuals have bounded rationality (incomplete information and more complicated subjective preferences) while neoclassical economists assume individuals have instrumental rationality (perfect information and clearly-defined preferences). NIE thus provides a more practical approach to neoclassical assumptions about the agents and institutions of market exchange regarding property rights (Agboola, 2015: 417, 424). Notwithstanding these differences, NIE shares commonalities with neoclassical economics, especially on individualism and the removal of exchange constraints (Agboola, 2015: 412, 413 420; Spithoven, 2019: 443; Obeng-Odoom, 2018: 318). For land, both agree that institutions should enable private property rights and reduce transaction costs to enhance its exchange value.

The overlap of neoclassical and NIE concepts settled on the subjective value of land, arguing that a freely functioning land market is enabled by (private) property rights, reduced transaction costs and freedom of contract. As Hayek (1944: 43-44) advocated

for a faint-brush role of government in setting the legal framework for exchange, NIE theorists like Demsetz (1967) similarly deemed planning restrictions as increasing transaction costs to market exchange (p. 348).

Hence, from 1970s-1990s, such neoclassical-influenced NIE concepts diffused into transnational land use policy circles. Institutions like the World Bank made private property rights central to its *1975 Land Reform Policy*;

"Where land is communally held without regulation of access, the [World] Bank will encourage subdivision, if sedentary forms of agriculture are possible, or pursue land usage and access arrangements that are compatible with the long-run productivity of the land and the welfare of the resident population" (World Bank, 1975: 13-14).

This emphasises private property rights through the "*subdivision*" of communally held rights (World Bank, 1975: 13-14). By 1999, communal ownership systems had been somewhat recognised in World Bank policy prescriptions, although this recognition was aimed at reducing transaction costs;

"Today it is recognised that some communal tenure arrangements can increase tenure security and provide a (limited) basis for land transactions in ways that are more cost-effective than freehold titles" (Deininger & Binswanger, 1999: 248).

Nonetheless, private ownership is still deemed as a precursor to greater exchange value of land. In general, these policy prescriptions criticised communal land ownership systems for creating free-rider problems, social costs and high transaction costs (Alchian & Demsetz, 1973: 19-21, 24; Deininger & Binswanger, 1999: 269). Land policies such as the World Bank's (Deininger & Feder, 2014) therefore deem communal land rights as transitory and on an evolutionary path (Brookins, 2018) to private land rights;

"With economic development, the relative attractiveness of communal systems will decrease and, at some point, it would be economically rational for a community to allocate permanent and fully tradable ownership rights to individuals.....completing the transition from a communal to an individualised tenure system" (Deininger & Feder, 2014: 6).

It was argued that communal land rights would transition to private rights when there is an increasing population, rising non-agricultural activities, land-use specialisation, a diversified marketplace, increased benefits of ringfencing and technological advances on land (Alchian & Demsetz, 1973: 22-24; Demsetz, 1967: 349-350, 357; Deininger, 2003: *pages xxvi-xxiv*; Deininger & Binswanger, 1999: 251, 258; Deininger & Feder, 2014: 3-6). In other words, the argument goes, private ownership would be triggered when there are diverse income streams to be gained from a unit of land. This would subsequently intensify land use, outcompete communal ownership systems and enable individual land transactions. With this transition, the subjectivists argue, the marketplace would streamline such land transfer, ensuring that lands are used by more productive actors (Deininger, 2003: *page xxix*).

For land, the exchange value is determined by the particular bundle of rights being traded, including its exclusivity, inheritability, transferability, and enforcement mechanisms (Demsetz, 1967: 347; Alchian & Demsetz 1973; Feder & Feeny, 1991). The ability to identify, demarcate and transfer (sell or lease) land with negligible transaction costs is therefore seen as pertinent to realising exchange value (Alchian & Demsetz, 1973: 22; Deininger, 2003: *pages xxii-xxiii*; Deininger & Feder, 2009: 236).

Private property rights were therefore promoted by these transnational policies (such as the World Bank's) to improve land-use efficiency, to create non-farm employment, to transfer land to more productive users as well as to make institutions more accountable

through market competition and contestability (Feder & Feeny, 1991: 146; World Bank, 1975: 32-33; 1992: 24, 40).

Land formalisation therefore became the key strategy for transitioning lands into private ownership. In his book *The Mystery of Capital*, Hernando de Soto (2000) makes an impassioned argument for documenting and formalising land rights in the global south to enable land exchange, investment and access to credit. Through formalisation, de Soto argues, the "*dead capital*" inherent in these undocumented communal lands can be revalorised into other financialised derivatives of exchange value, including credit-collateral, liens, mortgage-backed bonds, share-equity and other investments (de Soto, 2000: 6-7, 37, 49). de Soto's argument thus highlights the fungibility and commensurability of exchange value abstracted through land formalisation and unambiguous property rights in the NIE mould (de Soto, 2000: 42-47). Such formalisation is also touted to improve tenure security and enable transaction (transferability) of lands for more productive activities (de Soto, 2000; Deininger & Binswanger, 1999: 250, 259). According to its proponents, land formalisation will also reduce information asymmetry in the land market, hence lowering information cost and enhancing land's liquidity (de Soto, 2000: 233; Deininger & Binswanger, 1999: 250). As de Soto argues;

"*The value of things can be increased by reducing the costs of knowing them and transacting with them*" (de Soto, 2000: 233; citing Coase, 1937).

Economic development in the neoliberal global south was therefore premised on individualised and formalised property rights to enable land's transaction, transferability, exchange values and it's financial derivatives (Deininger & Feder, 2014: 1, 28). This is the crux of the World Bank's land formalisation framework (Deininger & Binswanger,

1999: 250). In chapters five and six, the research shows the evolution of such concepts and transnational policy on land use planning, especially *Ghana's 1999 Land Policy* (as part of the World Bank sponsored Land Administration Project) as well as *Tanzania's 1995 Land Policy* and its *1999 Land Act No. 4*. In chapters seven and eight, such analysis extends to the emerging petro-extraction regions (PERs) in both countries.

In summary, the subjective theory of value atomises complex decision-making processes into simplified bases for action and valuation based on individual tastes and preferences. However, as the prevailing economic and value-orthodoxy of our time, it has faced stringent critiques.

3.3.2 Critique of Subjective Theory of Value

First, the subjectivists disregard the natural and material interdependencies especially in cases of resource extraction. The interdependencies between land, its subterranean water-table and nutrient component for food production are discounted in the subjectivist logic of realising exchange values (Costanza et al. 2015: 163; Funtowicz & Ravetz 1994: 198; Martinez-Alier 2002: 269). For instance, by applying standardised prices to aid commensurability, fruit consumption becomes commensurate with clean air. This utilitarian claim of commensurability is similar to the mathematical concept of transitivity, whereby if A = B and B = C, then A = C. The material plurality of both the fruit and air refutes this utilitarian claim (O'Neill, 1993: 106-107). Indeed, this transitive approach is arguably applied to negative externalities as well. Coase (1960) argued that just as a firm's pollution affects the neighbouring community (e.g. health effects), it similarly affects the firm's profit margin if production is halted. It follows then that, the pollution is equated

to a monetary equivalent. In the NIE and public choice parlance, the pollution is also internalised in the market process through a contractual negotiation between the polluter and the community, rather than through government regulation (Demsetz, 1967: 357). The material extent and effect of this pollution (e.g. on food production) is however not accounted for in the internalisation process. Haila (2016) critiques that these arguments rest on an erroneous equation of rights; they rest on an argument that the right to pollute or gain profits can be equated to the right to clean air (p. 113-114, 222). To this, the research would add that subjectivists deem nature as commodity and envision market exchange as a transitive equivocating process to ensure commensurability. Through notions of commensurability, the environment is bounded as a closed-system and standardised via monetary valuation.

Secondly, subjectivists pay attention to efficient market transaction and exchange by assuming an ahistorical social-vacuum and ignoring the social meanings around exchange (O'Neill, 1993: 119). Here, markets are deemed as impersonal, and only concerned with governing access to resources (Boone, 2013: 5). The is due to the focus on the individual as the primary unit of analysis in neoclassical economics.[22] Hence, issues of production, consumption and particularly exchange are analysed without attention to its socially embedded context and the "*collective audiences*" of market exchange (Graeber, 2001: 76-77,260).[23] It simplifies market exchange into static demand

[22] Aside this asocial notion, anthropologists like Arjun Appadurai (1986) take a similar subjectivist view, albeit acknowledging 'politics' or power relations as the link between what is exchangeable and its value (p.3, 57). Appadurai also situates value within various *regimes* whereby what is socially-exchangeable is specific to context, temporality and the commodity-type (p. 14-18). This is unlike the economic subjectivists who attribute value solely to market forces of price, which has been the focus of this section.

[23] For instance, regarding such "collective audiences", Munn (1986: 11–12, 49–73) through an anthropological study of value in the Gawa Islands of Papua New Guinea attributes value to activity,

and supply models linked to consumer preferences, with less attention to the social influences of, for example, advertising, religious beliefs, customs, traditions etc (Lichtenstein, 1983: 52-53). It also underemphasises the social structures surrounding rent creation and appropriation, as argued by the physiocrats and Georgists (Haila, 2016: 57). NIE also models and gamifies institutional action with meek attempts at providing a social context (Agboola, 2015: 416). Indeed, NIE theorists' diagnosis of '*The Tragedy of the Commons'* is criticised for evaluating collective behaviour on an individual and small-scale basis. Harvey (2011) criticises Ostrom (1990) for using small-scale analysis of common property problems to analyse large-scale environmental issues (p. 102). Ostrom (1990) also admits that bargaining power is central to institutions (Ostrom 1990, 190–191; critiqued by Spithoven, 2019: 445). Haila (2016) similarly criticises North (1990) that, efficiency at an individual scale does not automatically lend itself to efficiency at larger scales and institutions, where issues of externality and social welfare set in (p. 34-35, 113-114).

Third, the subjectivists (especially NIE) argument for individual land rights and titling does not properly consider small-scale land owners. Credit lending institutions may deny credit to small-scale land owners, due to the higher possibilities of default (Deininger & Feder, 2009: 255; 2014: 18). Indeed, the Eurocentric origin of NIE theories brings limitations in terms of its wider applications (Haila, 2016: 34-35; Obeng-Odoom, 2018: 323). The failure of African land titling schemes in the 1970s showed that access to credit is not an automatic result of land titling (Obeng-Odoom, 2012b: 167-168; Peters, 2009: 1319).

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denoted by one's ability to extend control over space and time (cited in Graeber, 2001: 44-45). Similarly, in a study of exchange and gift giving in Melanesia, Strathern (1987:286) also talks about value as weaved through identity embedded in social relationships (cited in Graeber, 2001: 42).

These titling programmes can also exacerbate inequalities between smallholders and large landowners with increasing access to credit for the latter (Deininger & Feder, 2014: 11-12; Meinzen-dick & Mwangi, 2008: 41). They can also trigger land-grabbing by wealthy actors who will purchase lands from distressed smallholders (Deininger & Binswanger, 1999: 260; Manders, 2004: 184-186; Peters, 2009: 1319). In the subjectivist parlance, this denotes a transfer of land to productive land users to realise higher (economic) value uses by enhancing the transactability and transferability of land; whether the transfer is to, foreign investors, traditional authorities or state officials (de Soto, 2000; Deininger & Binswanger, 1999: 250, 259). For instance, Deininger (2003: *page xxix*) argues that land transfers under market exchange would enable "*productive but landless people*" to participate in land transactions. The use of "*landless*" here however misconstrues financially-capable actors who can acquire lands with (often displaced) actors who have no means to acquire alternative lands. What gets lost in the move towards individual registration is the simplification of various "*webs of interests*" – of incommensurable values wrapped up in collective forms of ownership, shared use, cultural value, intergenerational equity – into a metric of private "*ownership*" to enhance predictability in exchange-value (Meinzen-dick & Mwangi, 2008: 38, 41). This does not rule out the potential inequities inherent in communal land use structures either (Obeng-Odoom, 2012b: 268). Indeed, as the case study chapters will show, communal land ownership systems are susceptible to usurpation by local and customary elites themselves.

In effect, the physiocratic-Georgist, Marxist and neoclassical value theories have situated land, labour and capital (exchange) respectively as the fulcrum of value, with various degrees of applicability and critique. In comparison, the pluralist theory of value(s)

however assigns a primacy to non-economic and economic notions of value, while highlighting issues of ecological complex as an Achilles heel of the idealist prescriptions of the other value theories. This is especially useful for examining resource extraction issues characterised by varied and contested notions of land value.

3.4 The Pluralist Theory of Value(s)

The pluralist theory posits value from a fundamental difference between the economy and the environment. This is a foundational difference in comparison with the landed, labour and subjective theories of value. Here, the environment is deemed to function as a primary source and producer of energy, with no markets and with mutational-Darwinian forms of evolution, unlike the economy (Ayres, 2004). This difference was central to the early classical ecological economists who drew attention to the neglected energy exchanges in economic calculations of value. Indeed, ecological economists of 1920s-1930s Austria (most notably Otto Neurath) argued for incommensurable values in the economy (Martinez-Alier, 2009: 71-72). These were later developed into ecological accounting methods such as Life-Cycle Analysis (LCA), Material Flow Analysis (MFA) and Embodied energy analysis (EEA) in opposition to economic methods of accounting such as cost-benefit analysis, contingent valuation and preference games methods. Concepts such as plunder economy ("*Raubwirtschaft*") were initially introduced to highlight the unpaid resource-exhaustion and pollution effects generated through colonial resource-extraction (Raumoulin, 1984; cited in Martinez-Alier 2002: 258). These arguments later drew influences from environmental philosophers (such as Næss, 1973; Næss & Sessions, 1986 and Moore, 1922) who argued for a deep biocentric view of

human-nonhuman relations as against the anthropocentric view which centred on an instrumental conception of nature as a source of extractive resource and industrial inputs (Gottlieb, 1993: 255-256; O'Neill, 1993). The influence of these deep ecologists in pluralist notions of value took the concept beyond its simplistic energy calculations to encompass concepts such as intrinsic value.

O'Neill (1993), through a re-reading of Næss (1973) and Moore (1922), defines intrinsic value along three lines of;

- non-instrumental value: nature's existence independent of any usefulness for human satisfaction.
- non-relational value: nature's existence regardless of the presence or absence of other objects. and
- non-evaluative value: nature's existence independent of "*the valuation of [human] valuers*" (O'Neill, 1993: chapter 2).

This definition of intrinsic value was the starting point for placing the "*value*" of nature – beyond mere calculations – into a broader analysis. The notion of intrinsic value undermined the prevailing anthropocentric conceptions of nature. The value of nature was argued beyond notions of instrumentality and relationality for human satisfaction, as well as beyond the evaluative technics of humans. The definition of intrinsic value thus served as a critique of the process of selecting what is valuable as well as the inherent power relations of such selection (i.e. the actors, policies, calculative devices that bestow such power). Intrinsic value therefore serves as a critique of the subjectivists' use of market pricing as the sole lenses of assigning value (O'Neill, 1993: 8-13, 47). By assigning exchange values to nature or natural resources, the pluriform characteristics of nature are distilled into discrete marketable individual rights, commodities, or further abstracted into derivative financialised assets (Sullivan, 2014: 20-21). For instance, is the use of land

titles to generate derivative investments beyond mere exchange value as well as the use of carbon-sequestration initiatives to generate derivative monetary value from pollution (as the case study analysis – chapters seven and eight – will show). Through exchange values, nature becomes a valued-entity, quantitatively defined yet qualitatively disposable; partly abstract, and misrepresenting nature's inherent qualitative characteristics (Bracking et al., 2014: 2, 9-10; Greco, 2015: 26-27).

Using the concept of intrinsic values, non-humans and the inarticulate (e.g. future generations) could be advocated for. In this sense, nature becomes constitutive of, and not instrumental to human flourishing (O'Neill, 1993: 24). The introduction of intrinsic value concepts by deep ecologists hence provided an apt start-off point for analysing non-economic values.

From the starting point of intrinsic values, the concept of incommensurable values was revived to reflect broader areas such as environmental inequalities, cultural values and other side-lined languages of value not reflected in market exchange. Incommensurable values came to be defined as…

"*the absence of a common unit of measurement across plural values, [it] entails the rejection not just of monetary reductionism but also any physical reductionism. However, it does not imply incomparability. It allows that different options are weakly comparable, that is comparable without recourse to a single type of value*" (Martinez-Alier, Munda, & O'Neill, 1998: 280).

Incommensurable values nonetheless emanate from ecological distribution conflicts, particularly the conflicts arising from delegitimised plural values in pursuit of exchange value (Martinez-Alier, 2001, 2009). See section 3.3.2. Aside the intrinsic value of the object, the plurality of beliefs about the value of the object are also taken into consideration (O'Neill, 1993: 90). In other words, the intrinsic *characteristics of that object*

of value as well as the plurality of perspectives from different *sources*. "*Incommensurability*" thus connotes acknowledgement of the existence of plural values outside of mere economism. As a heuristic, it posits the question;

"To say 'X is more valuable than Y' is to invite a response 'in what respect?' "
(O'Neill, 1993: 105).

In other words, under what condition(s) is/are *X* better than *Y*. In detail, *X* might be good for fulfilling landscape objectives of a community but simultaneously bad for its cultural value. In the same vein, *Y* could be good as an ecological resource, bad for carbon sequestration and cultural values.

Here, value is envisioned from the perspectives of physical/metabolic, ethical/intrinsic, cultural, economic and livelihood aspects in a non-hierarchical fashion (Funtowicz & Ravetz, 1994; Martinez-Alier, 2002; O'Neill, 1993; Vatn, 2000). Weak comparability of values therefore evokes different standards of valuating plural values (O'Neill, 1993: 108).

In evaluating institutional valuation practices, incommensurable values interrogate how "*different goods and bads*" are distributed "*across different groups spatially and temporally*" (Martinez-Alier et al., 1998: 277-278). The resolution of these conflicts is thus a valuation, with underlying effects of who gains and who loses.

As Martinez-Alier (2002: 98) notes, various interests can be defended through "*non-equivalent descriptions of reality; that is, to different value standards*" (Martinez-Alier, 2002: 98). The law of value should therefore be seen as "*a systemic process with a pivotal economic moment*" (Moore, 2015: 188). Natural resources (such as land) can be valued

based on biodiversity goals, landscape objectives, ecological tap and sink objectives, historical and cultural significance, recreational meanings etc.

Conservation for instance has become one of the noted non-instrumentalised avenues that local communities use to protect lands for unborn generations, to establish human-nonhuman relationships and foster territorial and cultural values in resource extraction regions. Put differently, the non-human and non-articulate are defended using "*more than economic*" notions of value that are not necessarily an intrinsic value of nature (O'Neill, 1993: 51). Thus when local communities summon the sacredness of nature, indigenous territorial and cultural rights, calls for land compensation, defence of wilderness, food security or even ecological languages against the state and other private interests, they are protecting present and future livelihoods and access (Martinez-Alier, 2002: 10-11). In this sense, they are protecting a way of life that secures their livelihood and possibly their future generations. Even if such local communities don't profess to the preservation of resources, such languages are sometimes used to contest against state, industrial or other local interests in their land (Li, 2014b: 164-165; O'Neill, 1993: 41).

In addition, communities that are increasingly witnessing their livelihoods turned to resource-extraction and plantation farming will use economic languages of valuation (e.g. employment opportunities) to sustain themselves, subject to the risk of market processes. In acquiring such "*goods of modern life*", the livelihoods of indigenous communities can be inserted into capitalist relations of profit and competition as well, which can expose them to the risk of land alienation and the prospect of profits (Li, 2014). Communities may additionally call for rights to cleaner air, safe drinking water and even employment opportunities as a way to protect their forms of householding and to give them "*the best*

chance of defending their interests" (Martinez-Alier, 2002: *page viii*, 253; O'Neill, 1993: 168).

As the case study chapters (seven and eight) will show, local communities in Ghana's and Tanzania's PERs adopt languages of value that run the gamut from the biospheric to the anthropocentric. Here, nature becomes "*culturally embedded*", even if deemed intrinsic (Brondízio et al., 2012: 3). By analysing the value contestations in the two case studies through incommensurable (rather than intrinsic) values, economic value is provincialized as one of many values at play (Moore, 2015).

Such pluralist concepts are also seen in property rights regimes in terms of plural land use rights and practices; from the rights to spatial access, benefits-withdrawal as well as land control rights (Schlager & Ostrom, 1992: 250-251). See chapter four.

The concept of incommensurable values receives attention not only in conceptual arenas of environmental philosophy and ecological economics but in empirical research as well. Louise Takeda (2014), through an ethnographic study of Haida Gwaii Islanders in Canada, focuses on the indigenous conceptions of value used to resist the violence of logging and land dispossession activities of multinational firms in the region. Juan Martinez-Alier (2002) assembles case studies from India, Brazil, Nigeria, Thailand, Spain, and Japan to highlight similar value struggles between local communities and extraction companies in the 1990s. Similar analysis is undertaken by Avci et al. (2010) on value struggles related to mining in the Mount Ida region of Turkey. Although, the concept of incommensurable values has a conceptual flexibility compared to other schools of value theory, its empirical body of research has highlighted violent and direct land alienation in

resource extraction. The conceptual rigour of the incommensurable values concept would be enhanced by expanding its cases to encompass "*mundane*" land transitions that achieves similar results (Li, 2014b: 3).

Mundane land transitions pay attention to the "*conjunctures that are not shaped by dramatic events*" (Li, 2014b: 9). These subtle transformations involve policies, practices and institutional decision processes that are used to impose dominant notions of value and side-line other plural values. Emerging empirical works which look at such mundane transitions only focus on agrarian spaces (see Hall et al., 2011; Li, 2014b; Rigg et al., 2016; Vijayabaskar & Menon, 2018). These empirical works have not fully explored incommensurable values in the African context, especially with emerging petro-extraction regions that side-line plural values through mundane institutional policies and practices. This is especially pertinent as land issues in contemporary agrarian and energy sectors are increasingly merging, evidenced by the fungibility of food-fuel-feedstock production as well as the increasing salience of energy security issues similar to that of food security (Harvey & Pilgrim, 2011; Cotula, 2012; McMichael, 2013; Hornborg, 2013; Huber & McCarthy, 2017).

To this end, chapters five and six of the research will show how colonial laws in Ghana and Tanzania on land expropriation, surveying, titling, registration, fallowing among others were transitioned into mundane post-independence policies, serving as a swift contemporary policy tool for the emerging petro-industrial developments in the PERs. Unlike violent land and resource expropriations that regulate windfall and monopoly rents, the use of such mundane policies and practices go beyond rent to police, for instance, environmental uncertainty in struggles over valuation.

3.4.1 Un/Certainty, Complexity and Valuation

In addressing issues of incommensurability especially in environmentally sensitive contexts (as in the case of resource extraction), issues of uncertainty and complexity emerge. The physical properties of land itself introduces issues of complexity and uncertainty into valuation. When coupled with land's socio-cultural, political and economic importance to communities, issues of complexity go beyond physical or economic aspects. Examining land as a complex resource therefore activates "*deep uncertainties and a plurality of legitimate perspectives*" (Funtowicz et al., 1999: 5).

Petroleum production provides such an instance of true uncertainty of land as an interdependent system. Crude oil and natural gas are found in "*dispersed concentrations*" making it a "*fugitive resource*" trapped in vertical holes not easily conceived in the popular notions of territory (Huber & Mccarthy, 2017: 12). Its extraction has implications for large-scale land displacement as well as extraction-sites and ancillary facilities while (sometimes) threatening fishing and ocean territory. Physically, it presents risks of direct and indirect pollution emissions such as volatile organic compounds, nitrogen oxide, methane and carbon-dioxide (Allen, 2016) as well as potential oil spill impacts on residents. This also has the potential to negatively impact food crops, fishing and affect the health of communities and future offspring. However, it is also a resource that is (often) demanded locally for energy generation and domestic use.

Within this context, how do institutions deal with uncertainty? Certainty is usually implied in institutional decision-making, characterised by "*puzzle-solving….within an unquestioned and unquestionable paradigm*" with the belief that it would result in "*an*

adequate knowledge base for policy decisions" (Funtowicz et al., 1999: 8). Implicit in policy-making is the drafting of "*unambiguous, defensible decisions, often codified in the form of laws and regulations*" (Costanza et al., 2015:170). Here, the policy process is concerned with defining the edges or boundaries of (for instance) land use, although the chosen boundaries are sometimes those that "*best advance the policymaker's political agenda*" (Costanza et al., 2015: 167-170). Within planning institutions where decisiveness is unfortunately crucial, hard facts are sometimes couched in "*value-judgements*" (Funtowicz et al., 1999: 8). Such value judgements could entail precedents, individual interests and specific institutional goals. The 'boundaries' of valuation merges the framing of the problem with a selection of "*properties considered likely representations of the problem*" (De Roo, 2011: 136). This selection of representatives of the problem ultimately decides how incommensurable values are legitimised (or singularised) in policy-making.

For instance, during one of my field interviews in Southwestern Ghana, I queried a key expert on community calls for compensation following a 2010 offshore oil spill by Kosmos Energy Company (see the section 7.1.3). The expert retorted that such compensations depend on whether the fisherfolk have paid their taxes and have kept records of their fish-catch in order to warrant such compensations (Interview, anonymised interviewee, 2018). The arbitrary selection of such boundaries of legitimacy as to who warrants such compensations lie at the core of mundane policy making and practice which is used to litigate away competing interests and incommensurable values. For such issues of ecological complexity, incommensurable values pays attention to such procedural injustices in state policy, valuation technologies, and institutional functions and relations in contrast to the other value theories which prescribe eliminating socially necessary

labour time and nationalisation of lands (Harvey, 2018: 59; Marx, [1894] 1981), or the socialisation of land rents (George, [1879] 2006), or a costless transactional negotiation between communities and the company (Coase, 1960; North, 1990). Focusing on incommensurable values thus helps to ascertain "*who has the power to simplify complexity and impose one particular language of valuation?*" (Martinez-Alier et al., 2010: 157).

3.4.2 What Value(s)?

Incommensurable values go beyond the confines of a single standard of valuation. One of its critical imports is that it highlights how physiocratic, Georgist, Marxist and neoclassical theories of value are situated within purely economic realms. These theories of value have taken turns ascribing value to land (physiocrats and Georgists), labour (Marxists) and capital exchange (neoclassical economists). As already stated (section 3.2.1), ecologists criticise Marxists' over-estimation of the labour time invested in commodities and underestimation of nature's physical, material or energetic value (Bunker, 1985: 31-45). Labour theory of value is criticised for privileging the capital-wage relation as the source of value. Moore (2015) argues that "*value-relations*" function by de-valuing most work outside the commodity system (e.g. the unpaid work of forced labour, women in domestic care and that of *natural resources*). In other words, "*value does not work unless most work is not valued*" (Moore, 2015: 64). Incommensurable values pay attention to the "*work*" that is not valued. Thus, pluralists focus on the unvalued physical, cultural, social and intrinsic aspects of land, in addition to the economic. An analysis of petro-geographies must therefore pay attention to such unvalued "work" beyond economic notions.

As already stated, classical ecological economists were initially fixated on numeric abstractions of energy values. These early theorists argued that the only alternative to market valuation of nature is yet another numerical physical accounting of material flows, creating a disjuncture between use values and socially produced values (Greco, 2015: 25). The influence of deep ecologists and environmental philosophers in expanding the concept of incommensurable values has therefore opened the possibilities of land value beyond the natural productivity focus of physiocrats, beyond the socially necessary labour value of Marxists, and beyond the market price fixation of subjectivists. In this research, value is therefore defined as "*the weighted outcome of a decision-problem"* (adapted from Costanza et al., 2015: 166). The research will thus draw attention to petro-geographies as sites where incommensurable values are singularised, whereby local conceptions of value (be it economic or non-economic) across landed and sea territories are reworked through narrow institutional and market framings, policies and practices resulting in spaces curated for private and state extractive capital.

3.5 Chapter Summary

This chapter has argued for the use of incommensurable values to examine land use contestations in environmentally sensitive regions such as petro-extraction regions.

Incommensurable values pay attention to the "work" that is not valued (Moore, 2015). It goes beyond the materialist focus of the physiocrats, beyond the relationality of value (of Georgists and Marxists) and beyond the exchange fixation of subjectivists. It introduces the concept of intrinsic value as a critical concept especially against the neoclassical notion of evaluative value and its use in calculating and pricing natural resources for market exchange.

Aside articulating issues for non-humans (nature), the pluralist notion of value also articulates for future generations in struggles over land value; something not captured in the landed, labour and subjectivist notions of value. As the empirical analysis will show, issues of intergenerational value are used to challenge land compensations associated with petroleum projects in certain cases (section 8.1.3).

Analysing complexity and uncertainty is also central to the pluralist theory of value(s) unlike the other schools of value theory. The landed and labour theories of value posit the socialisation of land ownership and rents as a panacea for the proper reflection of value. The subjective theory posits individual rationality, minimal state intervention, perfect information and assigned institutional rights to attain equilibrium and efficient land transactions. The pluralist school however argues against such idealisms, contending that attention should be paid to the policy actors and procedures that define the edges of policy and thus legitimate action, thus constant recalibration of these institutions is the

only recourse. In effect, pluralist ecologists highlight ecological complexity of nature as a constant challenge to the idealist economic and political ends of physiocratic, Georgist, Marxist and neoclassical value theories.

Such complexity does not only reflect ecologically, but is also entangled in the myriad physical, temporal, territorial, sacred and economic notions of land value, as Tania Li's ethnography of Sulawesi highlanders of Indonesia showed (Li, 2014a). Here, Li reveals that the indigenous population have no word for land itself. Rather they have seven different words referring to its myriad values of the soil (Petu), primary forest (Do'at), secondary forest (Ulat), fallowed garden (Abo), active garden (Jo'ong), grassy patch (Gio), barren zone (Doilas), watershed and spirit-home (Ompogan) (Li, 2014a: 590). Here, one could introduce a scenario where new actors (e.g. industrial and mining companies) enter the fray. The emergence of such competing actors on the land would possibly present new territorial, temporal, economic and physical (environmental) complexity in the notions of land value, thus situating the existing seven languages in relation to and in contention with the new languages of value with resultant policy and spatial outcomes. What would be the role of institutions in such situations? This chapter analysed debates surrounding *what is value* while the next chapter will analyse *how institutions integrate or side-line incommensurable values* through their functions, prevailing structures and evolving power positions.

CHAPTER FOUR

4.0 Institutions and Institutional Change

Chapter three analysed the different approaches to value and how land is conceptualised in these theories. The chapter argued for a pluralist notion of value centred on economic and non-economic notions as well as articulating values for the non-human (nature) and future generations. It situated ecological complexity as an enduring conundrum, especially in this case of petroleum-extraction processes; a conundrum which requires institutional practices beyond the socialisation of land/rent ownership or the reduction of transaction costs in the land exchange market. The pluralist school thus highlighted the conception of value (beyond the foci of physiocratic, Georgist and Marxist analysis) by extending the notion of the unvalued within the prevailing neoclassical orthodoxy of market exchange.

However, this chapter will argue that more developed tools are required - beyond the ecological pluralist school - to analyse how institutions integrate or side-line incommensurable values. Ecological pluralist theories on institutions, particularly focus on how institutions ought to function, and the steps needed to calibrate such appropriate institutional actions (see Funtowicz & Ravetz 1994; O'Neill, 1993: 117, 126-131; Zografos, 2015). Although, this is an important line of enquiry, this chapter is not interested in how institutions ought to function in centring incommensurable values. Rather, this chapter is interested in how institutions integrate or undermine incommensurable values.

Hence, the chapter (particularly section 4.3) uses integrative, historical and sociological institutionalist theories to focus on *institutional functions* (material appropriation, rule-formation, normative functions, ideological legitimation etc.), *institutional arrangements* (formal versus informal, local versus national, public versus private etc.) as well as *evolving power positions* (de facto versus de jure etc.) in analysing how incommensurable values are integrated or side-lined by institutions in the PERs.

In using integrative, historical and sociological institutionalist theories (rather than ecological pluralist theories) to analyse such institutional practices, the chapter thus goes further in comprehending institutional change. These pluralist institutional theories also ably detail out the variations in institutional relations and change as compared to Marxist structural perspectives on institutions (sections 4.1) or the neoclassical-influenced NIE theories which codify institutions into asocial rules and games to incentivise exchange values (section 4.2).

4.1 Institutionalism from the Marxist Perspective

An analysis of Marxist institutionalism (for lack of a better term) cannot be undertaken without acknowledging its scrutiny of the State. Marxist analysis is sharper as a critique of statecraft and is arguably useful for analysing "*societies with a state [or exploitative] ruling class*" (Graeber, 2001: 24-25). Its analytical power thus lies in "*understanding capitalist production from the point of view of those not in control of the means of production*" (Harvey, 1972: 115). For instance, Sweezy (1942) deems the state as "*the guarantor of a given set of property relations*" which ensures "*material advantages*" for one class and disadvantages for another (Sweezy, 1942: 242).

Gramsci (1971) also highlights the ideological role of the state asserted through its "*coercive and punitive force of juridical regulation*" (p. 267). In Gramsci's formulation, the state plays the role of raising the cultural and moral basis of society to correspond to the needs of the productive forces and ruling classes (Gramsci, 1971: 258). The function of these ideological policies and bureaucracy of the state is to validate the material inequalities between classes (Scott, 1990; cited in Graeber, 2001: 86).

To take it a step further, Lukács' (1972) focuses on a radical conception of the state, perceived as an institution which needs to be weakened by the proletariat for the latter to survive (ibid: 268). Here, the state is deemed as "*merely a fact…..a power factor against which the power of the organised proletariat is to be mobilised*" (Lukács, 1972: 260, 268).

Harvey (1985), akin to Sweezy (1942) also deems the state as an unproductive labourer who reflects and reproduces the social system and its class relations through private property (Marx, 1906, [1859] 1973: 409-410, 540; Harvey, 1985; Harvey, 2018: 16, 87). Hence the functions of the state are dependent on "*the balance of class forces*" and the prevailing ideologies (Harvey, 2018: 16). The enforcement of private property relations therefore provides the "*socially necessary legal, ideological and institutional cover to produce capital*" and "*to legitimate and legalise the appropriation of surplus value*" (Harvey, 2010: 255-256). As already stated, institutions such as the landed propertied class give legitimacy to the notion that if land can be privately owned, then anything can be privatised and commoditised (Harvey, 2006: 358-362).

In its operations, the state uses legal and physical force as well as co-optation to restrict dissenting voices (Harvey, 1976; Castells, 1977; Klosterman, 1985; Foglesong, 1986).

For instance, the state translates political questions into technical problems for which there are technical solutions (Harvey, 1985; 182), referred to as anti-politics (Fredriksen et al., 2014: 16). This renders valuation as a "*subjugation act*"[24] utilised by the state to render, for instance, landed territorial issues into technical issues to enable exchange values. The processes and technologies of market valuation and pricing of land(ed) resources are therefore deemed as ideological roles of the state which naturalise private property rights and rent capture (Greco, 2015: 33, 39, 41). This applies to land titling and surveying deemed as ideological tools to make legible, predictable and possible "*the penetration of capital into frontier areas*" (Greco, 2015: 36).

Within planning theory, radical planning theory argues along similar lines of the Marxist critique of the state. It is a substantive theory of planning that calls for plan implementation outside the purview of the state. Formulated in the 1970s, radical planning serves as a critique of statecraft and its bureaucratic structures. It emphasises "*resistance rather than accommodation*" (Poulton, 1991a: 271). The domain of such struggles includes solidarity economies, intentional communities, anarchist communes, religious-based and indigenous communities that exist in a heterotopic realm, straddling the lines between the capitalist system outside the law of value (Harvey, 2018: 89). It also includes cooperatives, trade unions, feminist projects, community trusts, alternative energy programs and workers' unions of various forms, although these organisations collaborate with the state sometimes (Friedmann, 1987; Cockburn, 1977; Colenutt, 1997; Harvey, 2010).

[24] Greco (2015: 22-23).

But what about a Marxist theorisation of institutions that goes beyond the state? Here, Sweezy (1942) deems institutions as structurally determined, with institutional change determined by class domination, whereby…

"…monopoly and the dominance of a small upper layer of big capitalists become solidified and gradually extended to take in ever larger sectors of the productive and distributive system" (Sweezy, 1942: 268).

Similarly, Althusser (1968) states that "*social relations…assign a necessary function to things as well as to men*." (Althusser & Balibar, 1968: 227). In other words, individuals are deemed as "*mere bearers of their social relations*", and hence individual/communal agency have no effectivity beyond the structures that define them (Gintis & Bowles, 1981: 23). Here, institutional change is determined by "*the rhythm and pattern*" of development of the productive forces, linked to the "*nature*" and "*structure*" of the mode of production (Althusser & Balibar, 1968: 235).

Applied to resource extraction regions, the capitalist mode of production is structured by the pursuit of profit, resulting in the constant search for differential rents linked to resource endowments (Althusser & Balibar, 1968: 237, 294). Here, local individuals or communities of such endowed lands become unwitting actors in this structure of contention with capitalists over local land(ed) natural resources, whether the former likes it or not.

According to Althusser & Balibar (1968), this structural-determinism is what creates institutional change. Here, the forceful arm of the state can be a decisive agent of such change;

"*force is the midwife of every old society pregnant with a new one. Force is an economic agent*" (Althusser & Balibar, 1968: 306-307; citing Marx, [1894] 1981; [1867] 1976).

This argument depicting structural-determinism of the capitalist mode of production is also argued by Gramsci (1971), who posits that (collective) institutions are constituted of members whose role is to "*actively accept, a particular hierarchy and leadership*" (Gramsci, 1971: 246). This is implemented through practices of state bureaucracy and educational institutions (Gramsci, 1971: 246). Hence institutional change emerges when one class establishes ideology and hegemony by dominating both civil society and the state through persuasive and/or coercive powers. In detail, class hegemony is exacted through the coercive arm of the state (e.g. the courts) as well as through its persuasive arm like educational institutions, political parties and other civil society organisations (Gramsci, 1971: 260). Here, Gramsci asserts that institutions are constitutive of practices, hence structures serve as "*mere formalism for regulating the outcomes of social conflict*" (Gintis & Bowles, 1981: 1). Hence institutions are deemed as the products of practices.

Overall, Marxist institutionalism deems institutions as structurally determined, within varying degrees of structural domination. Policy choice and institutional change are thereby predicated on the structures of class domination of labour by capitalists, the structure maintained by state bureaucracy including policy-actors (Grindle & Thomas, 1989: 217-218). Similarly, in physiocratic thought, it is argued that legal institutions and policy tools are the methods used by the sterile classes (feudal kings, land-owning elites) to exploit the productive classes (as argued by Jacques Turgot; see Mazzucato, 2018).

However, such institutional analysis reduce "*action and actors [into] economic relations, processes, functions or laws of a quasi-natural kind*" (Streeck, 2010: 5). It pays more attention to structure than agency thus ignoring the micro-level of social action (Streeck, 2010: 5). It posits social outcomes as mainly structurally-determined irrespective of

specific practices (Streeck, 2010: 5). Marxists' focus on class structure and its impact on "*those not in charge of the means of production*" (Harvey, 1972: 115) means that enquiries into the intricacies of decision-making are foregone in favour of the underlying class structure of such decisions (Grindle & Thomas, 1989: 218). It helps to think of structural-determinism, in the Marxist sense, as a driverless vehicle that never stops. Here, the exploitation of labour by capital (and its maintenance by the state) is deemed as a fixed relation with little room for change regardless of the personnel in charge.

The histories of Tanzania and especially Ghana (chapters five and six) show that such "*structures*" are not a unified entity, and their practices are not singularised into dominating some unified "*proletariat*" class. In Ghana's case, land and chieftaincy 'reform' strategies were attempted by the state in the immediate post-colonial period, but chieftaincy institutions still remain part of Ghana's political architecture till date (Rathbone, 2000). The state's attempt to create a new landed relation in post-independence Ghana to expedite economic development was met with resistances by local and customary groups who emphasised other forms of land value of culture and history inhered in such lands, often to an exaggerated extent. Nonetheless, land ownership rights remained and remains under significant chieftaincy and kinship control in Ghana, while successive governments have created statutory powers over land-use through laws on land administration, property management, spatial planning and mining regulations (see chapter five). In a sense, the Ghanaian state is made up of the central state, the local state, and the traditional/customary state (Gyimah-Boadi, 2009). In Tanzania's case, the country implemented what is arguably the most comprehensive socialist governance structure in Africa (Ujamaa) in the immediate post-colonial era. The central government

successfully weakened the powers of feudal land-elites (Chiefs, Kinship Groups) and replaced them with a re-collectivised form of social organisation (Village Associations). See chapter six. In this case, one elite class (landed elites) was abolished and dominated by another (the state bureaucracy) in Tanzania. Nonetheless, the Marxist influences on institutionalism in Ghana and Tanzania (especially in the immediate post-independence era) has undoubtedly been phased out by the current neoliberal orthodoxy which dwells on variants of neoclassical institutionalism.

4.2 Institutionalism with Neoclassical Influences

In this sub-section, institutional theories with neoclassical influences are examined focusing on Rational-Choice Institutionalism (RCI), Development Institutionalism and particularly New Institutional Economics (NIE). This does not signal a singularity in their modes of thought. However, their internal connections are useful for the analysis required, keeping in mind their differences. As section 3.2.1 highlighted, NIE differs from neoclassical economics in many ways yet shares strong foundational affinities regarding the subjective theory of value.

From a developmentalist perspective, Sen (2000) posits institutions as constituting codes and norms of behaviour that guarantee freedom and social opportunities, complemented by the market and civil society (Sen, 2000: 142, 265). Here, institutional change occurs as "*communicative reasoning and evolutionary selection of behavioural modes*" through "*public discussion and exchange*" (p. 261, 281).

Under Rational Choice Institutionalism (RCI), institutions originate through voluntary agreement between parties, competitive selection of institutions, and their ability to

minimise transaction costs and provide benefits (Hall & Taylor, 1996: 13). RCI argues that institutions influence individual behaviour "*by affecting the range and sequence of alternatives on the choice-agenda*" (Hall & Taylor, 1996: 12). This includes information and enforcement mechanisms to reduce uncertainty and improve predictability of behaviour. These institutional influences on individual behaviour are deemed to enable "*gains from exchange*" (Hall & Taylor, 1996: 12), similar to new institutional economics (NIE).

NIE however focuses more on "*property rights, rents and competitive selection mechanisms*" as the fulcrum of institutional creation and functions (Hall & Taylor, 1996: 25; Pierson & Skocpol, 2002). The influence of neoclassical economics on institutional theories like NIE does not however mean that the entire body of institutional theory has been subjected to the market exchange tenet. Indeed, Original Institutional Economics (OIE) and its theorists like Thorsten Veblen and J.R. Commons are not lumped into the NIE mould. Even though NIE and OIE share common attributes on human cognition, ideology, interest groups and historical change in institutional analysis (Spithoven, 2019: 440-442), they differ in many respects. Market efficiency is central to NIE while OIE, through a holistic approach, deems markets as characterised by vested interests (Spithoven, 2019: 443). Under NIE, institutions are expected to assign a-priori rights to market transactions while OIE advocates for government intervention in promoting equality and justice (Spithoven, 2019: 444). Game theories such as *"the Prisoners' dilemma"* and "*the tragedy of the commons*" as well as regression analysis are central to NIE analysis (See Ostrom, 1990: Chapter 1) while OIE theorists focus on real world

perspectives and on consensual and reasonable decision-making paying attention to cultural contexts (Spithoven, 2019: 445-446).[25]

However, OIE is not the focus of this section, simply because the object of analysis is on neoclassical economic influences on institutionalism including NIE and its theories of institutions and institutional change.

NIE theorists like Riker (1980) defines institutions as "*rules about behaviour, especially about making decisions*" reflected in "*congealed tastes*" (Riker, 1980: 432, 445).[26] Much like Sen (2000), Riker (1980) implies economic behaviourism and path-dependence as models for institutional change. Riker (1980) however relates institutional change to "*short-term structural and cultural constants, stability [and] predictability of outcomes*" (Riker, 1980: 445).

Schotter (1981) goes beyond rules to include regularities, defining institutions as the "*regularities in social behaviour agreed by all members in society, [that] specifies behaviour in specific recurrent situations*" (Schotter, 1981: 11). Here, institutional change is premised on economic path dependence, where changes in social institutions are dependent on the complexity of economic problems (Schotter, 1981: 1).

Chang and Evans (2005) also emphasise regularity in institutional functions by defining institutions as "*systematic patterns*" of expectations, assumptions as well as "*accepted*

[25] See J.R. Commons' ([1934] 1990) concept of "*Reasonable Value*", and its practical application in land registration in the Kampungs of Indonesia (Obeng-Odoom, 2018).

[26] This contrasts with neorealist approaches, where institutions are "*rules of the (social) game*" which function by delineating between "*socially accepted strategies and socially condemned ones*" (Amable & Palombarini, 2012: 132). It moves away from institutions as the rules that influence or enable behaviour (ala Riker, 1980) and emphasises institutions as constraining.

norms and routines of interaction" that shape social behaviour (Chang & Evans, 2005: 1). Ostrom (1986) uses "*rules*" as a referent term for "*institutions*", stressing that rules do not necessarily produce behaviour as argued by Schotter (1981) but they affect the "*structure of a situation".* The structured situation entailing "*physically possible actions, outcomes, decision functions, information, positions, payoffs, and participants*" (Ostrom, 1986: 17-18). Hence, according to Ostrom (1986), rules are…

"…a set of variables defining a structured situation [where] individuals select actions from a set of allowable actions in light of the full set of incentives existing in the situation" (Ostrom, 1986: 6).

This is similar to the Rational Choice Institutionalists although Ostrom focuses on a game-theoretic perspective characterised by "*allowable actions*" and *"incentives*" (p. 6). Here, institutional rule-changes are necessitated or incentivised by economic outcomes (Ostrom, 1990: 209). In contrast to Ostrom who focuses on institutional arrangements under NIE, North focuses on institutional environments (Spithoven, 2019: 441). Here, North (1990) posits institutional roles as constraining behaviour to inform incentives for exchange. North (1990: 3-5) defines institutions as "*the humanly devised constraints that shape human interaction [which then] structures incentives in human exchange*". Instead of institutions enabling or affecting behaviour, North (1990) argues that institutions constrain behaviour and subsequently enables incentives.

Helmke and Levitsky (2004) also expand North's (1990) definition of institutions to encompass informal ones, defined as "*socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned channels*" to either

complement, accommodate, substitute or compete with formal institutions (Helmke & Levitsky, 2004: 727-728).

Built on a foundation of subjectivist value, neoclassical influences on institutionalism (particularly RCI and NIE) have been pivotal in weaving together the neoliberal functions of institutions based on market efficiency, transaction cost reduction and legal-norms that enhance resource commensurability and exchange-value in global land and natural resource policy. The World Bank's focus on 'good governance' in the 1990s premised governance on a narrow concept of institutional efficiency and the protection of private property rights (World Bank, 1992). This side-lined possibilities for incommensurability, particularly with the influence of NIE concepts;

> *"…institutional economists, such as Douglass North, argue that institutions, defined as 'the rules of the game in a society' determine the performance of economies. Efficient institutions emerge when there are built-in incentives to create and enforce property rights, defined in the broadest sense"* (World Bank, 1992: 7).

NIEs was particularly appealing to the World Bank because it emphasised institutional roles in "*providing constraints that would facilitate transactions and reduce the unpredictability of individual choices and behaviour*" (Mkandawire, 2009: 3; Rajagopal, 2008). Here, the rule-of-law became limited to the instrumental rules surrounding property rights (Mkandawire, 2009: 4; Rajagopal, 2008: 1358), in contrast to development economists like Sen (2000) who emphasised on a broader and near-plural notion of human rights (see Rajagopal, 2008: 1358-1359). The 'rule of property' was thus centred around enforcement agencies like statutory planners, investment agencies, law courts and the police, seen as enforcers of property laws and contracts (Rajagopal, 2008: 1352-1353). Hence through RCI and NIE, institutions had become "*lean and mean*", interpreting

rights through private property rights, and institutional transparency through market predictability (Mkandawire, 2009: 4, 13; Rajagopal, 2008: 1358-1359). These became the pillars of good governance and sound development management for African institutions regarding land and resource governance, especially in the era of structural adjustment (de Soto, 2000: 163-164; World Bank, 1992: 1, 7).

Contemporary institutional governance approaches are still highly seeped in these core subjectivist concepts. Good institutions are continuously deemed as those capable of delivering economic growth and bad institutions as those doing otherwise (Amable & Palombarini, 2009: 123-124).

Such economic policies have influences on planning. Indeed, there is a strong tradition of neoclassical economic influences on planning theory. For instance, in the early 20th century, positivist planning emerged and was oriented toward public choice theories (Poulton, 1991b: 226). This strand of planning argued that the planning system needs to focus on "*consumer*" centred competition for resources (Poulton, 1991a: 265). Specifically, it realigned the notion of micro-economic thinking to "*the behaviour*" of the planning system in making "*choices*" related to, for instance, land-use and zoning (Poulton, 1991b: 231). Here, planning agencies are put in the same category as firms, their relevance judged by the benefit (output) they provide. Through this logic, state planning agencies could be out-competed if they don't, for instance, reduce the transaction cost of their operations (Christopher, 1998: 59-60). Positivist planners argued that communities would be willing to reveal their (aggregated individual) preferences of the trade-offs they are willing to make to satisfy their wants. For instance, they might, ala

Coase (1960), be willing to trade between environmental resources in pursuit of compensation incomes (Alexander, 1992: 56).

Aside positivist planning, the current era of neoliberal structural adjustment and aid-based planning in African countries is premised on and imposed through foreign aid and investment, attached with imported policies and practices to deliver economic growth (Okpala, 1990; Ward, 2012; Mkandawire, 2009: 19). This is done through technical assistance programs and aid conditionalities (Okpala, 1990; Ward, 2012: 41, 51). Once again, the contested and plural notions of land value are side-lined in the process. The current aid-scape in Africa has also seen the emergence of south-south relations (particularly the role of China); relations that are still premised on market predictability as a form of transparency, although 'good governance conditionalities' do not feature highly.

As shown in the earlier critiques of subjectivist value (section 3.3.2), neoclassical influences on institutionalism (especially NIE) portray a narrow view of institutions. Riker (1980) posits institutions as reflections of the end-products of social tastes and preferences. Chang and Evans (2005) criticise North's assertion (1990) of the "*unconstrained market*" as the natural order through which institutions should be modelled after (Chang & Evans, 2005: 5).

What emerges from such limited institutional practices is what Mkandawire (2009; citing Evans, 2004: 44) calls "*institutional monocropping*", where institutional practices are imposed from and limited to ideal-typical western notions of property and economic efficiency, hence losing notions of context specificity and plurality. Inspired by RCI and NIE, institutions narrow down their functions to serving the market, attracting foreign

investment, reinforcing private property rights and enacting market de-regulation to enable predictability, thus foregoing any prospects of plurality (Mkandawire, 2009: 2, 8-10). Institutions are thus limited to "*getting the prices right*" (Mkandawire, 2009: 2, 8-10). Transparency turns to market predictability and the rule of law turns to ensuring private property rights; with the aim of transitioning informal and customary land arrangements into private rights (Rajagopal, 2008: 1361-1362).

In this case, institutions in charge of land-use and planning are hamstrung by the market in terms of policy and practice (Banerjee, 1993). Planning goals become narrowed down to "*a greater acceptance of market criteria, selective application of environmental criteria and the removal of social criteria*" (Thornley, 1991: 217; Taylor, 1998: 318). Planning practice based on a subjectivist model becomes limited to serving a "*different public*" under the guise of efficiency and transaction-cost reduction (Banerjee, 1993: 357). The current model of aid-based planning in many African countries is one such example of planning serving a different public where policies, plans and bureaucrats that favour external and/or central government preferences are empowered (Santiso, 2001: 158-161). For OG extraction, this translates to serving the interests of actors with financial and governance powers in the energy and extraction sector.

Relatedly, distributive outcomes are ignored in RCI and NIE theories, especially "*the unevenness in the distribution of costs and benefits of property rights transformation and hence the redistributive character of property rights change*" (Boone, 2013: 59). The distributive outcomes of these market-based processes are thus detached from politics in favour of process-efficiency or transaction-cost reduction (Rajagopal, 2008: 1361-1362).

The ‘success’ of the subjectivists has been the abstraction of individual autonomy into a module for economic and political decision-making (Harvey, 2005: 5). For the subjectivists, one is only free to make any decision so long as it is within the confines of monetary-exchange value. It therefore ushers in a new language of generalisability which standardises all particularisms (Ernstson & Sörlin, 2013). As the Ghana and Tanzania case studies will show, the introduction of structural adjustment programmes in the 1980s and its deregulatory policies on land use and resource extraction were enabled by such institutionally myopic practices of protecting private property rights, reducing transaction costs, ensuring voluntary agreements between parties and introducing competitive institutional practices; hence sideling plurality in how land is used, occupied and valued.

4.3 Institutionalism from the Pluralist Perspective

Using integrative, historical and sociological institutionalist theories, this section highlights pluralist concepts of institutionalism to analyse how institutions integrate or side-line incommensurable values. In contrast to Marxist influences on institutionalism, the pluralist perspective acknowledges the interaction of institutional structures and individual agency in maintaining stability or initiating change. Unlike neoclassical influences in institutionalism, such changes are not deemed as outcomes structured by payoffs and constraints.

In addition, the institutional approach prescribed by the ecological pluralists, even though a useful prescription for what institutions ought to do, is less rigorous in theorising how institutions are created, how they currently function in de/legitimising incommensurable values and how they change. For instance, O’Neill (1993: 117, 126-131) contends that

the state's appropriate institutional functions ought to emanate from internal standards of its practice (linked to expert training, knowledge and experience) rather than standards external to its practice (linked to material wealth, power, status). Funtowicz and Ravetz (1994) also argue that institutional accountability should be demanded by the public through "*extended peer review*" to open spaces for plural values to be contested. An instance of such extended peer review is popular epidemiology where, for instance, communities impacted by pollution would self-organise health checks to establish proof of pollution-effects. Once again, these are prescriptions of what institutions ought to do and not useful for understanding how institutions form, coalesce, bifurcate or diffuse in de/legitimising incommensurable values. Particularly, for petroleum resource extraction which is regulated from different scales (from international firms to national governments to local bureaucrats and indigenous landowners), an analysis of institutional relations and scales is also pertinent.

Hence this chapter assembles an eclectic mix of institutionalist thought from integrative, historical and sociological institutionalism traditions. They highlight the processes of institutional emergence, its functioning, its (non) recognition of plural interests, the forms of bargaining and coalitions involved as well as the evolving power relations over time (Boone, 2003: 13; Grindle & Thomas, 1989: 218).

Chang and Evans (2005: 4), through an integrative view of institutions, contend that institutions influence both the behaviour and the values of its constituents. Here, institutions are seen "*not just as enabling or constraining, but also as constitutive*" (Chang & Evans, 2005: 4). Institutions therefore "*inculcate certain values, or worldviews into the*

people who live under them" (Chang & Evans, 2005: 3-4). Institutional change – with its constitutive values and worldviews – therefore manifests through the inheritance of pre-existing practices, path-dependence and institutional inertia (Chang & Evans, 2005: 5). Here, institutional change is not only a product of a top-down ideological coercion or persuasion (ala Gramsci, 1971) nor a forceful state action (Althusser & Balibar, 1968: 306-307), but is also a product of inertia and lateral inheritance of pre-existing institutional practices over time (Chang & Evans, 2005). In other words, mundane institutional practices can trigger such change.

Gintis & Bowles (1981), albeit from a pluralist structuralist perspective, focus on how institutions structure pluriform practices of its constituent members (Gintis & Bowles, 1981: 4). Such pluriform practices manifest as "*appropriative practice"* in the material or natural world, as "*political practice"* in the world of structural social relations or rules-of-the-game, and as "*cultural practice"* through tools of communicative discourse, which affect the other two practices (Gintis & Bowles, 1981: 3-4). Institutions are thus defined by which practices impart regularity into its members. Institutions can thus structure how natural resources are appropriated and its surrounding rules through discourses, policies and laws. Institutional change is hence determined by the degree to which institutional structures "*delimit the range of practices occurring within it*" (Gintis & Bowles, 1981: 3-4). Rather than radically asserting domination, institutions can use communicative tools (e.g. policies) to enable institutional change by manufacturing consent of its constituents regarding the limits of resource appropriation and the legitimacy of its own functions (Gintis & Bowles, 1981).

A more pluralistic approach to institutionalism, yet similar to Gintis & Bowles (1981) is found in Scott (2014). Here institutions are defined along a continuum of;

"regulative, normative, and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life" (Scott, 2014: 56).

The regulative element enables and constrains behaviour. The normative element includes values and norms while the cultural cognitive dimension looks at the effects of symbols (e.g. words, signs, gestures) in shaping meanings of processes and things (Scott, 2014: 59-64, 67). Institutional change therefore constitutes "*the ways in which institutional patterns spread over time and space*" (Scott, 2014: 157). Institutional change under the *regulative* processes depend on the extent of coercion, authority imposition, threats or other forms of inducement (Scott, 2014: 159). *Normative* institutional change depends on the degree of formal and informal network ties (Scott, 2014: 159). Institutional change under *cultural-cognitive* processes also depends on the extent of framing and legitimation (Scott, 2014: 164). For instance, narratives, symbols, land records, maps, planning documents and even actual possession may become the cognitive elements (Scott, 2014: 164) of making claims to land (Lund, 2013: 30). Such cultural-cognitive elements straddle the customary and the statutory as well as the formal and informal as co-existing pluralities of rules, norms and laws.

This section so far has highlighted how institutions structure practices (Gintis & Bowles, 1981) or implement practices (Chang & Evans, 2005; Scott, 2014) in de/legitimising values and triggering institutional change. This highlights the role of mundane practices, looking at the case studies of Southwestern Ghana and Lindi-Mtwara amid the emerging petroleum economy. However, the case studies also require an analysis of the relations

between groups (e.g. within communities, between communities, communities versus petroleum firms, NGOs, subnational governments, national governments etc.) in the contentions over incommensurable values. Hence, a theoretical analysis of institutional relations and evolving power positions is necessary, especially as such relations involve coalitions, bifurcations, complementarities and/or rivalries of institutional power over time and space.

Here, Helmke and Levitsky (2004: 736) highlight the relations between formal and informal institutions and its implications for institutional change. According to them, informal institutions are deemed to be either created through formal arrangements (to complement, moderate or undermine formal institutions) or they emerge independently and hence predate or serve as a foundation for formal institutions (Helmke & Levitsky, 2004: 732-733). Weak ineffective formal rules and institutions can also trigger the creation of informal institutions by influencing the benefits to be gained from adhering to such informal rules, and vice-versa (Helmke & Levitsky, 2004: 732-733). Informal institutions can also change independently through evolving societal values and internal power structures (Helmke & Levitsky, 2004: 732-733).

As the legal pluralism literature has argued, even formal institutions and laws contain plural elements that may entail procedures, substantives rules, enforcement and punitive mechanisms, modes of appeal, elements of insurance and symbolic dimensions (Merry, 1988: 885). Legal pluralism theorists thus highlight the relationship between "*multiple legal spheres*" (Merry, 1988: 879). RCI for instance, has been criticised for limiting institutional practices to coercive powers, thus undermining plural elements of persuasion, informal norms, shifts in legal awareness and local networks that do not rely

solely on such enforcement power (Berman, 2012: 21). Even some NIE theorists acknowledge the different bundles of rights on land, be it rights of spatial access (walking across the land), withdrawing land-benefits (picking fruits, fetching water or grazing during fallow periods) as well as land control rights (tending to the land, temporary and permanent exclusion of others etc.) (Schlager & Ostrom, 1992: 250-251). This is not exhaustive since such lands may also be used for other cultural purposes outside these depictions, pointing to what Meinzen-dick & Mwangi (2008) refer to as "*web of interests*", which are interests and values embedded in "*social relations and identity*" (Meinzen-dick & Mwangi, 2008: 37-38).

Aside the relations between formal and informal institutions (Helmke and Levitsky, 2004) and their intersections in law (Merry, 1988; Berman, 2012), the scalar dimension of institutional relations also demand attention. Here, Acemoglu, Johnson, and Robinson (AJR, 2005) as well as Boone (2003) analyse the shifting power structures between elites and dependents at such different scales.

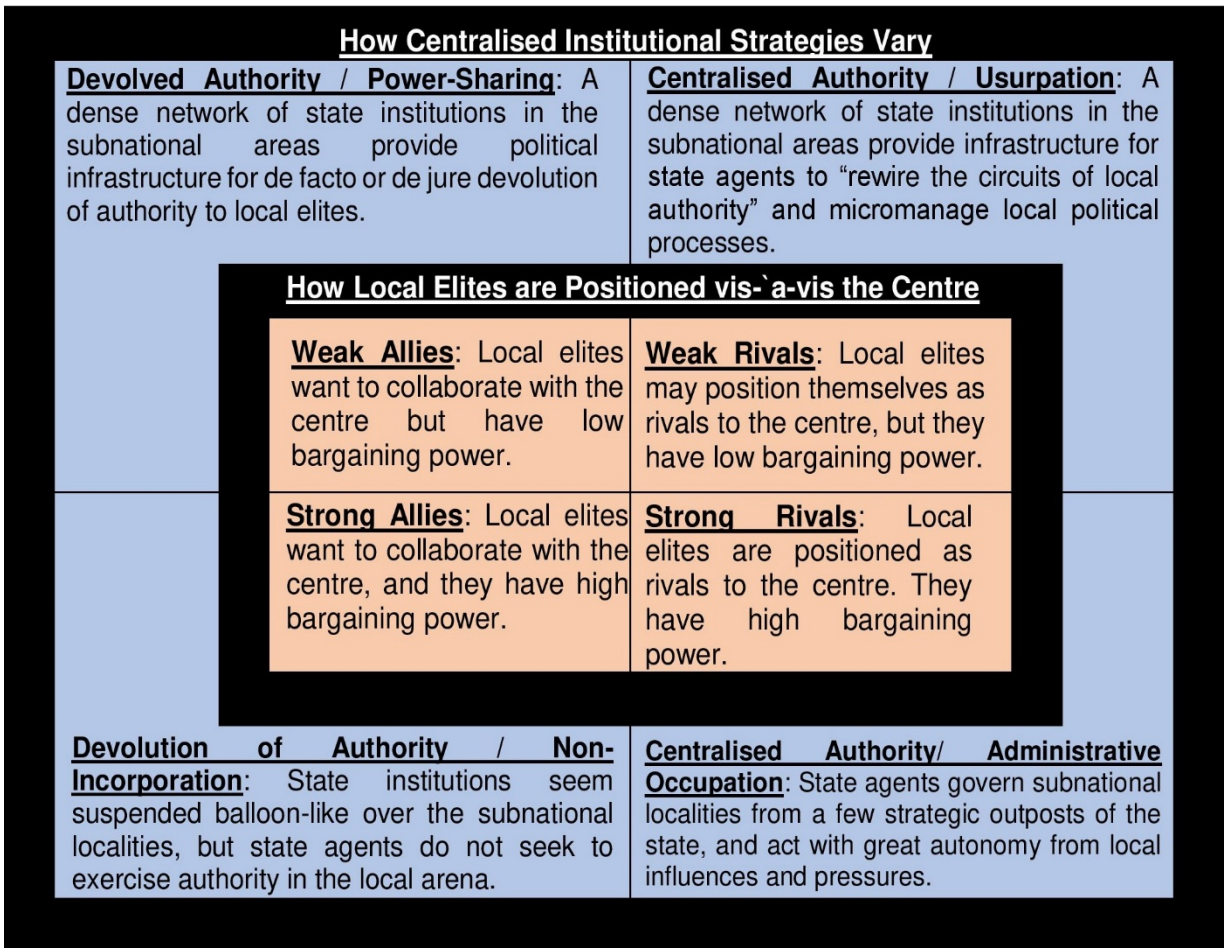
According to AJR (2005), political power may emanate from de-jure sources (e.g. the constitution, policies) as well as de facto sources (e.g. groups with greater economic power or those with powers of sabotage, such as social movements). Economic institutional practices are thus determined by groups with both de-facto and de-jure forms of political power, the latter being more vital (AJR, 2005). Specifically, institutional change or stasis is determined by those with de-jure power (e.g. landholders, government agencies) to define the incentives and constraints of actors and determine economic outcomes (AJR, 2005: 386-390, 406-407, 422). Subsequently, actors who can convert their de facto power – such as social movement power – into de jure forms such as laws

and policies, can define future incentives and constraints and subsequently determine economic outcomes (AJR, 2005: 386-390, 406-407, 422). However, converting de facto power to de-jure forms is relatively slow since those with de-jure political power can ensure institutional inertia over the long-term by codifying their interests in policy (AJR, 2005: 350, 357, 391-392). Since de-facto political power is transitory and difficult to maintain over time, its success relies on being converted into de-jure forms within a window of opportunity (AJR, 2005: 350, 357, 391-392). Institutional change can also occur when the state's opportunities evolve and weaken, thus providing a chance for other actors to exercise de facto powers to result in de-jure economic change (Acemoglu et al., 2005: 464). Here, the emphasis on incentives and constraints by AJR (2005) restricts institutional practices into a limited NIE conception of payoffs and constraints. Nonetheless, regarding institutional change, AJR (2005) ably highlight how power relations can evolve between institutions at different scales, and the prospect of institutional change amid new opportunities and contextual factors. Its analytical purchase for examining institutional change within newly emerging petroleum-extraction regions is therefore relevant.

In a similar vein, Boone (2003, 2013) analyses the shifting power structures between elites and dependents by paying attention to national, subnational and local scales of power. In contrast to the blank-slate analysis of unified "*structures*" and "*classes*" that dominate structural institutionalist thought, Boone (2003) differentiates between de/centralised statutory regimes, subnational kinship elites and local dependents/rivals in Africa by paying attention to "*political struggles and bargaining*" over resources and political power (Boone, 2003: 2). For Boone (2003), the stronger the subnational social

hierarchy, the greater the bargaining power of subnational elites in relation to the central state. Figure 3.1 is an adaptation of a heuristic scheme by Boone (2003) showing the variations in institutional strategies and the relations between national and subnational elites. Thus, in figure 3.1, the central state's institutional strategies range from devolved and centralised state authority with various levels of engagement while the subnational state rivals or form alliances with the centralised power.

Figure 3.1: Endogenous Institutional Strategies and Relations



Source: Adapted from Boone (2003: 29-38).

Chapter five shows that the history of land control and extraction in Southwestern Ghana is characterised by the central state "*usurpation*" of local chieftaincy powers, creating a "*weak-rival*" relationship with chiefs and other land-owning kinship groups. In the case of Tanzania, the history (chapter six) shows that the Tanzanian state has implemented "*administrative occupation*" with the Lindi-Mtwara region, with local elites having a "*weak-ally*" relationship with the central state. In both cases, the question arises of how the emerging nationalised petro-economy reworks this relationship.

The power relations do not only exist between the state (central, local) and subnational customary institutions. Within communities themselves, the internal relations between local and kinship-based groups (e.g. land tenure regimes) can also be reworked in the face of resource extraction and its subsequent pressure on lands. This depends on the source of land authority, the existing authority boundaries, the extent of "*insider*" identity and the land options for those considered "*outsiders*" (Boone, 2013: 64-72). As the case study chapters will explain, the locus of land ownership authority in Ghana's Southwestern region is the Chiefs and related kinship groups, while in Lindi-Mtwara the state owns the land and grants occupancy rights to village associations and urban dwellers. Boone (2003) thus introduces processes of political struggles and bargaining into how institutions relate within and across scales.

However, Boone's (2003, 2013) institutionalist theory is only endogenous. Thus, by limiting political control over land to "*the boundaries of membership in a political community*" as a threshold for analysis, the endogenous model downplays the influence of exogenous "*communities*" that wield significant powers over the policies and practices of land investment and resource extraction. This includes the actions of multinational

firms, NGOs and quasi-state institutions including public-private partnerships. Boone (2013: 86, citing Homer-Dixon & Blitt, 1998) states that;

"*demographic increase and resource competition do not, in themselves, predict or explain the emergence of overt conflict over resources, or the social or political form that it will take [since their effects] are mediated by social, economic, and political institutions and relationships"* Boone (2013: 86).

In the context of OG and mineral extraction however, this mediation goes beyond endogenous factors, while still interfacing with endogenous local land use issues.

Nonetheless, the analysis by Boone (2003, 2013) pays attention to the endogenous complements of structure and agency. It offers a theoretical platform to analyse struggles and bargaining between subnational institutions and the central state (together with OG firms and NGOs) in grappling with incommensurable land values in the two case study regions.

4.4 Chapter Summary

What would be the role of institutions in dealing with land's plural (incommensurable) values, its interdependent systems and complexity, especially when activated by a new resource find? "*Who has the power to simplify complexity and impose one particular language of valuation?*" (Martinez-Alier et al., 2010: 157). By unboxing who has such power, the research will deduce which standard of value is legitimised (Martinez-Alier et al., 2000: 35). Like the previous chapter, this chapter has made an argument for a pluralist view of institutional creation, functions and change.

The chapter has argued that using integrative, historical and sociological theories (as pluralist institutionalism) help trace the specificities of institutional creation, functions, and

their relations and changes over time. The chapter criticises the attribution of institutional functions and change to the structured lenses of class domination, especially within structural Marxist arguments (Sweezy, 1942; Lukács, 1972; Althusser & Balibar, 1968; Harvey, 1985). Scrutinising Ghana's and Tanzania's petro-activated institutional change through the structural Marxist prism, one finds that outcomes are not predominantly determined by structure. As the case study analysis chapters will show, local communities adopt various strategies to navigate between the state, petro-firms and civil society. Additionally, the case studies show practices of ideological diffusion that go beyond the state, with the state itself influenced by ideologies of "*oil-cities*" and "*global petro-geographies*". The diffusion of such ideological practices is not through educational institutions or the state's civil society arm but rather through a variety of international, regional and subnational practices that fertilise the acceptance and implementation of policies on land use, petroleum-extraction and institutional practices.

The chapter also criticised the narrowed view of institutional functions and change, deemed as products of economic constraints and payoffs in the NIE literature (Riker, 1980; Schotter, 1981; Ostrom, 1986, 2000; North, 1990). It criticised NIE as the policy wedge used in transnational neoliberal land and natural resource policy. The case studies will show that through neoclassical-influenced NIE land policies, market objectives are emphasised in institutional roles to serve extractivist and financial interests while undermining local expressions of plural values.

More importantly, this chapter examined how institutions function by structuring and implementing diverse practices in integrating or delegitimising incommensurable values (Gintis & Bowles, 1981; Chang & Evans, 2005; Scott, 2014), and argued for an

institutionalist analysis that pays attention to how institutions integrate or undermine incommensurable values. Secondly, the chapter argued that examining institutional relations can unearth how institutions integrate or undermine incommensurable values. To this latter point, the chapter examined relations between formal and informal institutions (Merry, 1988; Helmke and Levitsky, 2004; Berman, 2012), de-facto and de-jure power struggles (AJR, 2005) as well as historical struggles and bargaining between national, subnational and local scales (Boone 2003, 2013). This schema becomes the heuristic for analysing land values and institutional change in the two emerging petro-extraction regions; Southwestern Ghana and Lindi-Mtwara . Particularly chapters five and six focus on the historical carving of institutional functions and relations through resource extraction, while chapters seven and eight focus on the contemporary value-struggles in the new petroleum-extraction regions and their influence on institutional change.

CHAPTER FIVE

5.0 Resource Extraction and Spatial Policy in Ghana

Chapters three and four traversed the theoretical precepts of the concept of incommensurable values and the role of pluriform institutional functions and relations in de/legitimising them. The next two chapters will hence focus on a historical analyses of institutions and notions of value within various periods of mineral extraction in Ghana and Tanzania. Together these two chapters contribute to the research by providing the historical background for the empirical analysis of the petro-extraction regions.

This current chapter thus analyses how land control policies and institutional practices accompanied various phases of resource-extraction in Ghana, focusing on the country's pre/colonial, dirigiste and neoliberal periods with emphasis on Southwestern Ghana (the country's current petro-extraction region). The section analyses policies on land use, mineral mining, petroleum exploration as well as the attendant local government and spatial planning policies within these different periods.

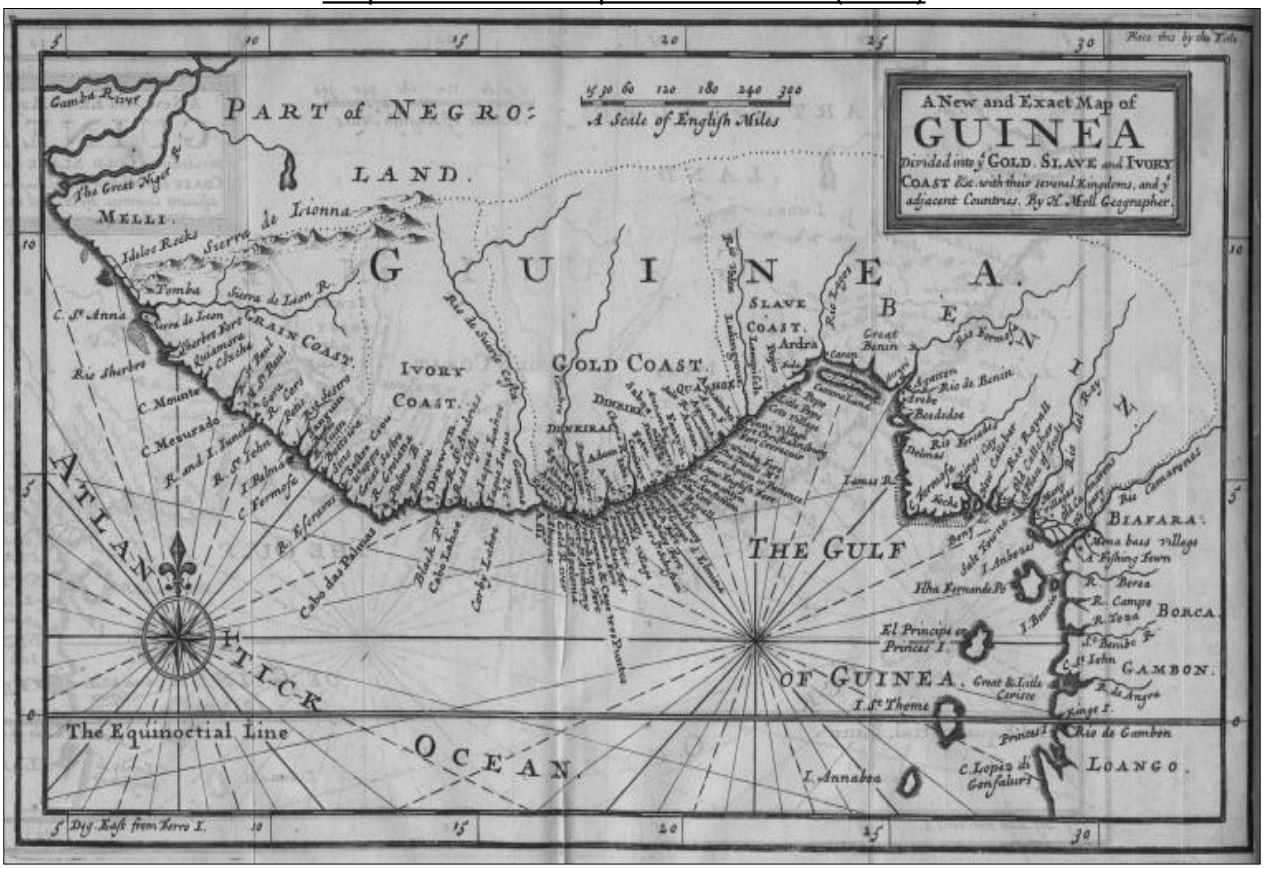
5.1 From 16th to 19th Century

The nexus of resource extraction and spatial (land-use) policy has had a long history in Ghana, especially in the Southwestern region. The country's previous name ("*Gold coast*") and names of towns like "*Elmina*" (Portuguese for "*the mine*") shows the extent to which spatiality was carved along lines of resource extraction in the imperial-colonial era. From the 15th century, mineral extraction and cash-crop farming were implemented in the coastal and inland areas by colonial authorities, local merchants, chiefs and local

bureaucrats (Reynolds, 1974: 253; Hilling, 1969). Map 5.1 shows how resource-extraction was imprinted by British colonial authorities on the spatiality of lands in the then Gold Coast and West Africa, partitioned to reflect different resource-endowments on the West African coast.

Local populations therefore began to shift their labour to the cultivation of export-oriented crops (Dumett, 1983: 684; Reynolds, 1974: 264). For instance, by the mid-17th century, while about five tons of gold were sent from the Gold Coast to Netherlands annually, tobacco plantations were simultaneously introduced from the Americas (Hilling, 1969: 365; Owusu-Ansah & McFarland, 1995: 11).

Map 5.1: British Map of West Africa (1705)



Source: New York Public Library (1705).

When the then Gold coast became a British colony in 1867, some of the foremost land legislations introduced were focused on granting power to the colonial government to compulsorily acquire lands. The first of such steps was to lay claim to "*waste lands*" and enforce land demarcations through the *1876 Public Lands Ordinance* (Table 5.1). Specifically, the 1876 ordinance was introduced to empower the colonial secretary to use lands for "*public services*" by forcibly acquiring "*unoccupied*" lands (Gold Coast, 1903: *page xii*, 215-222). As the 1876 ordinance stated;

"Any land shall be deemed unoccupied where it is not proved that beneficial use thereof for cultivation or inhabitation or for collecting or storing water or for any industrial purpose, is or has been had during the lives of any person claiming interest therein or of the last immediate ancestor or predecessor of such person" (Gold Coast, 1903: 218).

This 1876 policy therefore closed the space for non-instrumental valuation or the non-use of land (O'Neill, 1993), conceiving of land value along functional lines. In other words, land had to be in functional use, otherwise it would be forcibly acquired by the colonial government.

A second major policy was the *1892 Town-Council Ordinance*, which attempted similar compulsory acquisition of unoccupied lands, this time in urban areas. The two policies were later halted due to local resistances. Of note, these resistances resulted in the creation of a local social movement called the "Aborigines Rights Protection Agency" in Ghana (Owusu-Ansah & McFarland, 1995: *page xxxvii-xxix*). Table 5.1 summarises land-use, extraction and institutional regulation policies in the mid to late 19th century in the then Gold Coast.

Table 5.1: Land-Use, Resource Extraction and its Institutional Regulations in Ghana (1876-1899)[27]

Year	Ordinance	Main Input(s)
1852	Municipal Corporations Ordinance	⊛Colonial power to assess local houses for taxation.
1858	District Assemblies Ordinance	⊛Establishment of subnational statutory bodies (municipal councils) in Accra and Cape-Coast.
1876	Public Lands Ordinances (Cap. 134 & 135)	⊛Without proof of title or "*beneficial use*" of lands (even fallow lands), land is deemed unoccupied and non-compensable. ⊛Vest all acquired and/or unoccupied lands in the colonial government. ⊛Compensation for compulsorily acquired lands to be based on monetary value (paid as lump sum).
1883 (Am.: 1895)	Land Registration Ordinance	⊛Registration of deeds.
1883	Gold Coast Native Jurisdiction Ordinance	⊛Chiefs can draft by-laws and create native tribunals.
1892 (Am.: 1951)	The Towns Act (Cap. 86)	⊛ Regulating towns through sanitary zones.
1892	Towns and Public Health Ordinance 13	⊛Colonial secretary can compulsorily acquire land or usurp "*unoccupied*" lands for public amenities.
1894,1897	Crown Lands Bill	⊛Colonial government can grant leasehold rights and claim rents for lands, mining concessions and forests.
1894	Town Councils Ordinance	⊛Establishment of three subnational statutory bodies (District Assemblies), including in the town of Sekondi.
1896	Validation Ordinance	⊛ It called for demarcation and survey of lands.

Am. = Amended

Land use policies	Mineral mining policies	Institutional policies	Petro-extraction policies

[27] Sources: National archives (1894), Gold Coast (1903), Lahouel (undated), FAO (1892), Gocking (2005), Owusu-Ansah & McFarland (1995), Sackeyfio (2014). The policies in tables 5.1 to 5.7 do not cover for instance legislative instruments (L.I.) that look at mining workplace regulations and certification of extraction companies (For instance, the following are excluded: Cap. 153 of 1905, L.I. 253 of 1963, Act 278 of 1965, L.I. 665 of 1970 and L.I. 2173 of 2010). *I footnote the references in this and similar tables in order to maintain the easy readability of the tables' contents.*

As will be shown in Ghana's post-colonial period, this colonial action to acquire unoccupied lands introduced compulsory land acquisition as a policy tool in land and natural resource extraction. The policy was an attempt to introduce monopoly value to land (George, [1879] 2006: 90) and capitalise on the future rents of unused lands, by first inscribing them into centralised property rights. It also established the market value of land as a central part of the proposed land acquisitions, where compensation would be based on a one-time monetary value of the land.

The first experimentation of these attempted compulsory land acquisition policies was in Southern Ghana, including the current PER towns of Sekondi, Axim and Atuabo (Owusu-Ansah & McFarland, 1995: *page xxxvii*). These were towns that functioned as resource-extraction and export zones in the colonial era and used as test-beds for some of the earliest land and town control policies and practices.

Chiefs and related kinship leaders also became conduits of decentralised control of land-use in the then Gold Coast; through the *1883 Native Jurisdiction Ordinance* (Onoma, 2008: 149-150). Specifically, chieftaincy institutions became trustees of local government and local justice functions (Rathbone, 2000: 48-49). This was in furtherance to the British indirect rule that was implemented in its colonies to deliver "*cheap*" law and order (Rathbone, 2000: 50). Specifically, the 1883 ordinance gave chiefs the ability to draft bye-laws (on construction, custodianship over "*unoccupied*" lands and preserving land boundaries) as well as to carry out decreed ordinances. It also granted them the power to adjudicate lower-level cases on customary land litigations, to benefit from the proceeds of mining concessions and to collect tributes from migrant farmers (Gold Coast, 1903: 392 – 410; Boone, 2003: 150). This applied to territories that had been brought under the rule

of the British crown at the time, which included the Southern coastal region of Ghana. In a sense "*the colonial government took away the power of traditional rulers and gave them authority in local governmen*t", which the chiefs manoeuvred via the "*genuine control of material and human resources [notably] in the form of access to land and labour*" (Arhin, 1985: 208; cited in Rathbone, 2000: 49). It is also argued that such colonial policies that granted chiefs the authority to collect tributes were counterintuitively aimed at controlling the total commodification of land and labour (see Boone, 2003: 150; citing Berry, 1993). Nonetheless, the chiefs were able to partly re-assert forms of rule-dorm (Rathbone, 2000: 45).[28]

By the end of the 19th century, land was increasingly utilised for different layers of resource extraction in regions like Southern Ghana. Oil palm was planted to satisfy European industrial demand for lubricants and vegetable oils. After a subsequent period of low oil palm prices, wild-rubber was also cultivated to meet global demands for Indian rubber (Dumett, 1983: 667-685). Palm oil exports increased from 350 tons to 11,400 tons in 1829-1880, rubber yields also rose from 223,776 pounds to over 4 million pounds, all in the 1880s -1890s (Dumett, 1983: 667-685). Cocoa later became a new addition to the export-oriented cash crop economy, followed by a gold rush in the south and other parts of Ghana (Gough & Yankson, 2012; cited in Bryceson & Mackinnon, 2012). Lumber products such as West African mahogany were also favoured exports in the south in the early 20th century (Dumett, 1983: 689-690). The increased cash crop production especially in Southern Ghana thus ushered in chiefs as a class of landed rural economic

[28] There also emerged a class of local resource extraction and export merchants with a measure of individuality in performing economic activities, unlike chiefs who still operated within some community obligations (Reynolds, 1974: 255-256).

elites with immense influence over local communities and farm-labourers. Chiefs also maintained political leverage vis-à-vis the colonial state, especially as the state relied on cash crop exports (Boone, 2003: 154-159).

5.2 From 1900 to1957

From the 1900s, mineral concession agreements between land owners (especially chiefs) and mineral merchants became more pronounced. In general, concessions are agreements by which a right, interest or property on a land are granted to another party for mining and even cash crop farming. Chiefs could also include such concession agreements in their bye-laws (Gold Coast, 1903: 406). The first petro-chemical exploration started in 1880 in the Gulf of Guinea, aimed at capturing future windfall rents of discovery (Panford, 2016: 91). Mineral extraction policy was therefore extended to cover petroleum exploration, through the *1907 Mineral Oil Pre-Emption Ordinance* introduced by the British crown. This ordinance gave the crown the right of first option in purchasing potentially discovered petroleum resources;

"[it] placed restrictions on any form of individual concessions in case of petro-chemical discovery; thus, giving the crown the right of pre-emption over such discoveries in Ghana and the then British West Africa" (Stone, 1920: 265; Gold Coast, 1907; 43-45).

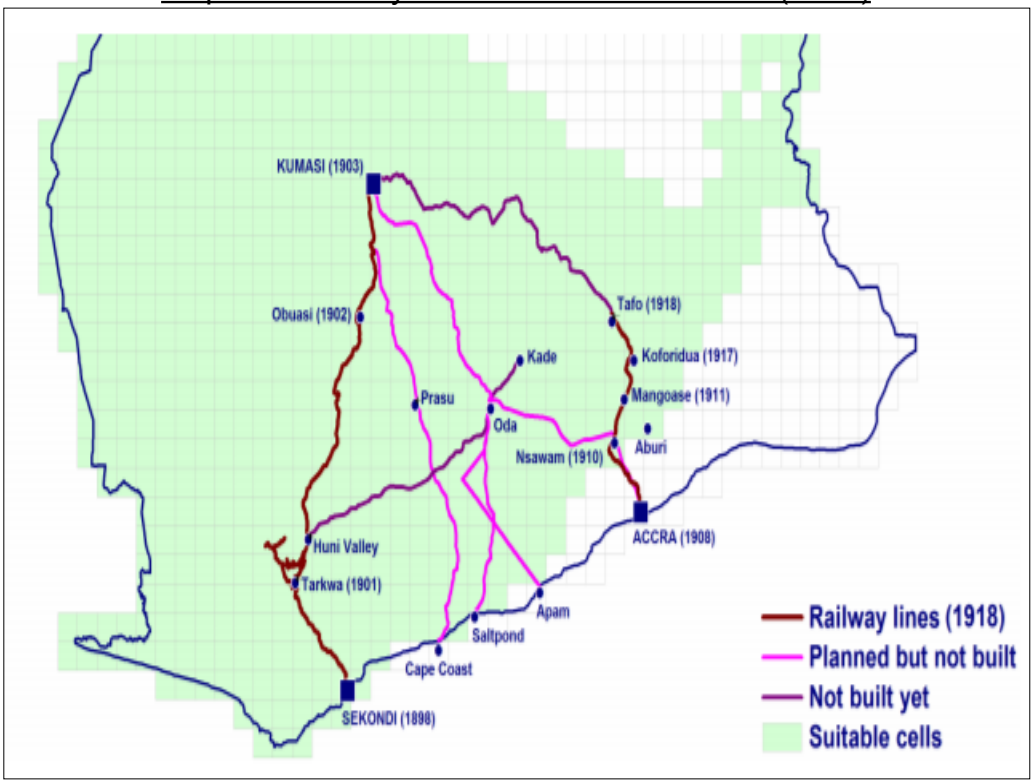
Before then, railways were constructed in Southern Ghana in 1898-1903 to enhance the spatial expansion and accessibility of natural resource extraction (Table 5.2). The railway lines extended from Sekondi to Tarkwa as well to the inland Ashanti region (Owusu-Ansah & McFarland, 1995: 34).

In 1919, the colonial government also introduced Ghana's first ever *Ten-Year Development Plan*, entailing an extension of railways and harbour constructions (Fuseini

& Kemp, 2015: 312; Hilling, 1969: 370; 2006: 13). The Sekondi railway was complemented with the new Takoradi harbour in 1928 (Hilling, 2006: 13-15). See maps 5.2 and 5.3. The harbour replaced existing smaller ports in Southern Ghana (Axim, Assini and Dixcove) which were first used to export gold (Hilling, 1969: 365-367).

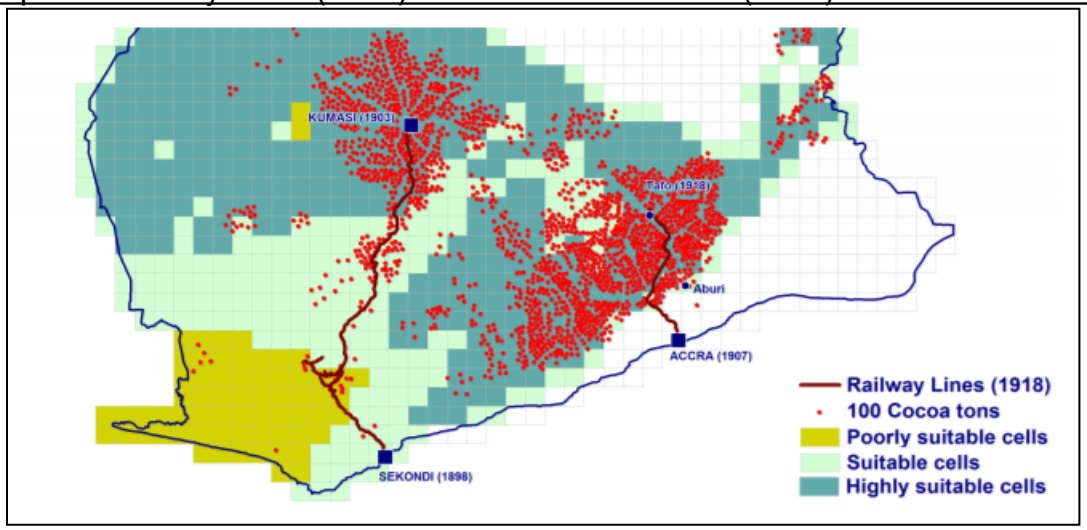
By the 1950s, Southwestern Ghana had emerged as a more dominant cocoa producing area compared to other parts of Ghana (Boone & Duku, 2012: 674). The new Takoradi harbour also enhanced the shipping of larger quantities of local minerals and cash crops to satisfy European military requirements at the time (EAUMF, 2017: 4). Minerals such as manganese, gold, diamond, bauxite and the various cash crops could now be exported through the extended railways and Takoradi harbour in the south (Hilling, 1969: 369; 2006: 14; Dumett, 1983: 692).

Map 5.2: Railway Lines in Southern Ghana (1918)



Source: Jedwab & Moradi (2011: 29)

Map 5.3: Railway Lines (1918) and Cocoa Production (1927) in Southern Ghana



Source: Jedwab & Moradi (2011: 30).

Southern Ghana simultaneously became the site of mineral extraction and cash-crop farming as well as the infrastructural base for import and exports. Land and sea infrastructural spaces (railways, ports, quays, wharves, factories, warehouses) dotted the southern coast (see maps 5.2 and 5.3). This enhanced the creation, control and extraction of economic land value and resource rents. Lands for such projects were acquired through policies such as the *Public Lands Leasehold Ordinance (Cap. 138)*, where the market value of land was emphasised through a rolling-basis of monetary compensation for those whose lands were compulsory acquired for such projects. Table 5.2 summarises these policies from the turn of the 20th century to Ghana's independence (1957).

Table 5.2: Land-Use, Resource Extraction and its Institutional Regulations in Ghana (1900-1957)[29]

Year	Ordinance	Main Input(s)
1900	Mining Concessions Ordinance	⊛To enable concessions between landowners (especially chiefs) and mineral explorers.
1907	The Mineral Oil Pre-Emption Ordinance (Cap. 154)	⊛Colonial right of pre-emption over potential petroleum discoveries.
1919	Ten-Year Development Plan for 1920-1930 (including the Mining Areas Ordinance).	⊛Extension of Sekondi railway and construction of Takoradi harbour.
1922 (Am.: 1951)	The Survey Ordinance (Cap. 132)	⊛Requiring official surveyors to implement cadastral land surveys.
1927	Native Administration Ordinance	⊛ To clarify subnational statutory powers (District Assemblies) as well as customary (chieftaincy) law.
1935	Native Authorities Ordinance	⊛Local governance powers given to customary chiefs but centralised under supervision of the colonial government's provincial commissioners. ⊛Strengthened the powers of customary courts. ⊛Granted chiefs the rights to collect land tributes from migrant farmers.
1939	Concessions Act (Cap. 136)	⊛Mineral concessions granted for 99-year periods.
1945 (Am.: 1947, 1958, 1960)	Town and Country Planning Ordinance (Cap. 84)	⊛Spatial development for (especially) urban areas.
1950	Prospecting and Digging License Regulations	⊛Guidelines on acquiring mineral prospecting licences.
1950	Public Lands (Leasehold) Ordinance (Cap. 138)	⊛Compensation for compulsorily acquired lands to be based on monetary value (paid as annual rents).
1953 (Am.: 1957)	Land Planning and Soil Conservation Ordinance (No. 32)	⊛Declaring certain lands as conservation areas.
1957	Mining Rights Regulation (Amendment) Ordinance (No. 31)	⊛Replacing the word "*concession*" (which denotes generic land-extraction agreements in the 1939 act) with "*mining*" (which denotes mineral extraction-only agreements).
1957	1957 Constitution of Ghana	⊛Created five administrative regions (including the Western Region). ⊛Chieftaincy institutions headed the five administrative regions at the time.

Land use policies	Mineral mining policies	Institutional policies	Petro-extraction policies

[29] Sources: Stone (1920), Gold Coast (1903, 1907), FCOC (1900), Geary (1913), Hilling (1969, 2006), Fuseini & Kemp (2015), EAUMF (2017), Agbosu (1990), Berry (1994), Gocking (2005), Bening (1995), Larbi et al. (2004), RSPO (undated), Ghana Legal (1957), FES-Gh (2010), Boone (2003).

Ghana's first *Town and Country Planning Ordinance (Cap. 84)* was also introduced in 1945, focusing on a comprehensive national spatial plan (Fuseini & Kemp, 2015: 312). See table 5.2. It has been argued that within the two world-wars, there was a "*spatial planning vacuum*" in Ghana (Fuseini & Kemp, 2015: 318). However, this subsection shows that planning in pursuit of resource-extraction was in full force.

5.3 From 1958 to 1962

After Ghana's independence in 1957, resource extraction continued to be a fulcrum of the country's development strategy. The country embraced policies motivated by pan-Africanism and socialism. It also maintained certain colonial policies and concepts on extraction-based land use and spatial planning (Fuseini & Kemp, 2015: 309, 312-314). This was to enhance self-reliance, reduce poverty, subsidise local agriculture and stimulate domestic savings (UNCTAD, 1998: 116). Natural resources were envisioned by the new government as the fulcrum for the country's self-reliant development strategy.

Even before independence (in 1951), the emerging local political elites[30] proposed certain institutional reforms, one of which was to centralise local government powers and minimise chieftaincy powers over land (Boone, 2003:144-146). Chieftaincy and kinship groups' control over lands was criticised for ringfencing the landed-means of production and capturing rents from resource-extraction (Rathbone, 2000). Chieftaincy power over land however persisted while the central government expanded its control over land policy in areas of spatial planning, surveying, land administration, extraction policy and local governance.

[30] The *Convention People's Party* government under the then leader and Ghana's first President Dr. Kwame Nkrumah.

New policies rolled out in the postcolonial period showed evidences of colonial-era influences, pointing to forms of institutional inheritance of pre-existing practices and institutional inertia; the new laws were thus constitutive of colonial-era values (Chang & Evans, 2005: 5). The new Ghanaian state retained the powers of compulsory land acquisition from the colonial era through the *1960 State Property and Contract Act*, the *1962 Administration of Lands Act* and the *1962 State Lands Act* (see table 5.3). Land owners whose lands were compulsory acquired by the central state would be compensated based on the market and replacement value of the land; the latter being "*a land of equivalent value*" (Ecolex, 1962b: section 4). In this sense, options for equivalent land compensations became plausible, in addition to outright monetary compensation. Additionally, minerals and petroleum rights were vested in the state through the *1962 Minerals Act*, with stipulations for the state to pre-empt the sale of (potentially discovered) petroleum, akin to the colonial era.

The state expanded its mineral and land policy into mining concessions, by reducing concession lease-periods from 99 years to 30-60 years (through the *1962 Administration of Lands Act*) and having more oversight over customary land concessions (via the *1962 Concessions Act)*. See table 5.3.

Table 5.3: Land-Use, Resource Extraction and its Institutional Regulations in Ghana (1958-1962)[31]

Year	Ordinance	Main Input(s)
1960	Constitution of the Republic of Ghana	⊛Expansion of administrative regions from five to seven.
1960	Land Development (Protection of Purchasers) Act 2	⊛To protect land purchasers with defective titles after land has been developed.
1960 (Am.: 1963)	State Property and Contracts Act (CA 6 & Act 161)	⊛To vest colonially administered properties in the newly independent state, including powers of land acquisition for "*public interest*" projects. ⊛Compensation for acquired lands based on market value and cost of damages.
1961	Local Government Act 54	⊛It created a three-tier subnational governance structure (Urban, District and Village Councils). ⊛Chiefs were appointed into District Councils.
1961 (Am.: 1963 to 1968)	Chieftaincy Act 81	⊛Central government use of discretionary powers over the appointment and destoolment of chiefs.
1962	Farm Lands (Protection) Act 107	⊛Re-possession of (proposed) farmlands after 8 years of vacancy.
1962	Land Registry Act 122	⊛It prioritises ownership rights of registered land owners over other claimants.
1962 (Am.: 1963, 1979)	Administration of Lands Act 123 & 161 and AFRCD 61	⊛National government can compulsorily acquire lands for "*public interest*" projects. ⊛National government can grant leasehold rights and claim rents for lands, mining concessions and forests. ⊛Mineral concession leasehold periods reduced from 99 years to 30-60 years. ⊛50-year leasehold periods for commercial land uses.
1962 (Am.: 1963)	Concessions Act 124 & 161	⊛Central government overview over existing customary mineral concessions.
1962 (Am.: 1963, 1968, 1974, 1979, 2000)	State Lands Act 125 & 161	⊛National government can acquire lands in the "*public interest*". ⊛Vest all acquired and/or unoccupied lands in the President. ⊛Compensation for compulsorily acquired lands to be based on market value, cost of damage or replacement value.
1962 (Am.: 1963, 1968, 1969)	Minerals Act 126 & 161	⊛Vesting mineral ownership and control rights in the state. ⊛The state exercises right of pre-emption over the sale of (potentially discovered) petroleum.
1962 (Am.: 1974)	Survey Act 127	⊛To allow for land survey, including for mineral prospecting purposes.

Land use policies | Mineral mining policies | Institutional policies | Petro-extraction policies

[31] Sources: GoG (1962a), Ghana legal (1960a, 1960b, 1962a, 1962b, 1962c), FES-Gh (2010), Mensah-Brown (1969), Mate-Kole (2018), Ecolex (1962a, 1962b, 1962c).

The administrative role of the chiefs was further curtailed; here the state used local government councils to collect rents and taxes on land – including concession royalties – before redistributing it to land-owning chiefs (Rathbone, 2000: 55). The *1961 Local Government Act* also limited chiefs' roles in local governance to ceremonial functions with the central state having appointive control over chieftaincy inclusion in such local governance structures (Table 5.3).

5.4 From 1963 to 1972

The drive towards self-reliance and socialism after independence was also solidified in the *Seven-Year Development Plan of 1963* (Owusu-Ansah & McFarland, 1995: lvii). See table 5.4. Within the seven-year plan, mining and cash crop farming were geared towards a "*mixed*" import substitution economy to be realised through "*the production of consumer goods, the local processing of Ghanaian raw material and the utilisation of Ghana's natural resources*" (Nkrumah, 1964). The state was to play a central role in this industrial and extraction-based strategy of the seven-year plan (NCC, 2009).

The first offshore mineral regulation was passed in 1963 (*Act 257 & L.I. 258*) granting the state rights over Ghana's territorial waters and continental shelf (Ghana Legal, 1968). This was complemented with other amendments, including environmental safeguards on mineral exploration (Ghana Legal, 1968). See table 5.4. Amendments such as *the NLCD 308 & 315 (1963)* also moved petrochemical exploration activities from the "*National Research*" sector to the "*Lands, Mineral Resources and National research*" sector (Ghana Legal, 1968). This shift emphasised the importance of land-use control for exploration and possible discovery of petroleum resources.

Table 5.4: Land-Use, Resource Extraction and its Institutional Regulations in Ghana (1963-1972)[32]

Year	Ordinance	Main Input(s)
1963	Seven-Year Development Plan	⊛ Import substitution economy based on mining and cash crop farming.
1963	Lands (Statutory Wayleaves) Act 186	⊛ It granted the state the right to use lands for utility services such as electricity, water and gas pipelines.
1963	Minerals Offshore Regulations Act 257	⊛ Granting the state rights over Ghana's territorial waters and continental shelf.
1963 (Am.: 1968, 1969)	Minerals (Oil and Gas) Regulations (L.I. 258, NLCD 308, 315 & 344)	⊛ Introduced environmental safeguards in offshore mineral exploration. ⊛ Moved petrochemical exploration activities from the National Research sector to the Lands and Mineral Resources sector.
1964	Oil in Navigable Waters Act 235	⊛ To establish mechanisms to prevent oil spills.
1965	Public Conveyancing Act 302	⊛ It granted the President the power to compulsorily acquire stool lands. ⊛ The President can grant vacant lands to other persons.
1967	State Gold Mining Corporation (Acquisition of Assets) Act (NLCD 204)	⊛ Nationalisation of gold mining companies and concessions.
1971	Local Administration Act 359	⊛ Creation of regional councils as fourth tier of subnational governance (i.e. Regional, Urban, District and Village Councils).
1971 (Am.: 1974)	Lands Commission Act 362	⊛ Establishment of parastatal organisation in charge of handling lands and landed minerals vested in the state.
1971 (Am.: 1973, 1982, 1993)	Ghana Chieftaincy Act 370	⊛ Establishment of customary land accounts (to 'formalise' customary land sales).
1972 (Am.: 1989)	Diamonds Act (NRCD 32)	⊛ It established the state as the sole trader of diamonds.
1972	Limitation Decree (NRCD 54)	⊛ After 12-years of non-use/unclaimed land, a claim for land recovery and rent cannot be made by a person, even with a title.

Land use policies	Mineral mining policies	Institutional policies	Petro-extraction policies

[32] Sources: Nkrumah (1964), Ghana Legal (1963, 1964, 1967, 1968, 1971, 1972a, 1972b), Ecolex (1965), Kasanga & Kotey (2001), FES-Gh (2010).

Aside this increasing control over land-use, the state also attempted to weaken chieftaincy control over land through the *1965 Public Conveyancing Act* (Ecolex, 1965). The conveyancing act thus granted the state the power to compulsorily acquire chieftaincy land for national-interest projects. It also further strengthened the state's power to acquire vacant lands (Ecolex, 1965).

Ghana's first coup d'état in 1966 resulted in the successive government (National Liberation Council) further consolidating state power by nationalising all gold-mining operations. Institutional changes continued with the establishment of the Lands Commission in 1971, thus becoming the state institution in charge of government vested lands and mineral resources (Kasanga & Kotey, 2001: 2-3). Again in 1971, forms of traditional chieftaincy powers regarding land were brought under state officialdom, through the establishment of regional stool land accounts to 'formalise' the sale/leasing of customary lands.

5.5 From 1973 to 1982

Following the 1973 global oil-crisis, the immediate state strategy in Ghana was to further entrench import substitution ideas using extractivist and agricultural policies. Programmes such as "*Operation Feed Yourself*" were initiated in 1974 to further entrench the drive towards self-reliance (Owusu-Ansah & McFarland, 1995: 65; Girdner et al., 1980). This was aimed at tackling the emerging food shortages. However, the self-reliance approach to the crisis was short-lived as the state itself was in a period of constant change; between 1966 and 1979, there were five coup d'états in Ghana.

The political and economic turbulence of the period in Ghana culminated in a debt-ridden economic collapse by 1983 (Konadu-Agyemang, 2000: 473). This also affected land-use planning as "*no substantive planning initiatives [were] discernible*" during this time (Fuseini & Kemp, 2015: 314). The period of constant regime-change also created a dent on management of extraction and land-use planning policies in general, although laws were still introduced to manage and formalise customary lands. See table 5.5.

Table 5.5: Land-Use, Resource Extraction and its Institutional Regulations in Ghana (1973-1982)[33]

Year	Ordinance	Main Input(s)
1973 (Am.: 1986)	Stool Lands Boundaries Settlement Decree (NRCD 172)	⊛ It entrusted the settlement of stool land cases under customary institutions.
1973	Conveyancing Act	⊛ It stated that the granting of land (to others) from oral customary sources should be recorded in writing, signed by the grantor and certified by a registrar.
1974	Public Lands (Protection) Act (NRCD 240)	⊛ Forbids unlawful sale, lease or occupation of public lands. ⊛ Lands with "*doubtful*" ownership status are vested in the state as public lands.
1979	Constitution of the Republic of Ghana	⊛ Chiefs regained membership in the Regional Councils (as part of a four-tier subnational governance system).

Land use policies	Mineral mining policies	Institutional policies	Petro-extraction policies

[33] Sources: FES-Gh (2010), Woodman (1973), Ghana Legal (1974).

It was during this time that the World Bank released its foremost land reform report in 1975 (World-Bank, 1975). The report recommended the replacement of customary, informal and often plural land tenure systems with privatised, formalised and titled land to facilitate land's exchange value and reduce poverty, especially for global southern countries heavily affected by the crisis. The report pointed out countries that were under-utilising the productive potential of their lands, including Ghana. Land formalisation was thus touted as a panacea to improve land-efficiency, agricultural productivity and reduce poverty (World Bank, 1975: 50-51).

5.6 From 1983 to 2006

In 1983, Ghana signed on to the Structural Adjustment Programme (SAP), to access debt-relief loans, spearheaded by the World Bank and the International Monetary Fund (Konadu-Agyemang 2000). Debt-relief was deemed as a solution to Ghana's economic crisis at the time. The SAP loans were offered on conditionalities which required recipient countries to deregulate their economic and institutional policies "*in order to eliminate obsolete laws and revise other laws to reflect the policy change from a command economy to a free market system*" (World-Bank, 1992: 58). By signing on to the SAP, Ghana initiated neoliberal policies focusing on, among others, deregulatory land use, extraction and institutional practices.

Regarding land use, policies were introduced to enhance the predictability of land markets and reduce uncertainties in land ownership. The *1986 Land Title Registration Law* was thus introduced to enhance land formalisation (Owusu-Ansah & McFarland, 1995: *page lxxxii*). The 1986 law also granted power to the state to acquire "*unclaimed land*" after 12

years, thus emulating the "*waste lands*" acquisition laws of the colonial era (Ghana legal, 1986c). A land valuation board was also set up, charged with determining the appropriate compensations for compulsorily acquired lands (*PNDC Law 42 of 1986*). See table 5.6. The *Ghana Free Zones Authority* was also set up to provide incentives to enhance investments, including expedited access to lands (land-banking) and ten-year zero-tax incentives for investors (GFZA, 1995) as shown in table 5.6. Ghana introduced its major SAP era land policy in the *1999 National Land Policy* which included a World Bank sponsored Land Administration Project, LAP I & II projects (World Bank, 2003, 2011). The 1999 land policy and the LAP projects aimed to streamline existing land laws, enhance tenure security and intensify land formalisation and titling (MLF, 1999; Obeng-Odoom, 2012b: 164; Brookins, 2018).

Institutional practices on land use within this SAP era were increasingly focused on making property rights predictable and commensurable (Mkandawire, 2009). These emerging policies on land formalisation and titling were not automatic nor voluntary outcomes of increased returns per unit of land as argued by proponents of land titling. The proponents argue that in a deregulated market, privatised clear property rights are automatically triggered by a rising populations, high non-farm employment, land use specialisation, diversification and technological advances. (Demsetz, 1967; Alchian & Demsetz, 1973; Deininger & Binswanger, 1999; de Soto, 2000; Deininger, 2003; Deininger & Feder, 2014). In Ghana however, they were policies coerced through the conditionalities of the SAP loans to create privatised, clear and predictable property rights to enable land transfer, resource extraction and higher exchange values.

Regarding the extraction industry, the deregulatory logic of SAP was evident in the emerging petroleum and mineral policies. Within the petro-chemical industry, the *Ghana National Petroleum Corporation (GNPC)* was created as a national oil company in 1983 to enhance exploration of petroleum resources. This was then followed by the *1984 Petroleum Exploration and Production Law* and the *1986 Mineral and Mining Law*. Compared to the 1984 petroleum law, the 1986 mining law had a weaker state presence with more private sector involvement. Ghana government's participation in the mining industry was also restricted through the *Mining Operations Repeal Act of 1993*; this was to prevent the re-occurrence of asset acquisitions by the state, as happened through the *1967 State Gold Mining Corporation (Acquisition of Assets) Act*. Private shareholder participation was also encouraged through the *1994 Mining Amendment Act*. See table 5.6. The minerals industry was therefore comparatively more deregulated than the petroleum industry during the immediate SAP era, since petroleum resources were still undiscovered at the time. Hence petroleum revenues were insignificant for the country's balance of payments compared to minerals like gold.

The 1984 petroleum law also spelt out that land acquired for petroleum exploration should entail compensation to the land owners not just for buildings but also for crops and livestock, unlike preceding petroleum exploration laws (petroleum laws of 1907 and 1963; see tables 5.2 and 5.4).

State mining companies were also privatised within the SAP period. 40% of state-owned Tarkwa gold mines was privatised. Ghana's biggest gold mine in Obuasi, producing 50% of the country's gold at the time, was also transformed into a joint venture corporation in 2004-2014 (Panford, 2016: 78-81; Agbesinyale, 2003).

A new *Mining Law (Act 703)* was introduced in 2006, with state efforts to re-establish control over the mining industry, including progressive attempts at land compensation and land value. The 2006 mining law included stipulations for alternative lands and resettlement as compensation, to be based on wellbeing, social and cultural values (Ecolex, 2006). See table 5.6. However, the 2006 law also reduced the national mineral royalty ceiling from 12% in 1994 to 6%. In practice, most mining companies in Ghana pay 3% which is below the stipulated 5-6% (Panford, 2016: 83-84; citing Rutherford & Ofori-Mensah 2011: 4). The SAP (and post-SAP) mining laws changed Ghana's mining landscape and deregulated the mining sector (Panford, 2016: 80-81). Land formalisation served as a foundation for attracting private sector investment in the extractive industry.

The effort to formalise and privatise lands thus lends ideological credence to privatising other natural resources including the mining sector (Harvey, 2006: 360). In this case, policies to enhance land formalisation, investability[34] and privatisation aimed to provide "*socially necessary legal, ideological and institutional cover to produce capital*" (Harvey, 2010: 255-256). Hence deregulated land and mining laws went together in the SAP era. The state's role was limited to attracting foreign investments in mining by reducing the transaction cost of private mining operations and (by attempting) to formalise land rights (see Mkandawire, 2009: 2, 8-10).

[34] Li (2014a: 594).

Table 5.6: Land-Use, Resource Extraction and its Institutional Regulations in Ghana (1983-2007)

Year	Ordinance	Main Input(s)
1983	Ghana National Petroleum Corporation GNPC Act (PNDCL 64)	⊛ Establishment of the national oil company (GNPC - Ghana National Petroleum Corporation).
1984	Petroleum (Exploration and Production) Law (PNDCL 84)	⊛ Vesting potential petroleum resources in the state. ⊛ Right to explore petroleum resources on land and sea, subject to license. ⊛ Compensation for compulsorily acquired lands to be negotiated between the affected land owner and the exploration company, subject to approval by the Land Valuation Board. ⊛ Royalties shall be paid to the central government.
1986	Land Valuation Board Act (PNDCL 42)	⊛ Establishment of Land Valuation Board to determine land (compensation) rates for compulsorily acquired lands.
1986	Land Title Registration Act (PNDCL 152)	⊛ To enable land-title registration. ⊛ State acquisition of unclaimed/vacant land after 12 years.
1986	Maritime Zones (Delimitation) Law (PNDCL 159)	⊛ To create a 200 nautical mile exclusive economic zone in the Gulf of Guinea for resource extraction, among others.
1986 (Am.: 1994)	Minerals and Mining Act (PNDCL 153)	⊛ Vesting minerals (on land, sea or in exclusive economic zones) in the state. ⊛ Royalties (between 3-12%) to be paid to the government by the holder of a mining lease. ⊛ Government can acquire land or authorise its use for mineral extraction. ⊛ Compensation for reconnaissance, prospecting and mining to be negotiated between affected land owner and the exploration company, subject to approval by the Land Valuation Board.
1986 (Am. 2009)	National Oil Spill Contingency Plan	⊛ Establishes strategies to mitigate oil spills.
1987	Minerals Royalties Regulations (L.I. 1349)	⊛ 3% royalty to be paid (quarterly) to the central government.
1992	The Constitution of Ghana	⊛ Vesting mineral resources in the state. ⊛ Three-tier subnational governance structure (regional, district, sub-district) re-established. ⊛ Chiefs part of the regional governance membership.
1993	Minerals Commission Act 450	⊛ Establishment of Minerals Commission to formulate mineral extraction policy.
1993	Local Government Act 462	⊛ Establishment of District Assemblies as local governance authorities for every district. ⊛ Establishment of Planning Departments as spatial planning authorities in each District Assembly.
1993	Mining Operations (Government Participation) (Repeal) Act 465	⊛ Restricting state powers to nationalise mineral mining industry.
1994	Minerals and Mining Amendment Act 475	⊛ Allowing shareholder and equity agreements in the mineral extraction sector.
1994	National Development Planning Commission Act 479	⊛ Establishment of National Development Planning Commission to formulate development planning policy.

1994	National Development Planning (System) Act 480	⊛ Outlining the functions of Development Planning Departments in every district.
1994	Stool Lands Act 481	⊛ Establishment of Office for the Administration of Stool lands (OASL) to collect customary-land revenues (ground rents, farm rents, forestry royalties and mineral royalties). ⊛ OASL responsible for disbursing 90% of the revenues to land-owning chiefs, kinship groups and the District Assembly. Chiefs receive a quarter of the 90%.
1994	Lands Commission Act 483	⊛ Lands Commission to manage public and vested lands. ⊛ Lands Commission to assist in land title registration.
1994	Environmental Protection Agency (EPA) Act 490	⊛ EPA to control the generation, treatment, storage, transportation and disposal of waste. ⊛ EPA to issue environmental permits, pollution abatement notices and prevent hazardous waste pollution. ⊛ EPA to prescribe environmental standards and guidelines. ⊛ EPA to conduct and promote environmental studies.
1995	Free Zones Act 504	⊛ Establishment of Ghana Free Zones Authority (GFZA) to provide investment incentives including facilitating land-banks for investors. ⊛ GFZA to provide tax-free incentives (0% profit-income tax) to investors for first 10 years, and 8% tax ceiling afterwards.
1999	National Land Policy (as part of Land Administration Project – LAP I &II)	⊛ LAP: Recommended a new spatial planning model based on a three-tier planning system (Spatial development frameworks, Structure plans and local plans). ⊛ Recommended the introduction of land bank options for land-owning chiefs and kinship groups. ⊛ Recommended that compensation for compulsorily acquired lands be paid via land bonds. ⊛ Recommended the introduction of special levies on "*allocated but undeveloped lands*" to reduce speculation. ⊛ Recommended the establishment of special-purpose high courts to settle land disputes.
1999	Environmental Assessment Regulations (L.I. 1652)	⊛ It requires all potentially dangerous development projects to undergo Environmental Impact Assessment (EIA) before development is permitted.
2000	Stool Lands Boundaries Settlement (Repeal) Act 587	⊛ It empowers special-purpose high courts (instead of chieftaincy institutions) to settle customary land boundary disputes.
2000	Model Petroleum Agreement	⊛ It guides petroleum contracts between the state and OG companies. ⊛ Stipulates an OG royalty rate of 4 - 12.5% to be paid to the central government. ⊛ It authorises OG companies to use public lands for installing and operating shore bases, terminals, harbours, pipelines, delivery facilities, camps etc. (subject to rental payments). ⊛ It requires OG companies to prevent damage to onshore lands, vegetation and buildings.
2003	Local Government Service Act 656	⊛ To establish a body that provides technical assistance to District Assemblies and Regional Coordinating Councils. ⊛ Membership shall include a chieftaincy representative, among others.

2004 (Am. 2015)	West African Gas Pipeline Act 681	⊛ To grant licenses for pipeline construction as part of gas project between Ghana, Togo, Benin and Nigeria. ⊛ To compensate affected landowners for damages and disturbances.
2005	National Petroleum Authority Act 691	⊛ To establish the National Petroleum Authority (NPA). ⊛ NPA to regulate and monitor the downstream petroleum industry.
2006	Minerals and Mining Act 703	⊛ Vesting minerals (on land, sea or in exclusive economic zones) in the state. ⊛ Government can acquire land or authorise its use for mineral extraction. ⊛ Compensation for reconnaissance, prospecting and mining shall be negotiated between the affected land owner and the exploration company, subject to approval by the Land Valuation Board. ⊛ Compensation could include alternative lands and resettlement to enhance economic well-being, social value and cultural value (unlike the 1986 law). ⊛ The Minister of Mines can exclude certain lands from mining activities (unlike the 1986 law). ⊛ Mining lands should have their specific cadastral coordinates and distances specified (unlike the 1986 law). ⊛ Royalties (between 3-6%) shall be paid to the government by the holder of a mining lease (lower rate than the 1986 law). ⊛ Granting the state a shareholder role in mining companies if necessary (not explicit in the 1986 law). ⊛ Authorising the state to designate an area for small-scale mining (unlike the 1986 law).

Sources[35]

Land use policies	Mineral mining policies	Institutional policies	Petro-extraction policies

[35] Sources: Mate-Kole (2018), FES-Gh (2010), Ghana Legal (1983a, 1986a, 1986b, 1986c, 1993a, 1993b, 1994, 2000, 2004), ROaG (1984), Kasanga & Kotey (2001), KasaGhana (1987), Ecolex (1993, 1994a, 1994b, 1994c, 2003, 2005, 2006), Komis (1994), EPA (1994, 1999), GFZA (1995), Client Earth (1999), EPA (2009), Panford (2016).

Within the SAP period, land-use planning became more concretised in the *Local Government* and *National Development Planning Acts* of 1993, 1994 and 2006 (Acts 462, 479 and 480) which expanded the number of districts to 100. Southwestern Ghana was hence divided into four districts at the time. Chiefs as custodians of lands also became part of monitoring frameworks in local governance as part of the post-1983 reforms. The *1994 Stool Lands Act* also circumscribed traditional land ownership under the bureaucratic monitoring of the state. The Office for the Administration of Stool Lands (OASL) thus became responsible for collecting stool land revenue and disbursing it between land-owning chiefs/families, District Assemblies and the OASL itself. Additional laws like the *Local Governance Act 462*, the *Stool Lands Act 480*, and *Boundary Settlement Act* further inserted chieftaincy roles within monitoring frameworks of local governance rather than the direct local role they played in the colonial era (e.g. on local judicial functions).

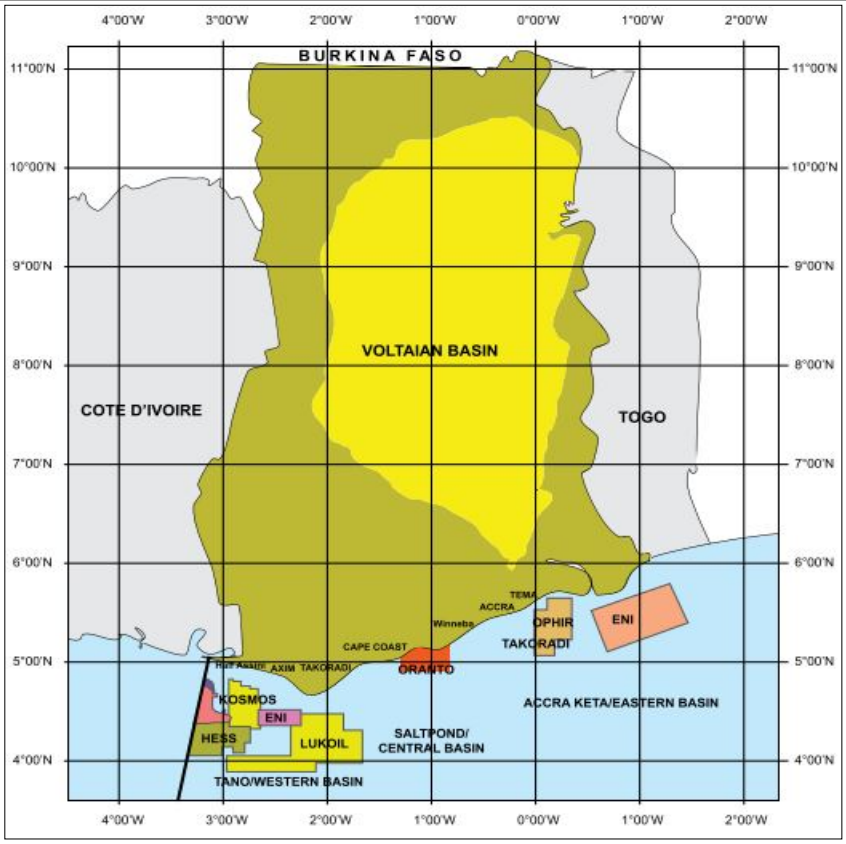
5.7 From 2007 and Beyond; Petro-Discovery in Ghana

From 2008, land investment and speculation played a pivotal role on a global scale. Between 2004 and 2009, Ghana saw a relatively larger share of private land investment deals by land area than public ones (Cotula et al., 2009: 47). Following the global slump in commodities prices in the 1980s and 1990s, there was a commodity boom from the 2000s; starting with oil in 2001 and minerals in 2003 (Le Billon & Sommerville, 2016: 7). After the 2008 financial crisis, food, minerals and petroleum prices boomed before declining in 2014 (Le Billon & Sommerville, 2016: 7). This was complemented by increasing demand for extractive commodities met by the supply of alternative energy

sources such as shale gas, new petroleum wells and biofuel/food-fuel-feedstock investments (Le Billon & Sommerville, 2016: 7).

It was during this period that Ghana discovered oil and gas resources in 2007. About 800 million to 1.5 billion barrels of petroleum were discovered 60km off Ghana's southern coast in the Gulf of Guinea (Obeng-Odoom, 2014: 16; Panford, 2016: 94). See map 5.4. The extraction process produces crude oil, natural gas, and gas condensate. By 2010, oil production had started in the 'Jubilee Oil field' while gas production began in the 'Tweneboah-Enyenra-Ntomme' (T.E.N.) fields. There are other explorations underway in the inland Voltaian basin of Ghana (map 5.4). Crude oil is now one of the biggest export earners in Ghana behind minerals and cocoa (GHEITI, 2015: 27; 2018: 111-112).

Map 5.4: Petroleum Basins in Ghana's Offshore and Onshore Territory



Source: ACEP (2014: 5).

The petroleum discovery also ushered in a new petroleum policy regime at the national level focusing on exploration and production, revenue management, petroleum contracts together with local development policies in the extraction regions. However, the actual petroleum extraction is undertaken in Southwestern Ghana (section 5.8), where the legal framework governing land-use, sea-territory and environmental management was updated to facilitate the OG-extraction process. See table 5.7. Particularly, the *2013 Petroleum Local Content Law* was passed to focus on local "*value-addition*" and commercial participation in the petroleum-extraction chain (ROaG, 2013). The *2016 Petroleum Exploration-Production Law* also introduced new regulations into the petroleum industry, including regulations on land compensations and environmental protection (ROaG, 2016). See table 5.7 and section 7.3. Additional regulations such as the *2016 Gas Master Plan* were also introduced to manage downstream activities, including new gas production factories and related infrastructure in Southwestern Ghana; specifically in the towns of Atuabo, Sanzule and Takoradi (see section 5.8).

The discovery of the OG resources also interfaced with emerging planning and land management policies at the national level. In 2008 a new *Lands Commission Act* was passed to integrate the various departments of the Lands Commission (survey, mapping, registration, valuation, land-vesting). The first comprehensive post-colonial *Spatial Planning Act* was also passed in 2016, which established a three-tier national planning system and also defined the specific functions to be performed by local planners (TCPD Ghana, 2018). This spatial plan was an outcome of recommendations from the 1999 National land policy and the Ghana Land Administration Project, LAP I and II (World Bank, 2003, 2011; TCPD Ghana, 2018). See table 5.6; to be discussed in chapter seven. Policy-

recommendations were also made in the wake of the 2008 land investment rush to restrict the purchase of large tracts of land by corporate entities, to sensitise communities on land's commercial value as well as to provide flexible options for compensation and voluntary land agreements (MOFA, 2017a, 2017b). These strategies are also integrated into the current *Land Bill (2017)* which is pending passage into law in Ghana's Parliament. The land bill is aimed at integrating all land regulations into one (LANDESA, 2017). Even within this pending land bill, the exchange value (and transferability) of land still features prominently, professed as a way to protect land tenure. See table 5.7. The next section zooms in on Southwestern Ghana as the country's petro-extraction region.

Table 5.7: Land-Use, Resource Extraction and its Institutional Regulations in Ghana (2008-2017)

Year	Ordinance	Main Input(s)
2008	Lands Commission Act 767	⊛ It integrates various functions of the land departments into one (i.e. departments of survey, mapping, land registration, valuation and public vested lands offices).
From 2008	Specific Petroleum Agreements between GoG/GNPC and Multi-National Oil Corporations	⊛ It guides petroleum contracts between the state and oil & gas companies. ⊛ Jubilee oilfield operators pay 5% in royalty for crude oil and 3% for natural gas to the central government. ⊛ T.E.N oilfield operators pay 10% in royalty for crude oil and 5% for natural gas to the central government.
2009	Local Government (Departments of District Assemblies) Commencement Instrument (L.I. 1961)	⊛ It mandates District Assemblies to prepare composite budgets (integrating the budgets of all departments under its jurisdiction).
2010	Draft Biofuels Policy	⊛ Policy to maximise bioenergy benefits to enhance energy security (e.g. using food-crops such as Oil palm, Cassava, Plantain, Sugarcane, Maize).
2011	Renewable Energy Act	⊛ To enhance the supply of and investment into renewable energy.
2011	Petroleum Revenue Management Act 815	⊛ It mandates the central government to collect, allocate and manage upstream and midstream petroleum revenues.
2012	Minerals and Mining (Compensation and Resettlements) Regulations (L.I. 2175)	⊛ It provides options for land resettlement as compensation for mining-related land acquisition. ⊛ Resettlement aims to maintain economic well-being, social value and cultural value of affected persons.
2013	Local Content and Local Participation in Petroleum Activities Regulation (L.I. 2204).	⊛ To maximise national "*value-addition*" and local job creation in the OG value chain. ⊛ To create petroleum-related industries in Ghana.
2015	(i) Recommendations and (ii) Community/Investor Guidelines for Large-Scale Land-Based Investment in Ghana.	⊛ It follows voluntary guidelines on land investment. ⊛ It recommends flexible, shorter-term leases to mitigate unforeseen events. ⊛ It recommends options for farming on vacant but purchased lands. ⊛ It recommends the creation of a repository of local land acquisition procedures. ⊛ It recommends that land-investment plans show clear long-term benefits. ⊛ It recommends the use of a memorandum-of-understanding at early stages of community-investor negotiations. ⊛ It recommends periodic payments or equity compensations instead of one-time compensations for land. ⊛ It recommends training communities in the commercial value of land, alternative lease payments and exchanging land for other economically viable assets. ⊛ It recommends leases to be structured to consider land value increases.

		⊛ It recommends introducing voluntary land banks for landowners and communities. ⊛ It recommends government neutrality in community land negotiations with companies.
2015	Ghana National Spatial Development Framework - SDF (2015-2035)	⊛ It sets out a 20-year integrated spatial development strategy focusing on the economy, transport, education, health, environment, energy, climate change and land use.
2016	Petroleum (Exploration and Production) Act 919	⊛ Vesting petroleum resources (on land, sea or in exclusive economic zones) in the state. ⊛ Land compensation for OG-based compulsory acquisition shall be negotiated by the Petroleum Commission on behalf of the OG companies (unlike the 1984 petroleum law and 1986 mining law). ⊛ Royalties (5%) and annual acreage fees shall be paid to the government by the OG companies. ⊛ Minister of Petroleum shall prepare a report on the impact of OG extraction on communities.
2016	Ghana Gas Master Plan	⊛ To effectively manage downstream gas activities, including petro-industries in the PER (Takoradi, Atuabo and Sanzule).
2016	Land Use and Spatial Planning Act 925	⊛ It empowers subnational planners to prepare plans and grant development permits. ⊛ It creates a three-tier spatial planning structure. ⊛ It recognises potential new towns and private towns. ⊛ It empowers planning departments in extraction regions to mitigate negative impacts on communities. ⊛ It recognises OG companies, among others, as development liaison partners. ⊛ It emphasises territorial planning (land and marine space) through spatial development framework plans.
2016	Local Governance Act 936	⊛ Establishment of District Assemblies as governance authorities for every district.
2017	Draft Land Bill (Approved by Cabinet: Pending Passage into Law)	⊛ It follows voluntary guidelines on land investment. ⊛ It sets land acquisition ceilings for foreign investors; 50-acres for agricultural/industrial leases and 10 acres for residential uses. ⊛ It sets a 50-year land leasehold ceiling for foreign investors and 99 years for citizens. ⊛ It sanctions against wrongful over/undervaluation of land by valuation officers. ⊛ Compensation for compulsorily acquired lands to be based on market value. ⊛ For unoccupied lands that are owned, compensations for compulsory acquisition will be based on market value (minimum 40% of market value).

		✠ To extend customary land secretariats to cover family and chieftaincy lands. ✠ To prohibit the vesting of customary and kinship-based lands in the state. ✠ To recommend revenue collection on family/clan lands, just like customary lands. ✠ To introduce electronic conveyancing system in land transfers. ✠ To recommend temporary land-use by the state without long-term compulsory acquisition.

Sources[36]

[36] Sources: GoG (2015, 2016a, 2017), Ecolex (2008), LGS (2009, 2016), CCA (2010), Energy Commission (2011), Client Earth (2012), ROaG (2013, 2016), MOFEP (2015a), MOFA (2015a, 2015b), Ministry of Petroleum (2016), ACEP (2013), Panford (2016).

5.8 Southwestern Ghana as Petro-Extraction Region (PER)

Ghana's Southwestern region consists of one metropolis (Sekondi-Takoradi) and five districts (Jomoro, Ahanta West, Ellembelle, Shama and Nzema East). It has a population of one million and a land area of about 451,000 hectares (GSS, 2014a-f). In Ghana, a district has a minimum population of 75,000 while a metropolis has at least 250,000 (LGS, 2016). For simplicity sake, reference will be made to "*Southwestern Ghana*", "*six coastal districts*" or "*Ghana's PER*" when describing the six jurisdictions.

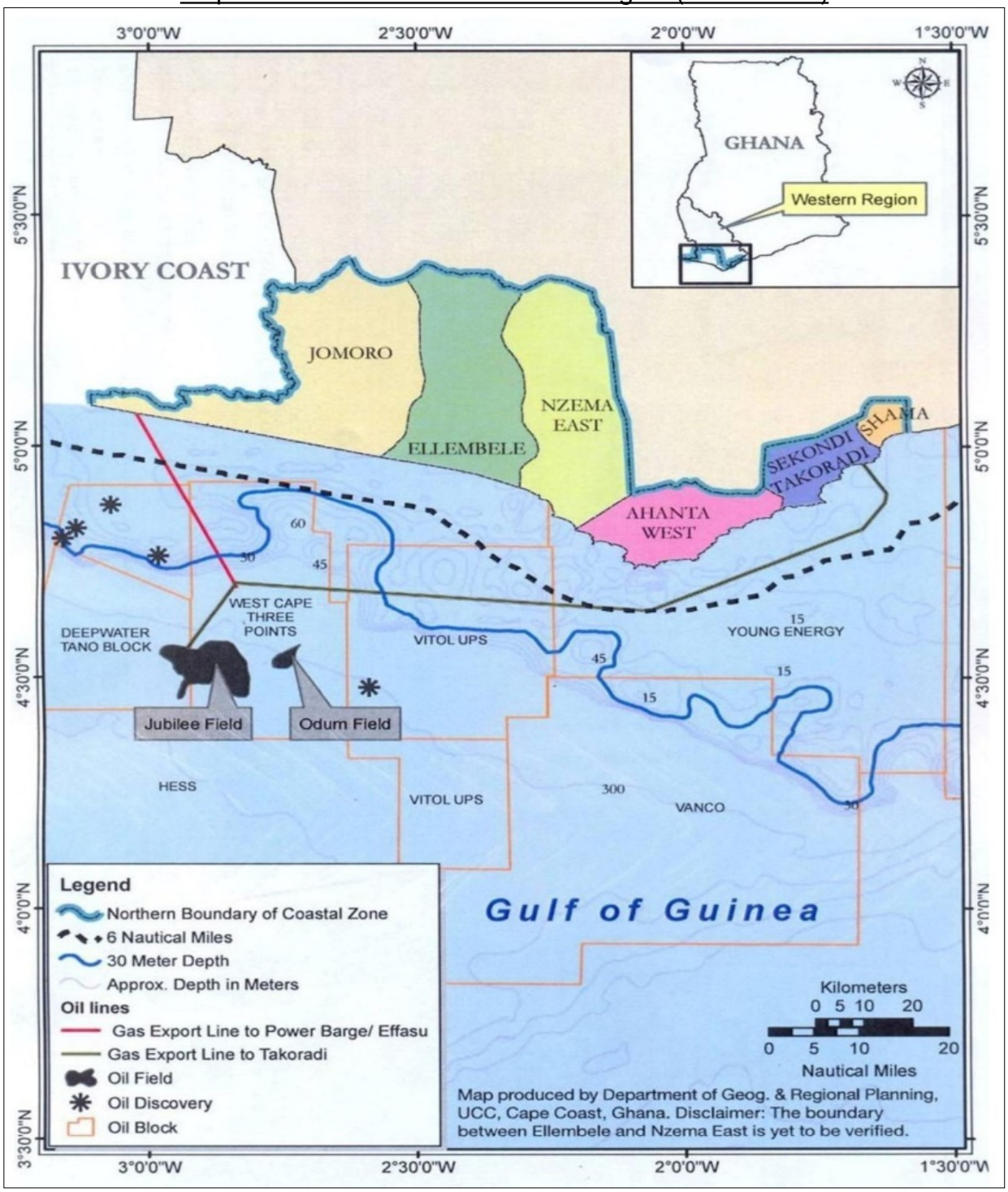
The discovery of oil and gas (OG) resources offshore transformed this region into Ghana's onshore petro-extraction region (PER). The upstream part of the OG production chain (petroleum exploration and extraction) is mostly on sea while the midstream activities (petroleum processing and transportation) as well as downstream processes (gas refining, oil export and corporate activities) are onshore in Southwestern Ghana. In effect, Southwestern Ghana hosts the various midstream and downstream petroleum operations (gas processing, crude oil storage and transportation, administrative offices and facilities) for foreign and domestic OG-service companies. See maps 5.4 and 5.5.

The discovery initially drew in major international OG companies. From 2007 to 2014, forty-one international companies applied for prospecting licenses (Obeng-Odoom, 2014: 52). The operator of the offshore 'Jubilee Oilfield' is Ireland's Tullow Oil Company, currently the biggest independent oil producer in Africa (Schaps & Rukmangadhan, 2017). Tullow is part of the 'Jubilee Partners'. Presently, Tullow is the majority shareholder of the Jubilee oilfields with 35% shares while the other partners include Kosmos Energy Company (24% shares), Anadarko (24%), GNPC (13.6%) and Petro

South-Africa with 2.7% (Panford, 2016: 93). Revenues that accrue to the Ghana central government from the oil production entail royalties, corporate income taxes, surface rents and other service fees (Panford, 2016: 127).

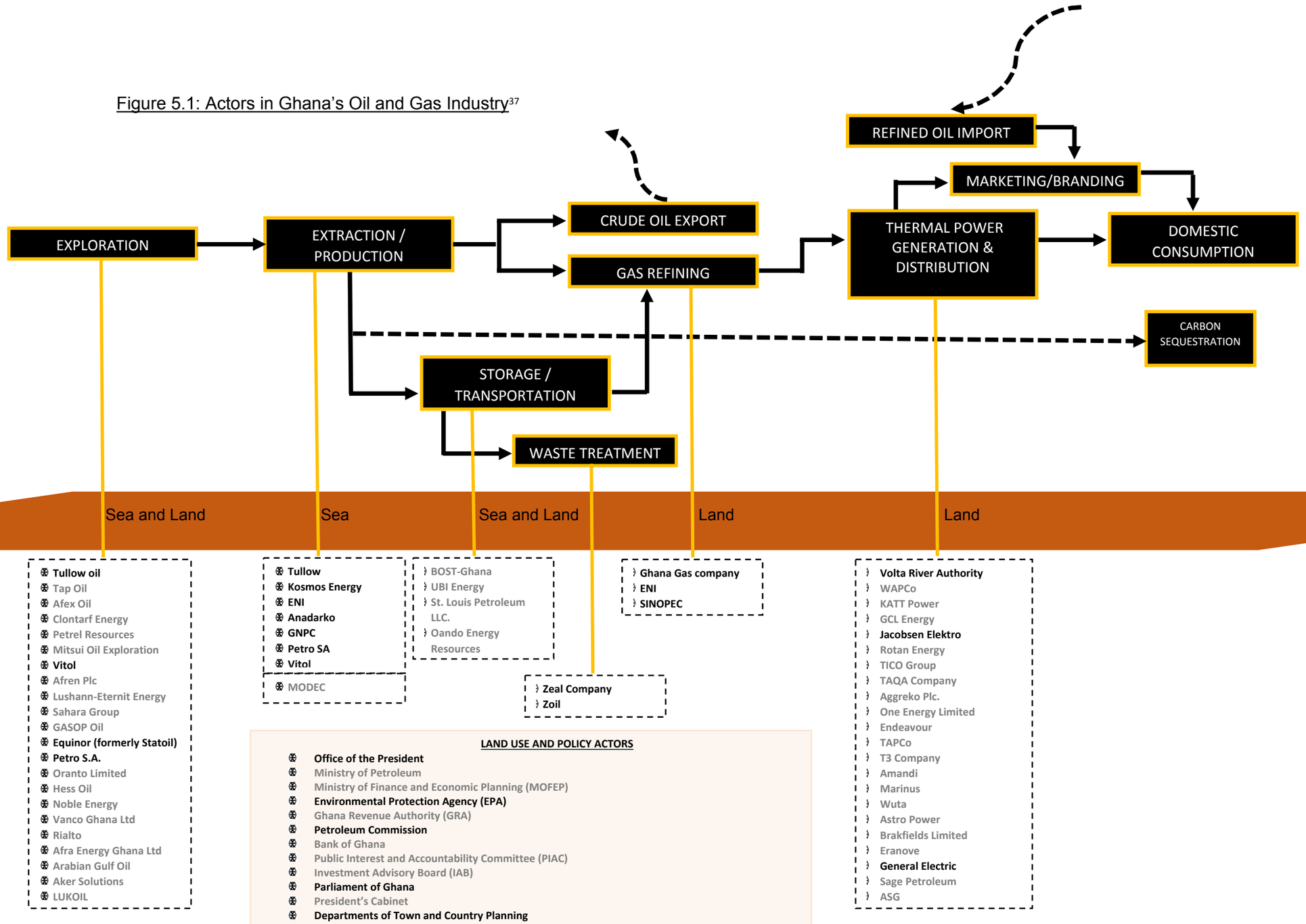
Italian multinational energy company ENI is also the lead operator of the T.E.N offshore oil-fields and its adjoining onshore gas plant in Southwestern Ghana (Phillips et al., 2016: 30-31). ENI has 44.5% shares in the offshore T.E.N fields, with Vitol Ghana Company having 35.5% and GNPC with 20% (ENI, undated). Figure 5.1 shows the various governmental and corporate firms in Ghana's OG production chain, from extraction to power generation and export. Pictures 5.1 to 5.6 also show some of the major OG projects in the six coastal districts of Southwestern Ghana. Over 63,000 hectares of arable lands in Southwestern Ghana have been inserted into the OG production process (Sam & Buckle, 2017: 8; Fiave, 2017: 73; GPHA, 2016). See appendix 3 for details of the major OG projects.

Map 5.5: Ghana's Petro-Extraction Region (Six Districts)



Source: MEST & Jubilee-Partners (2012c: 47).

Figure 5.1: Actors in Ghana's Oil and Gas Industry[37]



Source: Author's Construct (2019). Data from Author's Fieldwork (2017-2019).

NB: The actors in bold are more central to the case study analysis due to the availability of data as well as their increasing activities in Ghana's OG economy.

[37] Note: Figures 5.1 and 6.1 exclude oil and gas service companies as well oil marketing companies, although their spatial input on land is just as significant. The exclusion of the service companies (although characterised by, for instance, internationally known companies such as Halliburton & Schlumberger in Southwestern Ghana) is due to the high-turnover rates of such service companies. Marketing companies were excluded since the focus of the research is not extended to OG consumption.

Picture 5.1: Offices of the OG Companies in Sekondi-Takoradi Metropolis

Source: Author, April 11, 2018.

Picture 5.2: Sanzule Gas Plant (Ellembelle District)

Source: Aklorbortu (2018a), World Bank (2015: 75) *(Actors: World Bank, ENI, VITOL and GNPC) (Size: 96 hectares)*

Picture 5.3: Atuabo Gas Plant (Ellembelle District)

Source: Author, April 11, 2018. *(Actors: Ghana Gas, GNPC, SINOPEC) (Size: 120 hectares)*

Picture 5.4: Pipeline from Atuabo Gas Plant to Aboadze

Source: Arthur (2018), TOGY (2013: 42). *(Actors: Ghana Gas, GNPC, SINOPEC) (Length:111 kilometres)*

Picture 5.5: Halliburton - Multinational Oil Service Company (Ahanta West District)

Source: Author, April 11, 2018. *(Size: 3 hectares)*

Picture 5.6: Expansion of Aboadze Power Plant (Shama District)

Source: Archimedes S.A. (2019), Sam & Buckle (2017: 8). *(Actor: Volta River Authority) (Size: 3.6 hectares)*

The OG economy has become part of the institutional structure of Ghana's PER. Hence, it presents conundrums for subnational land control and spatial planning. In the six districts that make up Southwestern Ghana, District Assemblies are the statutorily mandated local governance authorities for each district. Within each District Assembly is a Spatial Planning Department (and Development Planning Departments) responsible for regulating land use and planning local development. The Environmental Protection Agency (EPA) is also responsible for general waste management and prescribing environmental guidelines in the districts. Land management institutions (such as Lands Commission and the Office for the Administration of Stool Lands / OASL) are responsible for managing public vested lands as well as customary land revenues. In Southwestern Ghana, these institutions oversee OG issues related to industrial factory permits, lease authorisation and environmental regulation.

Non-government organisations have also become involved in the development issues in the PER with the emergence of the oil and gas economy. The notable ones in Southwestern Ghana are Friends of the Nation (FONGhana), Hɛn Mpoano (meaning "Our Coast"), Community Land and Development Foundation (COLANDEF) as well as the Western Region Coastal Foundation (WRCF).

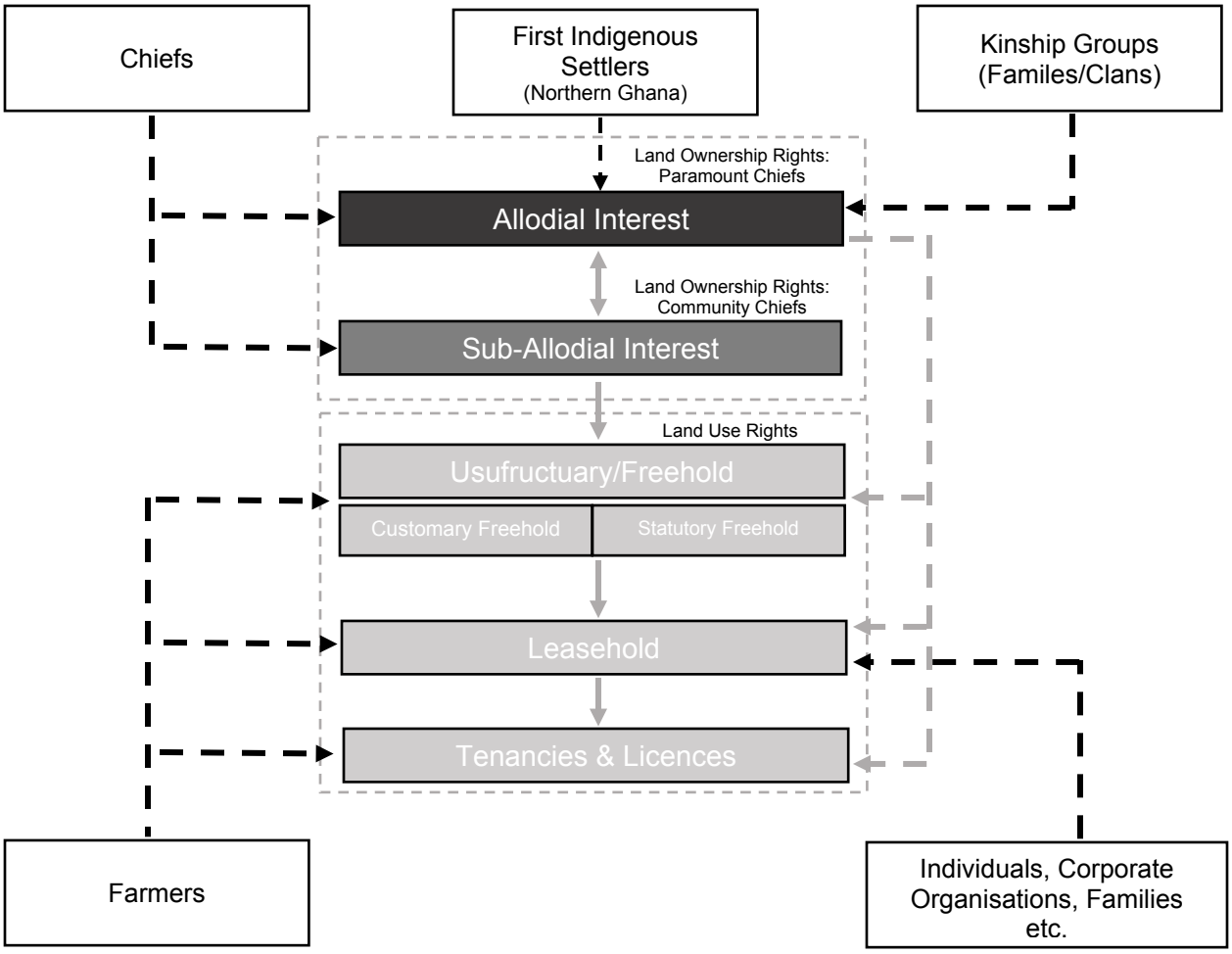
The context of land ownership, acquisition and land-use also needs clarification in order to ground an understanding with respect to Southwestern Ghana. Figure 5.2 shows the delineation of land interests in Ghana.

In Southwestern Ghana, allodial title in lands are held by chiefs and kinship groups (such as families heads). In detail, allodial rights are the highest rights of landownership in

Ghana. Particularly for chiefs they hold such land rights in trust for their communities. Over 80% of Ghana's lands are held under customary land ownership by chiefs and family/kinship groups through allodial and sub-allodial rights (Adu-Gyamfi, 2012; Kasanga, 2003; Kuusaana & Eledi, 2015).

Usufruct/ freehold rights are held by indigenous community members of allodial title holders as well as migrant sharecrop farmers. Usufruct rights entail rights of indefinite land use, alienation, exclusion and benefit. In addition, leasehold and tenancy rights are held by corporate entities, kinship groups, individuals and tenant-farmers. Here, lands can be used for specified periods, based on a valid lease either from customary land owners or from the state (Da Rocha & Lodoh, 1999; Kasanga & Kotey, 2001; Boone, 2013; Kuusaanaa & Eledi, 2015). About 20% of Ghana's lands are under such usufruct and leasehold rights, often vested in the government (Adu-Gyamfi, 2012; Kasanga, 2003). Foreign companies (such as OG companies) cannot own lands in Ghana but can use lands through leasehold rights (usually for 50 years) or form joint venture initiatives with local companies (according to the 1962 Administration of Lands Act; GoG, 1962a). Hence, land owning chiefs and related kinship groups in the six districts are primary actors regarding land ownership.

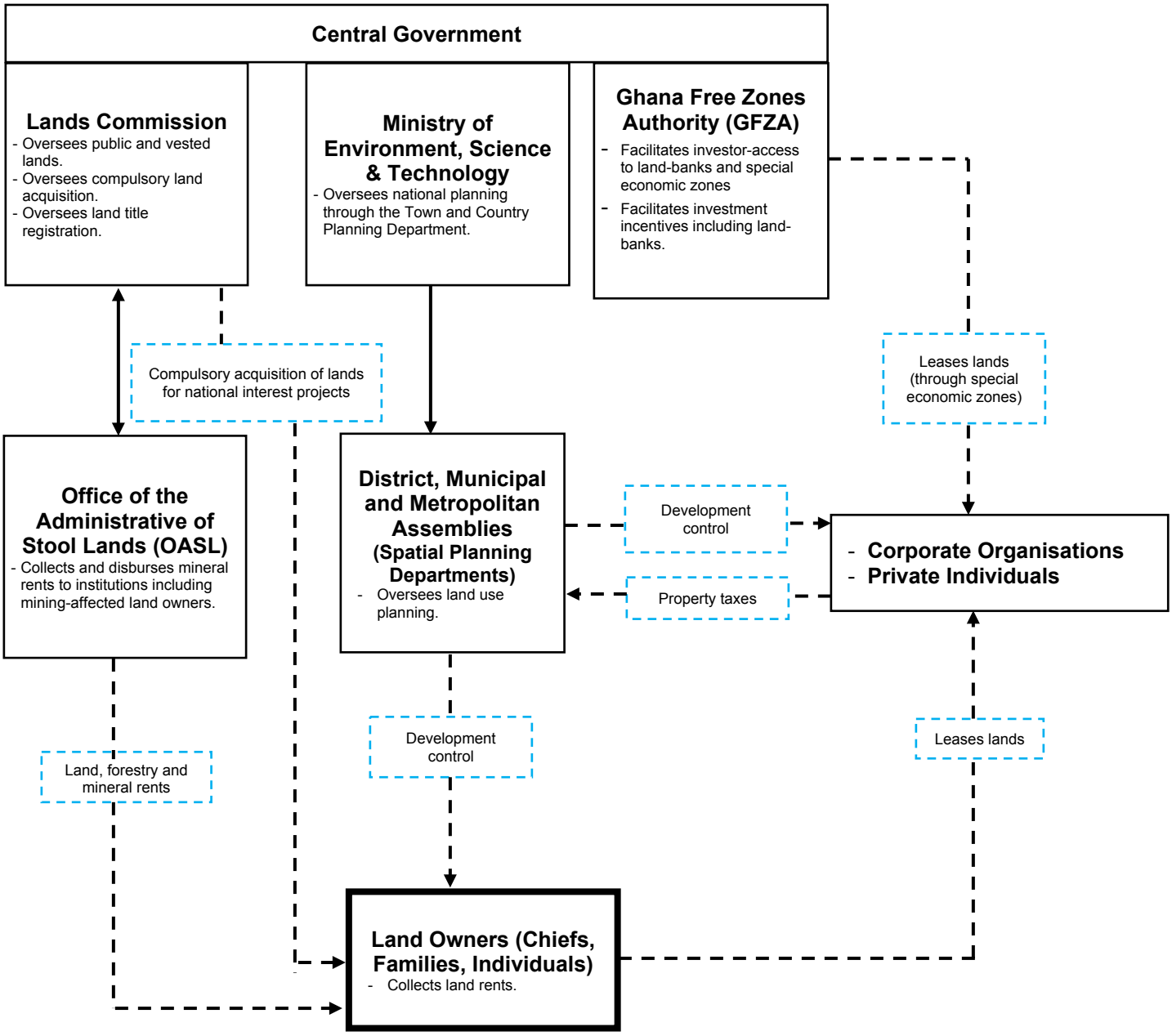
Figure 5.2: Land Tenure Structure in Ghana



Sources: Structure adapted from Kuusaana & Eledi (2015). Other sources include; Da Rocha & Lodoh (1999), Kasanga & Kotey (2001), Boone (2013).

Aside the land ownership structure, figure 5.3 lays out the structure of land use and land transfer as well as the institutional powers (at the central and local government levels) involved in legitimising such use and transfer.

Figure 5.3: Land Use and Transfer Structure in Ghana



Source: Author's Construct (2019), with insight from Da Rocha & Lodoh (1999), Kasanga & Kotey (2001), Boone (2013), Acheampong & Ibrahim (2016), Kuusaana & Eledi (2015).

5.9 Conclusion

In all, this chapter has shown that land control policies, practices and institutional changes have historically accompanied resource-extraction in Ghana, enabling the assembling of land and pursuit of further extraction. Additionally, resource extraction has been at the fulcrum of colonial, dirigiste and neoliberal state institutional policies in Ghana with Southwestern Ghana historically central to these phases of resource extraction, land control policies, land value shifts and institutional changes.

The chapter argues that Ghana's traditional state (chieftaincy institutions) in the colonial area grew powers out of its association with colonial governments, by becoming customary (and arguably) complementary elements of the landed extractivist political order. These relations of chieftaincy powers with land and extractivism still hold today albeit regulated by central and subnational statutory land control policies in terms of spatial planning, surveying, land administration, extraction policy and local governance (Boone & Duku, 2012: 690).

The chapter has also shown the statutory institutional inheritances that has traversed the various phases of Ghana's land and resource policy-scape in terms of land and resource expropriation and most importantly land value. Particularly, the nationalisation of natural resources and the use of compulsory land acquisition laws have been maintained since the colonial era. In addition, the space for non-instrumental value of land has also gradually transitioned into current notions of "*unclaimed*", "*waste*" and "*unoccupied*" land laws in resource extraction regions like Southwestern Ghana.

More importantly, the chapter argues that notions of land value and compensation in the colonial and post-colonial eras have oscillated between market value, replacement value and land-resettlements schemes, with the current 2017 pending land bill emphasising compensation for compulsorily acquired lands to be based on market value of lands (minimum 40% of market value). Obeng-Odoom and Ameyaw (2011) also show that within the current market approach to valuation by land valuers, there are variations applied, such as the market comparison approach, investment approach and residual approach (p. 276-277).

It is within this institutional context that Southwestern Ghana is situated as the country's PER, characterised by the inertia of historical layers of resource extraction amidst an institutional relation characterised by the customary and statutory as well as the national and subnational scales.

As chapter seven will show, the incommensurability of land values becomes heightened with the emergence of the petroleum economy in Southwestern Ghana, drawing implications for land use and institutional practices. Here, land value is re-contested along various lines, with the state's market approach to compensating for compulsory-acquired lands marred by ineffective and inadequate payments.

The next chapter (chapter six) charts a similar course as this chapter, undertaking a historical analysis of Tanzania's land use and mineral extraction as well as its institutional implications with particular emphasis on the current petro-extraction region, Lindi-Mtwara.

CHAPTER SIX

6.0 Resource Extraction and Spatial Policy in Tanzania

Chapter five argued, among others, that the nationalisation of natural resources and the use of compulsory land acquisition laws have been maintained since the colonial era in Ghana, including Southwestern Ghana. It also showed that land value and compensation in colonial and post-colonial Ghana have oscillated between market value, replacement value and land-resettlements schemes. It highlighted the associated institutional relations, pivoted around chieftaincy institutions and kinship groups with allodial land rights overlaid by statutory land control, land governance and mineral extraction policies.

Much like the previous chapter, this chapter similarly sets the historical stage for the empirical analysis of Lindi-Mtwara as a contemporary petro-geography. The chapter recounts the history of various layers of (mineral and agricultural) resource extraction in Tanzania (in the pre/colonial, dirigiste and neoliberal periods) as well as its influence on the governance of land and spatial policy, with special emphasis on the emerging gas resources in Southeastern Tanzania (Lindi and Mtwara region). Tanzania consists of the mainland (formerly known as Tanganyika) together with the Island of Zanzibar. The country is historically endowed with various natural resources, including the only deposits of Tanzanite gemstones in the world. Natural gas is increasingly becoming part of the country's resource pool, influencing the political-economy of its subnational and national level governance systems. Here the chapter shows the highly centralised nature of Tanzania's colonial and post-independence institutional and regulatory structure

compared to Ghana's, and how that influenced notions of land values, land ownership, land occupancy and institutional relations.

6.1 From 19th Century to 1960

Tanzania's history in the pre-colonial era (pre - 1850s) consisted of different tribal communities with chiefs and related kinship groups who had ownership over land and natural resources (Mpogole & Kipene, 2013: 3). Land-use and ownership was thus inscribed along kinship lines (Ngorisa, 2015: 4).

From the 1880s, Tanzania became a colony of Germany and subsequently Britain. During this time, such disparate chieftaincy and kinship groups were consolidated into fewer chiefdoms for colonial administrative convenience. Such consolidated chieftaincy structures performed various roles including local judicial activities (Boone, 2013: 27). In 1895, the German crown (through the *1895 Crown Land Ordinance*) declared possession of lands in the then German East Africa (Haulle, 2015: 72; Mpogole & Kipene, 2013: 3; URT, 1994). German East Africa consisted of present-day mainland Tanzania as well as Burundi and Rwanda (Haulle, 2015: 72; Mpogole & Kipene, 2013: 3; URT, 1994). In detail, the 1895 ordinance appropriated local lands (both occupied and unoccupied) as German crown lands, except for those with proven means of ownership by individuals or kinship groups. See table 6.1. The 1895 land law introduced the notion of exclusive land ownership and centralised land expropriation (Ngorisa, 2015: 5). More importantly, the law also made a distinction between claims of land ownership – to be proven by documentary evidence – and land occupancy to be evidenced by long-term cultivation or land possession (Mpogole & Kipene, 2013: 3-4).

In comparison to Ghana's colonial period where compulsory acquisition policies were introduced through (attempted) land usurpation policies, the 1895 Tanzanian ordinance successfully introduced a policy of centralised land ownership. By centralising the ownership of lands, the ownership of resources and the capture of monopoly value became an inherently centralised part of extraction policy in colonial Tanzania. Here, land's instrumental and non-instrumental value became centralised in the colonial state (O'Neill, 1993). By 1914, over 526,000 hectares of Tanzanian lands had been taken by foreign companies and individuals associated with the German crown (Duncan, 2014: 2). Southern Tanzania, within this period, was side-lined from any form of colonially-instituted infrastructure projects, due to their role in anti-colonial rebellions at the time (Green, 2000: 76). Communities in Southern Tanzania played a significant part in the 1905-1907 Maji Maji rebellion (Green, 2000: 76). This strategy of side-lining Southern Tanzania was initially continued by the British colonialists of Tanganyika from 1916, after German colonial influence waned following WWI.

With the increasing discovery of gold resources in Tanganyika in the 1920s, British colonial authorities also introduced the *1923 Land Ordinance* which continued the policy of centralised landownership, by vesting all of mainland Tanzania's lands under the colonial governor (Shivji, 1998; Lange, 2008: 2; Mpogole & Kipene, 2013: 3-4; Owens, 2014: 39). See table 6.1. Crucially, the 1923 ordinance introduced a new tenure system called "*rights of occupancy*" which made local land-users mere occupants of lands (Duncan, 2014: 2). This right of occupancy was in two forms; a *granted right of occupancy* gave people rights to use lands in urban areas and a *deemed right of occupancy* gave

people rights to use customary lands, usually in rural areas (Mpogole & Kipene, 2013: 3-4; Owens, 2014: 39).

The discovery of gold resources also prompted the introduction of the *1920 Mining Ordinance* (later amended in 1929) which vested such mineral resources in the colonial governor, to discourage a gold rush by non-governmental European settler groups and to allow the colonial government to participate in public-private partnerships in the mining industry (Lange, 2008: 9). Subsequently, in 1952, oil and gas exploration began offshore as well as in mainland Tanzania (FEST, 2015: 12).

Such colonial mining, exploration and agricultural-extraction strategies were therefore weaved around land control policies. In Southern Tanzania (Lindi-Mtwara region), this manifested in the Tanganyika Groundnut Scheme, which was a groundnut plantation initiative implemented from 1947 to 1953. The scheme resulted in the build-up of railways and ports in Lindi and Mtwara. Mtwara's first layout plan was also introduced during this period (Ahearne & Childs, 2018: 7; RAS-Mtwara, 2017: 1). Thus, the spatial footprint of resource extraction was facilitated by land tenure policies, mining legislations, agricultural extraction initiatives and the development of infrastructure in Tanganyiga and Lindi-Mtwara. See Table 6.1. The first nation-wide *Town and Country Planning Ordinance* was also passed in 1956 which centralised town planning and empowered the colonial governor to appoint planning board members (Wood, 1970: 84). As table 6.1 shows, the 1956 plan was aimed at racially segregating urban land occupancy while delineating land-uses for industrial and commercial activities (Wood, 1970: 81). By the end of British colonial rule (1961), about 1.4 million hectares of Tanzania's lands had also been appropriated by foreign interests (Duncan, 2014: 2) .

Table 6.1: Land-Use, Resource Extraction and its Institutional Regulations in Tanzania (1895-1960)[38]

Year	Ordinance	Main Input(s)
1895	Crown Land Ordinance	⊛ To establish German colonial possession of lands in mainland Tanganyika, except those with proven documentation or long-term possession. ⊛ To empower colonial possession of all "*unoccupied lands*". ⊛ To institute notions of exclusive land ownership and land registration.
1920 (Am. 1929)	Mining Ordinance	⊛ To encourage large-scale mining investments. ⊛ To discourage small-scale mining and prevent gold rush by European settler groups.
1923 (Am. 1928)	Land Tenure Ordinance (Cap. 113)	⊛ To vest all lands under the British colonial governor, except those with pre-existing titles. ⊛ To establish a dual land tenure of "*granted*" and "*deemed*" rights of occupancy. ⊛ To establish a lease period of 99 years under colonial rights of occupancy.
1936	Town Development Ordinance (Mainland Tanganyika).	⊛ To authorise the drawing of zoning schemes. ⊛ To designate land use categories for towns.
1954 (Am. 1960, 1962)	Land Registration Act (Cap. 334)	⊛ To establish a land registry and register lands.
1954	Public Lands (Preserved Areas) Ordinance	⊛ To empower the government to declare an area as a preserved area for the purpose of "*public interest*" projects.
1956 (Am. 1961)	Town and Country Planning Ordinance (Mainland Tanganyika)	⊛ To establish zoning laws to racially segregate residential, commercial and industrial uses; i.e. creating zones for Europeans, mixed use/commercial areas, native housing and industrial areas.

Am. = Amended

Land use policies | Mineral mining policies | Institutional policies | Petro-extraction policies

[38] Sources: Debusman & Arnold (1996), Lange (2008), McHenry (1976), Mpogole & Kipene (2013), Ngorisa, (2015), Owens (2014), Shivji (1998), Topfer (2002), URT (2001), Wood (1970), Kauzeni et al. (undated), TIC (1954).

6.2 From 1961 to 1980

Tanzania gained independence in 1961, creating a United Republic consisting of the Mainland and the Islands of Zanzibar, Pemba and Mafia (unification in 1964). After independence, the country – much like other postcolonial and newly independent African countries at the time – embarked on a programme of self-reliance and import substitution to wean itself off the colonial-capitalist governance and economic system. From 1961 to 1986, Tanzania implemented what is arguably the most comprehensive post-colonial socialist programme in Africa. This had implications for land (use), resource extraction and institutional change.

After independence, the then President Julius Nyerere declared that "*land is a free gift from God to all*" (Lange, 2008: 2). Nyerere therefore introduced the Ujamaa (African socialism) concept. As part of the Ujamaa concept, the Tanzanian government set in motion the villagization policy, which entailed village collectivisation schemes where rural populations were resettled – sometimes forcibly – from the late 1960s to 1970s (Bryceson, 2015: 7). The aim of this villagization policy was to move the rural population into government-created communal villages to ensure that the central government would effectively and equitably provide infrastructure, services, to economise lands and to provide farming inputs for village members (Boesen et al., 1977; Ahearne & Childs, 2018: 8). It was also to correct the perceived urban bias of the then capital city – Dar es Salaam – in the colonial era (Sawers, 1989).

Registered Ujamaa villages gained access to lands through District Development Councils. Such villages would then allocate the lands to their constituent households,

each village consisting of 250 households (Lange, 2008: 2). From 1963, Village Councils replaced chieftaincy and kinship landed institutions, and took charge of village land administration (Mpogole & Kipene, 2013: 4). Chieftaincy and related kinship institutions were deemed as unwanted remnants of Tanzania's feudal power structure, especially in relation to land rights (Fimbo, 2004:11; cited in Lange, 2008). As already analysed in chapter five, similar post-colonial chieftaincy 'reform' strategies were attempted in Ghana but with less radical outcomes (Rathbone, 2000).

A key policy mechanism that accompanied the villagization project in Tanzania was the introduction of the *1967 Land Acquisition Act* which nationalised all lands in the country, further codifying colonially-instituted land policies (Shivji, 1998). See table 6.2. This 1967 act also made private land sales illegal (Mpogole & Kipene, 2013: 4; Owens, 2014: 39). The state therefore abolished freehold rights and only acknowledged leasehold rights; in other words, it abolished land ownership but acknowledged land occupancy/tenancy (Haulle, 2015:72). The colonial policy of centralised land ownership was thus transformed into a policy of nationalised land ownership in post-independence Tanzania. Here colonial laws were inherited and furthered to centralise postcolonial state power. The villagization policy thus kept intact the colonial influences of a dual land tenure system between "*granted-rights*" of land occupancy in urban areas vis-a-vis rural "*deemed-rights*" of occupancy (Bryceson, 2015: 7).

The 1967 land acquisition act also allowed the state to transfer village (customary) lands into statutory ownership to facilitate investment activities. However, in case such investment fails, the land does not revert to the village communities (Landlinks, 2016: 7). In this way, the state (through the 1967 act) could acquire lands for extraction and

agricultural development purposes. The *1975 Ujamaa Village Lands Act* officially abolished kinship-related land rights, transferring these rights to elected Village Councils to maintain collective control of land (TANU, 1967; Landlinks, 2016: 5). See table 6.2. The underlying logic of the land nationalisation and villagization policy was to de-value land by removing the possibilities for rent capture and appropriation of surplus value. Value, in the Marxist sense as "*socially alienated labour*" (Harvey, 2018: 55-56,194-195), was decommodified in Tanzania's Ujamaa era through the villagization programme "*to prevent exploitation [and ensure that] everybody works and lives on their own labour*" (TANU, 1967). The abolishing of chieftaincy control over land was thus to release rural citizens from the kinship ties of feudal land relations.

The state also enacted mining laws in 1969 and 1979 giving it control over the granting of prospecting licenses and crucially, to nationalise mineral resources akin to the colonial era (Lange, 2008: 9).

The villagization policy was also central to *Tanzania's Second National Development Plan (1969-1974)* which focused on a rural industrial strategy of developing light industries to foster rural employment (Kent & Mushi, 1995). The development plan also introduced nine growth poles in Tanzania, including in the Southeastern Mtwara region (Sawers, 1989: 845-846).

Table 6.2: Land-Use, Resource Extraction and its Institutional Regulations in Tanzania (1961-1985)[39]

Year	Ordinance	Main Input(s)
1964	The First Five-Year Development Plan (1964 - 1969)	⊛ To improve rural agricultural productivity.
1965	Land Tenure (Village Settlements) Act	⊛ It empowers Village Commissioners to acquire, hold and manage property. ⊛ Village Commissioners oversee the "*deemed-right*" of occupancy embedded in village land tenure.
1967	Arusha Declaration	⊛ To build a socialist state. ⊛ To exercise effective state control over the means of production and collective ownership of resources. ⊛ To establish agriculture as the basis of development.
1967 (Am. 1968)	Land Acquisition Acts 47 & 25	⊛ To nationalise lands in Tanzania. ⊛ To introduce governmental powers of compulsory land acquisition. ⊛ To abolish private land sales (and by extension freehold rights). ⊛ To authorise the indefinite transfer of "village lands" to "general lands" category for investment activities.
1969	Mining Ordinance (Amendment) Bill	⊛ To grant control to the Minister of Mining over prospecting licenses.
1969	The Second Five-Year Development Plan (1970 – 1974)	⊛ To establish nine growth poles, including in Mtwara. ⊛ To establish a basic industrial strategy to develop light industries in rural areas.
1973	Rural Lands Act	⊛ To grant the President powers of rural land expropriation.
1975	Ujamaa Village Lands Act	⊛ To enable the creation and registration of Ujamaa villages (250 households per village). ⊛ To abolish customary, chieftaincy and kinship-based land rights in favour of village land rights (overseen by Village Commissioners and elected Village Councils).
1977 (Am. 1998)	Constitution of Tanzania	⊛ To provide protection against unlawful land-expropriation. ⊛ To guarantee fair and adequate compensation as part of land acquisition.
1979	1979 Mining Act	⊛ To vest all mineral resources in the state.

[39] Sources: TANU (1967), Mpogole & Kipene (2013), Shivji (1998), Owens (2014), Haulle (2015), Landlinks (2016), Lange (2008), Kent & Mushi (1995), Debusman & Arnold (1996), Shivji (1998), Kauzeni et al. (undated), Lee & Dupuy (2016a, 2016b), M&PEPTL (2014), TPDC (1980), Ngowi (2015), REDD desk (1967).

1980 (Am. 2002)	Petroleum (Exploration and Production) Act 27	⊛ To regulate upstream petroleum activities (i.e. exploration and discovery). ⊛ Minister of Energy shall provide regulation on the conservation and prevention of petroleum-generated waste on land. ⊛ Vesting petroleum resources (on land and sea) in the state. ⊛ Land compensation for OG-related disturbances and damages to be based on 'fair and reasonable compensation'. ⊛ Land compensation shall exclude the increased values driven by OG activities. ⊛ Petroleum license holder cannot explore within 50 metres of land prepared for agricultural purposes. ⊛ A user of land earmarked for exploration still has grazing and cultivation rights, provided it does not interfere with exploration.
1982 (Am. 2000)	Local Government Finances Act	⊛ District councils specifically affected by OG operations will receive a service levy of 0.3% per quarter based on gross gas revenue for the year.
1982	Local Government (District Authorities) Act	⊛ This act grants corporate status and perpetual succession rights to Villages Councils.

Land use policies	Mineral mining policies	Institutional policies	Petro-extraction policies

Southern Tanzania became the region where the villagization policy was intensely and successfully implemented. Due to its strategic location as a destination for exiled Mozambican freedom fighters. As a border region with Mozambique, Southern Tanzania (especially Mtwara) was used as an exile destination and infiltration routes for Mozambican freedom fighters in their war against the Portuguese colonial government in Mozambique (Mampilly, 2013). Hence, villagization in Southern Tanzania was extensively implemented as a form of postcolonial solidarity project (Mampilly, 2013). By the 1970s, Mtwara had 38% of the country's Ujamaa villages and 46% of the resettled people, although it only consisted of 5% of Tanzania's population (Mampilly, 2013). Mtwara therefore gained the status as the "*most intensively villagized*" region in Tanzania (Ahearne & Childs, 2018: 8).

This strategic use of Mtwara in the postcolonial struggle took its toll on the region; its meagre infrastructure was severely damaged from attacks by Portuguese forces during the Mozambican independence war (Mampilly, 2013).

Apart from these national and regional (East African) political processes, global processes such as the 1973 oil-crisis also took a significant toll on the prospects of the villagization project with implications for land, extraction and institutional functions in Tanzania and Lindi-Mtwara. Tanzania felt the effects of the global oil crisis especially in 1979 when it dedicated additional transport resources to fend off attacks from another regional neighbour, Uganda (under Ugandan President Idi Amin). This put pressure on Tanzania's transport infrastructure and increased transport costs, thereby impacting food distribution and resulting in a famine (Bryceson, 1990).

In 1974 and 1982, Tanzania's oil exploration activities paid off, with commercially viable discoveries made off the coasts of Lindi and Mtwara. This later triggered the introduction of the *1980 Petroleum Exploration and Production Act* (FEST, 2015: 13). See table 6.2.

Nonetheless, the villagization policy faced major set-backs with debilitating effects on regions like Lindi and Mtwara. The central government increasingly failed to provide decentralised services as part of the Ujamaa concept (Bryceson, 2015: 10-11). Mtwara municipality – with services spread thin as a result of the growth pole master plan – felt the effects of the lack of services (Alexander, 1983; cited in Mabogunje, 1990: 147). The end result was poorly designed villages, long distances between villages and services, forced resettlements, and a general lack of sensitisation and planning (Mampilly, 2013).

In effect however, these socialist policies nationalised private land rights and weakened customary land rights (Mpogole & Kipene, 2013: 4). The Ujamaa policies created a paradoxical form of decentralisation (of services and populations) together with a centralisation of planning powers (Sawers, 1989: 847). For instance, local governments were abolished in 1972 and regional planning powers were vested in the office of the Prime-Minister (Sawers, 1989: 847). By comparison, in Ghana's post-colonial era chieftaincy institutions still remained part of the country's political architecture, maintaining significant controls over land ownership (Rathbone, 2000).

6.3 From 1981 to 2003

Tanzania's recovery from the global oil crisis, like many other African countries, was preceded by declining terms of trade, a fall in natural resource export earnings and food security issues. The Tanzanian government implemented its own economic austerity policies (through the *1981 National Economic Survival Programme*) which involved cost-cutting of agricultural subsidies and the closing down of poorly performing agricultural agencies. This had impacts on the country's key export crops including cashew and tea production in Southern Tanzania (Bryceson, 2015: 3-4).

To further halt this decline, under the new President Ali Mwinyi, Tanzania implemented the World Bank's and IMF's Structural Adjustment Programme (SAP) in 1986, after the Ujamaa policies had become ineffective (Bryceson, 2015: 4). The SAP programme in Tanzania involved the provision of loans attached with economic and institutional reform conditionalities by the IMF/World Bank.

Tanzania's liberalisation-era reform policies diffused into their land and natural resource sectors. The government passed the country's first *National Land Policy in 1995* which towed the line of neoliberal land use policy with colonial-era influences (Kamata & Haulle, 2012). See table 6.3. The liberalised 1995 land policy went against policy recommendations from the *1994 Presidential Report on Land Matters* which identified problems such as non-transparent and insecure land tenure systems, centralised control over land ownership, and overlapping institutional structures in land administration. The 1994 report recommended that radical/allodial land title be detached from the presidency and vested in Village Councils, the Lands Commission and the National Parliament. (Sundet, 2006: 8-9; URT, 1994; cited in Haulle, 2015: 72). These recommendations aimed at addressing the weaknesses of the 1960s-1970s Ujamaa era policies which were highly centralised and exploitative. As shown in section 6.2, Tanzanian land and natural resource policy in the 1960s-1970s was an extension of the colonial structures, with the President holding radical title. The *1995 National Land Policy* however did not utilise these recommendations, with centralised land governance serving as an access-point for land-investments and resource extraction. See table 6.3.

In contrast to the Ujamaa era land policies that emphasised a non-commodified value of land in the 1967 Land Acquisition Act, the *1995 National Land Policy* established that land has "*scarcity value*" (FAO, 1997: 16; REDD Desk, 1967). Additionally, land compensations and transfers were to be based on the market value and opportunity cost of land (FAO, 1997). Two complementary pieces of legislation were also introduced; the *1999 Land Act No. 4* and the *1999 Village Land Act No. 5* (Landlinks, 2016: 2). The Land Act No. 4, in keeping with the centralisation of land control, re-affirmed the radical land

rights (freehold rights) to the presidency. Rights over land ownership were thus retained in central government institutions through this Land Act No. 4 (Landlinks, 2016: 12).

For the general public, land rights became synonymous with land-occupation, tenancy or leasehold rights (Maganga et al., 2016: 4). The Land Acts of 1999 *(Nos. 4 & 5)* classified land into three categories; Village land, Reserved land and General land. Village land entails lands that are registered, earmarked and designated by relevant Village Councils or those occupied by the village for over 12 years. Village lands are therefore managed through the *1999 Village Lands Act (No. 5)* which grants deemed rights of occupancy to the 12,000 villages in Tanzania (Maganga et al., 2016: 4). It is estimated that village lands make up about 70% of the country's land area (German et al., 2011: 15; Landlinks, 2016 13). This includes Lindi-Mtwara which is largely rural. On average, 79% of Lindi-Mtwara can be considered rural (TDP, 2019a, 2019b).

Reserved land as a second category includes land for national parks, protected flora and fauna, public utilities and other statutorily protected lands (making up 28% of the country's lands).[40] General land, making up 2% of the country's lands, entails all other remaining lands, especially urban and non-village areas that are not earmarked as reserved land. General and reserved lands are managed by the state and administered through statutory granted rights of occupancy (URT, 1999, 2002; Landlinks, 2016; Owens, 2014: 23).

[40] Other sources quote 40% for reserved lands (Maganga et al., 2016: 6; Benjaminsen & Bryceson, 2012: 336). This suggests a possible transfer of 'village lands' into 'reserved land' status.

Table 6.3: Land-Use, Resource Extraction and its Institutional Regulations in Tanzania (1981-2003)[41]

Year	Ordinance	Main Input(s)
1981	National Economic Survival Programme (NESP)	⊛ To establish cost-cutting measures in the agricultural sector. ⊛ To close down poorly-performing agricultural agencies.
1994	Presidential Report on Land Matters	⊛ Recommended the retraction of radical land title from the presidency. ⊛ Recommended the vesting of radical land title in Villages Councils, the Lands Commission and Parliament.
1995 & 1997 (2nd ed.)	National Land Policy	⊛ It established that land has "*scarcity value*". ⊛ Land compensation to be based on opportunity cost entailing market value of property, disturbance allowance, transport allowance, loss of profits, cost of acquisition and other development costs. ⊛ To maintain radical land title in the presidency. ⊛ Commissioner of lands in charge of statutory land administration. ⊛ It recognises a dual system of tenure between statutory (granted rights) and customary (deemed rights) of occupancy. ⊛ Statutory occupancy limited to 99 years, customary occupancy has no term limits. ⊛ To ensure the most productive use of land. ⊛ To enforce registration of lands.
1997	Tanzania Investment Act	⊛ To establish the Tanzania Investment Centre (TIC). ⊛ TIC to facilitate local and foreign investments. ⊛ TIC to facilitate land acquisitions (leasehold rights) for investors. ⊛ TIC allows foreign investors to hold lands through joint ventures.
1997	Mineral Policy	⊛ To develop small and large-scale mining.
1997	National Environmental Policy	⊛ To ensure sustainable, secure and equitable resource use. ⊛ To prevent degradation of land, water and air pollution.
1998	Guidelines for Participatory Village Land Use Management	⊛ It guides rural land use management and planning.
1998	Mining Act	⊛ It grants power to the minerals commissioner to issue prospecting licences to miners. ⊛ It grants mineral licenses for "*vacant lands*" (whether village lands or reserved lands).
1999 (Am. 2004)	Land Act No. 4 (Cap. 113)	⊛ Classified lands into Village lands, Reserved lands and General lands. ⊛ To guide the administration of General and Reserved lands. ⊛ To issue certificates of occupancy for general lands. ⊛ It barred outright land ownership by foreign entities.

[41] Sources: FEST (2015), Bryceson (1990, 2015), Owens (2014), Landlinks (2016), Lange (2008), M&PEPTL (2014), Duncan (2014), Sundet (2006), URT (1994, 1997, 2001, 2013), Haulle (2015), Mpogole & Kipene (2013), REDD Desk (1997), Ecolex (1999), Maganga et al. (2016), FAO (1997, 1999), MLHHSD (1998).

1999	Village Land Act No 5 (Cap. 114)	⊛ Classified lands into Village lands, Reserved lands and General lands. ⊛ Village lands could be held by individuals in perpetuity through the issuance of "*Certificates of Customary Rights of Occupancy*" (CCROs). ⊛ It recognises customary ("*deemed*") land rights to be of equal status to statutory ("*granted*") land rights.
2000 & 2006	Local Government Acts	⊛ It establishes the roles of local government agencies.
2000	National Human Settlements Development Policy	⊛ It outlines policy for developing urban and rural settlements including housing, land delivery and utilities.
2002	The Land Acquisition Act (Cap. 118)	⊛ To maintain governmental powers of compulsory land acquisition. ⊛ No compensation shall be paid on vacant lands. ⊛ Land compensation will be limited to inexhaustible land improvements.
2002	Land Disputes Act	⊛ To set up local land tribunals and courts.
2002	Companies Act	⊛ It authorises incorporated-companies to hold land.
2003	National Energy Policy	⊛ To regulate the upstream petroleum industry.

Land use policies	Mineral mining policies	Institutional policies	Petro-extraction policies

In theory the *1999 Village Land Act No. 5* gives rural/customary land rights equal weighting to statutory urban land rights (Landlinks, 2016: 11). However, specific discrepancies in the *1999 Land Act No. 4* are deemed to encourage expropriation of rural lands. For instance, the category of general lands also includes unoccupied or unused lands (Landlinks, 2016: 6; Mpogole & Kipene, 2013: 6; Ngorisa, 2015: 8). This has been criticised as a way to siphon village lands into the category of general lands, since by law the state is in charge of the latter and the Village Councils the former (German et al., 2011: 15; Owens, 2014: 50). Tanzania Investment Centre (TIC) is in charge of such land transfer, by facilitating land acquisitions for investors (Mpogole & Kipene, 2013: 6). See table 6.3.

.

Secondly, the Land Act No. 4 gives the state arbitrary powers to forcibly acquire lands for public purpose projects, including resource extraction, agricultural projects and public works (Landlinks, 2016: 20; URT, 1994a, 1994b). As will be shown in chapter 8, current land contestations in Lindi-Mtwara over OG production encompass forcible land acquisition issues and inadequate compensations for pipeline projects, among others (Must, 2018).

Although the 1999 Land Act No.4 barred outright land ownership by foreign entities, the 1999 Village Land Act No. 5 was amended in 2004 to recognise "*individual rights to village land in perpetuity*" through the issuance of 'Certificates of Customary Rights of Occupancy' (CCROs). This goes against pre-existing arrangements where leases were granted for limited terms of 33, 66 or 99 year-terms (Maganga et al., 2016: 4). In connection with this, the *2002 Companies Act* stipulated that incorporated-companies have the power to hold land in Tanzania, which also undermines the Land Act No. 4; an act that limits land-use to only leasehold rights (Landlinks, 2016: 11). And since only a small percentage of village land has been registered, it is argued that investors mostly target village lands where it is possible to collude with corrupt Village Councils to gain access to CCROs (Bryceson, 2015: 5-7; Mpogole & Kipene, 2013: 8). According to Kironde (2009: 7) a meagre 2% of rural lands in Tanzania have titles or have been earmarked for titling. In urban areas, it is 20%.

The introduction of the CCRO and associated loopholes for investor land holdings have been criticised as a form of "*dispossession through formalisation*" (Maganga et al., 2016). In service to the "*scarcity value*" imposed on land, the central state is able to expropriate

what it deems as unused lands or public-project lands, facilitated by the tenancy status of all land-occupants in the country.

The nationalised structure of lands in Tanzania therefore grants the state immense powers to facilitate land and resource extraction investments. The Tanzanian state in the neoliberal era is not only a reflection of capital-labour relations,[42] but by law the only actor who can exercise the rule of property;[43] a remnant of the colonial and Ujamaa era land-centralisation laws. The state could therefore create a direct and predictable link between nationalised ownership and privatised occupation, investment and extraction. By contrast, Ghana's neoliberal era is characterised by a deregulated central state facilitating investment by merely providing an enabling environment. In Tanzania, the land ownership structure laid the foundation for mining policies, enabled by a "*gradual transition to a legal framework that supports private property rights*" (Roe, 2017: 3). For example, the *1998 Mining Act* in Tanzania uses the notion of "vacant lands", whereby any land deemed vacant – whether village lands or reserved lands – could be granted licenses for mining (Lange, 2008: 9-12). There are instances where mineral rights are granted to extraction companies in already-occupied communities and in unused lands that are under village land designation (Bryceson, 2015: 10-11; Lange, 2008: 4). Regarding the emerging gas economy, section 8.3 will shed light on the case of communities in the Kilwa district (Lindi Region) whose calls for compensations have been denied due to the presumptions that their lands are vacant (Shanghvi, 2014: 61).

[42] Marx (1906, [1859]1973), Harvey (1985) and Harvey (2018).
[43] Mkandawire (2009), Rajagopal (2008).

This liberalised land investment and mining sector enabled by a centralised land ownership structure led to an increase in foreign direct investment particularly in gold mining. By 2005, 50% of Tanzania's export revenue was derived from gold mining - largely driven by international companies - as compared to 1% two decades ago (Bryceson, 2015: 6). In 2008, Tanzania was the third biggest gold producer worldwide, even though the country only accrued $30 million in royalties (Lange, 2008; Lange & Kinyondo, 2016: 1097).

In this sense, Tanzania's period of neoliberal structural adjustment resulted in a decentralised land-occupation structure, contrasted with a centralised land ownership and formalisation structure (Fairley, 2012). Non-titled and village lands became susceptible to expropriation for mineral and agricultural extraction without adequate compensation. Village lands users were also indiscriminately alienated by statutory laws of compulsory land acquisition, appropriation of vacant lands and the irreversible transfer of village lands for investment purposes. It is within this institutional structure that natural gas production began in Lindi-Mtwara in 2004.

6.4 From 2004 and Beyond: Natural Gas Discovery in Tanzania

Tanzania first explored for gas resources in 1952, with major companies like Royal Dutch Shell and BP finding non-commercial quantities. After further explorations in 1974, commercial quantities of gas were found in Songo Songo Island in Lindi Region by AGIP (now a subsidiary of ENI), containing onshore and offshore reserves (FEST, 2015: 226; Lee & Dupuy, 2016b: 8). Subsequent commercial quantities of gas were discovered in 1982 at Mnazi Bay (Mtwara region). Both discoveries in Songo Songo and Mnazi Bay contained reserves of 2213 bcf (FEST, 148-149; Tanzania-Invest, 2018: 2; Poncian, 2019: 80). The first *Petroleum Exploration and Production Act* was therefore introduced in 1980 to regulate the upstream exploration activities (Lee & Dupuy, 2016b: 8).

In 2004, commercial production at Songo Songo gas fields started. Here, the processed natural gas from Songo Songo is transported to Dar-es-Salaam via pipelines that pass through lands in various districts and villages in Lindi and Mtwara. See the green line in map 6.1. Gas production at Mnazi Bay fields also began in 2007, with the gas repurposed for local use at Mtwara gas plant (M&PEPTL, 2014: 4). See the Mnazi Bay gas plant on the bottom-left of map 6.1.

The boom in petroleum production from 2004 thus led to the enactment of Tanzania's second petroleum act – the *2008 Petroleum Act* – to regulate midstream and downstream activities (Lee & Dupuy, 2016b: 8). See table 6.4.

Since 2010 however, further offshore gas discoveries were made in the existing offshore fields in Lindi-Mtwara as well as in other part of Tanzania. Apart from the additional reserves found in Lindi-Mtwara (Songo Songo and Mnazi Bay), there are also new gas

fields in Msimbati (Mtwara), Kiliwani North (Lindi), Pwani, Mkuranga and Ntorya in other parts of Tanzania (OGJ, 2016; FEST,2015: 148-149; Shanghvi, 2014: 2). These new reserves are estimated to be 20 times larger than the ones found in 1974 and 1982 (Roe, 2017: 3). Compared to the initial reserves of 2213 bcf, the new reserves are estimated to be 57 tcf (FEST, 148-149; Tanzania-Invest, 2018: 2; Poncian, 2019: 80).

Map 6.1: Old Natural Gas Pipeline (Green) and Newly-Extended Gas Pipeline (Red) from Lindi-Mtwara to Dar-es-Salaam.

Source: Oxfam (2017: 5)

Most of the new reserves are yet to undergo full-scale production and a significant portion are earmarked for future exports to Japan and China (Fjeldstad & Johnsøn, 2017: 44; Must, 2018: 88; Scurfield & Manley, 2017: 6). Estimated full scale production is expected to start in 2023-2026 (Lee & Dupuy, 2016b: 10). However, since 2015, the initial production of the new (post-2010) gas reserves are transported via pipelines from Lindi-Mtwara to Dar-es-salaam. With the construction of a new 542km gas pipeline, the additional reserves at Mnazi Bay and Songo Songo are transported to power plants in Dar-es-Salaam (FEST, 2015: 147-149, 226; Fjeldstad & Johnsøn, 2017: 53; Tanzania-Invest, 2018: 3-4). The red line in map 6.1 shows the extended gas pipeline.

Table 6.4: Land-Use, Resource Extraction and its Institutional Regulations in Tanzania (2004-2017)

Year	Ordinance	Main Input(s)
2004	Environmental Management Act (EMA) No. 20	⊛ It requires all potentially dangerous development projects to undergo Environmental Impact Assessment (EIA).
2005	The Environmental Impact Assessment and Audit Regulations (G.N. 349)	⊛ To provide procedures for undertaking EIA.
2005 (Am. 2013).	Strategic Plan for the Implementation of the Land Laws (SPILL)	⊛ To facilitate cadastral surveys in urban areas (general lands) and rural areas (village lands). ⊛ To facilitate use of Certificates of Customary Rights of Occupation (CCROs) in villages. ⊛ To establish Village Land Councils and Land Courts.
2007	Land Use Planning Act (Cap. 355)	⊛ To establish procedures for preparing land use plans in urban and rural areas.
2007	Urban Planning Act	⊛ To grant consent for new developments and control land use in urban areas. ⊛ It includes resource management plans.
2008	Model Petroleum Sharing Agreement (PSA)	⊛ To outline petroleum rents to be received by the central government. ⊛ Rent includes 7.5% royalty, 60-85% share of gas sales profit, 30% income tax, 10% dividend withholding tax, 10% interest withholding tax and other additional profit taxes.[44]
2008	Oil Spill Contingency Plan	⊛ To establish strategies to mitigate oil spills.
2010	Mining Act	⊛ To vest minerals (on land, sea or in exclusive economic zones) in the state. ⊛ To compensate (based on market value) for land damages or disturbances of crops, trees and buildings. ⊛ Royalties to be paid to the government.
2011	Five Year Development Plan (2011-2016)	⊛ To unleash Tanzania's resource potentials and ensure growth. ⊛ To focus on opportunity-based planning using Tanzania's resource potentials. ⊛ To enhance the role of the private sector in development.
2013	Model Petroleum Sharing Agreement (PSA)	⊛ To guide petroleum contracts between the state, TPDC and petroleum companies. ⊛ It retains many provisions of the 2008 PSA including the rent structure.
2013 (Am. 2015)	National Natural Gas Policy	⊛ To effectively manage downstream gas activities, including facilities for natural gas processing, liquefaction, transportation, storage and distribution. ⊛ To improve and mandate corporate social responsibility (CSR) in PERs. ⊛ To manage public expectations linked to the gas industry.
2013	TIC Declaration	⊛ It sets land acquisition ceilings for foreign investors; up to 10,000 hectares for sugar production, 5,000 hectares for rice production.
2014	National Petroleum Policy	⊛ To ensure efficient production and use of petroleum resources. ⊛ To maximise economic rents locally while ensuring commensurate profits for investors.

[44] Since the government and gas companies have not disclosed the full terms of the upstream petroleum sharing agreements, these are estimated by Scurfield & Manley (2017: 14-16).

2015	National Energy Policy	⊛ To develop downstream petroleum infrastructure and ensure the supply of petroleum for energy use.
2015	Petroleum Act	⊛ Policy for midstream petroleum activities (e.g. petroleum transportation). ⊛ To vest petroleum operation rights in the national oil company (Tanzania Petroleum Development Corporation / TPDC). ⊛ To establish the Petroleum Upstream Regulatory Authority (PURA) and the Energy and Water Utilities Regulatory Authority (EWURA). ⊛ To hold OG companies liable for pollution damage. ⊛ To mandate OG companies to prepare yearly CSR plans. ⊛ To facilitate local technology transfer through clearly defined training programmes.
2015	Oil and Gas Revenues Management Act	⊛ To mandate Tanzania Revenue Authority and TPDC to collect, allocate and manage upstream and midstream petroleum revenues and royalties. ⊛ To authorise District Councils in petro-extraction regions to receive revenues from OG rents (i.e. a service levy of 0.3% per quarter based on gross gas revenue for the year).
2015	Tanzania Extractive Industries (Transparency and Accountability) Act	⊛ To provide criteria for transparent OG revenue management.
2016	Five Year Development Plan (2016-2021)	⊛ To create a semi-industrialised nation by 2025 through energy security, among others. ⊛ To foster Tanzania's export capacities. ⊛ To improve the role of local actors in planning. ⊛ To build over fifty factories in Tanzania's PER.
2017	Natural Wealth and Resources Contracts (Review and Re-negotiation of Unconscionable Terms) Act	⊛ It grants the state the power to review and re-negotiate unconscionable contracts.
2017	Natural Wealth and Resources (Permanent Sovereignty) Act	⊛ It grants Parliament the power to approve agreements between investors and the state. ⊛ It abolishes the export of raw natural resources. ⊛ It prevents international arbitration in dispute settlements between Tanzanians and foreign investors.
2017	Written Laws (Miscellaneous Amendments) Act	⊛ Vesting minerals (on land, sea or in exclusive economic zones) in the state. ⊛ It grants government power to renegotiate for higher royalties. ⊛ Legal disputes over mining compensations shall be settled in the affected local regions.

Sources[45]

Land use policies	Mineral mining policies	Institutional policies	Petro-extraction policies

[45] Sources: Owens (2014), Bryceson (2015), FEST (2015), Landlinks (2016), Lee & Dupuy (2016a, 2016b), Kamat (2017), M&PEPTL (2014), Ecolex (2004), Scurfield & Manley (2017), Wangwe et al. (2017), TPDC (2014), GoT (2007), Tanzlii (2017b, 2017c), FAO (2007, 2010), TEITI (2015a, 2015b, 2015c), MOFP (2016), URT (2011, 2013b, 2013c), Kiishweko (2012), AOGR (2015), Tanzlii (2017).

Another *Petroleum Act* was enacted in 2015 to grant "*supervisory and policy-making*" powers to the central government through the Minister of Energy and Mineral Resources. The 2015 act maintained the government's power to grant mining licenses to OG companies (Lee & Dupuy, 2016a: 2). The *2015 Oil and Gas Revenues Management Act* also empowered District Councils whose lands are affected by gas pipelines and power plants to receive service levies as part of local compensations. Since all gas extraction rents in the *2008 Model Petroleum Agreement* went to the central government (see table 6.4), the service levies became the local version of such rents. The service levies were complemented by policies requiring mandatory CSR plans from OG companies (*2013 Natural Gas Policy*).

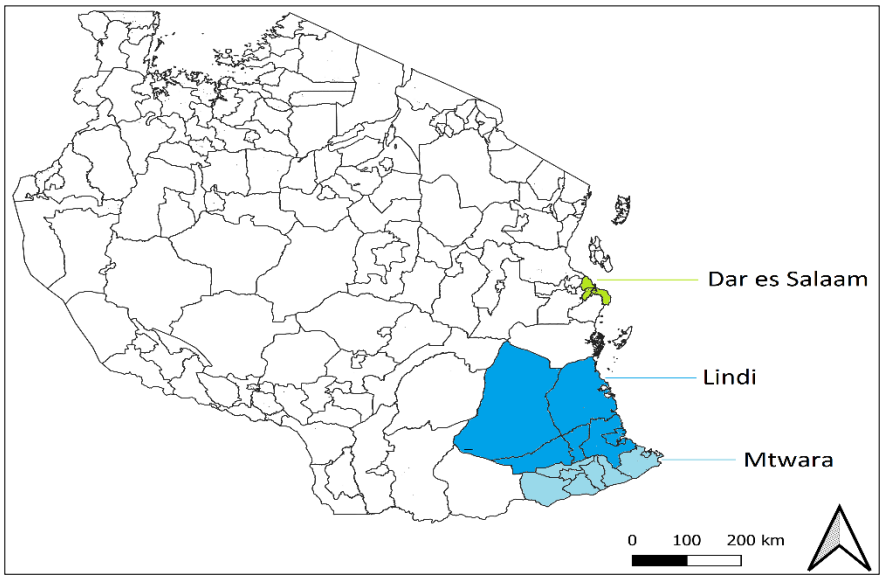
As will be explained in section 8.1, contestations and violent eruptions emerged over the carting of the new (post 2010) gas reserves from Lindi-Mtwara to Dar-es-Salaam with underlying issues of compensation payments and ineffective CSR activities playing a part. These value-struggles do not only manifest between central governments and local communities. Tanzania's 2017 resource extraction policies have sought to make OG companies more accountable to the central government under the current President John Magafuli (section 8.3). To this end, in June 2017, three new policies were introduced in quick succession by the central government under the new President. These three laws centred on making extraction companies more accountable to government. The policies are (i) the *Natural Wealth and Resources Contracts (Review and Re-negotiation of Unconscionable Terms) Act*, (ii) the *Natural Wealth and Resources (Permanent Sovereignty) Act* and (iii) the *Written Laws (Miscellaneous Amendments) Act*. See table

6.4 and section 8.3. Lindi-Mtwara therefore became the locale where these value-struggles and institutional changes surrounding petro-extraction are contested.

6.5 Lindi-Mtwara as Petro-Extraction Regions (PER)

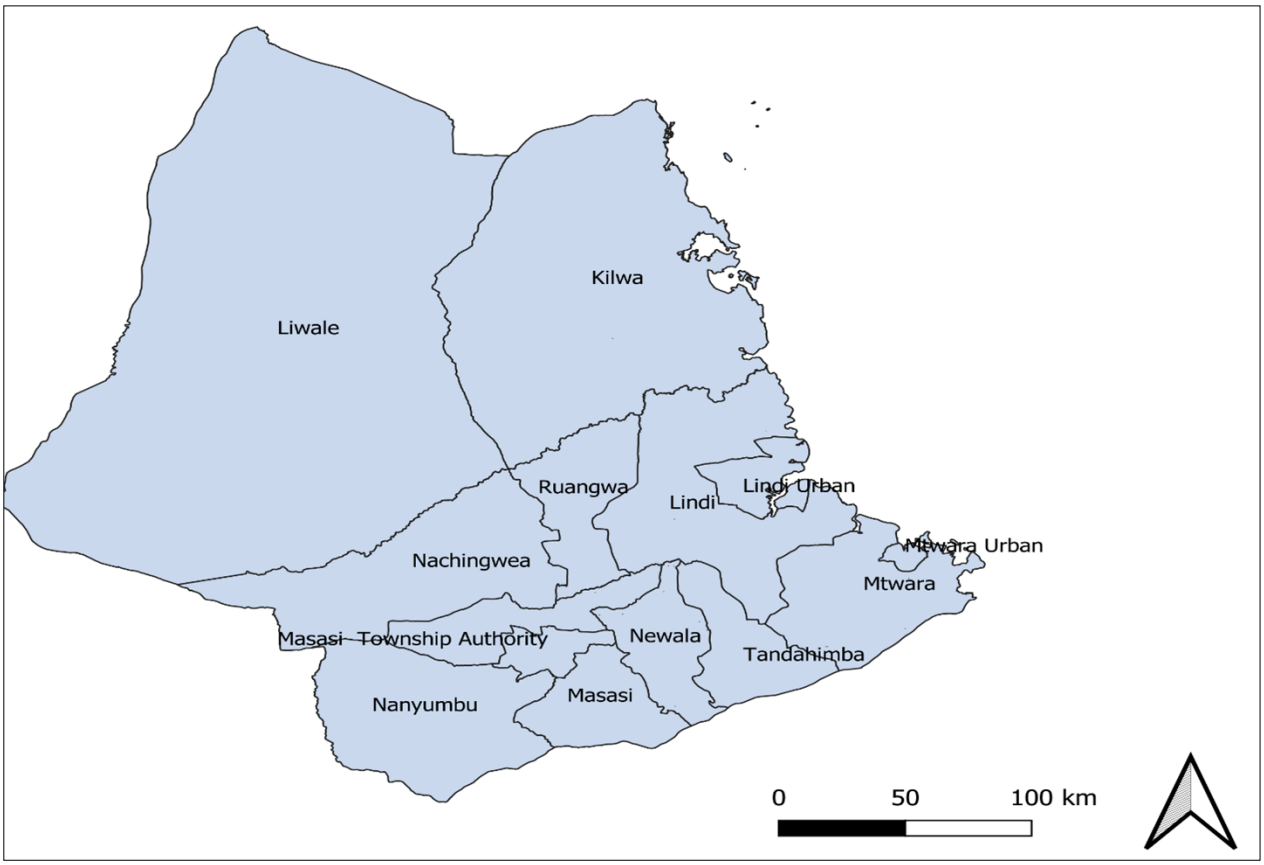
Lindi-Mtwara are two regions located in Southeastern Tanzania, off the coast of the Indian ocean. These regions have been central to Tanzania's natural gas production activities since 2004. The two regions have a population of 2.1 million, making up 5.5% of the country (URT, 2016a, 2016b). They are largely agricultural, with about 81% of their workforce engaged in farming (NBS, 2014: 113, 115). Lindi-Mtwara has about 8.2 million hectares of land constituting 8% of Tanzania's land territory (TDP, 2019a, 2019b). On average about 17% of such lands are used for farming (TDP, 2019a, 2019b; RAS-Mtwara, 2015: 7-8). There are two urban municipalities and ten rural districts in the two regions (URT, 2016a: 16; 2016b: 14). By the political structure of Tanzania, regions are divided into (urban) municipalities and (rural) districts. In Tanzania, municipalities have populations of more than 100,000 and at least 30% non-agricultural employment while districts have a minimum population of 30,000 (GoT, 2007). The two municipalities in Lindi-Mtwara are called Lindi and Mtwara municipalities. Additionally, the ten districts are Kilwa, Nachingwea, Liwale, Ruangwa, Lindi district, Masasi, Nanyumbu, Newala, Tandahimba and Mtwara-Mikindani district. The districts are further divided into divisions, wards and villages. For the sake of simplicity, the ten districts and two municipalities will be referred to as "*Lindi-Mtwara*". Reference will be made to specific localities where necessary. See maps 6.2 and 6.3.

Map 6.2: Map of Tanzania



Source: Author's Construct (2019). Data from World-Bank (2019).

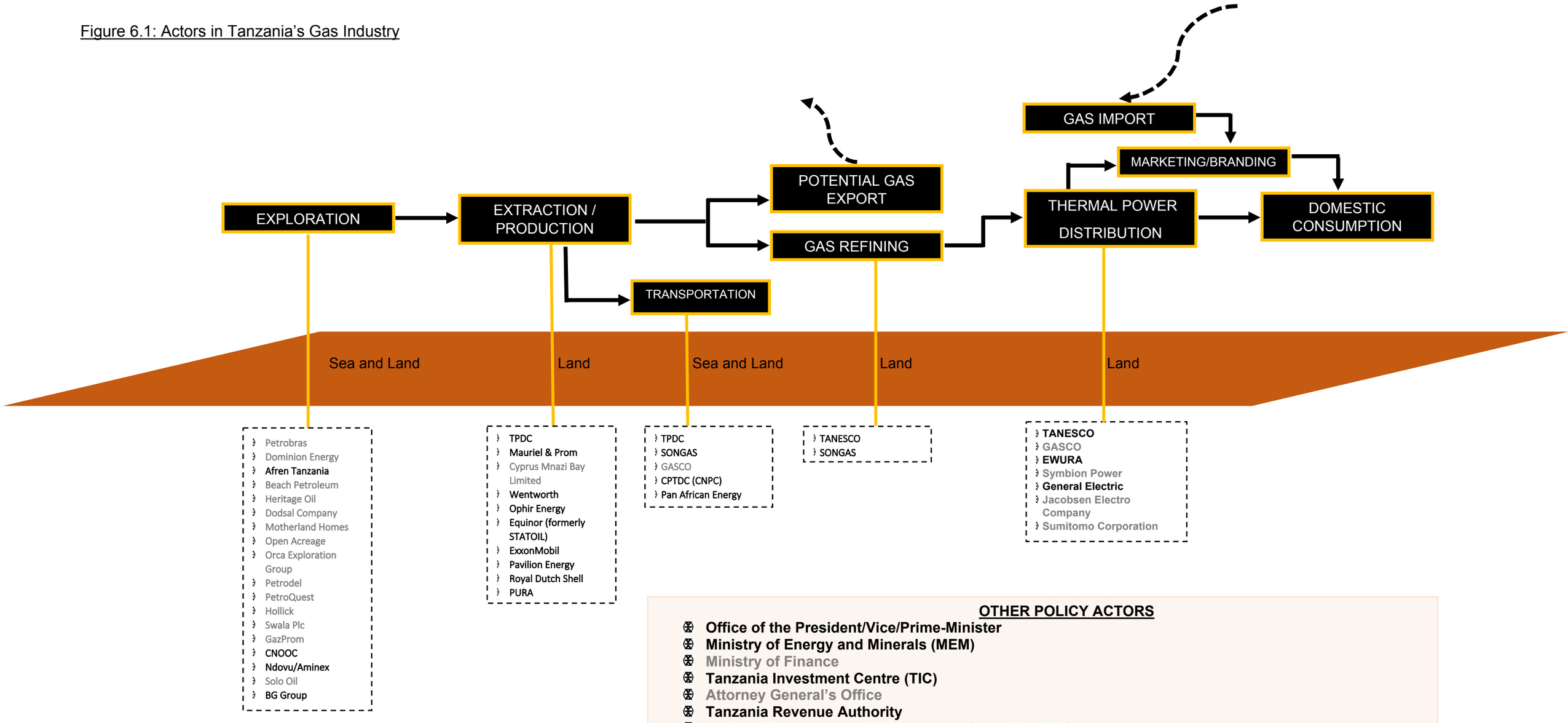
Map 6.3: Tanzania's Petro-Extraction Region (Two Municipalities and Ten Districts)



Source: Author's Construct (2019). Data from World-Bank (2019).

The production of natural gas since 2004 and the discovery of more reserves since 2010 resulted in the construction of ancillary OG infrastructure. Aside the existing power stations in Lindi-Mtwara (Songo Songo and Mnazi Bay) and the 542km pipeline, new thermal power stations dot the landscape of the two regions. Figure 6.1 shows the various governmental and corporate firms in Tanzania's gas production chain. Currently there are over forty gas companies in the entire production chain in Lindi-Mtwara. Pictures 6.1 to 6.3 also show some of the major planned and completed gas projects in Lindi-Mtwara (Also see appendix 3 for details of the major OG projects).

Figure 6.1: Actors in Tanzania's Gas Industry



Source: Author's Construct (2019). Data from (FEST, 2015).

NB: The actors in bold are more central to the case study analysis due to the availability of data as well as their increasing activities in Tanzania's gas economy.

OTHER POLICY ACTORS

- **Office of the President/Vice/Prime-Minister**
- **Ministry of Energy and Minerals (MEM)**
- **Ministry of Finance**
- **Tanzania Investment Centre (TIC)**
- **Attorney General's Office**
- **Tanzania Revenue Authority**
- **National Environmental Management Council (NEMC)**
- **Regional, District, Ward and Village Authorities**
- **Ministry of Labour and Employment**
- **Ministry of Lands, Housing and Human Settlement Development (MLHHSD)**
- **Planning Commission**
- **State Mining Corporation (STAMICO)**
- **Ministry of Home Affairs**
- **Mining Commissioner**
- **Tanzania Mineral Audit Agency**
- **National Economic Empowerment Council (NEEC)**
- **Tanzania Mineral Audit Agency**
- **Vocational Education and Training Authority (VETA)**

Picture 6.1: Songo Songo Power Plant in Lindi

Source: SONGAS (2018). *(Size: 1 hectare) (Actors: Pan-African Energy, SONGAS Energy Company)*

Picture 6.2: Madimba Power Plant in Mtwara

Zacharia (2017). *(Size: 150 hectares) (Actors: TANESCO, TPDC)*

Picture 6.3: Planned Expansion of Somanga Fungu Power Plant

Aminex unofficial (2017a, 2017b), Mbogo (2018) *(Size undetermined) (Actors: TANESCO, Trade & Development Bank/TDB)*

Tanzania Petroleum Development Corporation (TPDC) is the national oil company and a majority shareholder in the 542km pipeline, which was constructed by China Petroleum and Technology Development Company (CPTDC) (Kamat, 2017: 313; Lee & Dupuy, 2016b: 11; Scurfield & Manley, 2017: 6-7; FEST, 2015: 164; Isaksen et al., 2017: 46). Tanzania Electric Supply Company (TANESCO) is also responsible for distributing the gas to domestic households.

At the national level of the gas production institutional framework is the Central government's cabinet, the Oil & Gas bureau as well as the National Treasury; these agencies are in charge of the general policy direction and the gas rent management

(Melyoki, 2016: 5).[46] Below them are the Ministry of Energy and Minerals (MEM), the Oil and gas commissioner as well as the sectoral ministries, all tasked with policy making and monitoring. Under the MEM is the Petroleum Upstream Regulatory Authority (PURA) mandated with upstream activities, the Energy and Water Utilities Regulatory Authority (EWURA) for mid and downstream actvities as well as the Tanzania Petroleum Development Corporation (TPDC) performing policy formulation and implementation roles at the central and subnational levels (Melyoki, 2016: 5; Ovadia, 2017: 2). The gas production also requires the services of the Ministry of Lands, Housing, and Human Settlements Development (MLHHSD) tasked with approving urban land allocations and land registration activities (Roe, 2017: 7; Cotula et al., 2009: 66). It also approves land allocations regarding village lands over 250 hectares (Bryceson, 2015: 7; Mpogole & Kipene, 2013: 7). See figures 6.1 and 6.2.

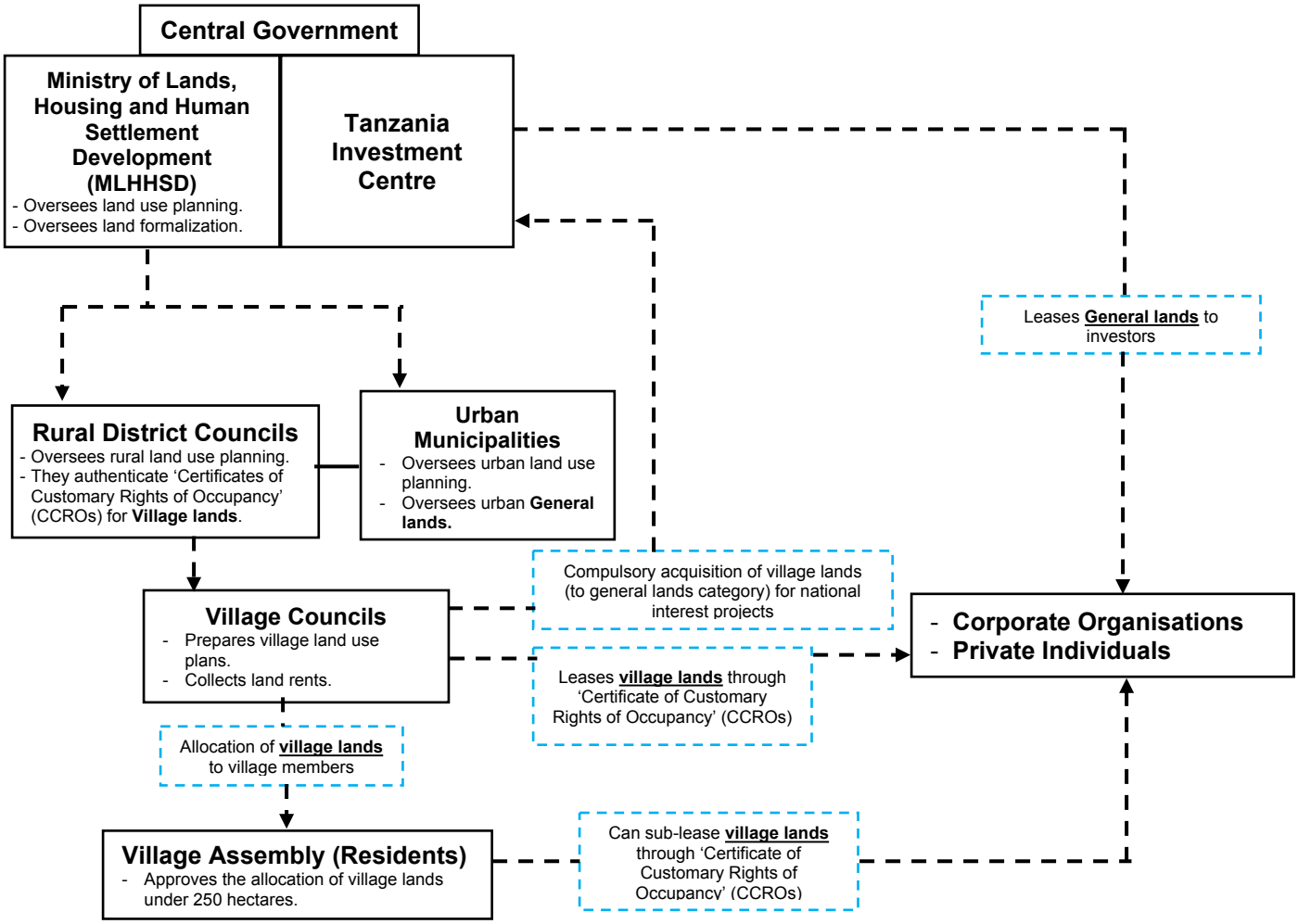
Aside the assembly of national actors and OG firms involved in the production process, various subnational governmental institutions, local planners and community actors in Lindi-Mtwara are also primary actors in the frontlines of the gas extraction process. The acquisition of lands for pipelines, power plants and other complementary industries requires the activities of these subnational institutions. Figure 6.2 shows the roles of these actors, especially regarding land use and investment. In detail, district and municipal council planners at the twelve councils (and their constituent Ward Development Committees) are integral to the formulation of plans, managing local development funds and the general environmental regulation in Lindi-Mtwara (Roe, 2017: 7). The Ministry of

[46] The Tanzanian Parliament in theory has overall power of oversight and monitoring, but the discretionary powers of the President as well as the Ministry of Energy and Minerals limit this power (Lee & Dupuy, 2016a: 3-4).

Environment (and the National Environmental Management Council) are also responsible for environmental impact assessments. District land officers are in also charge of registering rights of land occupancy in Lindi-Mtwara (Landlinks, 2016: 12). For village lands, the roles of Village Councils become pertinent. Village Councils are 15 to 25 member councils in each village (with a mandatory minimum of 25% seats for women). The Village Councils are elected by every adult over 18 in that village (CLGF, 2017). Village land transfers must be agreed by the Village Council as a first step, before being passed on to Ward Development Committees and subsequently to District Councils (CLGF, 2017: 240). Additionally, Village Councils may charge annual rent for land, especially those not compulsory acquired for national projects (Landlinks, 2016: 12). Since the Village Councils are accountable to the Village Associations, these villages (in theory) become integral parts of the management of their lands in the gas production process (Roe, 2017: 7; Cotula et al., 2009: 66).

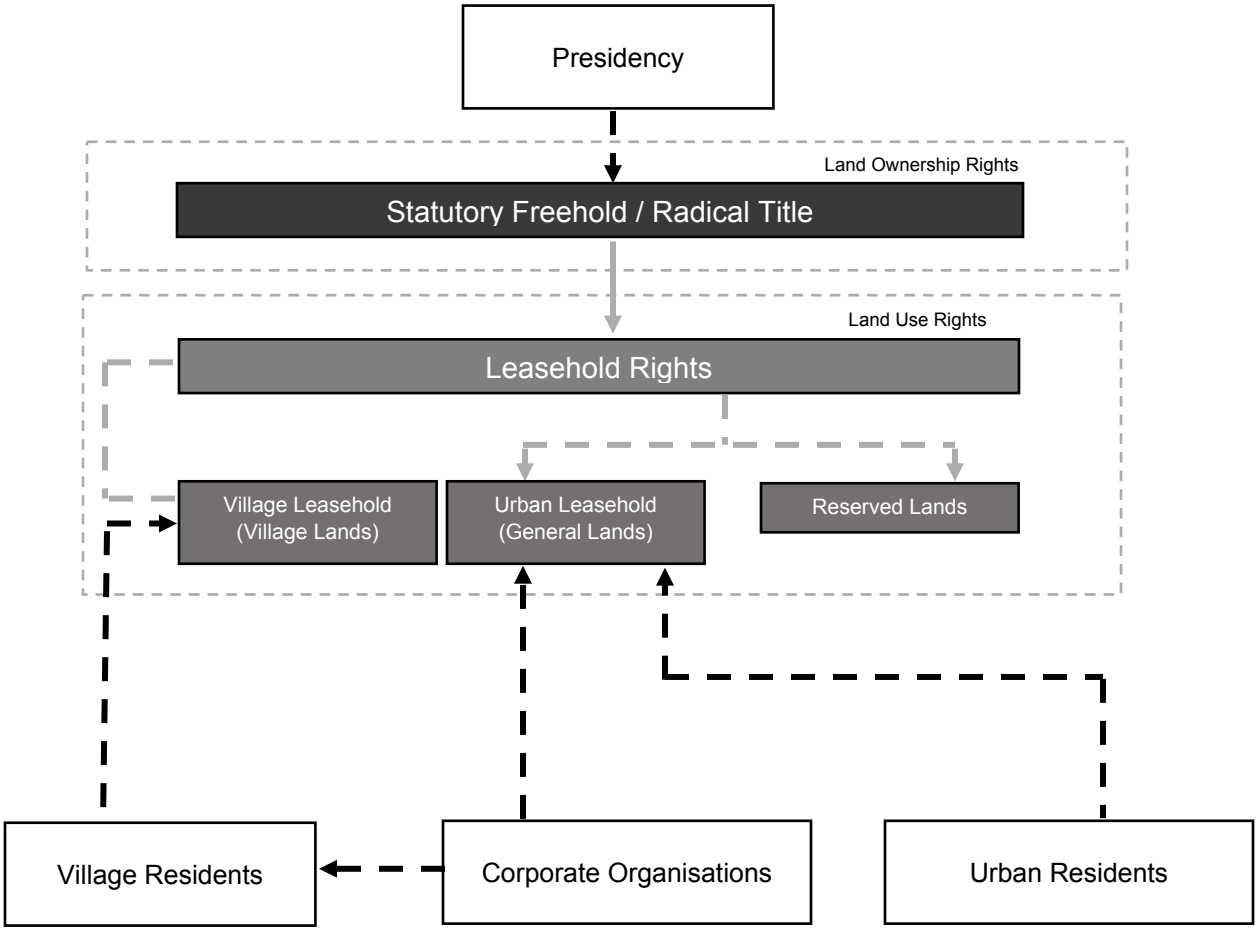
Figure 6.3 also recaps Tanzania's current land tenure structure. As already mentioned, the highest form of land rights (i.e. radical title) in Tanzania is entrusted in the presidency. By this, all lands in the country are vested in the presidency. Hence, land rights (for individuals, Village Associations, corporate entities) are limited to rights of occupation/leasehold. Lands in Tanzania are divided into general (mostly urban) lands, village lands and reserved lands. General and reserved lands are managed by the state; administered through statutory (deemed) rights of occupancy while Village Associations operate under granted customary rights of occupancy (Shivji, 1998; URT, 1999, 2002; Landlinks, 2016).

Figure 6.2: Land Transfer Structure in Tanzania



Source: Author's Construct (2019), with insights from MLHHSD (1998), Shanghvi (2014), CLGF (2017), Owens (2014), Landlinks (2016).

Figure 6.3: Land Tenure Structure in Tanzania



Source: Author's Construct (2019), with insights from Shivji (1998), CLGF (2017), Cotula et al. (2009), Landlinks (2016). Diagram structure adapted from Kuusaana & Eledi (2015).

6.6 Conclusion

The historical evolution of land control policies, practices and institutional change in Tanzania has converged and diverged with Ghana's in several dimensions.

Regarding land use policies, this chapter argues that the colonial usurpation of land in Tanzania was more radical than that of Ghana's, evidenced by the former's rapid shift from kinship-based systems to colonial expropriation and the subsequent vesting of lands

in the colonial state to gain control over mineral resources. In addition, unlike Ghana, Tanzania created a dual land tenure system between statutory and customary land occupation laws within the colonial and dirigiste regime, with nationalisation of landownership a key aspect of this bifurcation.

Regarding mineral extraction, the chapter argues that in Tanzania, the dual power structure in the land tenure system (between statutory and customary land occupation) was replicated within the postcolonial socialist regime. In effect while land ownership in Ghana is entrusted within chieftaincy and kinship-lines, Tanzania is characterised by a centralised land and mineral ownership structure mitigated by a (policy) of decentralised rural land occupancy rights (see figure 6.3). Even within the limited local occupancy rights, subnational authority over land is undermined by compulsory acquisition, irreversible transfer of lands, CCRO laws and the expropriation of "*vacant*" village lands to facilitate further land centralisation, foreign investment and mineral extraction. Within these historical extractivist processes, Lindi-Mtwara region has been considered a key regional geo-strategic location than an extractivist one, unlike Southwestern Ghana which has historically been at the centre of Ghana's extractivist history.

Regarding institutional change, the chapter argues that Tanzania's institutional structure is historically highly centralised compared to Ghana's, providing differences in institutional relations through which land use and mineral extraction policies evolve. As highlighted in chapter four (section 4.3), national-subnational institutional relations in Lindi-Mtwara reflect a form of "*administrative occupation*" with the Lindi-Mtwara region, with local elites having a "*weak-ally*" relationship with the central state while in Southwestern Ghana it is

characterised by the central state "*usurpation*" of local chieftaincy power, creating a "*weak-rival*" relationship (Boone, 2003: 29-38).

What has been the implication of these institutional inheritances for the conception of land value? This chapter argues that the colonial emphasis on usurping non-occupied lands laid the groundwork for conceiving land along instrumental lines in Tanzania. In the post-colonial era, the Ujamaa policies and the abolishing of land ownership de-commodified land value while the neoliberal era saw the emergence of scarcity value, opportunity costs and market values as metrics for compensation and land transfer.

Here, the question arises as to how the emerging nationalised petro-economy and its localisation in the PERs rework the notion of value and institutional change The two chapters (five and six) have shown the historical evolution of policies and institutional practices on land use and mineral extraction setting the stage for value struggles within the petroleum economy as the latest layer of extraction. Hence, chapters seven and eight will serve as the main analysis chapters, by discussing the specific land-valuation languages, framings, policies and practices used in Southwestern Ghana and Lindi-Mtwara as well as their attendant institutional changes.

CHAPTER SEVEN

7.0 Land Values(s) in Ghana's PER

The next two chapters focus on the empirical analysis of the petro-geographies beginning with the current focus on Southwestern Ghana. The historical evolution of land and mineral policies as well as their associated institutional relations in Ghana (chapter five) showed the inheritance of certain policies on land use, land value, mineral expropriation, compensation and institutional powers, to name a few. It also showed that institutional relations are centred around allodial land rights (by chieftaincy institutions and kinship groups) overlaid by statutory land control, land governance and mineral extraction policies. This historical institutional mould becomes the background against which the current PER (Southwestern Ghana) is analysed.

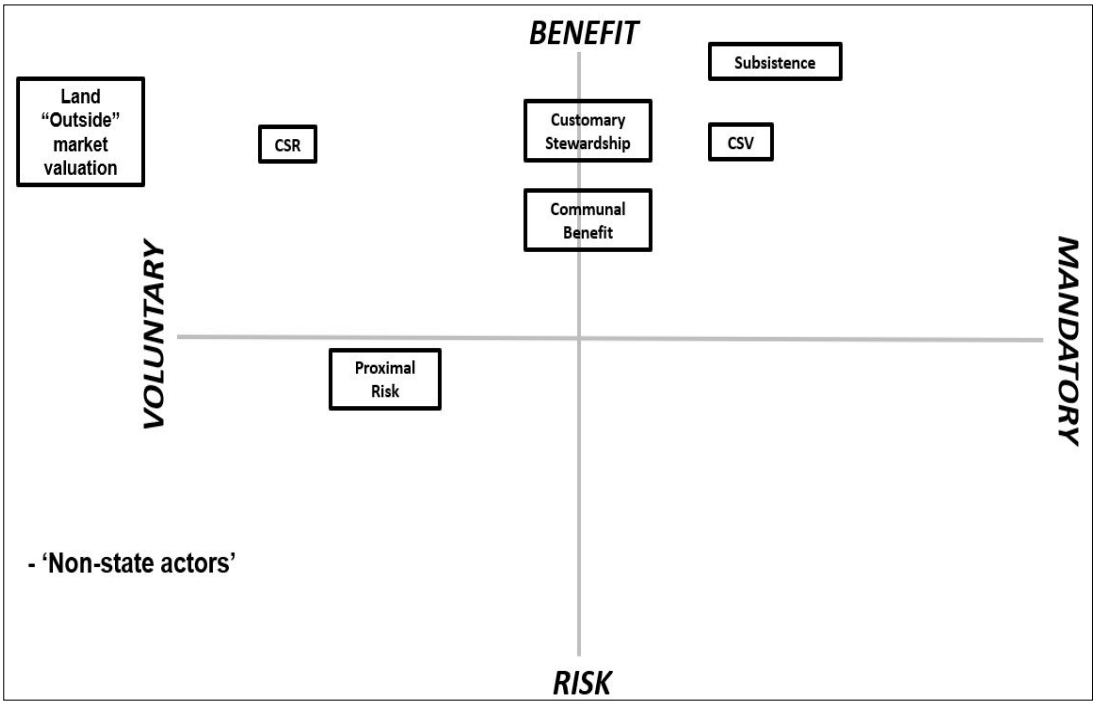
Petroleum production has become the latest layer of resource extractivism in Ghana, thus activating notions and contestation of value between different land actors in the Southwest. These notions and contestations of value are situated within the historical context of land, value and institutional practices (as argued in the previous chapters). However, this chapter argues that the emergence of petroleum production has not only re-activated pre-existing notions of value and institutional practices but has also created new ones. Here I am tempted to remind the reader of Tania Li's ethnography of Sulawesi highlanders of Indonesia and their different definitions for land (Li, 2014a), and re-introduce a scenario where new economic activities and actors potentially present conflicting implications regarding these existing definitions.

In this light, this chapter of the research analyses the notions of land value by state and non-state actors in Ghana's Southwestern region, with the emergence of the OG economy. As already mentioned, interviews were conducted with state and non-state actors (see details in the methodology chapter and appendix 1). Together with longitudinal data, historical policy archives and secondary research, these served as the data sources for Southwestern Ghana's case study analysis. Section 7.1 analyses land value from the perspective of non-state actors while section 7.2 focuses on state actors.

7.1 Opening Up: A Variety of "Values" of Land in Ghana's OG Production

For non-state actors, their conceptions of land value in the petroleum production process fall into four categories: 1) Customary Stewardship, 2) Communal Benefits, 3) Proximal Risk and 4) Land "Outside" Market Valuation. Communal benefit is further divided into: i) Community Shareholder Value (CSV), ii) Corporate Social Responsibility (CSR), and iii) Subsistence Value. Figure 7.1 maps these local notions of land value in the OG economy, showing communities' emphasis on landed livelihood benefits, protection from OG environmental risks, the necessity of strengthening customary land tenure and the possibilities for non-commodified lands. Each language of land value by non-state actors is subsequently expounded upon.

Figure 7.1: Languages of Land Value in Ghana's PER (Non-State Actors)



Source: Author's Construct (2019).

7.1.1 Customary Stewardship

Customary Stewardship is a language of land value used by chiefs to reassert land authority and relations of dependence[47] *against other rival kinship groups. The value of land as a customary property is emphasised here against the increasing land-pressures triggered by the OG economy.*

Chiefs in the six coastal districts derive their power and legitimacy from descent and "*by their near monopoly of material or spiritual means of coercion*" (Rathbone, 2000: 45). They are allodial titleholders, in trust of lands for their respective communities (Kasanga & Kotey, 2001: 13). As described by one chief;

"*Every paramount chief wants to establish their supremacy and overlord-ship over land; because if land is not part of your chieftaincy, how is that possible?*" (Interview, Upper Dixcove Paramount Chief, 2018).

[47] Boone (2013).

In areas where the allodial title is vested in entire communities, landholding families and kinship groups also lay claim to land through their familial lineage (Kasanga & Kotey, 2001: 13; GoG, 1962a). In communities whose lands have been 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).

With the emergence of OG production activities, there is a struggle to further individualise customary lands (Interview, OASL, 2018). The emergence of OG production has therefore reinvigorated long-standing disputes, especially when petroleum companies intend to purchase lands. As the community chief of Apremdo reveals;

"*…there are some companies who bought the lands not from the chiefs, so there are already transactions between families and the companies. So, the chiefs wouldn't see or hear the goings-on of that. When you complain they would say that it is a family land, and so you the chiefs are not allowed to interfere. Meanwhile we the chiefs are the custodians of the land*" (Interview, Apremdo Community Chief, 2018; translated from Twi language).

Such contestations over customary-stewardship of lands in the emerging OG economy have also revived struggles over pre-existing agricultural sharecropping arrangements between landowners and farm-labourers. In Southern Ghana, such sharecropping arrangements are referred to as "*Abunu*" and "*Abusa*". Abunu denotes arrangements where the landowner and the farmer equally share the yield from the land; with abusa, the farmer receives two-thirds while the landowner gets one-third.

Historically in Ghana's PER, chiefs have been active investors in the existing mineral extraction and especially plantation farming economies, through their access to land (Kasanga & Kotey, 2001: 15). This often involved sharecropping arrangements where

untapped community forests (entrusted to chiefs) were contracted to farm labourers. Such lands oftentimes never reverted to the chiefs/communities (Kasanga & Kotey, 2001: 15). Over time, such arrangements move from de-facto verbal agreements to de-jure ownership systems sealed in documentary evidence where farm-labourers assert ownership (sometimes) with documentary evidence over the land (Interview, Upper Dixcove Paramount Chief, 2018). Here is an excerpt from the chief of Beahu describing such historical land contestations;

"*Here, the lands are supposed to be stool [chieftaincy] lands, but then the lineage discontinued from the community's original royal family like myself. At a point, the community-heads gave the chieftaincy title to an outsider, who disregarded the grabbing of chieftaincy lands by some people who claim it is family lands. But upon close inspection, no family is supposed to totally own such stool lands just because they were allowed to farm on them for subsistence. If the chiefs want such lands for development projects for the community, such families are not supposed to have the power to block it*" (Interview, Beahu Community Chief, 2018; translated from Twi language).

Thus, the emergence of the OG production process has re-invigorated these long-standing historical crop-sharing land disputes (also see Boone & Duku, 2012: 679). The disputes descend not only into a struggle over ownership and usage but also over land-rents;

"*The chief has to be the one to sell the land and after that is done, the families are compensated with the proceeds of the sales*" (Interview, Egyambra Paramount Chief, 2018; translated from Twi language).

These internal struggles go both ways. In other instances, families and lower ranked community chiefs aim to prevent elite capture of land rent by higher-ranked (paramount) chiefs. This form of contestation is centred around the "*trickling down*" of revenues from land sales, hence potentially "*decentralising rent-seeking*" behaviour

(Schoneveld, 2017: 129). Such pre-existing land struggles have been exacerbated after the OG discovery.

This is also driven by pre-existing monetisation of land transactions which have progressively concentrated control of the economic benefits flowing from land in the hands of traditional chiefs (Rathbone, 2000; Ubink & Amanor, 2008). Although the direct sale of land is prohibited by the constitution of Ghana, the lease of land has increasingly given way to direct sales (Ubink & Amanor, 2008: 43).

The language of "*customary stewardship*" shows an oscillation between reference to land as chieftaincy property and as communal property entrusted to such chiefs. Chiefs deem lands as evidence of their customary power and the emergence of the OG economy has reinforced this. Comments like "*the land belongs to the stool"* and suggestions for "*OG companies to provide some funding on a regular basis to we the chiefs in these coastal communities"* showed the emphasis on customary stewardship to capture land rents (Interviews, Adjoa Community Chief and Egyambra Paramount Chief, 2018-2019; translated from Twi language). Customary stewardship thus entails the capturing of revalorised land-rents (economic-value) by land-owning actors and rival groups driven by OG production.

The language of valuing land as a customary possession is therefore used to reinforce territoriality, denoting custodianship, ownership and proximity to land and sea by chiefs, kinship groups and local communities. With the emergence of the OG economy, customary stewardship of lands has been re-emphasised, oscillating between strategies for individual rent capture and as an entrusted resource for communal livelihood enhancement. This leads to the next language of land value by the non-state actors in the PER.

7.1.2 Communal Benefit

Notions of Communal Benefit highlight the locally-socialised benefits of land, especially for land-owning elites in the PER who 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 against the central government (Gyampo, 2011; Obeng-Odoom, 2014; Frimpong, 2015; Eduku, 2016). Communal benefit denotes calls for livelihood enhancement projects and employment prospects. The history of this demand for benefit emerged with the early discovery of the OG resources in 2007, where the chiefs in the PER petitioned the national government for a sub-national share of the oil rent;

"*…Some of us the chiefs at the coastal communities collectively argued that the government should give us some percentage from the oil proceeds to help us maintain our communities*" (Interview, Egyambra Paramount Chief, 2018; translated from Twi language).

The call for subnational OG rent is tied to the industrial operations and its spatial imprint on the territoriality of community lands and the sea in the PER. It is also tied to the unsatisfactory management of earlier rounds of resource-extractivism that has characterised Southwestern Ghana (as shown in chapter five). According to the chief of Aboade;

"*During the initial stages of the oil find, chiefs in the Western Region demanded about 20 percent of the oil rent but we were told that the oil isn't on land but rather offshore. So, who owns the sea?....If you look closely at the revenue that the government receives, a lot comes from here; cocoa, gold, diamonds, manganese, we have everything here. And now there is also oil. But our development is lacking*" (Interview, Aboade Community Chief, 2018; translated from Twi language).

This petition by the chiefs for the regionalisation of the oil-rent entailed suggestions ranging from 10% to 20% of the oil rent (Frimpong, 2015; Daily Guide, 2016; Eduku, 2016).

This was however refused by the National Parliament based on the stipulations of the 1992 constitution, which nationalises oil rents;

"*Every mineral in its natural state in, under or upon any land in Ghana, rivers, streams, water courses throughout Ghana, the exclusive economic zone and any area covered by the territorial sea or continental shelf is the property of the Republic of Ghana and shall be vested in the President on behalf of, and in trust for the people of Ghana*" (GoG, 1992, article 257-6).

Additionally, *the 1984* and *2016 Petroleum Exploration and Production Laws* all vest petroleum resources in the state without room for such regionalisation (ROaG, 1984, 2016). See tables 5.6 and 5.7. Ghana's Parliament also argued that such attempts at subnational oil rents would set a bad precedent for other subnational regions currently undergoing oil exploration, especially in the Voltaian basin (Gyampo, 2011; cited in Obeng-Odoom, 2014). See map 5.4.

By contrast, in the mineral (non-petroleum) mining industry, affected landowners receive mineral rents and concession revenues, as stated in the *2006 Minerals and Mining Act* (Ecolex, 2006). In other words, Ghana's OG-rent structure is fully nationalised (whether extraction is offshore or onshore), unlike mineral mining where royalty and concession payments are made to landowners as payment for loss of land and subsistence. In fact, one of the key tasks of the Office of the Administration of Stool Lands (OASL) is to collect and disburse mineral rents to various institutions including chiefs, communities and kinship groups whose lands are used for such

mineral mining, as shown in the *1994 Stool Lands Act*, table 5.6 (OASL, 1994; GoG, 1992: article 257-6).

The call for subnational rents as a form of communal benefit in the OG economy is however linked to the simultaneous offshore and landed impacts of the extraction process. Both land and sea territory contribute to the livelihoods of the local communities in Southwestern Ghana; an estimated 90% of the inhabitants of Western Region consume fish daily (COWI, 2012: 58). In spite of this, the nationalised oil-rents do not allow for any such direct subnational rents. The nationalised structure of the OG economy is linked with the territoriality of oil and gas; it is a resource deeply immersed "*in the proprietorial, institutional and cultural-political structures of the nation–state*" (Bridge, 2008: 413). Demands from the PER for a customised OG-rent system have therefore been scaled back to entail disparate projects, programmes and funding initiatives by the OG companies (Interview, Chiefs, 2018; Tullow Community Liaison Officers, 2018; See appendix 1). Under "*communal benefit*", three specific forms of value emerge; i) Community Shareholder Value, ii) Corporate Social Responsibility Projects, and iii) Subsistence Value.

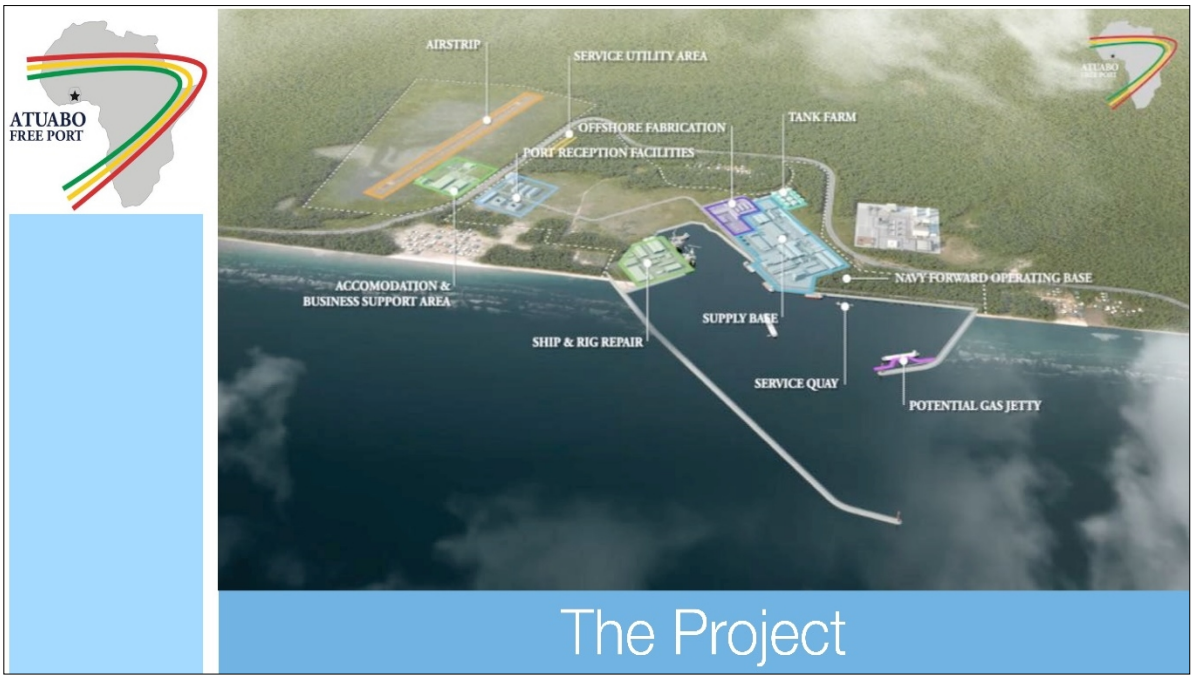
7.1.2(i) Community Shareholder Value (CSV)

The language of Community Shareholder Value (CSV) by non-state actors imitates corporate-shareholder economic languages in the pursuit of locally-socialised land rents. With CSV, communities in the PER leverage land for community shares as a condition for OG companies to use their lands. This entails the drafting of shareholder agreements as a lease conditionality. Such emerging land value interests are advocated by chiefs;

"*When we lease the land to the oil companies, that's the first step. After that we would also have to draft a Memorandum-of-Understanding so that we would put before them what we need and then they can tell us how they can help us in that respect. So, when all of us reach that agreement then we would proceed with the rest*" (Interview, Egyambra Paramount Chief, 2018; translated from Twi language).

Such agreements have been introduced on a small-scale in the PER. An example is the pending Atuabo Free Port Project in the Ellembelle district. See picture 7.1. The port is intended to serve as an OG service port and will be developed by Lonrho Company, a London based conglomerate. It entails 810 hectares of community lands in the Ellembelle district. These lands have been leased by local chiefs and land-owning families in exchange for 19% community ownership of the project (Sam & Buckle, 2017; Mingle, 2014; Asamoah, 2014: 101-102). Although these agreements have been made, the project is still on hold due to court litigations over the terms of the intended project. Incumbent government figures have however promised to "*revive*" the project (Adjei, 2019).

Picture 7.1: Model of the Atuabo Free Port Project in the PER



Source: PeaceFM Online (2014), Sam & Buckle (2017: 8). *(Size: 810 hectares) (Actor: Lonrho Company)*

The value of land as a community shareholder value, initiated through OG projects like the proposed Atuabo Free Port, has diffused into the land value languages of other chiefs, who hope to emulate such strategies;

"*I never want to sell a land. I am of the view that that if an investor comes and wants a land, I will give the land in the form of an equity so whatever he wants to establish, that means the community would have a share in it. So, at least we will also be partners of that particular business. So, we can go into agreement and even make an MoU [Memorandum of understanding] in terms of employing members of the community or a certain number [of community employees] as part of the corporate social investment so that the town will improve*" (Interview, Upper Dixcove Paramount Chief, 2018).

The promotion of community-shareholder values therefore points to a form of land use tied with mandatory or compulsory land benefits for both parties (Figure 7.1). It is deemed that such a strategy would provide continuous benefits to the community. Some community chiefs are more specific with the type of community-shares they prefer;

"*I would have to include clauses in those agreements where those companies employ 20% of members of this community; from manager to cleaner*" (Interview, Beahu Community Chief, 2018; translated from Twi language).

CSV is therefore deemed as one way of deriving community-benefits in such projects. This has some potential advantages as well as drawbacks;

First, CSV is thought to provide continuous and mandatory economic benefits for both parties. It potentially introduces a new dimension of benefit which goes beyond one-time compensations (or ad-hoc projects). It also moves away from the one-time transactional payments prevalent in the direct sale of lands. It thus focuses on the common pool value of land. It can potentially introduce mandatory investor requirements, instead of the existing voluntary-approach of corporate social responsibility projects. Existing guidelines and international standards for community-

investor relations emphasise notions of voluntarism in such deliberations. For instance, the "*Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests*" (FAO, 2012) is widely recognised in African agricultural investment policy circles (AU/UNECA, 2014). It is also central to *Ghana's 2015 Guidelines for Large-Scale Land-Based Investment* (MOFA, 2015a, 2015b; see table 5.7). In Southwestern Ghana, such voluntary guidelines are central to the practices of NGOs in dealing with community-investor relations related to agricultural and extraction activities (c.f. COLANDEF, undated; LANDESA, undated).

Secondly, chiefs and communities in the PER, by inserting lands into prospects of shareholder value, are striving for a different form of sustained benefit. These agreements aim to create a quasi ground-rent arrangement and coerce capital to function as a landed entity with seasonal harvests (shares). Since OG rents are fully nationalised, the use of CSV arrangements aim to duplicate the subnational rent elements in the mineral mining industry. There is a possibility for rent-capture by the chiefs since, at their core, the petroleum CSV contracts are private agreements (between chiefs and OG companies) with less governmental oversight than mining revenue distribution.

Thirdly, the CSV arrangement reflects the pervasiveness of the shareholder-economy and communities' willingness to imitate the corporate behaviour of firms. As described by a communal liaison officer for Tullow Oil Company;

"*The company belongs to shareholders, and the shareholders are looking for their interest, and therefore you can't just pump everything into the communities*" (Interview, Tullow Community Liaison Officer, 2018).

As the major oilfield operator in the Jubilee oilfields, Tullow Oil Company's core objective is "*to deliver substantial returns to shareholders as well as fulfil commitments to make a positive and lasting contribution where [they] operate*" (Tullow, 2014). Tullow operates in 22 countries, 12 of which are in Africa. It is also listed on the London, Ireland and Ghana stock exchange markets as well as the FTSE 100 index (Tullow, 2014; The Telegraph, 2018). ENI Oil Company is also listed on the NYSE, FTSE and Borsa Italiana stock exchange markets while operating in 79 countries (ENI, undated..a-c). Thus, the local communities' use of CSV is a way to localise aspects of the OG value-chain of these companies through their lands.

However, there are concerns regarding the legal resources needed by communities to draft such CSV agreements. As various interviews revealed, the legal implications of such a land value structure is not yet well understood;

"The chiefs should sit down with the companies, even sometimes with some legal advice beforehand, to draft a contract on annual benefits or projects that the community would gain" (Interview, Aboade Community Chief, 2018; translated from Twi language).

There is potentially an unequal power-balance between OG firms and such communities, regarding the requisite professional expertise needed to implement such contracts;

"*you would need to have a very good legal and technical assessment team to be able to come to these agreements with the company. It is not just a simple case of 'if you want my land then lets also have an equity [agreement] with the company'. There needs to be a lot of legal and technical assessments and justification; and how you can [do it] in terms of the quantification of the land. And how it also represents the overall valuation of the project; and within your [jurisdiction] how you would also be able to acquire shares*" (Interview, FONGhana NGO, 2018).

As described by a member of the Community Land Ownership Foundation (COLANDEF);

"The challenge here is that, the [oil companies] deal directly with the traditional leaders in the [land] acquisitions. Unfortunately, most of the traditional leaders did not hire any professionals to negotiate on their behalf. So, the negotiations are done directly between the companies that want to buy and the traditional leader who may not necessarily have a clear understanding of some of the things that go into the decision he is making" (Interview, COLANDEF, 2018).

Communities may also be ill-equipped to monitor and enforce the profits realised by the partner OG companies on their lands. Such CSV projects can also tie community development to the volatile corporate performance of these firms, as cautioned by the *Ghana Land Investment Policy Report* (MOFA, 2015b: 60-64). In this case, community-benefits increasingly become shaped by whether the tenant OG firms stay in business or not.

CSV also runs the risk of locking-in the benefits derived by communities to the existing community members only, potentially excluding other people (e.g. future migrants and non-indigenes). Hence, it is not clear whether the potential beneficiaries of such CSV agreements would only entail indigenes. Thus, there is a possibility for sections of the community to lock-in the shareholder-benefits in perpetuity and establish claims to "*greater indigeneity*" (Peters, 2009: 1321). Such a lock-in thereby assumes that these communities would not undergo social (demographic) change, thus affecting the prospects of future land use and benefits. Within the 2000-2010 period, the population of Southwestern Ghana increased by 45.6% (from 718,525 to 1,046,201). This was more than the regional (23.5%) and national increases (30.4%) (GSS,2005: 4, 2012, 2014a-f). Amid such rapid demographic change, CSV (and its diffusion in the PER) could therefore potentially lock-in benefits for insiders (community members) hence creating outsiders.

Another potential drawback of such community-shareholder initiatives is that it also presumes community agreement with the proposed use of the land; often interpreting community interests as monolithic and synonymous with the preferences of the chiefs and traditional leaders.

Nonetheless, these pockets of community-shareholder agreements introduce notions of land value in the OG economy by avoiding the transfer of alienable land-rights and instead highlights usufruct rights through shareholder agreements, thus maintaining possibilities for plural rights with social and market elements. Its logics of continuous benefits and communally-appropriated rents (George, [1879] 2006) also introduce a new form of land-use transaction that state-actors must consider in decision-making.

Similar CSV initiatives started in South Africa in the 1990s with limited success due to low capital and dividends, lack of organisation, non-transparency, little skills transfer, and the use of such schemes as an anti-bankruptcy strategy (MOFA, 2015b: 44-46: 60-64). Current initiatives also exist in parts of rural China, although characterised by individual land pooling without a collective/customary land structure (Ren et al., 2017). In effect communities call for such mandatory shareholder agreements, while other non-state actors such as oil companies, NGOs, some affected communities members and other civil society actors emphasise more voluntary corporate projects.

7.1.2(ii) Corporate Social Responsibility (CSR) Projects

This language of value emphasises local calls for voluntary petro-corporate projects as a mitigation measure for the OG operations. Unlike the "mandatory" framing of CSV agreements, CSR projects mostly denote one-time (sometimes multiple) voluntary initiatives for communities. It entails community demands and corporate supply of funds and technical expertise for projects and programmes without any mandatory stipulations. This consists of voluntary projects/programmes, cash transfers and employment opportunities. As explained by Tullow Company's community liaison officer;

"*All these initiatives that the [oil companies] are embarking [on], it is just a support they are trying to give to the communities to have cordial relationships with them. Assuming that they [oil companies] say 'no, we are not going to provide anything to the communities', they can even stop. But because they want to live harmoniously, they try to do something – more especially [for] the fishermen because [they] all eat from the same grounds and they were there before the oil companies. So, they don't want a situation whereby there will be conflicts all the time. I mean it would be injurious to the system, that's why they try to be responsible [and provide] amenities and also organise events*" (Interview, Tullow Community Liaison Officer, 2018).

The CSR initiatives provided by the OG companies in Southwestern Ghana thus include scholarship schemes, school buildings, roads, employment, health facilities, water projects, fishing equipment, building materials and even funding for festivals (Interview, Chiefs; Tullow Community Liaison Officers, 2018).

Through such calls for local CSR benefits, affected communities have called for "*local-local content benefits*" reflective of the subnational needs beyond mere national-level employment quotas in the OG economy (Interview, PER Oil & Gas Radio and Television Journalist 2017). The term "*local-local content*" is a play on the "*local content*" terminology found in Ghana's "*2013 Local Content Law*" which aims to improve national participation in Ghana's OG production landscape; a landscape

dominated by international companies. See table 5.7. The use of "*local-local*" hence points to subnational level employment prospects.

In practice, CSR serves as a mitigation measure of the operations of the OG companies, especially for affected land owners. Between 2012-2017, an estimated 10,000 hectares of farmlands were demarcated for OG-related developments in the PER (Sam & Buckle, 2017). Related OG projects such as the Takoradi port expansion project is also expected to entail 53,000 hectares of land (GPHA, 2016; Fiave, 2017: 73). See appendix 3. Particularly, affected landowners and fisherfolk call for agricultural CSR projects. Fishing territory in the Southern Ghana sea (Gulf of Guinea) has been restricted by a 500-metre radius for the operations of the Offshore Floating Production Storage and Offloading Vessel or FPSO (Panford, 2016: 146). Two additional offshore FPSOs were added in 2016-2017 with further spatial restrictions for fishing activities (Interview, PER Oil & Gas Radio and Television Journalist, 2017; GoG, 2016b; Aklorbortu, 2017a). In effect, fisherfolk complain that they now need to use "*longer sailing routes and fishing times*" due to these offshore territorial restrictions (Ayifli et al., 2014).

"Capacity building" projects have therefore been attempted by OG companies to provide locals with technical skills for the OG industry. OG companies respond to such calls through alternative livelihood projects such as the "*Livelihood Diversification and Support Project* where farmers were supported with extension services and farming inputs to implement animal husbandry, vegetable and tuber production activities (Gardner, 2016; WRCF, 2017a; Interview, WRCF, 2018). Another case in point is the *Jubilee Training Centre Programme* aimed at equipping locals with skills to enter the OG industry. Other compensatory "alternative livelihood" programmes (such as inland

fishing, aquaculture and vocational training) have also been pioneered by OG firms and NGOs as CSR programmes (MEST & Tullow, 2012: 68; MEST & Jubilee-Partners, 2012b: 57). In addition, aquaculture projects have been piloted as alternative livelihood projects for fisherfolk (Gardner, 2016; WRCF, 2017a; Interview, WRCF, 2018). Food security and forest conservation projects have also been initiated by Tullow Oil and Jubilee Partners from 2012 to 2017 in the town of Cape three Points in Ahanta West district (CRC, 2012: 36, 70).

Indeed, in terms of the OG-driven benefits sought by communities in Southwestern Ghana, civil society organisations have been active facilitators of such petro-funded voluntary CSR projects including NGOs such as COLANDEF, WRCF and Hɛn Mpoano. However, such NGO projects have not been as proactive in terms of the promotion of community-shareholder value (CSV) agreements. In effect, the employment projects in the Ghanaian petroleum industry itself are not feasible given that the industry only employs 7,000 people (Panford, 2016: 37, 101). Additionally, these disparate voluntary alternative CSR projects do not address the core issue of land-alienation and food security, which has become increasingly salient in Southwestern Ghana.

7.1.2(iii) Subsistence Value

Subsistence value emphasises the use of lands to address OG-driven food security issues in Southwestern Ghana. Although there is tentative correlational evidence of a decline in Ghana's agricultural growth since OG production began (ACEP, 2016), the PER faces land-stresses and food security issues linked to petroleum infrastructure and related mining activities.

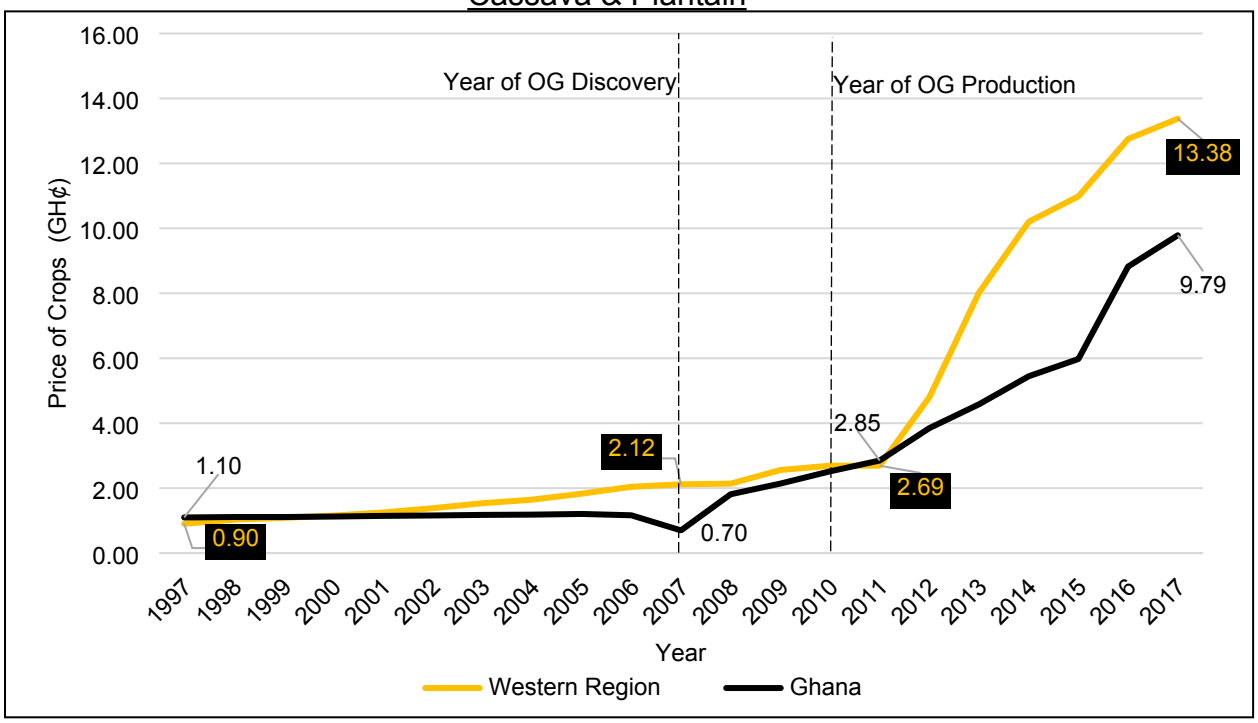
Over 63,000 hectares of arable lands in the PER have been lost to OG-related infrastructure and investments entailing gas plants, pipelines, ports, special economic zones and related real estate projects (Sam & Buckle, 2017: 8; Fiave, 2017: 73; GPHA, 2016). As already stated, this entails the Takoradi port expansion which is expected to utilise 53,000 hectares of land (GPHA, 2016; Fiave, 2017: 73).

The rest (10,000 hectares) are lands directly linked to the OG-related infrastructure, investments and real estate industry (Sam & Buckle, 2017: 8). Within this 10,000 hectares, about 1560 hectares were designated for exclusive economic zones in Shama district, particularly in Nyankrom where over 1000 farmers were affected (Sam & Buckle, 2017: 8; Interview, GFZA, 2018). An average of 1200 hectares of arable lands have also been cleared for OG infrastructure and related housing construction in the Ahanta West district as at 2015 (Sam & Buckle, 2017: 8). Additionally, the construction of the Atuabo gas plant and the proposed Atuabo Free Port Project consumed 930 hectares of land affecting the communities of Atuabo, Asemda and Anokye (Asamoah, 2014: 5; Sam & Buckle, 2017: 8). The Atuabo gas plant specifically affected around 120 farmers, entailing a 111km pipeline going through 85 communities across four of the six PER districts (Asamoah, 2014: 5; Sam & Buckle, 2017: 8). See appendix 3. The management of such pipelines by Ghana Gas Company is done

through the imposition of various land-access restrictions on affected farmers (Sam & Buckle, 2017). Van Rijn's 2012 documentary "*The Black Coast*" shows the impact of such pipeline land-access restrictions on the local farmers (van Rijn, 2012).

Moreover, activities such as quarrying, small-scale mining, sand and gravel extraction for construction activities have also intensified in districts like Shama, claiming about 850 hectares of arable lands. Chart 7.1 shows the prices of locally grown crops in the larger Western Region of Ghana (the six districts of Southwestern Ghana are part of the 22 districts in the Western Region). The chart shows that the period of OG production correlates with increases in the prices of locally grown food crops in the Western Region, an increase that is higher than the national average.

Chart 7.1: Combined Price for 5kg of Locally Grown Crops; Maize, Yam, Cocoyam, Cassava & Plantain



Source: Author's Construct (2019). Data from Ministry of Food & Agriculture, Sekondi, Ghana.[48]

[48] This basket entails 1kg each of all five crops. 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). Details of data shown in appendix 4.

The primacy of the OG economy is driving these interconnected forms of extraction and land dispossession, as aptly clarified by the data analysis officer at the Ministry of Food and Agriculture (Western Region);

"When you look at the early part of the years (from the 1990s up to the 2000s), you could see that the there was a lower price [of food crops in Western Region] or even below [the national average]. But the moment the oil was found and Galamsey [small-scale mining] started booming, people started going into Galamsey, prices of foodstuff started increasing and I believe that has accumulated to this sort of rise in price over the national price. So, I believe that is one of [the reasons]. And there is also an increase in estate and real estate activities in the region. The same land is being used but it is being reduced. People who are also farming are also going back to the land to get ready cash [by leasing it]" (N. Banyin, Personal Communication, January 16, 2019).

These show interconnected processes of land dispossession and its impact on food security driven primarily and triggered by the OG extraction. This dispossession driven by the OG industry is contributing to food price increases. The increase in population after OG discovery in search of employment opportunities triggered housing demand and intensified construction activities, driving further stress on land and food security. As at 2013, Western Region had the second highest cost of living in Ghana, with an annual average household expenditure of €1578, second only to the Greater Accra Region with €2203 (GSS, 2014g).

On average, 22% of the population of Southwestern Ghana do not have any formal education (WRCF, 2017b-g). Additionally, agriculture constitutes a substantial portion of its workforce, especially in the rural areas with cheaper land. Agriculture represents 35% of its workforce, ranging from a high of 58% in Nzema East district to a low of 5% in Sekondi-Takoradi metropolis (WRCF, 2017b-g). Rural displacement in the PER thus occurs in two ways: first by enclosing land required for food security, and second by transforming the economy through a technologically intensive OG industry that does

not require local labour. Dispossession by the OG industry is contributing to food price increases, as shown in chart 7.1. The need for food security has therefore become a central aspect of land value in Southwestern Ghana, as articulated by various non-state actors;

"I have lived in Takoradi, Cape-Coast, Accra, Kumasi, Tema, Sunyani [and] Wenchi. Takoradi is an expensive place to live now, it is. Food prices have shot up" (Interview, PER Oil & Gas Radio and Television Journalist, 2017).

"*In the future what are we going to survive on? So why don't they invest in commercial farming so that we can get good food to make us safe*" (Interview, Beahu Community Chief, 2018; translated from Twi language).

In the interviews, reference is also made to the similarities between the current OG land use issues and the pre-existing forms of dispossession by cash crop activities.

"…*in the Western Region there [are] perennial tree crops like rubber [and] oil palm and they are also competing with the food crops for agricultural space. And we are saying that there is the need for us to balance [it] because it will be costly for the population here to be [importing] food from other areas. So, if we have the fertile soils that can support food crops, let's set those areas aside for food crop production and not convert all our fertile agricultural lands for cash crops*" (Interview, Hɛn-Mpoano NGO, 2018).

The dominant cash crop companies – Norpalm and GREL – were continuously mentioned in the interviews, with historical similarities drawn to the emerging OG industry (Interviews; Chiefs of Beahu, Upper Dixcove, Egyambra, Akwidaa; Ahanta West Planner, 2018). Norpalm is an oil palm plantation company that purchased the then nationalised oil palm farms in 1998 in Southwestern Ghana. It is a joint venture between Norway's Norpalm A/S as majority shareholder and Ghana's PZ Cussons Company (NGL, 2012). GREL is also a rubber plantation company in the region made up of a joint venture (since 2006) between Ghana government and majority shareholder Agence Française de Développement (GREL, 2013). Together, both

Norpalm and GREL own close to 44,000 hectares of land in the PER (NGL, 2012, GREL, 2013). Thus, the articulations for land value to address food security issues in the OG economy are borne out of efforts to avoid such historical processes of land dispossession. In other words, the OG companies are becoming the new landlords of extractivism in the PER, akin to the old large-scale cash crop land owners, hence the call for subsistence value. The environmental risks of the OG production and its connection with subsistence and health is also a central issue.

7.1.3 A Source of Proximal Risk

Proximal Risk highlights the metabolic and calorific values that have been neglected in Ghana's PER in the struggle over petroleum-rents. It highlights calls for land value to be commensurate to risk. In other words, the onshore lands and ocean territory in the PER are deemed to face risks that should be proportionally compensated-for beyond nationalised oil-rents.

Incidents of hazardous chemical spills by the OG industry have resulted in compensation paid to the central government while the PER bore the environmental cost. In 2010, Kosmos Energy Company, on three occasions, spilled oil-based mud containing drilling fluid into the Gulf of Guinea (specifically near Cape three points). The company eventually paid €20.7 million to the Government of Ghana as compensation.[49] The PER bore the environmental cost of the spill, but the compensation ended up at the central government. The compensation was ambiguously used to support the Ministry of Science, Environment and Technology in its *"efforts to build capacity in the environmental sector*" (Obeng-Odoom, 2014: 122-

[49] The fine was for both the environmental disregards and for disclosing corporate information with prospective investors without the consent of Ghana's government (Yeboah, 2011).

123; Phillips et al., 2016: 33-34; Kosmos Energy, 2010). Upon field interviews, the EPA in Sekondi revealed that it was not aware of how the compensation amount was used or whether any affected fisherfolk in Southwestern Ghana got direct compensation (Interview, EPA, 2018). Here, the compensation made to the central government to the neglect of the PER was due to the realpolitik of who has the power to access such multinational companies, rather than an idealised assignment of prior rights as argued by NIE theorists (see Phillips et. al 2016: 31-32, who recount the meeting in London between Ghana National Petroleum Corporation and Kosmos Energy Company over these compensations).

In effect, through the notion of proximal risk, non-state actors emphasise land not only as a source of potential benefit in the petroleum economy (CSV, CSR, subsistence-value) but also as a proximal risk (environmental, health and ultimately livelihood risk);

"*Currently, we are the ones that would be affected if anything – such as an oil spill – were to happen, it would end up at the coastal communities, it wouldn't go inland. So, we would be the ones to suffer*" (Interview, Egyambra Paramount Chief, 2018; translated from Twi language).

"….*what we are saying is that if something happens, it would affect us more before the inland communities experience it*" (Interview, Upper Dixcove Paramount Chief, 2018).

"*I don't want to be the prophet of doom; but in case of any incidents, spills or anything, those out there would be the people to suffer*" (Interview, PER Oil & Gas Radio Journalist, 2017).

"….*we have [these companies] on our lands. We are close to any potential industrial disaster if it happens*" (Interview, Apremdo Community Chief, 2018; translated from Twi language).

"….*we require such assistance too since we are the communities here that will suffer from any repercussions of the oil activity no matter how small it may seem*" (Interview, Adjoa Community Chief, 2018; translated from Twi language).

A 2014 survey by Ayifli et al. in Ghana ‘s PER showed that communities proximal to OG industries – particularly fishing communities – identify environmental issues as top priority since they bear the greatest brunt of the OG production (p. 346).

In addition, various environmental incidents have also triggered such community calls for land value to be commensurate to risk. Even “normal” operational emissions consist of harmful gases with their own potential health complications. A 2009 offshore field survey by Nyarko et al. (2011) showed that daily operations of the OG activities are releasing unusually high concentrations of barium and minimally high concentrations of cadmium in the Gulf of Guinea, which serve as the fishing grounds for these communities. The Atuabo community close to the Atuabo gas plant has also raised concerns about increased atmospheric temperatures deemed to be caused by the gas plant (Interview, EPA, 2018). There is currently an ongoing study by the Centre of Environmental Impact Analysis (Ghana) on the impact of the Atuabo gas plant on the proximal local communities. The results are yet to be released (S. Obiri, Personal Communication, July 13, 2018).

The ocean territory has especially been a site for environmental and livelihood contestation, with dead whales washing ashore together with algae and sargassum debris. In response to the whale deaths, field studies were conducted by the EPA and environmental consultants. See picture 7.2. The study attributed the whale deaths to “*possible ship strikes, entanglement with fishing gear and ingestion of marine debris (polyethylene)*” (EPA, 2014: 14). There were no connections made to the offshore OG industry, although their shipping activities are directly linked to intensified activities at the Takoradi harbour.

Picture 7.2: Whale Washed Ashore on the Beaches of Southwestern Ghana

Source: EPA (2014).

In response, NGOs (i.e. Friends of the Nation) and fisherfolk argued that the methods of the EPA research were simplistic involving only direct observations of the dead whale specimen (FONGhana, 2014; Interview, FONGhana NGO, 2018).

In effect, the territorial imprint of the petroleum production on the land and sea is deemed as an environmental, health and livelihood risk for local communities. Proximal risk is therefore the argument that PER areas near to OG production (onshore lands and ocean territory) face risks that should be proportionally compensated for beyond nationalised oil-rents.

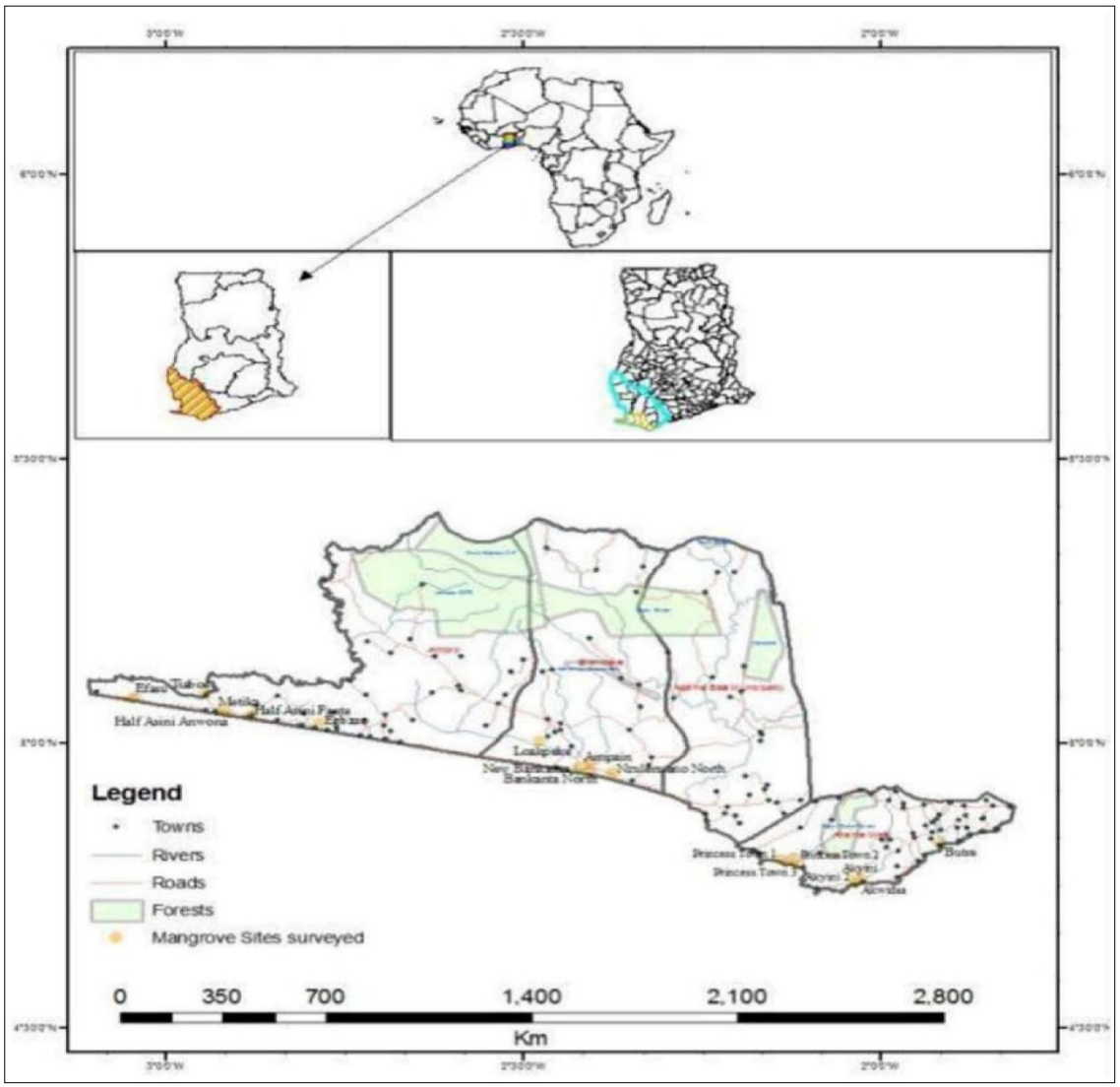
NGOs like the Western Region Coastal Foundation (WRCF) for instance categorise PER communities into three; those highly impacted by the OG activities, those moderately impacted and those likely to be impacted. Highly impacted communities are areas where some territorial access rights have been taken; i.e. lands bordering the sea or used for OG infrastructure projects inland. Moderately impacted areas are those where such lands have been taken but operations haven't started yet. The last

category involves those who feel the indirect OG impacts such as rent increases or other associated social vices of the OG-economy (Interview, WRCF, 2018). This kind of categorisation is also reflected in the strategies of the offshore Jubilee Partners in their CSR projects. Their implemented voluntary investments and social projects emphasise more on fisherfolk and PER communities proximal to the coasts (Interview, Tullow Community Liaison Officers, 2018). Despite these projects, local concerns persist.

Another proposed intervention by NGOs to reduce such risks is to use forested lands and mangrove areas for carbon sequestration projects, specifically using the Amanzule wetlands in Southwestern Ghana. Carbon sequestration entails forestation of lands to enhance carbon stocks to be traded to polluters in emissions markets as carbon credits. It is based on the notion that environmental pollution can be mitigated by paying land owners to plant trees. As disclosed by the Environmental Impact Assessment document for the Jubilee oilfields, the petro-extraction process emits "*greenhouse gases and varying amounts of other pollutants such as carbon monoxide, oxides of nitrogen, sulphur, volatile organic compounds and particulate matter*" (Tullow, 2009: *page xx*). Under the NGOs' sequestration proposal, OG companies in Southwestern Ghana would purchase carbon-credits from forest-land owners to mitigate against such pollution. One such carbon sequestration programme under consideration is the World Bank's *REDD+* programme. The proposed REDD+ programme would be implemented in the Amanzule wetlands, Ghana's only known peat swamp forest the size of about 20,000 hectares (CRC, 2011, 2012, 2013b-c). See figure 7.2. The REDD+ programme acknowledges the link between energy and agriculture plantations in Ghana (Würtenberger & van Tilburg, 2010). This proposed project is spearheaded by NGOs such as Hɛn-Mpoano and FONGhana together with

other international development agencies. Specifically, the proposed project emerged through an earlier project in the PER called the *Integrated Coastal and Fisheries Governance (ICFG) project*. The ICFG project was funded by USAID and the Coastal Resources Centre of the University of Rhode Island (USA). "Hɛn-Mpoano NGO" was subsequently created out of this ICFG project. The carbon sequestration proposal is therefore to be spearheaded by the newly formed "Hɛn-Mpoano" together with "Friends of the Nation" and international agencies like USAID, Worldfish and Sustainametrix (CRC, 2013a-e; Interview, Hɛn-Mpoano, 2018).

Figure 7.2: Amanzule Wetlands (in Light Blue)



CRC (2011: 11) *(Size: 20,000 hectares) (Actors of proposed sequestration project: Hɛn-Mpoano NGO, FONGhana NGO, USAID, Worldfish, Sustainametrix)*

NGOs in the PER argue that such a scheme would create a 'win-win' situation for both existing land owners and the OG firms. The excerpt below from the ICFG project recommends the valuation of the Amanzule wetlands as a first step in tapping its ecosystem-services potential through the REDD+ programme (CRC, 2013a-e).

Figure 7.3: Excerpt from Coastal Management Project Report

R7: Rapid Assessment of Mangrove Status and Conditions for use to Assess Potential for Marine Payment for Ecosystem Services in Amanzule and Surrounding Areas in the Western Coastal Region of Ghana, West Africa

Ghana's mangrove ecosystems are tremendously valuable, providing ecosystem services like carbon sequestration, protection from storms, floods, and erosion, provision of timber and non-timber forest products, processing of waste and nutrient pollution, aquaculture and agriculture support, and habitat for aquatic and terrestrial species. Yet, as in many other parts of the world, short-term development needs are undermining long-term mangrove health and survival. Fortunately, economic mechanisms have the potential to tip the balance toward restoration, maintenance, and protection of mangrove forests. The need for proper valuation of mangrove ecosystem services underpins such mechanisms towards the establishment of any realistic payment for ecosystem services scheme in any given mangrove or wetland habitat

R9: Carbon Stocks and Soil Nutrient Dynamics in The Swamp Forests of The Amanzule Wetlands & Ankobra River Basin

The swamp forests of the Amanzule Wetlands and Ankobra River basin is a truly unique landscape. Threats to the swamp forest, while still minimal, may be mounting, particularly in the form of small-scale artisanal logging, firewood harvesting, and conversion to food crops like maize and cassava farming. As demonstrated by this study, these anthropogenic activities have a detrimental impact on the ecosystem's ability to store and sequester carbon, as well as on biodiversity and nutrient dynamics. Therefore, conservation of this intriguing and rare landscape is crucial. While more research is required, it is possible that carbon finance, in the form of REDD+, soil carbon, or climate smart agriculture could form part of a dynamic conservation and livelihood strategy.

(CRC, 2013a-e)

Figure 7.3 acts as a promotional and declarative policy than a dialogical one (Fairclough, 2001: chapter 6), thus informing the reader what they need to know and what the solution is. The potential for OG companies to fund such carbon

sequestration initiatives is emphasised in further feasibility studies of the Amanzule Wetland through the ICFG project (as figure 7.4 shows);

Figure 7.4: Excerpt from Proposed Carbon Sequestration Project in PER

Potentially Useful Institutions

Oil and Gas Companies; *The rapidly moving developments associated with oil & gas development may have the greatest potential of all to supply investments in coastal ecosystem services protection – while at the same time being the single greatest threat to the coastal and marine habitats. Continued engagement with Tullow Oil and other energy companies could ensure that a revenue stream in the form of a PES [Payment for Ecosystem Services] scheme will help to secure the necessary funds for a wetlands project.*

Vallejo (2013: 28-29, as part of the ICFG project).

The OG industry can in this way be a funding opportunity to "*tip the balance toward restoration, maintenance, and protection of mangrove forests"* (CRC, 2013a-e). This thus provides forms of legitimacy for local NGOs in proposing such environmental mitigation initiatives.

The potential for OG companies and funds to implement these carbon sequestration initiatives is made clear in further interviews with NGOs;

"*Our idea was that once this study was done then we can use [it] to access some funding so that [an] extraction company could invest in protecting that wetland as part of their biodiversity offset. If you are a mining company or an industry polluting so much, what you can say is that [you are] putting out this amount of carbon into the environment, but at the same time [you are] also investing in conserving this habitat, so that you can offset. Because once [you] release the carbon into the atmosphere, [you] have also invested in conservation of some forestry, so [it] will be able to absorb the carbon that [you] have released into the environment. So, there is this concept about the biodiversity offset and that was what we intended to do*" (Interview, FONGhana NGO, 2018).

The Environmental Impact Assessment document for the Jubilee oilfields states that the operational emissions of greenhouse gases such as carbon-dioxide and methane are "*believed to contribute to global climate change*" (Tullow, 2009: *page xli*). Hence,

the proposed carbon sequestration project, paradoxically through OG funds, aims to contribute towards global climate mitigation;

"*We try to look for the carbon funds for these wetland communities. There was a limitation because the area couldn't qualify. But otherwise, what I would say is that, there are efforts – conservation efforts being undertaken – [such as] mangrove restoration and all of that. It contributes to overall global climate impact mitigation*" (Interview, Hɛn-Mpoano NGO, 2018).

The carbon sequestration proposal is currently awaiting funding. However, its regulatory intentions are still active, as also corroborated by the EPA and Western Regional planner (section 7.2.2). As at 2016, the Energy Commission voiced scepticism regarding the potential technological readiness for offshore carbon capture and storage in Ghana (IEA, 2016: 21-22). Nonetheless, the proposed carbon sequestration projects aim to mitigate both onshore and offshore petroleum emissions in the PER.

In effect, the potential for carbon sequestration to compensate for proximal risks denotes a neoliberal environmental fix that greenwashes land-commodification. Studies on the post-2008 global land investment and speculative boom point to new trends such as investments in tree forest products for carbon sequestration (Cotula, 2012; Schoneveld, 2017). Programmes like REDD+ are framed as strategies to bridge the gap between the local undervaluation of nature vis-à-vis its potential derivative financial value (Sullivan, 2014: 25).

Here the value of land becomes a sink (absorbing industrial pollutants as an ecosystem service). It is based on the notion that the pollutant effects of the OG industries can be mitigated by existing sensitive ecosystems and the growth of tree plantations. It "*provides another moment for rapid creation and capture of value, particularly for the owners of land/resources*" (Bridge, 2008: 402). It creates new

arenas of inequality by conferring monetary value to certain actors (e.g. investors and forest land owners) to the detriment of others such as pollution-affected but landless people (Castree, 2008a, 2008b; Bridge, 2008: 402). Here, communities' conception of risk-requiring-reward is diverted into further marketisation to only benefit land owners (Castree, 2008a, 2008b).

Additionally, the language of carbon sequestration (and its contribution to global climate impact mitigation) involves "*scale-jumping*" (McMaster & Sheppard, 2006: 17; citing Smith, 2006); it goes beyond the territorial confines of the PER or even the national scale. It is part of the "*strategies that effective social movements [NGOs in this case] must develop to take their concerns beyond the local level*" (McMaster & Sheppard, 2006: 17). It connects with the language of global civil society, international institutions, donor agencies and international OG companies as potential sources of funding.

Carbon sequestration programmes end up de-historicising, de-contextualising and de-ecologising nature to "*silence other – and often marginalised – ways of knowing and valuing*"; this ultimately singles out particular characterises of nature to be valuated into capital (Bollier, 2016: 26; Sullivan, 2014: 13; Ernstson & Sörlin, 2012: 274, 277, 281; Greco, 2015: 24). It also limits the possibility for land value (whether ecologically or culturally sensitive areas) to be situated outside market valuation.

7.1.4 Land "Outside" Market Valuation

This approach to value views certain lands (e.g. ancestral cemeteries, lands with cultural values) as non-purchasable entities and emphasises its semi-intrinsic nature (especially by chiefs). The focus here is on lands within non-transactional realms, that is, lands that are outside OG production or any other market exchange processes. The governmental power of eminent domain through compulsory land acquisition does not allow for the realisation of such notions of land (non)-use.[50] The following are interview excerpts from the PER chiefs regarding the possibility for land to be outside market valuation processes;

"*It would be difficult to develop a land that is a burial site, even the community will not agree. If the cemetery is in constant use we have to respect our customs and not touch it but then if it is a cemetery that has been abandoned for a long time [then we can use it]. Because we have to honour the dead. We are Africans, we are Ghanaians. If it has been abandoned for a long time, fine, then that can be used. Otherwise no*" (Interview, Aboade Community Chief, 2018; translated from Twi language).

"*Areas like, royal cemeteries; it is with government that some of these issues are even entertainable but ideally you can't say you would want to go and sell those lands. We have a public cemetery; but royal cemeteries are off-limits*" (Interview, Egyambra Paramount Chief, 2018; translated from Twi language).

Here, non-state actors defer to symbolic norms, rather than substantive laws (Merry, 1988: 885). The "*coercive*" arm of the law (Berman, 2012: 1) is enforced to denounce such plural (in this case symbolic) aspects of land. As the mapping of local notions of land value showed (figure 7.1), land outside market valuation - even though deemed as a locally beneficial way to protect certain lands – is overruled by the laws of eminent domain. Such informal norms around land are not recognised (Helmke & Levitsky,

[50] As stated in Chapter 5 – Article 20 – of Ghana's *1992 Constitution* as well as in the *1962 Administration of Lands Act*, *the 1962 State Lands Act* and *the 2016 Petroleum Exploration and Production Law* (GoG, 1962a, 1962b, 1992). See tables 5.3 and 5.7.

2004), and exacerbated by compulsory acquisition for large-scale petro-industrial projects (as section 7.2.2ii will show).

In effect, local communities can only accede to compulsory acquisition and contest for fair compensations and hope to gain employment through the intended project. Even then, the due process of compulsory land acquisition can be regressive. For instance, regarding the Atuabo gas plant, farmlands were cleared on a Sunday without clear prior information, apparently when community members were in church (van Rijn, 2012; Interview, FONGhana NGO, 2018). Compensation for the Atuabo gas lands (including for the pipeline) have also not been fully paid, the reason linked to conflicts over the rightful owners of lands, often involving sharecropping systems (Asamoah, 2014; Aklorbortu, 2017b; Interview, COLANDEF, 2018).

Although there have been singular cases of court action against central government agencies after lands have been unfairly ceased and farms destroyed, the lack of capacity, time, resources and a feeling of powerlessness by locals is still a major stumbling block to challenging the state for the *non-use* of land (Interview, FONGhana NGO, 2018). The government of Ghana itself does not have a good track record of properly and fully compensating for compulsory acquired lands; out of 1336 compulsory acquisitions between 1850-2004, the government compensated in a few cases (Obeng-Odoom: 2012a: 322). In Ghana's PER, the space for local agency regarding proper compensations has therefore shrunk to symbolic acts like "*pouring libation*"[51] to pacify lands and enable its transition from an economically non-instrumental land to its inevitable economic use by the state:

"*…in this case, if that is the only place that the government wants to develop, we would perform the necessary rites and rituals to seek ancestral permission – and I am sure*

[51] Pouring drink on the ground as an offering or atonement to a deity.

they would grant us permission – so that we make the project there and move the site somewhere. Because, if that project comes with job prospects, it helps the entire community. So that is how we'll go about it. That is, if we get their permission, that is how we'll proceed" (Interview, Beahu Community Chief, 2018; translated from Twi language).

"*Our people say that 'the knots of our ancestors were tied by the living', we do all these things for people. The land exists for the betterment of the people*" (Interview, Upper Dixcove Paramount Chief, 2018).

Hence, non-instrumental land value is 'exchanged' (forcibly) for the prospect of employment opportunities. Here the intergenerational nature of land and its potential translation to long-term job opportunities is stressed (akin to the argument for CSV; section 7.1.2i). Notions of intergenerational benefits are also central to the Tanzanian case of Lindi-Mtwara; section 8.1.3).

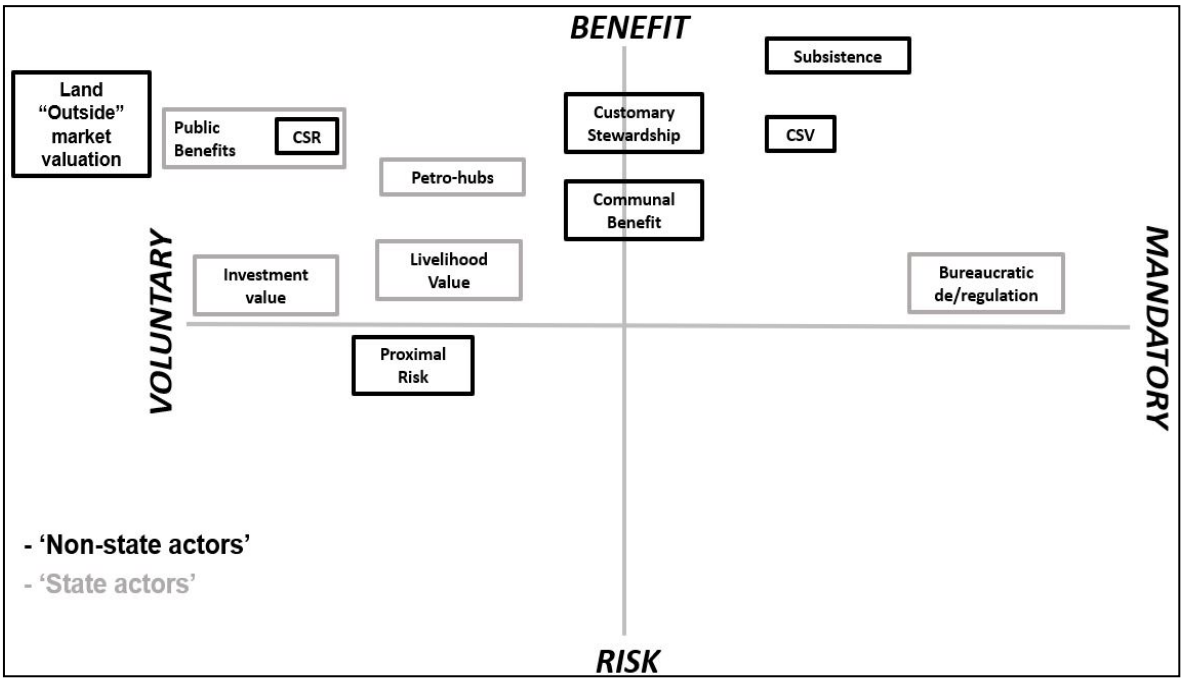
Land "outside" market valuations thus points to the enmeshing of ritual, livelihood and state-power in rendering land economically instrumental, even if customarily deemed as "outside" such notions. The state's role as middle-man in land acquisitions for OG companies subverts this local customary agency. In this sense, the space for non-commodified value of land is undermined by the state's land acquisition activities which thrives on a compulsion to sell/accept compensation. This leads to the next section on the state's conceptions of land value in Ghana's PER.

7.2 Closing Down? De/Legitimation through Discourse, Policy and Practice

After analysing the articulations of land value by non-state actors in Ghana's PER (section 7.1), this section shows the forms of land value pursued by state actors (see details of the interviews and data used in the methodology chapter and appendix 1).

The value articulations by the state fit into logics of investment and usurpation of land for OG-rents. The state (central and subnational) conceive 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. In effect, this sub-section will show that the languages of value used by non-state actors – emphasising customary stewardship, communal benefit and proximal risk – are singularised through the land-use and investment strategies of the central state and the local governments in the six coastal districts. As figure 7.5 shows, the local notions of land value in the OG economy lie beyond the understandings of state actors, showing a general mismatch between the two sets of actors. The articulations of land value by the central and subnational state are subsequently explained in detail.

Figure 7.5: Languages of Land Value in Ghana's PER (State and Non-State Actors)



Source: Author's Construct (2019).

7.2.1 Bureaucratic De/Regulation

Here, the central and subnational local governments emphasise that more economic value can be gained from petroleum production if bureaucratic land-use planning is followed.

New spatial plans have been introduced in the six coastal districts. These entail "*Spatial Development Frameworks (SDFs)*" for the Ahanta West, Shama and Nzema East districts as well as "*Structure Plans*" for the Sekondi-Takoradi and Ellembelle districts[52] (MEST & Jubilee-Partners, 2012a, 2012b; MESTI, 2013; MEST & Tullow, 2012; AWDA, 2012). A sub-regional SDF plan was also formulated for the combined six districts in Southwestern Ghana (MEST & Jubilee-Partners, 2012c).

[52] The new spatial plans in the six coastal districts followed the three-tier structure of spatial planning in Ghana, as stipulated by *the 2016 Land Use and Spatial Planning Act* (GoG, 2016a; see table 5.7). The three-tier structure entails "*Spatial Development Frameworks"* which are 15-20-year multi-sectoral plans, *"Structure Plans"* (which are 15-20-year land use plans for urban areas), and lastly *"Local Plans"* which are smaller scale planning schemes (TCPD Ghana, 2018; Acheampong & Alhassan, 2016: 9).

Through these new spatial plans, the direction of planning in the six-districts has been tied to the petroleum industry. This is especially so for Sekondi-Takoradi, Ahanta West and Ellembelle district spatial plans where the framings of their spatial policy directions highlight competitive land use, petroleum-driven land uses and related business development corridors. Shama district also curated their spatial planning policy to the spill-over of OG activities. Table 7.1 highlights the chosen direction of spatial planning policy in Southwestern Ghana.

Table 7.1: Options for Spatial Development in the Six PER Districts

District	Option 1	Option 2	Option 3	Chosen Option
Sekondi-Takoradi Metropolis.	A mid-sized third-ranked city in Ghana.	A competitive national mega-centre.	A major international hub.	Option 2 for the medium term (15-20 years) and option 3 for the long-term.
Ahanta West.	A West African hub within the Petro-chemical industry.	To maintain community identity through a rural-urban modular planning system.	To preserve forests, water bodies, coasts and cultural community to attract visitors.	Combination of all three options.
Ellembelle.	Use of existing business centres and creation of new enclaves.	New sites for business centres and development corridors.	Option 2 but with expanded space requirements.	Option 3.
Nzema East.	Agriculture-focused economy.	Mixed-economy with a focus on agriculture-based industries.	Mixed economy with eco-tourism and agriculture-based industries.	Elements from all three options.
Shama.	Agriculture and fishing.	Fishing and (residential) urbanisation.	Ecotourism and agriculture-based industries.	Elements from all three options and anticipated spill-over of OG production from Sekondi-Takoradi.
Jomoro	Doesn't have its own SDF or Structure Plan.[53]			

Sources: MEST & Jubilee-Partners (2012a: 3-6; 2012b: 57-64), MESTI (2013: 62-70), MEST & Tullow (2012: 64-71), AWDA (2012).

[53] Jomoro district does not have its own spatial plan. It is guided by the Western Regional Spatial Development Framework/SDF and the combined sub-regional SDF (COWI, 2012; MEST, & Jubilee-Partners, 2012c).

In practice however, the locational decisions of the petroleum companies directed the spatial plans of the districts, rather than vice versa. Field interviews reveal that the regulatory direction of the spatial plans was pre-determined by the already unfolding OG land acquisitions;

"…*By the time we were preparing these plans, companies had acquired pieces of land along those coastal areas for oil farm tanks, warehouses and other things. So, we planned alongside that*" (Interview, Ahanta West Planner, 2018).

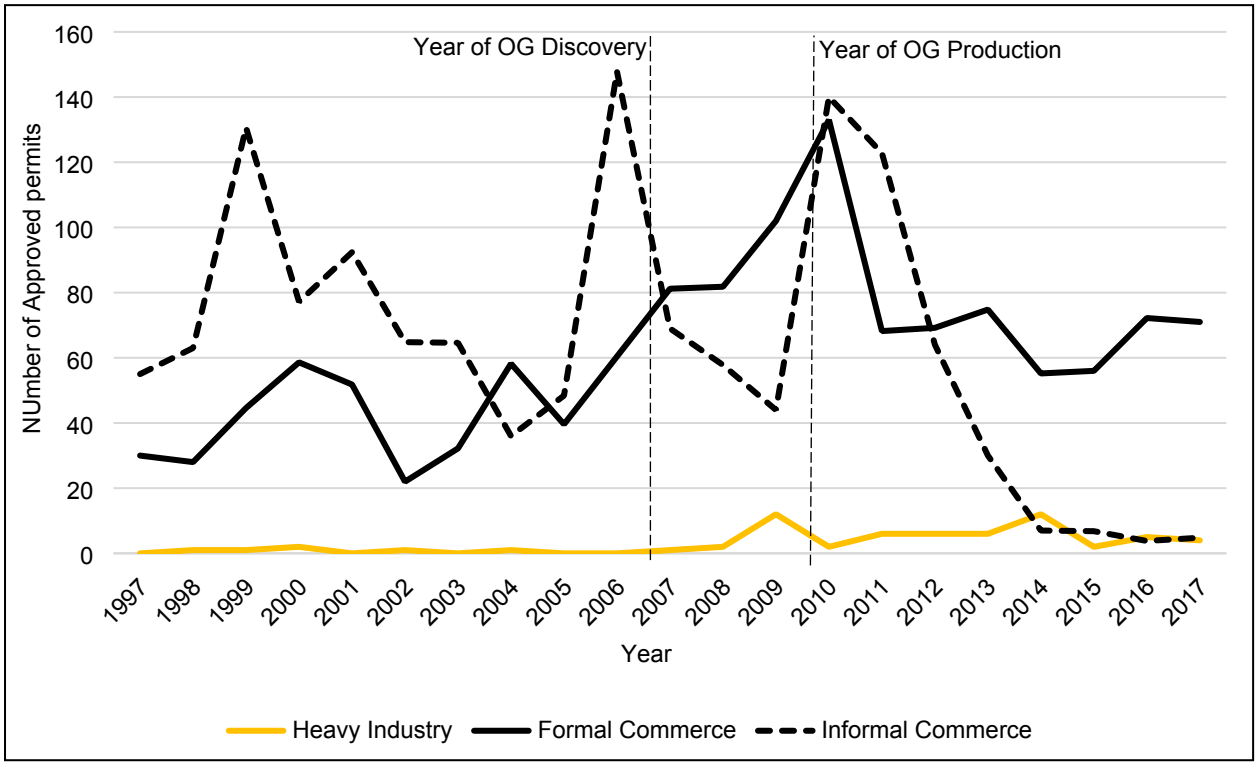
"The plan is a guide to development; so, the unfortunate thing was that it was prepared after these people [OG-related companies] came in. But now the plan is saying that if you want to do this activity, you are supposed to be located in this area of the metropolis. So, in a way I wouldn't say the plan guided what we are seeing right now because they came in before the plan was prepared. So, the plan was prepared taking into consideration the existing situation" (Interview, STMA Planner, 2018).

"…*before we did them [the structure plans], all the industries had made 'expression-of-interest', so we were guided by where they intend putting up their companies and then we came up with it [the structure plans]*" (Interview, Ellembelle Planner, 2017).

"The planning process itself is chasing the development process because it is fast. The economy is based on and driven by several decisions that do not necessarily filter through the planning process. So that is where the problem is" (Interview, Hɛn-Mpoano NGO, 2018).

In effect, land acquisitions for petroleum development projects were not guided by spatial policies beforehand, while the consequent policies to regulate general land use towed the line of the petroleum land acquisitions. Chart 7.2 shows the land-use planning-permits issued before and after OG discovery in the six coastal districts. It shows a spike in industrial development-permits after 2007, in a period where OG-companies undertook appraisal, seismic survey, and oil-field development services. The emergence of downstream gas processing activities (especially with the Atuabo and Sanzule gas plant constructions) also drove demands for industrial-development permits in 2014.

Chart 7.2: Permits for Heavy Industry, Formal and Informal Commerce in the PER



Source: Permit Data from PER Spatial Planning Departments (1997-2017).[54]

In effect, these petroleum-based infrastructure and industrial developments in Southwestern Ghana drove the direction of the spatial planning policies instead of vice-versa.

However, not all forms of economic activities have been allowed to dictate spatial plans. The deregulatory approach to allow such OG-industrial developments has not been extended to local land uses like informal commerce. Although informal commerce has been recognised in spatial plans and envisaged as a potential for development in districts like Sekondi-Takoradi and Ellembelle,[55] in practice it has been

[54] Details of data shown in appendix 5. It encompasses data collected directly from the six coastal districts. For comparable data especially for Sekondi-Takoradi see Obeng-Odoom (2014: 155).
[55] MEST & Jubilee-Partners (2012a: 17), MLGRD (2017), MESTI (2013).

subjected to strict regulation and bureaucratic scrutiny since OG production began in 2010. See Chart 7.2.

As described by an [anonymised] spatial planner in Southwestern Ghana;

"*the temporary structures were making……they 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, anonymised PER Planner, 2018).

This interview excerpt was in response to my query about the dipping levels of informal commerce permit-applications (chart 7.2). Other staff members at that particular District Assembly had already given a similar explanation (through unofficial conversations) that approval for these permits had been halted. However, the quote from the anonymised planner re-confirmed the explanation in an interview setting. The halting of development-permits for informal commerce was also complemented by the demolition of some informal land-use structures for various projects. In 2015, over 500 informal commercial structures were destroyed for the construction of a $65 million mall, with 2000 local entrepreneurs displaced; the mall is 9 hectares in size, constructed by South African developer RMB Westport Properties Limited (Fiave, 2015: 66; Opoku, 2014). Political figures such as the Sekondi-Takoradi Metropolitan Chief executive have also raised concerns over indiscriminate sighting of informal commercial structures such as kiosks and their supposedly negative land-use implications (Aklorbortu, 2018b).

Comparatively, development permits for formal commerce rose in 2007 in anticipation of OG production, and subsequently dipped in 2010 due to increasing competition for land (chart 7.2, table 7.2). The rise in formal land use is also linked to extensions and

renovations made to existing houses by landowners, especially in the more urbanised Sekondi-Takoradi. This was aimed at gaining higher rents from commercial uses driven by the OG boom (Eduful & Hooper, 2015: 296). Over 4,400 businesses were registered in districts like Sekondi-Takoradi from 2010-2013 (Ackah et al., 2019: 349).

In effect, while OG settlement patterns drive spatial policy in Southwestern Ghana, pre-existing informal land-uses are delegitimised to facilitate higher-earning land-uses, high property taxes and low cost of tax collection (Interviews, anonymised PER Planners, 2018). Informal commerce here is used to refer to small-scale activities which might not have all the official documentation of their activities and are sometimes mobile.

This deregulatory approach to land-use is also evident in the proposals to deal with OG pollution risks in the local communities. As already noted, the carbon sequestration projects proposed by NGOs have also been propped up by the local EPA and acknowledged by local planners;

"*What we are also trying to come up with is to have direct offset strategies. So, if you pollute, you will need to offset the pollution in some other activity. For example, if someone has decided to use his trees for carbon sequestration and you are producing, and you have tonnage of carbon dioxide coming out, because the person has done [that], you will pay the offset. So those offset strategies are also being looked at and we hope to conclude soon to start implementing so that we have more people having that strategy because they also have to benefit from keeping their forest…… So those strategies are being looked at so that we can make a law, but these are administrative as at now, so we intend to make a law. So that for example, if somebody has 20 acres of forest being kept and you are polluting, then you must pay for some of it. If somebody has his land, they can use it to plant to offset the pollution, then the person will [benefit]*" (Interview, Western Region EPA, 2018).

"*When it comes to air pollution, we know through the activities of these [oil] firms, they will pollute the environment. Because they use fossil-fuel in their operations. But we are also blessed in Ahanta West where we have a lot of these rubber trees and other oil palm [trees] and stuff. They are there to serve as a form of carbon [sequester]. So, although they emit, we'll have the system in place, the biosystem in place to absorb them*" (Interview, Ahanta West Planner, 2018).

Carbon sequestration policies are also evident in Ellembelle spatial plans as one of its viable spatial strategies to mitigate pollution (MESTI, 2013: 78-79; Interview, Ellembelle Planner, 2017). In this case, the environmental role of state actors such as the EPA is limited to facilitating a marketplace for trading pollutants. It creates a contradiction between the non-commoditised and amenity value of the forest and its potential commodification. If implemented, the use of such carbon sequestration programmes as a form of pollution control and environmental conservation can also create a new avenue for economic value creation.

Altogether, the restrictions on informal land use vis-à-vis the deregulatory approach to OG-industrial, formal-commercial and potential forest land uses in the PER are in furtherance to enabling land use competition. In effect, bureaucratic de/regulation is an inconsistent land value approach that emphasises a deregulation of higher-earning land uses and a strong regulation of lower earning ones (evidenced in framings and spatial policies). The OG spatial settlements directed planning policy in PER; the policy direction was subsequently curated to the OG industry (section 7.3 will shed more light on this). This neglects the role of informal economy which remains one avenue in the PER through which locals tap into the technologically-intensive OG industry (Bunker, 1985: 23-26). As at 2014, there were 7000 workers in the upstream oil industry, made up of 5600 Ghanaians (MOFEP, 2015a: 22).

The spatial outcomes of the "bureaucratic de/regulation" approach to land values entail a rise in land uses tailored towards formal-commercial and higher-earning industrial functions together with a steep decline in informal land uses. Aside the state's emphasis on bureaucratic land use planning, it also emphasises a notion of OG public benefits based on market-centred investments and voluntary-charity projects in Southwestern Ghana, as the next section shows.

7.2.2 Public Benefits

Public Benefits refer to specific "public" goods and services gained from the OG economy in Southwestern Ghana. OG production from the Jubilee fields, excluding gas, was expected to realise $1 – $1.4 billion annually for the central government, constituting 38-51% of the total oil revenue (Akuffo-Addo, 2010; Panford, 2016: 6; CCG, undated: 3-4). However, from 2011 to 2014, such OG revenues stood at $700 million a year (Panford, 2016: 6-7, 107; GNPC, 2000).[56] Regardless, these OG rents are not directly reflective of public benefits in Southwestern Ghana, since such revenues are nationalised.

Hence, in Southwestern Ghana, the state actors (central and subnational government) emphasise public benefits through policies and practices that highlight private land investments, planned petro-industrial hub projects and voluntary corporate social responsibility projects (MEST & Tullow, 2012; MEST & Jubilee-Partners, 2012b; STMA, 2016). Here, OG companies are a favoured part of the PER's conception of public benefits. Particularly, voluntary CSR projects have become replacements and quasi-compensations for the nationalised oil-rent structure in Southwestern Ghana. Such anticipated CSR projects include the construction of roads, school facilities, water amenities, electrification projects, scholarships, OG training schools, industrial spin-offs and rehabilitation of hospitals. This was emphasised in the spatial plans for Shama, Sekondi-Takoradi and Nzema East districts (MEST & Tullow, 2012; MEST & Jubilee-Partners, 2012b; STMA, 2016) as well as in field interviews with planners in

[56] Royalties paid for crude oil and natural gas from the Jubilee oilfield currently stand at 5% and 3% respectively. The 5% royalty rate is considered one of the lowest in Africa (Ayifli et al., 2014: 333; Panford, 2016: 90, 127). It lies at the lower bound of the 4% - 12.5% royalty range stipulated in Ghana's *Model Petroleum Agreement* in 2000 (Panford, 2016: 107).

Sekondi-Takoradi, Jomoro and Nzema East districts (Interviews, STMA Planner, STMA Development Planner, Jomoro Planner, Nzema East Planner, 2018).

Picture 7.3 shows some of the projects provided by the OG companies in the Jomoro district (2014-2015), which was affixed to the walls of the District Assembly Office. It contains CSR projects funded by ENI and other oil service companies.

Picture 7.3: CSR Projects by OG Companies in the Jomoro District (2014-2015)

Source: Author, December 05, 2017.

In urban areas like Sekondi-Takoradi metropolis, OG investments and related spin-offs are deemed as strategies to maximise the public's "*visible benefits*" from the petroleum economy, as evidenced by their spatial plans (MEST, & Jubilee-Partners, 2012a: 2). Additionally, the spatial plans in Sekondi-Takoradi emphasise "*rationalising*

land use" to make it more "*efficient, compact and responsive*" in gaining such benefits (MEST, & Jubilee-Partners, 2012a: 10). For the Ellembelle district, such public benefits are mooted through anticipated negotiations with OG firms in funding local projects;

"*Dedication Funding: Under this instrument, the [Ellembelle] District Assembly may negotiate with developers/investors, particularly those in the oil and gas industry to donate land or facilities for public use. In the area of waste management for example, the Assembly can negotiate with developers to contribute to the construction of sewerage systems, waste treatment plants and roads. The ownership and management of the infrastructure subsequently will be the responsibility of the District Assembly*" (MESTI, 2013; 101).

For Nzema East district, OG firms are deemed as potential partners in private-public partnerships in their local districts (MEST & Jubilee-Partners, 2012b: 94).

This approach to public benefits espoused by the various state-actors in the districts contrasts with the notion of "*communal benefits*" elicited by non-state actors which highlight customised and mandatory benefits to be gained in the OG economy in the PER. The notion of "*public benefits*" by the central and local governments in the PER rather focuses on private investments, central government projects and voluntary corporate projects. These three forms of value are explained subsequently as i) Land for Investment Projects ii) Value through the "Industrial Hub" and iii) Land and Livelihoods.

7.2.2(i) Land for Investment Projects

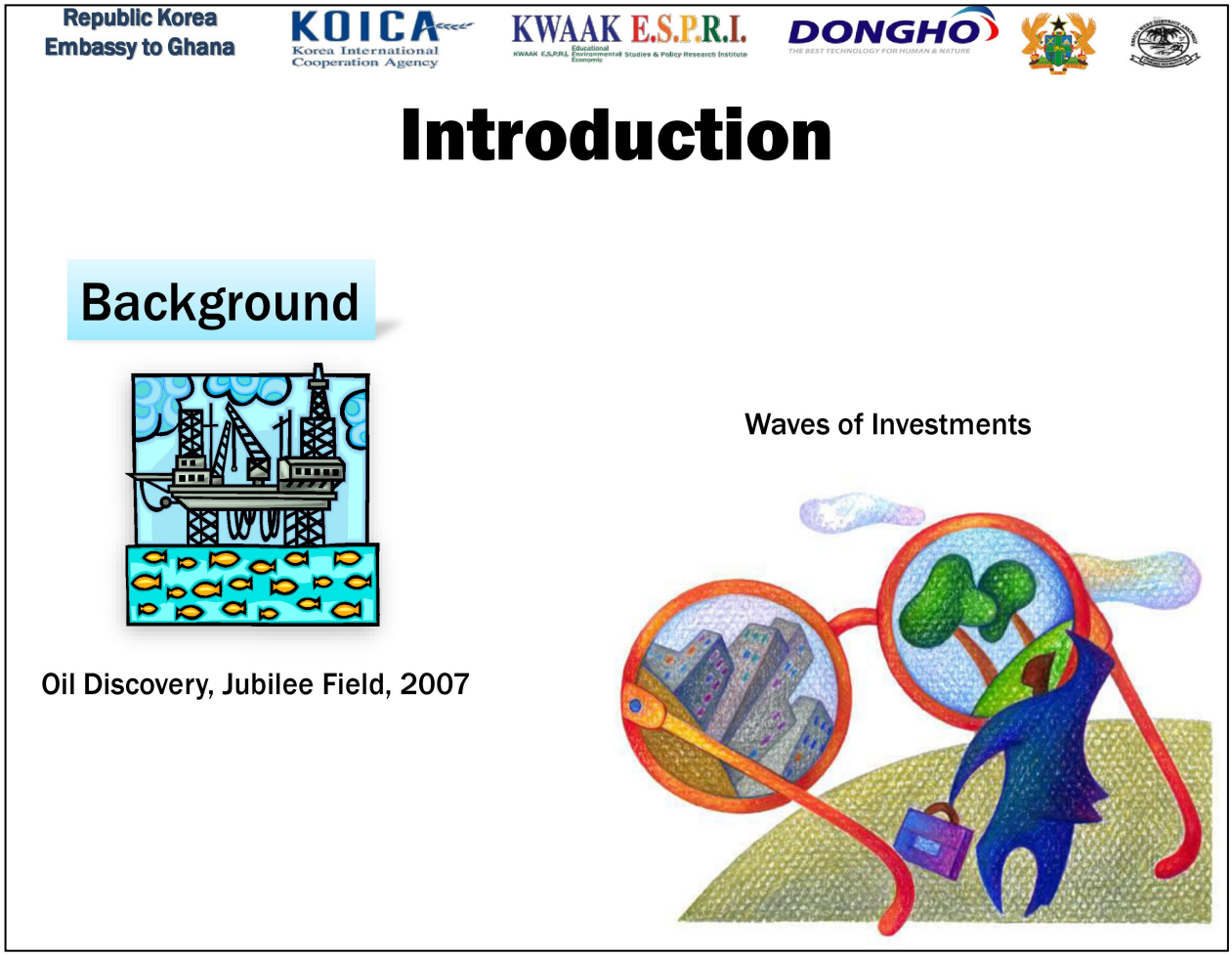
Here, land is valued as part of local government strategies in the PER to attract investments for petroleum-related real estate investments. This goes beyond the mere granting of planning permits. The result of this form of land value has been the growth and speculation of leisure real estate projects in the PER. The growth of such OG real estate projects and land investments is thus deemed as a form of public benefit by state-actors in the PER.

In the spatial plans of the PER districts, the investability of local lands (Li, 2014: 594) is signalled as a deregulated entry-point for OG investors and real estate developers willing to capitalise on the economic and population boom. Especially for the Sekondi-Takoradi, Ahanta West, Shama and Ellembelle districts, their spatial plans frame land as ripe for private investment, highlighted as "*developable land*" with "*relative usability*" (AWDA, 2010: 17-18; STMA, 2016: 19). Other frames of meaning such as "*unencumbered*", "*derelict*", "*underutilised*", "*virgin*" or "*abandoned*" lands are also used in the spatial plans (MEST & Jubilee-Partners, 2012a: 10; MESTI, 2013: 76; GFZA, undated; Interview, STMA Development Planner, 2018; Ahanta West Planner, 2018).

Figure 7.6 and map 7.1 show extracts of the spatial plan of Ahanta West district, highlighting the investment-potential of lands. It points to the use of the OG production to valorise land investment opportunities in the Ahanta West district. In 2009, local planners from Ahanta West applied for grants from KOICA (South Korean International Cooperation Agency) to draft their spatial plan. KOICA together with other international technocrats and financiers (Korea Land and Housing Cooperation, Dongho Korean Saudi Limited Company) granted $2.5 million to the Ahanta West district to formulate

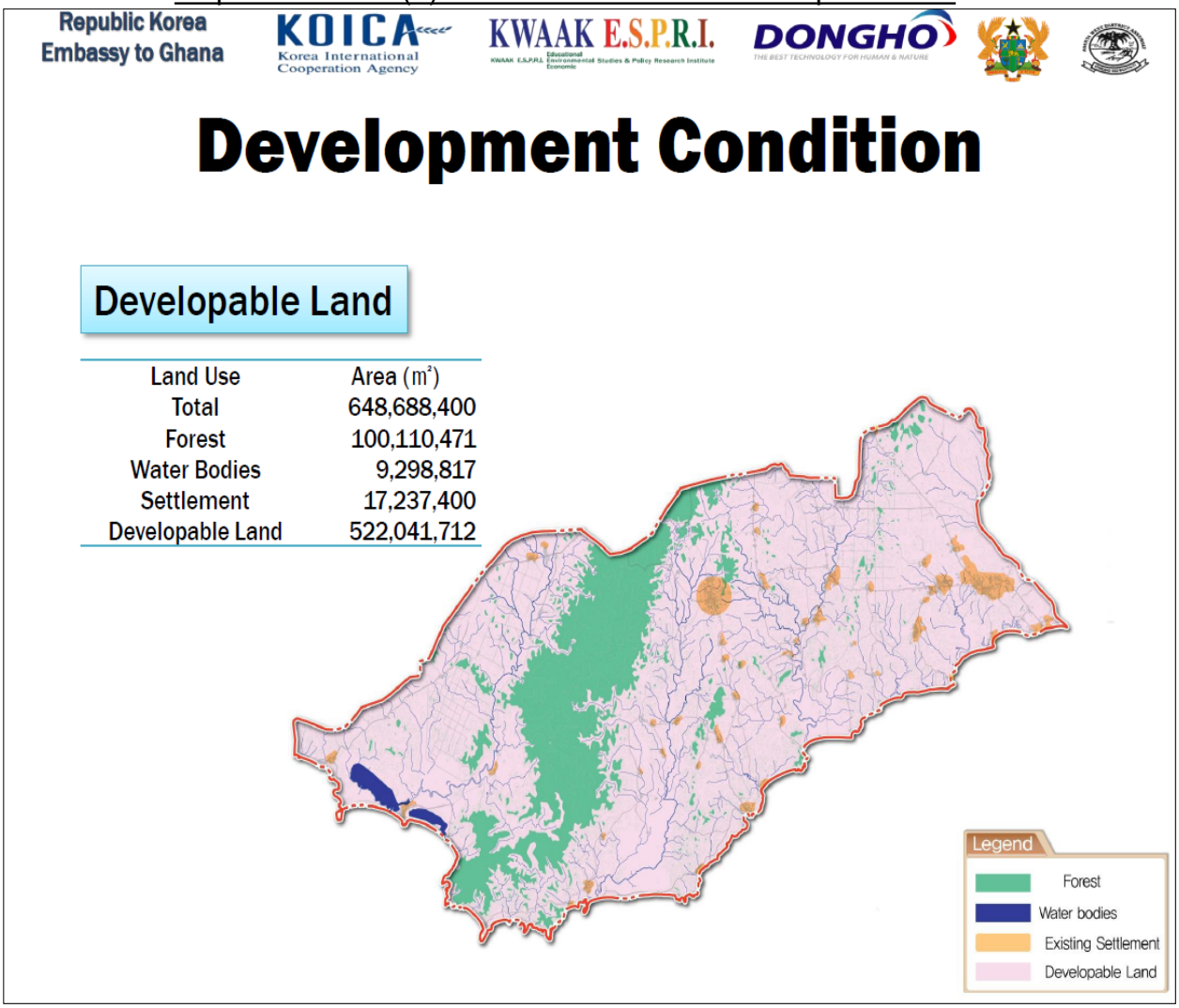
their district SDF plan. The donors hoped to be first-movers in high-end real estate investments in the PER to attract the burgeoning oil-labour class. That hope did not materialise since the current oil output – 150,000 barrels per day – was below the investors' expectations (Interview, Ahanta West Planner, 2018). Nonetheless, the Ahanta West district got a spatial plan out of the process. Indeed, one of the goals of the Ahanta West spatial plan is to build a new city in the district based on a rural-urban modular planning structure using the OG economy as leverage to attract foreign developers (Interview, Ahanta West Planner, 2018; AWDA, 2010: 37). The aim is to build a city "*like Abuja, like Yamoussoukro, like Dubai, like other cities in South Korea*" (Interview, Ahanta West Planner, 2018).

Figure 7.6: Extract (1) from Ahanta West District Spatial Plan



Source: AWDA (2010: 4)

Map 7.1: Extract (2) from Ahanta West District Spatial Plan



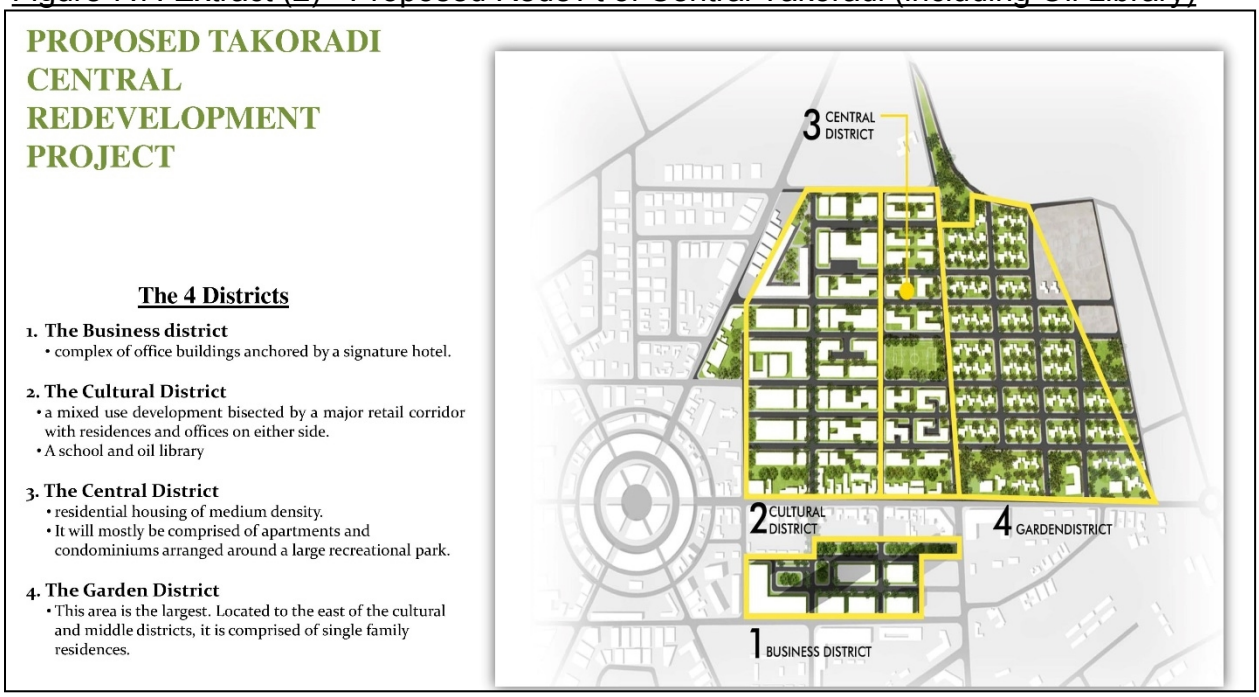
Source: AWDA (2010: 17).

In Sekondi-Takoradi metropolis dubbed the "*Oil-City*", one aspect of their investment policy is a proposed redevelopment of the Takoradi city centre (STMA, 2016). See picture 7.4 and figure 7.7. As figure 7.7 shows, the investment strategy of the redevelopment plan will focus on a "*Business District*" anchored around a "*Signature Hotel"* and a "*Cultural District"* including an "*Oil Library"* (STMA, 2016, 25).

Picture 7.4: Extract (1) from PowerPoint: Sekondi-Takoradi Metropolis

Source: STMA (2016: 3).

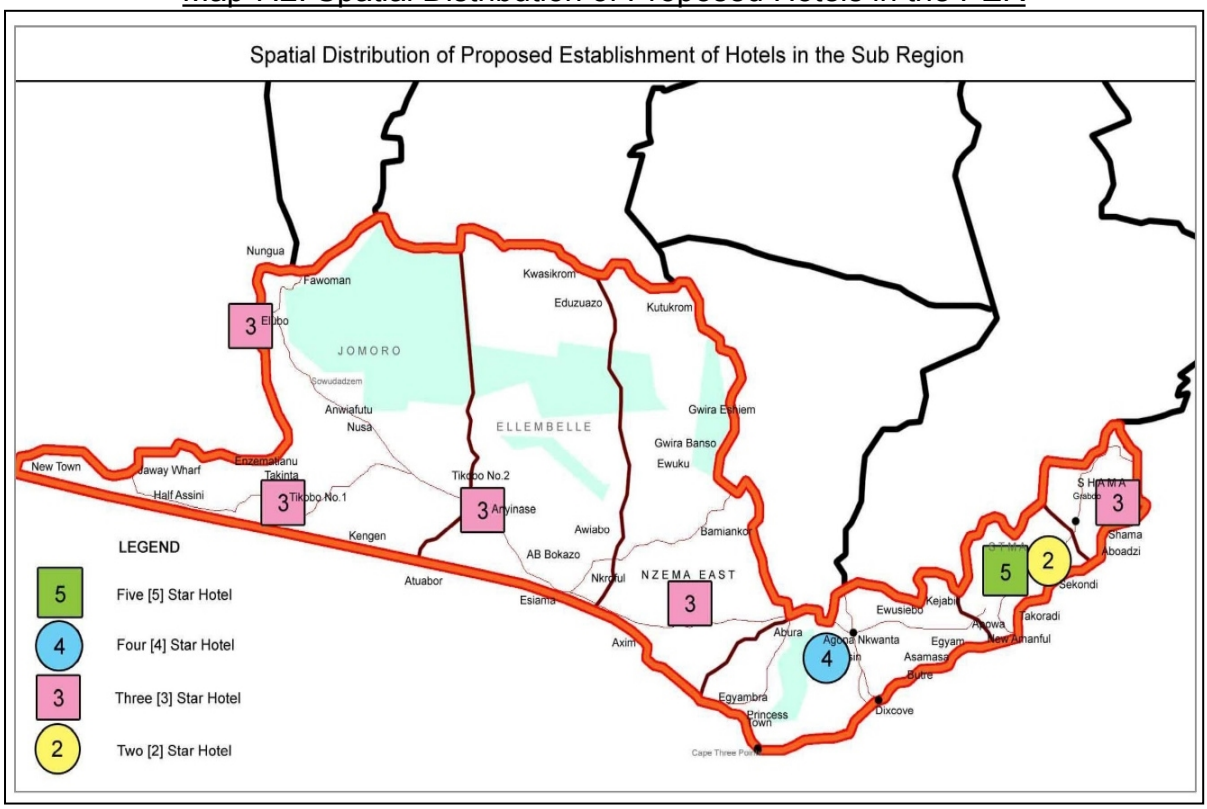
Figure 7.7: Extract (2) - Proposed Redev't of Central Takoradi (including Oil Library)



Source: STMA (2016: 25).

In addition, the construction of hotels in Southwestern Ghana is deemed as one of the local government strategies to retain the revenue of the OG labour class in the six coastal districts (AWDA, 2010: 37; MEST & Jubilee-Partners, 2012a: 21; MESTI, 2013). Map 7.2 shows spatial plans for anticipated two to five star hotels, evident in the combined sub-regional spatial plan for Southwestern Ghana (MEST & Jubilee-Partners, 2012c: 61).

Map 7.2: Spatial Distribution of Proposed Hotels in the PER



Source: MEST & Jubilee-Partners (2012c: 61).

This plan of attracting such private land investments for OG real estate is also emphasised in the individual district spatial plans. For Sekondi-Takoradi, the spatial policy states that;

"*The hospitality industry, creative industries and night-time economy need drastic and urgent reforms if the huge spending power of the oil labour force is to be retained locally. Comprehensive local plans should be prepared for parts of Sekondi, Europeans town, beach front and Takoradi beach frontier to promote new investments in hospitality that will meet the expectations of the oil labour force*" (MEST, & Jubilee-Partners, 2012a: 21).

For Ellembelle district, their spatial policy states that;

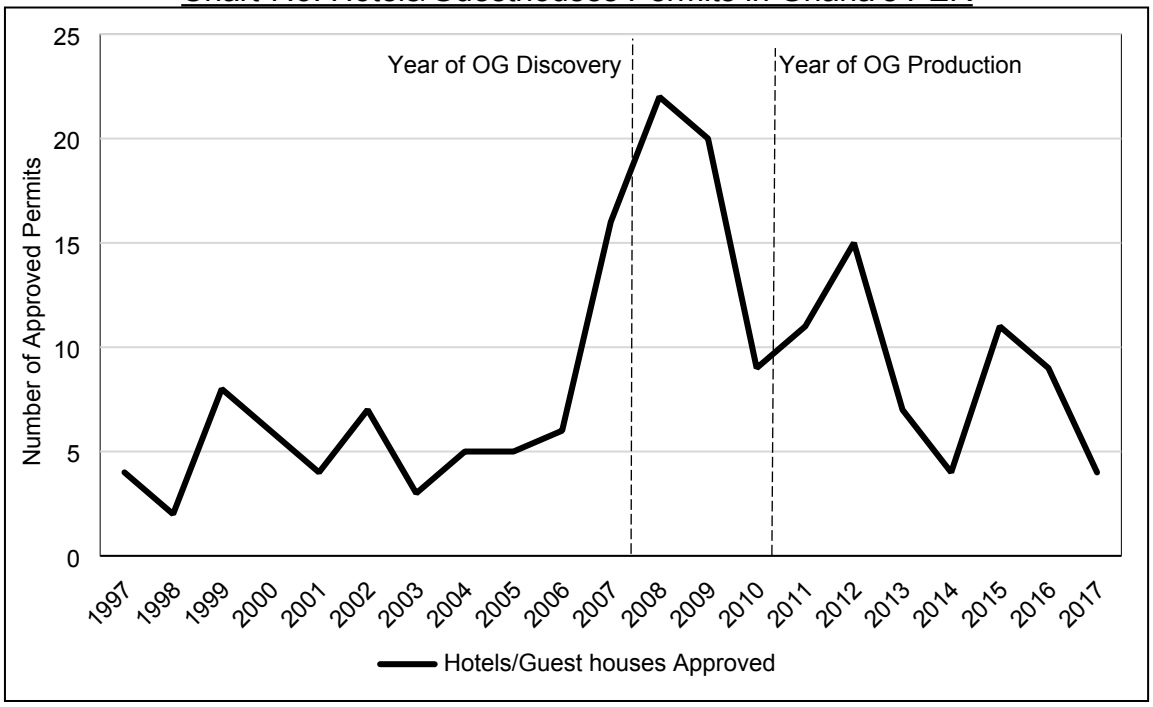
"*The SP [Structure plan] is intended to guide development of the oil and gas enclave comprising the Atuabo gas processing plant and all spin-off activities that will surround the plant, including housing and infrastructure*". This includes "*high-density residential development designed purposely for industrial workers*" (MESTI, 2013: 11).

These policies concretised the expected growth of the OG leisure real estate sector in policy, as one way of creating a competitive market-based value of land. The

facilitation of private hotel investments was one major policy to retain revenues from the OG labour force in the local economy.

In effect, the granting of development permits for the construction of hotels and guesthouses increased in the PER, especially within the periods of OG discovery (2007) and first production in 2010 (see chart 7.3). Hotels and guesthouses usually provide short-term accommodation for rotational petroleum workers in the PER; especially for oil-rig workers that have specific days offshore (Ablo, 2012: 61). The spike in these real estate development permits in 2007 subsequently declined due to the saturated supply market and limited OG workforce, although the dipping effect observed in 2008-2009 may have also been enlarged by the global financial crisis (Chart 7.3).

Chart 7.3: Hotels/Guesthouses Permits in Ghana's PER



Source: PER Spatial Planning Departments (1997-2017).[57]

[57] Details of data shown in appendix 5. It encompasses data collected directly from the six coastal districts. For comparable data especially for Sekondi-Takoradi see Obeng-Odoom (2014: 155).

The spatial outcomes of these framings of land-use efficiency and market value as well the policy preference for OG-related private real estate projects have resulted in the growth of hotels, gated communities and speculated 'new city projects' in the PER. This is also facilitated by existing national policies on private land investments in Ghana, including a low corporate income tax reduced from 55 to 45%, with a five-year tax holiday for real estate developers as well as exemption of developer-built housing from stamp duty fees (Asiedu & Arku, 2009: 231-232; Fiave, 2015).

A notable example of such hotels in Southwestern Ghana is the "*Best Western Plus Atlantic Hotel*", a first five-star hotel completed in Sekondi-Takoradi in 2012 (Obeng-Odoom, 2014: 104). Developed by the multi-national Best Western International Plc headquartered in Arizona (USA), the hotel boasts of about 224 rooms, a football field and a tennis court among others (Hage, 2016; Bloomberg, 2019; Obeng-Odoom, 2014: 104). See picture 7.5.

Picture 7.5: Best Western Plus Atlantic Hotel

Source: Hage (2016). *(Size: 3.5 hectares) (Actor: Best Western International Inc)*

A more curated real estate project for the oil labour class is the "*Oil-Village*" project. Completed in 2013, the Oil-Village is a gated community built specifically for oil workers (Obeng-Odoom, 2014: 101). See picture 7.6. It is owned by an Accra-based developer (Ankamah Reality Limited) and entails residential apartments, health and education facilities (Ampratwum-Mensah, 2016), creating an insulated enclave.

Picture 7.6: Oil-Village Gated Community

Source: Google Maps (2019), McTernan & Mensah (2014). *(Size: 40 hectares) (Actor: Ankamah Reality Limited)*

Aside these actual OG real estate projects, there has also been a rise in speculative real estate projects (mostly curated towards the OG industry). This is characterised by large-scale land acquisitions by international and local corporate actors for speculative oil-themed projects, yet to be realised. Table 7.2 shows the transfer of land-deeds to corporate entities from 2008 to 2015 in the six coastal districts, highlighting the steady corporate acquisition of deeds for various land use projects, both real and speculative.

Table 7.2: Land-Deeds Transferred to Corporate Entities in the PER (2008-2017)

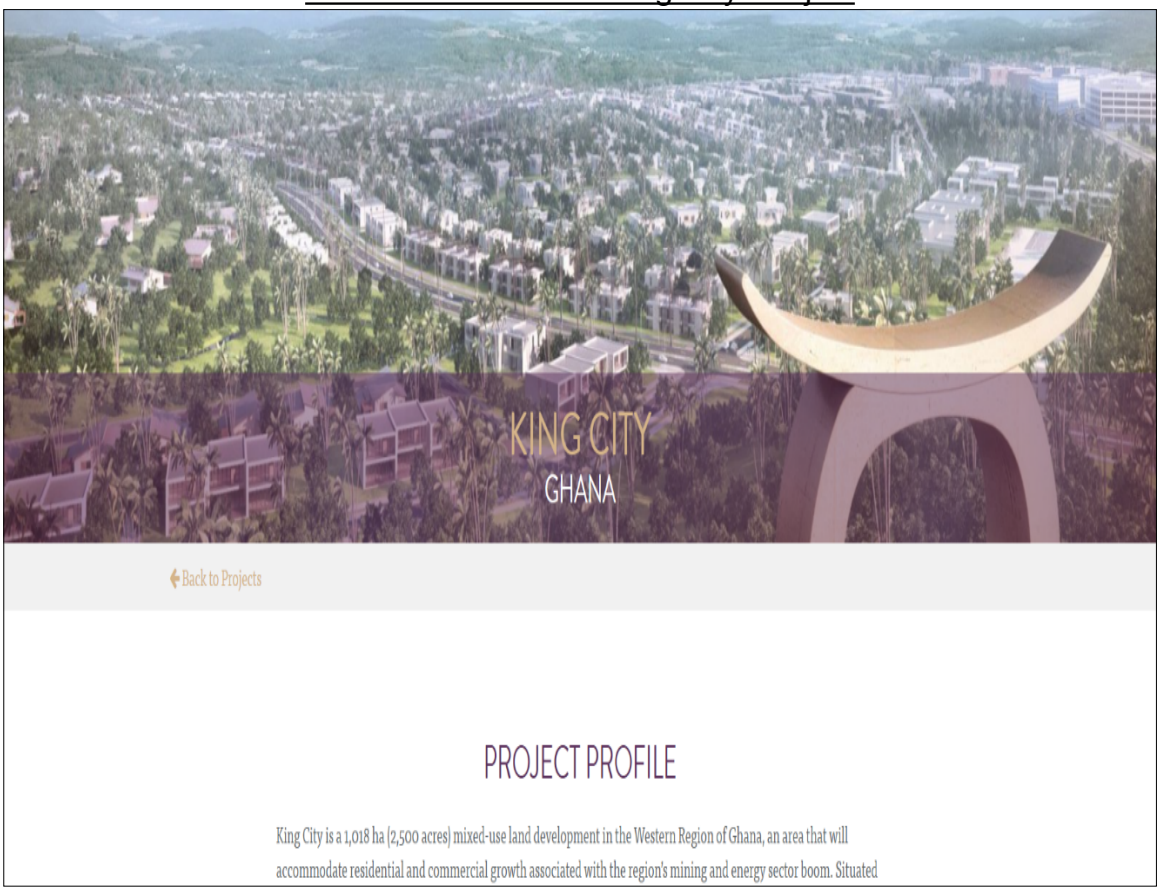
Year	Number of Deeds
2008 (from Feb.)	78
2009	60
2010	50
2011	76
2012	159
2013	63
2014	149
2015	165
2016	154
2017	107

Source: Lands Commission – Deeds Office, Western Region (2008-2017).[58]

Notable among such speculative real estate projects in the PER are the "*King-City*", "*Petronia-City*" and "*Soroma Capital Real Estate"* projects (Kermeliotis, 2013; Rendeavour, 2018; Obeng-Odoom, 2014: 101; Webtek Ghana, 2018). See pictures 7.7 to 7.9. Also see appendix 3 for summarised details of these projects. King-City is a planned new city project in Sekondi-Takoradi estimated to include 25,000 homes to "*accommodate residential and commercial growth associated with the region's mining and energy sector boom*" (Rendeavour, 2018; Kermeliotis, 2013). The project is financed by Rendeavour, a real estate developer offshoot of Russia's Renaissance Capital Company (Van-Noorloos & Kloosterboer, 2017: 16). The project is currently halted, due to the financial and management problems of Rendeavour, with similar issues in its new city projects in Kenya (Van-Noorloos & Kloosterboer, 2017: 16).

[58] This refers to the number of deeds issued to actors with corporate names and does not specify the size of the lands. Neither does it specify individual acquisition of lands for corporate purposes, which could arguably increase the current figures. Details of data shown in appendix 6. It encompasses data collected directly from the Lands Commission Office of the Western Region.

Picture 7.7: Planned 'King-City' Project



Source: Rendeavour (2018), Van-Noorloos & Kloosterboer (2017). *(Size: 1000 hectares) (Actor: Rendeavour / Renaissance Capital Company)*

Additionally, the Petronia-City project is described by its investors as "*a Silicon Valley-esque energy city and a digital hub, with residential and commercial applications*" (Nsehe, 2018). By its name, the project is a planned new OG-themed city to be built in the Ahanta West district. The planned city is to be financed by a British-Ghanaian private joint venture company (Capital Nine Zero Investment). It will entail industrial and residential uses including a petroleum university (Nsehe, 2018; Petronia-City, 2015; Asher, 2015). Land acquisition for the project entailed private negotiations with fifteen chiefs and sixty-five families in the Ahanta West district (Nsehe, 2018). See picture 7.8.

Picture 7.8: Planned 'Petronia-City' Project

Source: Petronia-City (2015). *(Size: 809 hectares) (Actor: Capital Nine Zero Investment Company)*

A third speculated project is the Soroma Capital Real Estate project, to be built in Sekondi-Takoradi (see picture 7.9). The project was to be financed and developed by Accra-based Soroma Capital Limited; the project is also yet to be realised (Webtek Ghana, 2018).

These speculative projects have resulted in vacant lands and absentee landlords in the PER. They are evidences of transnational capital finding or attempting to find new spatial frontiers (van-Noorloos & Kloosterboer, 2017:7; citing Harvey, 1985), in this case, to realise higher returns in a booming petroleum economy.

Picture 7.9: Model of Speculated 'Soroma Capital' Project

Source: Webtek Ghana (2018). *(Size: 19 hectares) (Actor: Soroma Capital Company)*

It is argued that the trajectory of land investments after OG discovery follows a pattern of initial flow of speculative capital, an ensuing period of decline, and a final exit of non-profitable speculators (Le Billon & Sommerville, 2016: 11-12). In Southwestern Ghana, such a pattern manifests through the influx of speculative land holdings for planned OG industrial and real estate investments. As already stated, the OG economy has taken up an estimated 63,000 hectares of land through direct and related OG spatial projects (Sam & Buckle, 2017: 8; Fiave, 2017: 73; GPHA, 2016). Local planners and NGOs also recognise that land speculation has emerged in the PER;

"*We also have a lot of people buying lands for real estate purposes. It has not been very successful*" (Interview, Ahanta West Planner, 2018).

"*Right from when the [oil] discovery was made, that was when people were rushing to get the lands here*" (Interview, STMA Planner, 2018).

"Along the road from Ayisakrom towards Axim toll-booth, there's been a lot of speculation. People have acquired huge lands; and it has been there for more than 5 years. But it is not within the [district] assembly's plans; so [in the plans] we have no idea that they've been bought but I know they've been bought" (Interview, Nzema East Planner, 2018).

"*…after the oil find, there has been a lot of speculation; investors come in and buy large tracts of land and just keep them. Maybe they want the value to increase in the future so that they sell it. So, most lands are bought by investors – those who have money – they come and buy it and resell. Also, it has brought in some companies – large companies – [who] have come in to buy lands with the intention of investing in the region*" (Interview, OASL, 2018).

"Especially in Ahanta West, at the initial announcement that oil has been found in commercial quantities, there were those who…smartly acquired land. Not necessarily as oil and gas companies but [they] just acquired the lands in large tracts. So, now these are the people who are subletting these lands to the [oil] service providers…… So, somebody has become a middleman who has smartly acquired the lands before everybody realised that land is going to be expensive, and now he resells at a certain value" (Interview, COLANDEF, 2018).

Initial land acquisitions in the PER were speculative, with some calcifying into purchased but unused lands. In the drive to create forms of public benefits, spatial plans were thus directed towards these OG-driven land purchases to benefit the oil labour class and speculators to the detriment of locals who are yet to experience the benefits of such private land investments.

The effects of such new-city projects and the influx of leisure real estate have also increased prices in the rental and housing market. Eduful and Hooper (2015) report of 400% increases in house prices in parts of Sekondi-Takoradi metropolis in 2014 (p. 294). As at 2014, rent for a furnished two to three-bedroom house in wealthier parts of Sekondi-Takoradi cost between US$2000 and US$8000. Similarly, in under-serviced neighbourhoods with household incomes of US$15.87 per day, their monthly rents increased to US$130 - US$160. Other parts of Sekondi-Takoradi also saw their monthly rents rise from US$12 to US$46 (Eduful & Hooper, 2015: 294; Fiave, 2017: 66-69).

Private landlords in urban Sekondi-Takoradi have also made extensions and renovations to houses in order to increase house prices and meet the needs of incoming OG workers (Eduful & Hooper, 2015: 296). Housing for local people is thus left to the private market amidst these high prices and speculative activities driving gentrification in the more urbanised Sekondi-Takoradi (Interview, STMA Development Planner, 2018; Interview, PER Oil & Gas Radio and Television Journalist, 2017). While rural inhabitants in the PER face threats of land-displacement, urban inhabitants are susceptible to gentrification. This creates a cycle of displacement in both rural and urban areas, showing a double squeeze of rural and urban land-alienation (Harvey, 2004, 2010, 2018).

Hence, the drive to facilitate higher market value in the OG process goes beyond the inconsistent regulation of land-permits in favour of industrial and formal commercial uses (seen in section 7.2.1). This section has therefore highlighted the strategies used by the PER governments to attract private land investment in hotels, OG real estate and the general housing sector in pursuit of higher property taxes. Valuing land as an attractor of OG investment therefore ignites the goal of efficiency, framing land's readiness for such private investment.

In summary, while non-state actors explore the potential for community-shareholder value as a form of investment, state actors focus on attracting private investments and property taxes to provide continuous benefits to local government coffers, while side-lining local issues such as low-income housing. Aside these policies to attract private investments, the (especially central) government's land value strategies in the PER emphasise the creation of petro-hubs to emulate and outcompete other petro-geographies.

7.2.2(ii) 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 Southwestern Ghana. The aim here is to expedite OG-driven industrialisation in Ghana and compete against other West African and continental oil-regions (Phillips et al., 2016: 38; WRCF, 2017c, 2017h; Kaku, 2019; Nunoo, 2019). This is to enhance OG-based services and employment prospects in the PER as a form of public benefit. Here the central government has been active through the use of discretionary powers to declare intended (and often politicised) petroleum projects. This is then followed by compulsory acquisition of local lands by the regional lands commission for the central government (and in some cases private companies) to implement such projects.

In a 2019 speech at the *Third Ghana International Petroleum Conference* in Accra, Ghana's Vice-President emphasised that;

"[the] vision for the petroleum downstream industry is to ensure that Ghana becomes a key player in the industry in the West African sub-region [by] building an integrated infrastructure to serve the sub-regional petroleum industry" (Vice-President Mahamudu Bawumia; cited in Nunoo, 2019).

Similarly, the *2016 Gas Master Plan* sets out to manage downstream gas activities, including petro-industries in Takoradi, Atuabo and Sanzule (see table 5.7). Additionally, parastatals agencies such as the Ghana Free Zones Authority (GFZA), the Ministry of Energy, Ghana Investment Promotion Centre (GIPC) and Ghana Ports and Harbours Authority (GPHA) facilitate both private and central government investments in land for proposed petro-industrial hub projects. Specifically, GFZA through the *1995 Free Zones Act* facilitates investor-access to local lands through land banking and the creation of special economic zones with the purpose of creating such

hubs (see table 5.6). This role of GFZA provides a "*one-stop shop*" for promoting investments by facilitating the acquisition of permits, licences and land authorisations (Cotula et al., 2009: 67). Through land-banking, GFZA acquires lands from chiefs and landowners in the PER in return for reduced land revenues, with the lands subsequently leased to investors under specific terms (ILO, undated; GFZA, undated). The terms of such land-banking may include "*private treaty*" arrangements, where the government pays part of the land price to the land owner and installs electricity and water facilities on the land, while the tenant investor pays the rest of the land price to the owner upon occupying the land (Interview, GFZA, 2018). Land banks are aimed at simplifying investment processes for investors and to potentially reduce speculation. Once such lands have been acquired, tenant OG companies can obtain special economic zone (SEZ) status. Companies with SEZ status benefit from zero-tax incentives for the first ten years of operation among others. See table 6.7 (GFZA, 1995). For land-owning chiefs and families who consent to such land-bank projects, the hope is that the land-banks will attract investment and jobs opportunities for the community inhabitants and related kinship groups (Davis, 2019).

The already mentioned Atuabo and Sanzule gas plants, expansion of the Aboadze power plant in Shama, the impending Atuabo Free Port Project and the assortment of land banks are all geared towards creating petro-hubs in Southwestern Ghana (Interviews, Six Districts Planners, 2018). In addition, the Takoradi Port is currently under expansion by GPHA, entailing 53,000 hectares of land, to expand the port's container terminal in furtherance to developing a hub in the region (Kwofi, 2018; Fiave, 2017: 73). See Appendix 3.

Two of Ghana's four SEZs are in Southwestern Ghana, constituting 70% of Ghana's 3100 hectares of SEZs (Interview, GFZA, 2018; MESTI, 2013: 68; AWDA, 2010: 67; JDA, 2017: 30). The SEZs in Southwestern Ghana are located in Sekondi and Shama, acquired through land-banking in 1995. Figures 7.8 and 7.9 show the Shama SEZ which is currently under private construction to attract industrial investments including OG companies (Interview, GFZA, 2018; Westpark, 2017a, 2017b). The Shama SEZ is currently under development by Black Ivy Group, an American venture capital company serving as an anchor tenant to attract OG companies to the SEZ (Interview, GFZA, 2018).

Figure 7.8: Shama SEZ Master Plan

Source: Westpark (2017b), Interview (GFZA, 2018). *(Size: 1300 hectares) (Actor: Black Ivy Group)*

Figure 7.9: Land Clearing at Shama SEZ

McAdam Design (2017) Interview (GFZA, 2018). *(Size: 1300 hectares) (Actor: Black Ivy Group)*

Aside the Sekondi and Shama SEZs, additional lands have also been set-aside (through land banking) to serve as petroleum SEZs from 2027 (Interview, GFZA, 2018). These new SEZs will be in Eshiem and Bonyere/Domunli (MEST & Jubilee-Partners, 2012c:10). Currently, the Bonyere/Domunli SEZ has received much national-level attention, earmarked as a future government-run petrochemical hub in the PER (Kaku, 2019). It constitutes 8000 hectares of land in the Jomoro district (Kaku, 2019; Interview, Jomoro Planner, 2018). Spearheaded by the Ministry of Energy, the Bonyere/Domunli hub will entail a fertiliser plant, refinery facilities as well as a harbour (Kaku, 2019; Nunoo, 2019). Its location would enable the transport of OG products to the neighbouring countries of La Cote d'Ivoire, Mali and Burkina Faso (Kaku, 2009). See figure 7.10.

Figure 7.10 Model of Bonyere/Domunli Hub

Source: TOGY (2013: 45). *(Size: 8000 hectares) (Actor: Ministry of Energy)*

Aside such national level strategies to create a petrochemical hub in the PER, the notion of "*hubs*" has also diffused into the local spatial plans of Sekondi-Takoradi, Shama, Ellembelle and Ahanta West districts. As shown in table 7.1, the direction of spatial development in Sekondi-Takoradi focuses on creating a major international hub in the long-term, with Shama district anticipating OG spill-over industries. Similarly, a part of Ahanta West's spatial plan is to gain the status of a West African hub within the petro-chemical industry. Terms such as "*economic hubs*", "*transit hubs*", "*coastal development belt hubs*" and "*growth centres*" are also highlighted in these local spatial plans (MEST & Jubilee-Partners, 2012a: 3, 6; AWDA, 2010: 19, 31; MESTI, 2013: 6, 59; Interview, GFZA, 2018). As envisioned in the Sekondi-Takoradi spatial plan, the notion of "*hubs*" thus highlights the PER as a competitive geo-economic space that

"*outbids the rival cities of the ECOWAS subregion*" in attracting industrial investment, export, commerce, air and sea ports traffic (MEST & Jubilee-Partners, 2012a: 6).

The goal of such hubs is to emulate other global and regional petro-geographies such as Dubai, Singapore, Abuja, Yamoussoukro, and even emerging industrial-economies like Malaysia and South Korea (Interview, Ahanta West Planner, 2018; Interview, GFZA, 2018). National-level officials at the Ministry of Energy also cite the likes of Houston and Aberdeen as petro-geographies to emulate (PeaceFMOnline, 2018). In effect, both the local and especially the central-governments aim to realise public benefits in Southwestern Ghana by developing such hubs,.

For state actors, the development of a petro-industrial hub underscores the desired permanence of the OG industry's benefits, as a path toward national industrialisation. For the OG firms, their interests may be temporal and dependent on the resource reserves available (Interview, Tullow Community Liaison Officer, 2018), leaving open the question of the sustainability of such hubs and their associated logistics/infrastructure after reserves are depleted. The next section underscores the expected role of OG companies by state actors.

7.2.2(iii) Land and Livelihoods

The notion of livelihood as articulated by the subnational government actors in the PER represents programmes and projects to support those directly or indirectly affected by the OG production activities. It underscores concerns over food security (see chart 7.1) and employment generation in the PER caused by land-dispossession of local PER communities.

The one-time compensation payments for compulsorily acquired lands are expected to provide benefits for affected residents of such land losses (as highlighted in the *2016 Petroleum Exploration and Production Act 919*). For the Atuabo gas project in Ellembelle district, coconut farmers whose lands were compulsorily acquired by the Western Region Lands Commission received as compensation Gh₵ 35 (€5.7) per coconut tree and Gh₵1200-2200 (€198-363) per acre of coconut farmlands (Asamoah, 2014: 61-62, 76). These farmers were not participants in the determination of these compensation amounts although they were initially included in identifying and measuring the farmlands (Ablo & Asamoah, 2018: 195). Additionally, in Sekondi-Takoradi, communities to be affected by the impending Takoradi port expansion project are expected to benefit from a Social Investment Fund to be provided by GPHA (GNA, 2016; Fiave, 2017: 72-73). This would entail payments from GPHA to the communities of New Takoradi and Poase in the Sekondi-Takoradi metropolis (GNA, 2016).

Aside these mandated compensations, both central and local PER governments rely on corporate CSR projects as a form of public benefit for affected communities. As already mentioned, CSR as a form of public benefit is favoured by state actors to

provide voluntary projects, skills-upgrading and alternative livelihood programmes for communities facing such land-alienation; seen in section 7.2.1(ii).

In effect, spatial policies in the PER also highlight the implications of these industrial activities on food security and the alienation of farmers and the need for skills training and capacity building initiatives. Excerpts from the Shama district spatial plan links these issues of food security and employment;

Figure 7.11: Excerpt from Shama District Spatial Plan

> ***Industrial and Residential Developments Competing with Agriculture for Land***: *Rapid conversion of agricultural land for residential, commercial and industrial uses is displacing traditional agro-based livelihoods and diminishing vital ecosystem goods and services, with negative implications for food security and overall resilience of ecosystems in the district. Various concerns were expressed by the community people regarding the changing, competing and overlapping land uses in the district and how it will affect livelihoods and quality of life. Many perceived that the emerging conflicts and tensions between land users will escalate in the foreseeable future and alienation of tenant farmers will increase as more financially rewarding land use becomes available. A majority of the youth expressed their aspiration to leave the rural settings for urban centres in search of new opportunities as locals increasingly lose interest in farming. Many were of the opinion that community farmlands will be pushed onto marginal lands in remote areas of the district*.

MEST & Tullow (2012: 48; underline added)

Additionally, the Shama and Nzema East spatial plans have outlined policy statements to enhance skills training and capacity building initiatives;

"*It is envisaged that establishment of higher educational institutions in these sites will train personnel for services like education, health and the oil and gas industry"* (MEST & Tullow, 2012: 68).

"*Skills training and entrepreneurship development programmes for the youth in the Municipality will help in equipping the youth with the requisite skills and attitude in taking advantage of the discovery of oil and gas within the coastal belt. This will also prepare the youth to go into ventures that can support the oil and gas industry thus sustaining their livelihood in the future*" (MEST & Jubilee-Partners, 2012b: 57).

Perhaps because of the expectation of corporate CSR interventions, state actors have made scant attempts (outside the one-time compensation programmes and policy statements) to address food security issues.

Additionally, existing OG skills training programmes such as the *Jubilee Training Centre programme* (section 7.1.2.1(ii)) have been ineffective in re-skilling and securing OG jobs for local job-seekers (Interview, PER Oil & Gas Radio and Television Journalist, 2017). Alternative livelihood programmes are also pioneered by OG firms and NGOs, with limited local government involvement. The OG economy only employs 7,000 people while agriculture represents about 35% of the PER's workforce (Panford, 2016: 37, 101; WRCF, 2017b-g). Therefore, farmers and land-users affected by compulsory land acquisitions face vulnerable livelihoods, linked to ineffective and insufficient compensation payments and CSR reskilling programmes unable to address issues of land alienation.

Spatial and development planners in Southwestern Ghana are nonetheless content to leave these community needs to be filled by the voluntary CSR approach of the OG firms with the aim of creating public benefits. This approach does not address the core issue of land-alienation and the lack of skills for enhanced livelihoods.

In summary, this section has shown the influence of the petroleum economy in revalorising existing and creating new contestations around land value. The section showed articulations of land value by non-state actors in comparison to the forms of land value legitimised by the central and subnational state. The next section (7.3.) analyses the influence of these value contestations in creating new institutional relations and practices in the PER. In other words, it examines the pluralities in

institutional creation, functioning and change constituted within how the (central and subnational) state integrate or side-line incommensurable values.

7.3 Institutional Change in Ghana's PER?

Following the previous section, this section highlights institutional functioning, relations and evolution amid the contestation over land values with the emergence of the OG resources.

The emergence of the petro-economy in Southwestern Ghana is ushering in a form of regulative institutional change characterised by top-down imposition of authority (Scott, 2014: 159), thus affecting planning practice. For government-led large-scale petroleum projects in Southwestern Ghana, they are increasingly characterised by discretionary central government pronouncements, national level politicisation of such projects as well as the compulsory acquisition of lands;

- In its efforts to create a petroleum hub in the PER, Ghana's central government is centralising certain powers of planning practice, although on paper local governance is decentralised. The identification of lands for large-scale OG projects in the PER is thus gradually characterised by top-down pronouncements followed by compulsory land acquisition. The interview extract below is a description of the planned Bonyere/Domunli petrochemical hub in the PER, characterised by such central government pronouncements;

  ""*there is this proposal from the Ministry of Energy to establish a Petroleum hub. So that's the proposal that is currently on the drawing table. They came in for site inspection and they said they will make proposals to Ministry of Energy so that [the Ministry] will take it to Parliament [to approve for] the Petroleum Hub Authority. And that authority will initiate the process to set up the petroleum hub"* (Interview, anonymised PER Planner, 2018).[59]

[59] In this section, quotes from some interviewees are anonymised.

In the above interview extract, the reference to "*they*" points to the locus of planning authority of such an intended project. Such a project is imposed from central government agencies like the Ministry of Energy with little local involvement in identifying lands or in the initial plan preparation;

"*…that was a development plan that they did. And that one, I'm not privy to that [information] but I learnt that they went to our head-office [Regional Planning Office in Sekondi] just to get development planning [documentation] in place for that enclave. So even the inspection, they came with officials from the head-office. But I don't know the extent they've gotten to; either that's the working plan they are going to use, or they are going to revise it"* (Interview, anonymised PER Planner, 2018).

The identification of lands for large-scale OG projects in the PER is thus characterised by top-down discretionary pronouncements to select the areas for such developments. This is followed by compulsory acquisition of such lands. As explained by a planner regarding the Atuabo gas plant project;

"with the compulsory acquisition, how Ghana Gas [Company] specifically do their things they normally don't involve us. It is when they have problems that they want to [involve us] but then they go ahead and do their own thing" (Interview, anonymised PER Planner, 2018).

Flagship projects such as the Atuabo and Sanzule gas plants, their associated pipelines and the planned Atuabo Free Port and Domunli/Bonyere petroleum hub projects are all under compulsorily acquired lands. GFZA and the Western Region Lands Commission have been pivotal in facilitating compulsory land acquisitions and land-banking for planned national level OG projects in the PER.

These render PER level planning agencies as administrative rubberstamps of the spatial developments in their jurisdictions. The OG spatial developments are part and parcel of spatial planning in the six coastal districts, yet district planners have little say on these large-scale projects.

- A second aspect of this centralisation is that these national level pronouncements of petroleum projects have become politicised, thus engulfing the projects in Southwestern Ghana into forms of political competition. For instance, the Atuabo Free Port Project (see figure 7.1) was initiated by the NDC government in 2014. The project was later challenged and taken to court by the then opposition political party NPP who later came to power and halted the project (Odoi-Larbi, 2014). Currently, the project has been re-ignited in political discourses by the opposition NDC political party in their bid for re-election (Adjei, 2019).[60] It shows the centralised control of these large-scale government-run petroleum projects (in implementation and political discourse) coupled with the discriminate use of compulsory land acquisition laws. It thus points towards a combinatory use of informal and de-jure state power (Merry, 1988; Acemoglu et al., 2005) in implementing these petroleum projects.
- A third aspect of this centralisation regards the use of de jure power in changing the laws on compulsory land acquisition specifically for the OG sector. As described by a member of 'Friends of the Nation' NGO;

  "Currently, if you look at the Petroleum Exploration and Production Act 2016 [sections 72- and 94-cc], in terms of negotiations, the law says that the Petroleum Commission will negotiate on behalf of the [oil] 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 or the proponent. 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 NGO, 2018).

  In other words, the Petroleum Commission (a parastatal agency) shall negotiate land compensation amounts between landowners and OG companies, unlike the

[60] New Patriotic Party (NPP) and National Democratic Congress (NDC) are national political parties that have dominated Ghana's political landscape since 1992.

mining sector. Whereas mining in Ghana (under the *Mineral and Mining Act 2006*) entails direct negotiations between the extraction companies and landowners, the *2016 Petroleum Act* authorises the Petroleum Commission to negotiate on behalf of the companies. See tables 5.6 & 5.7. Hence, this new law departs from established procedures in Ghana's extractive sector regarding negotiations for compulsory land acquisition and compensations. The central government has thus become more entrenched in imposing regulations on land acquisition through the OG economy. For instance, communities like Adadientem (Sekondi-Takoradi metropolis) whose lands were compulsory acquired have sued Ghana Gas Company over these conflicting land acquisition regulations between the mineral mining and petroleum laws (Interview, FONGhana NGO, 2018). In effect, with the emergence of the OG economy, national and parastatal agencies such as the Ministry of Energy, Petroleum Commission, Ghana Gas company, GNPC, GPHA and GFZA have become pivotal actors with powers over land regulation in the PER. This undermines local capacity for general planning regarding petroleum projects as well as the expanding spatial imprint of large-scale OG real estate projects.

Aside such forms of governmental centralisation in planning practice, subnational planning is also outmatched by private planning consultants and NGOs who have become the conduits of spatial policy formulation in the PER. Put differently, in addition to the centralisation of planning practice by central government agencies to create a petroleum hub in the PER, there is also a fragmentation of local planning policy formulation spearheaded by OG-companies, NGOs and development consultants. Further explanation is given below.

- As already mentioned in section 7.2.1, the settlement patterns of the OG companies directed the spatial plans of the districts, and consequently the spatial plans directed land use planning towards the OG industry. Implicit in this process is the fact that the funding for these spatial plans came from OG companies, investors and development agencies who subcontracted the spatial policy formulation process to planning consultants. In other words, the technical expertise required in spatial policy formulation was subcontracted to local and international private planning consultants. Table 7.3 shows the sources of funding and the private planning consultancies involved in drafting the SDFs and structure plans for the coastal districts and the Western Region. The table shows that the planning policies for the coastal districts are funded from different sources and subcontracted to different consultants, thus creating fragmented and incoherent policy outcomes (as earlier shown in table 7.1 which outlined the options for spatial development in the six districts).

  The following is an excerpt from a local planner describing the subcontracting of a district SDF to a private planning consultancy;

  "[The preparation of the SDF] was given out to a consultancy; the consultants took care of that. So, the stakeholder meeting and everything, the consultant had to organise everything; the community, opinion leaders, members of the assembly etc." (Interview, anonymised PER Planner, 2018).

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  The description by the anonymised planner spans across the six coastal districts in Ghana's PER. These plans were sometimes formulated with minimal knowledge or input from PER planning actors, thus side-lining subnational planning agencies who themselves lack the funds to perform these activities (also see Fuseini & Kemp, 2015: 318). About 70% of planned infrastructure projects in Jomoro, Ellembelle and Sekondi-Takoradi districts were incomplete as at 2018, pointing

towards weak and under-resourced public service provision in general (Ackah et al., 2019).

Table 7.3: Spatial Plans in the Six PER Districts

District	Source of Funding	Planning Consultant/Agency	Type of Plan	Year of Publication
Ahanta West.	Korea International Cooperation Agency (KOICA)	⊗Korea Land and Housing Corporation ⊗Dongho Korean Saudi Limited Company ⊗Ahanta West District Assembly	Spatial Development Framework (SDF)	2010
Sekondi-Takoradi.	Jubilee Partners	The Consortium (Accra)	Structure Plan	2012
Nzema East.	Jubilee Partners	Spatial Dimension (Accra)	Spatial Development Framework (SDF)	2012
Shama.	Tullow Company	Spatial Dimension (Accra)	Spatial Development Framework (SDF)	2012
Ellembelle.	Norwegian Agency for Development Cooperation (NORAD)	COWI A/S (Copenhagen)	Structure Plan (Aiyinase-Atuabo)	2013
Jomoro	Doesn't have its own SDF nor Structure Plan			
Combined Sub-Regional Plan (6 Districts)	Jubilee Partners	The Consortium (Accra)	Spatial Development Framework (SDF)	2012
Combined Western Regional Plan (22 Districts)	Norwegian Agency for Development Cooperation (NORAD)	COWI A/S (Copenhagen)	Spatial Development Framework (SDF)	2012

Sources: MEST & Jubilee-Partners (2012a, 2012b, 2012c), MEST & Tullow (2012), MLGRD (2017), MESTI (2013), AWDA (2010), COWI (2012).

In cases where local planners were involved, they seemed to be unaware of the outcome of the plan preparation;

"…what I can say is at the end of the day the district seems unaware of that plan [SDF]. 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" (Interview, anonymised PER Planner, 2018).

The excerpt once again demonstrates the side-lining of the subnational planning actors. This fragmented policy structure also manifests in the forms of practical coordination that occurs in the PERs, with certain NGOs playing pivotal roles than local planners.

Especially for OG companies, their use of NGOs as external competences in local community engagement in the PER limits their forms of coordination with planning institutions (Interview, Tullow Community Liaison Officer, 2018). Here is a description of these varied levels of coordination;

"it has not been easy working with the oil and gas companies. They are oftentimes difficult to penetrate because of their structures. Plus, for them, they are profit-driven, and their modus-operandi is totally dependent on some ethics and standards that they have set for themselves. They are more formal, they have corporate social responsibility departments [who] prefer to deal with NGOs and communities as opposed to the mainstream departments. [For instance] the Western Region Coastal Foundation is dealing directly with oil and gas companies" (Interview, Hɛn-Mpoano NGO, 2018).

NGOs like the Western Region Coastal Foundation (WRCF) have become prominent in liaising between OG companies and local communities, thus becoming an avenue for communities to report concerns (Interview, WRCF, 2018). For instance, communities like Nyankrom (Shama district) made complaints to WRCF regarding environmental disregards by Zeal Company (an oil-waste recycling company). WRCF also attempted to form community-based enterprises in 70 pipeline-affected communities who would cater for the pipelines and receive benefits from Ghana Gas Company, a project that was later dropped (Interview, WRCF, 2018). Instead of the subnational governance actors, agencies like WRCF have become one of the main avenues for registering OG-related grievances. The fragmented landscape of policy formulation and its influence on

local coordination is therefore weakening subnational planning and regulatory powers in the PER. This is coupled by the fact that subnational agencies like the Environmental Protection Agency do not even have the necessary facilities such as direct emissions-monitoring stations and has to conduct ad-hoc environmental studies "*as and when necessary*" (Interview, EPA, 2018).

Since, the preparation of spatial plans and the development direction are increasingly tied to OG production, the PER is also increasingly earmarked to fulfil institutional cognitive roles as "oil-cities". These cultural-cognitive elements can usher in institutional change, depending on the extent of framing and legitimation (Scott, 2014: 164).

- The enmeshing of spatial policy formulation and practical planning with the revenue streams of the petroleum industry has created a lock-in of the PER's economic trajectory into the uncertainties of OG production. Ghana's *Land Administration Project* and the subsequent *2016 National Spatial Planning Act* (see tables 5.6 and 5.7) envisioned the preparation of SDFs, Structure Plans and Local Plans as part of local governance in Ghana (TCPD Ghana, 2018). The six PER districts were the first in the country to prepare such SDFs and Structure Plans, made possible by OG-funds and related investment interests. As described by a planner;

  "There was no municipal-wide guide or a long-term vision for the district until the Spatial Development Framework that was prepared. Even that Spatial Development Framework, it was because of the oil" (Interview, anonymised PER Planner, 2018).

  Thus the OG production activities presented revenue sources for the territorial experimentation of these nationally recommended spatial policies (See table 7.3; additionally, see Acheampong & Ibrahim, 2016: 12-13). Indeed, PER districts such as Ahanta West was one of the first in the country to prepare a district spatial

development plan (in 2010), even before the national spatial plan was introduced in 2016 (Interview, Ahanta West Planner, 2018). See table 7.3.

Through the preparation of such plans, local planners and state agencies aim to create the next global oil-city in Southwestern Ghana;

"We have one example – that is the Oil Village in Ewusie Joe. We also have Petronia City [on paper]. They were even running adverts on CNN, very nice city. But they wanted to build a city like Abuja, like Yamoussoukro, like Dubai, like other cities in South Korea. [In the proposed plan] we have a lot of new cities; we have commercial city, we have educational city, we have industrial city like Hyundai and stuff. We want to build from scratch; because [for] me I believe in the 'New Town concept' than what we are doing" (Interview, anonymised PER Planner, 2018).

"if you look at our priority sectors, we have listed a lot of areas including oil and gas and we want to introduce oil and gas free-zones. It is something that is done elsewhere, and we want to replicate global best practices. It is done in Nigeria, the United Arab Emirates, Singapore, Malaysia and other places" (Interview, GFZA, 2018).

The *2016 Spatial Planning Act* also recognised the emergence of potential new towns and private towns in Ghana (GoG, 2016a). In effect, as the research has shown, the emergence of petroleum extraction is seen by local and central government bureaucrats as an opportunity to emulate global 'new-city' concepts (e.g. Yamoussoukro or other South Korean cities), preferably built around the oil industry (like Dubai, Abuja, Houston or Aberdeen) or curated to imitate specific global industrial clusters (the likes of Silicon Valley, Hyundai City or even Singapore). In effect, districts in Southwestern Ghana like Sekondi-Takoradi, Ahanta West, Shama and Ellembelle, aiming to create OG-industrial hubs, have curated their economy to the anticipated investors and donors interested in the OG industry. This is evidenced by the "*Oil-Village*", "*King-City*", "*Petronia-City*" and "*Soroma Capital Real Estate*" initiatives. See table 7.1. Such OG-driven planning at the subnational level is susceptible to unpredictable funding streams, volatile

global OG markets, post-oil depressions and difficulties in upscaling projects (Bauer, 2013: 1).[61] Other districts like Nzema East however have a more comprehensive planning policy, paying attention to both spatial and general (agricultural) development principles without a drastic overdependence on the OG industry (MEST & Jubilee-Partners, 2012b: 57-64). See table 7.1.

In terms of normative institutional change (Gintis & Bowles, 1981; Scott, 2014), a new form of territorial planning has emerged in the PER. Scott (2014) argues that the normative elements of institutions include their values and norms, with institutional change depending on the network ties and commitments, whether formal or informal (p. 161).

- To this end, subnational planners find themselves in an uncharted territory of normative practice requiring knowledge to plan for pipe-lines, gas production factories, industrial waste and speculatively held land. A local planner explains how planners are grappling with environmental complexity with the emergence of the OG economy;

  "Spatial planning also talks about planning in space; air, land, under land and those things. But we are more focused on the land. So definitely, once there is a demand for oil and gas coming in, probably planning functions [will] also change. It might also shift a little bit to other functions of planning; probably monitoring the activities [of oil and gas production], how it affects the sea, and also coastal planning. And we have not delved much into that. But once they [oil and gas companies] are coming, probably we might need to look beyond land planning" (Interview, anonymised PER Planner, 2018).

  Issues of policy formulation, compulsory land acquisition, land speculation, pipe-line territory management, and environmental pollution are increasingly overseen

[61] On post-mining futures in Ghana and Guinea, see cases by Knierzinger & Sopelle (2019). Also see Nilsson (2010) who examines how global iron ore price fluctuations impact spatial and economic planning in the Swedish mining town of Kiruna.

by central government and its parastatal agencies, OG-companies, development agencies, NGOs and consultants. As already mentioned, local agencies like the EPA lacks facilities such as emissions-monitoring stations, even though it is expected to undertake environmental sensitivity mapping as mandated by the *2008 Oil Spill Contingency Plan* (Interview, EPA, 2018).

These dispersed networks of planning point to the inadequate capacity and power of local planners to effectively regulate and straddle the partly-landed, partly-offshore nature of OG production (Interview, anonymised PER Planner, 2018). Even though territorial planning (of land and marine space) is recognised in Ghana's *2016 Spatial Planning Act* (GoG, 2016a), its practical implementation in Southwestern Ghana falls short. The planning expertise required to tackle such complexity is not forthcoming. The result is that OG companies, donor agencies and NGOs are increasingly at the helm of initiatives that would previously have come out of district planning offices. Hence, the competences of subnational state actors are being limited to providing or denying land-use permits as well as attempting to attract private investments for OG real estate and related commercial activities. Since the preparation of spatial plans and the development direction of Southwestern Ghana are increasingly tied to OG production, it is increasingly earmarked to fulfil institutional cognitive roles (Scott, 2014: 164) as oil-cities, thus neglecting the complex and incommensurable land-use issues of the entire oil region. This is also enabled by the framing of land use efficiency and the myopic pursuit of a competitive land use planning approach in the PER.

Lastly, through the emerging OG economy, the centralisation of governmental power in relation to the landed subnational elites (chiefs and land-owning families) is becoming much more pronounced. The historically weak rival relationship (Boone, 2003: 29-38) between the central government and the land-owning classes has come under intense scrutiny with the emergence of OG production.

- Whereas the extraction of landed minerals like gold entails the payment of local surface rents to gold-bearing landowners as payment for loss of land and subsistence,[62] OG rents are nationalised and confined to the OG companies and central government. By confining OG-rents to capital only, local land-owning elites (chiefs and land-owning families) in the PER are put in direct contestation with the central government, further entrenching the "*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 centralised OG rent-structure and the partly offshore nature of OG production. This restricts their possibility to bargain with lands, even if they still benefit from the increasing land prices in the PER. For local government actors, their activities "*does not impinge upon the land prerogative of chiefs*" (Boone & Duku, 2012: 686), although their policies and practices impact the local population.

In effect, the emergence of these institutional functions, relations and their changes over time undergird contestations over incommensurable land values in Southwestern Ghana as an emerging PER.

[62] Mineral-royalties in Ghana range between 3-6%. Out of this, 9% is distributed to the producer district, as well as to the associated customary authority and land owners (Ecolex, 2006; Morgandi, 2008: 33-34). See table 5.6.

7.4 Conclusion

This research defines value as "*the weighted outcome of a decision-problem*";[63] thus this chapter has shown how state policy diffusion, valuation technologies, and institutional functions are used to singularise incommensurable values. In effect, there is a mismatch between the priorities of the central/subnational state and local communities in Southwestern Ghana.

Non-state actors (chiefs) are willing to imitate the corporate languages of the shareholder economy by using market logics like "*community shareholder value (CSV)*" to advocate for livelihood projects and employment prospects. Through communities' advocacy for CSV, the logic of continuous benefits and the call for communally-appropriated rents (George, [1879] 2006), communities advocate for a new form of land-use transaction. However, this notion of CSV has not been acknowledged in planning policy since it competes with the state's preference for a "*de/regulated*" approach to land value which facilitates higher-earning land-uses (i.e. higher property taxes) and investments while delegitimising local informal land uses.

In addition, the need to address "*proximal environmental risk*", *"subsistence"*, and related employment issues are filled by "*voluntary CSR*" activities of the oil firms (facilitated by NGOs) focusing on programmes that ultimately do not address rural land-alienation, urban gentrification, the local skills gap nor the pollution effects of OG production.

Particularly for OG-related pollution and its potential sequestration through tree-planting, the calorific (and ultimately subsistence) value of land is affected, manifesting in negative effects on local livelihoods. For the pollution effects, this form of

[63] Adapted from Costanza et al. (2015: 166).

dispossession (Marx, 1844: 75-78) goes beyond estrangement of labour from land to encompass the toxification of landed nutrients for industrial production (Bunker, 1985; Martinez-Alier, 2002). Hence socially necessary labour time (Marx, [1867] 1976; Harvey, 2010, 2018) becomes one of many plural values that communities lose with such extraction activities. It represents the historically embedded labour that communities have expended to enculture their lands to their foods and ecology. When communities are dispossessed from their lands for industrial production such historically erased labour becomes one of many languages they use to argue for incommensurable land values. Natural production (and its potential toxification) is thus one of such incommensurable land values articulated by locals. In response, proposed carbon sequestration programmes as a form of environmental mitigation have under-estimated the environmental complexity of pollution damages which affects, for instance, ground-water, air and other biomes. Such sequestration programmes potentially monetise pollution as a social cost, turning it into private gain for forest land owners. CSR programmes have thus been ineffective in tacking the multiple forms of deprivation that local populations face.

Relatedly, land deemed as "*outside market valuations*" is not recognised by the laws of compulsory acquisition in Ghana. In this sense, the space for non-commodified value of land is undermined by the state's land acquisition activities which has increased in Southwestern Ghana with the emergence of the OG economy.

In the end, these framings, policies, practices and spatial outcomes of land value by the state close down local incommensurable values of land. The relations between the central and local governments in Southwestern Ghana are thus shifting towards a top-down imposition of spatial planning practices characterised by ad-hoc central

government pronouncements, national level politicisation of local projects as well as the increased compulsory acquisition of lands. Consequently, the capacity for local spatial policy formulation is increasingly fragmented, with new actors such as OG-companies, NGOs and development consultants spearheading the funding and creation of such policies. Local planners are therefore grappling with the increased complexity of environmental issues with the emergence of the OG economy.

Local landed elites (chiefs and land-owning families) are also limited by the centralised OG rent-structure, the increased use of compulsory land acquisition laws and the partly offshore nature of OG production in the PER. Unlike the mineral mining sector, the offshore petroleum sector depends less on land's differential rents (linked to natural mineral endowments) and more on its market value. In this sense, local landed elites are not directly part of the OG rent structure, nonetheless they benefit from the rising land and rent prices in the PER (and the potential for future carbon sequestration benefits). However, for landless and low income locals – including informal land users – they face the direct impacts of the central and local government policies and practices as well as the activities of OG and investment companies. This manifests in food security issues, lack of employment, economic and spatial displacement as well as unmitigated pollution effects.

These findings from Southwestern Ghana therefore raise comparative curiosity regarding the land value contestations in Lindi-Mtwara as another emerging African petro-geography. What happens in such a petro-extraction region characterised by a highly centralised national ownership and governance structure, a dual land tenure system with state monopoly on allodial rights, as well as a history of land-value that has radically shifted from a de-commodified to a neoliberal market logic?

CHAPTER EIGHT

8.0 Land Value(s) in Tanzania's PER

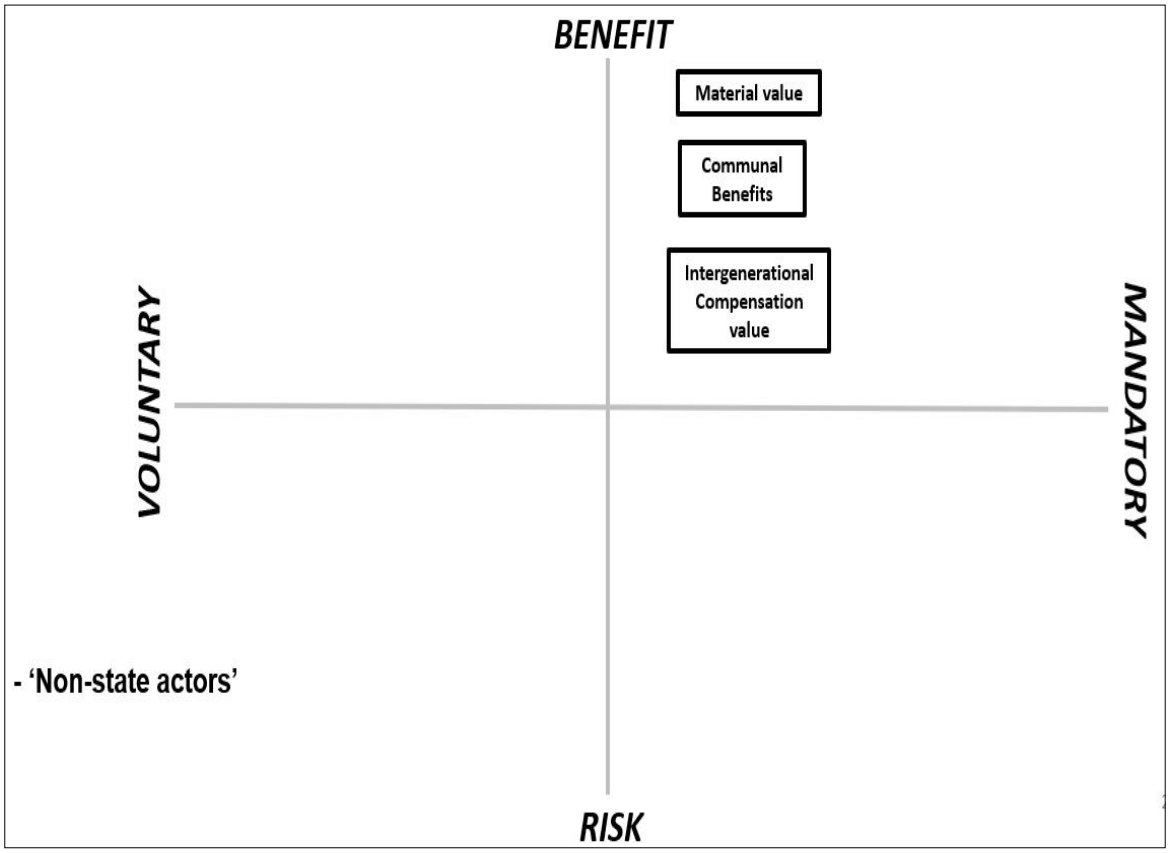
Similar to the previous chapter, this chapter examines the incommensurability of land values expressed by state and non-state actors in Tanzania's PER (Lindi-Mtwara). This empirical chapter is foregrounded by the historical evolution of land control policies, practices and institutional change in Tanzania (chapter six) which highlighted the colonial usurpation and postcolonial nationalisation of lands, including in Lindi-Mtwara. It also highlighted the existing dual land tenure system between statutory allodial rights and subnational (urban, village) land occupancy rights which has forged a highly institutionally centralised structure over mineral extraction. It is against this background that the empirical analysis of Lindi-Mtwara as contemporary petro-geographies is done. Hence, this section looks at the various discourses of land value by non-state actors and state actors in the Lindi-Mtwara region regarding the OG industry.

As already mentioned, the sources of information are derived from secondary research focusing on the districts and villages in Lindi-Mtwara, on local and national bureaucrats as well as on the gas companies operating in Lindi-Mtwara (see details in the methodology chapter and appendix 1). The secondary research was then complemented with reports and press releases from government institutions, local government agencies, civil society and media organisations as well as industry reports from the gas companies.

8.1 Opening Up: The "Values" of Land in Tanzania's Gas Production

Non-state actors in Lindi-Mtwara conceive of land value along lines of i) Material Value ii) Communal Benefit and iii) Intergenerational Compensations. This points to notions of the physical, temporal, economic and territorial notions of land value. Here the non-state actors include sampled heads of village households and local communities as well as private gas companies (from the secondary research). As figure 8.1 shows, these articulations of land value by non-state actors (especially by local Lindi-Mtwara communities) are deemed as mandatory considerations in the emerging gas economy, as explained below.

Figure 8.1: Languages of Land Value in Tanzania's PER (Non-State Actors)



Source: Author's Construct (2019).

8.1.1 Material Value

The Material Value of land points to the argument (by the Lindi-Mtwara populace) that the materiality of the gas resources should be used for local energy generation. Here, the territoriality of gas resources is emphasised as a potential to alleviate energy insecurity issues in Lindi-Mtwara.

The 2010 discovery of additional gas resources in Tanzania resulted in the construction of the 542 kilometre Lindi-Mtwara to Dar-es-Salaam gas pipeline (FEST, 2015: 12, 147-149, 164; Fjeldstad & Johnsøn, 2017: 53; Isaksen et al., 2017: 12; Tanzania-Invest, 2018: 1-2; TPDC, 2018: 1; Roe, 2017: 3). However, Lindi-Mtwara is saddled with its own energy security issues. The region is not connected to the national grid and is dependent on the Somanga Fungu and Mtwara power plants which are deemed inadequate (FEST, 2015; Kamat, 2017: 306, 312). The planned expansion of the Somanga Fungu power plant in Lindi (picture 6.3) is expected to provide electricity for villages located on Tanzania's Eastern Islands (Mbogo, 2018). Additionally, the planned Likong'o-Mchinga LNG plant (picture 8.3) is also mooted to facilitate domestic energy security and gas export, possibly to Asia (Tanzania-Invest, 2018; FEST, 2015: 168-169; Kabendera, 2016). The completed Madimba power plant in Mtwara (picture 6.2) is also expected to feed local industries in Lindi-Mtwara as well as industrial-domestic uses in Dar-es-Salaam, with local Lindi-Mtwara households yet to be connected (Zacharia, 2017). For instance, the Dangote Cement Factory in Mtwara (picture 8.2) which used to be connected to the smaller 18 MW Mtwara power plant has now been connected to the new 45 MW Madimba power plant. As at the end of 2016, seven households and forty-one factories mostly from Dar-es-Salaam had been connected to the Madimba power plant on a pilot basis, with Lindi-Mtwara populace yet to be connected (Zacharia, 2017).

In effect, out of these mooted projects and connections to power plants, specific plans to address energy security issues in Lindi-Mtwara have not been made clear, apart from promises to connect them to the Madimba plant in the future (Zacharia, 2017).

In Lindi-Mtwara, close to a third of sampled household-heads from Songo Songo, Nanguruwe and Madimba wards depend on firewood and kerosene as sources of household energy, as table 8.1 shows (Shanghvi, 2014: 21). Electricity makes up a minute part of their energy sources. On average 62.5% of the sampled Madimba and Songo Songo household-heads find the cost of electricity connection to be high while 50% deem the cost of maintenance to be equally high (Shanghvi, 2014: 21). Residents of Nanguruwe were not even connected to electricity as at the time of the survey by Shanghvi (2014: 21).

Table 8.1: Main Sources of Energy for Sampled Residents in Lindi-Mtwara Region[64]

Energy Source	Lindi-Mtwara Region (%)
Electricity	7
Charcoal	1.5
Firewood	19
Kerosene	1
Charcoal & Firewood	1.5
Firewood & Kerosene	32.5
Charcoal, Firewood & Kerosene	9
Charcoal & Kerosene	1
Electricity & Charcoal	2
Electricity & Firewood	1
Electricity & Kerosene	1.5
Electricity, Charcoal & Firewood	10
Electricity, Charcoal, Firewood & Kerosene	7
Electricity, Firewood & Kerosene	2
Electricity, Charcoal & Kerosene	1.5
Electricity, Charcoal & other	1
Electricity, Charcoal, Firewood, Kerosene & other	1.5
Total (%)	**100**

[Sample 135 persons] Source: adapted from (Shanghvi, 2014: 21).

[64]From a sample of 135 persons from Songo Songo, Nanguruwe and Madimba wards in the Lindi-Mtwara region (Shanghvi, 2014: 21).

Earlier gas production from 2004 by companies like SONGAS Energy Company did not address these local energy security issues (Mangora & Shalli, 2012: 21). In 2005 residents close to the Mnazi Bay gas fields were promised free electricity as a conditionality to grant Artumas Company the social license to operate in those fields (see map 6.1).[65] This promise was not implemented as the Tanzanian government intervened and stopped the implementation of this proposed initiative (Kamat, 2017: 308-309). As Kamat (2017: 308) reports of a 64-year old resident of Msimbati village in Mtwara region;

"Artumas had agreed to 'throw in' free electricity, as part of the compensation, because we had lost our land and trees to the project. But the government intervened and said that it was TANESCO's responsibility to provide electricity and not Artumas. We had agreed to support the gas project because Artumas had promised to provide electricity to the entire village free of cost…. Artumas had even brought one generator exclusively for us, but TANESCO sent it elsewhere" (Source; Kamat, 2017: 308; 64-year old resident, July 2013-December 2014).

TANESCO (Tanzania Electric Supply Company) is responsible for distributing gas to domestic households. The 2010 discovery of the new reserves therefore made the local population hopeful of retaining thermal power from the expanded reserves before the rest are transported to other parts of Tanzania. Between 2011 and 2016, access to electricity on mainland Tanzania increased from 23% to 67.5%. Tanzania aims to use the additional gas reserves to relinquish her status as East Africa's least electrified nation (URT, 2017: *pages xvi-xvii*; FEST, 2015: 7; Poncian, 2014: 56).

While it has been pointed out that the new reserves contain compressed natural gas and not the liquefied petroleum and natural gases used for domestic purposes (Makene et al., 2017: 2; Wangwe et al., 2017: 6), promises by central government

[65] Artumas Company has now been replaced by Mauriel & Prom, a French energy company (FEST, 2015: 123). See figure 6.1.

politicians sustained the local hope that the gas would be retained, especially in Mtwara. Former Tanzanian President Jakaya Kikwete promised that 84% of the new gas reserves found in Mnazi Bay would be retained and processed in Mtwara (Kamat, 2017: 306). Promises were also made by former Prime-Minister Miziengo Pinda to build over fifty factories in the two regions; this was codified in policy in Tanzania's *Five-Year Development Plan 2016-2021* (Poncian, 2014: 57; MOFP, 2016). See table 6.4 and section 8.2.2. Local elites in Lindi-Mtwara also lobbied for the use of gas resources to address their local energy needs (Poncian, 2019: 85). As table 8.2 shows, access to electricity was a strong part of the local aspirations for the gas reserves. 58% of sampled household-heads in Lindi-Mtwara opined that the new discoveries would address future electricity access issues for them (Shanghvi, 2014: 24-29).

Table 8.2: Public View of Sampled Residents Towards Future Electricity Access in Lindi-Mtwara Region[66]

Future Electricity Access	Lindi-Mtwara Region (%)
Yes	58
No	15
Don't Know	27
Total (%)	**100**

[Sample: 135 persons] Source: adapted from (Shanghvi, 2014: 24-29).

The choice of Dar-es-Salaam as the destination for the new gas reserves therefore led to protests and riots in Mtwara in 2012-2013. These unfulfilled promises and lack of communication of local benefits of the gas economy drew the ire of the local Mtwara community; over 4000 people protested and rioted on the streets. The government consequently replied with military force killing 12 people, harassing residents and local journalists (Must, 2018; Poncian, 2019: 85; Thobias & Kseniia, 2017: 74). Close to

[66] From a sample of 136 persons from Songo Songo, Nanguruwe and Madimba wards in the Lindi-Mtwara region (Shanghvi, 2014: 24-29).

40% of the sampled population respondents contend that the lack of electricity warranted the protests that occurred (Must, 2018: 99).[67] As a local resident laments;

"They [the government] told us we would benefit, that we would clean [refine] the gas right here in Mtwara. Then we found out that it would all happen in Dar-es-Salaam, after they have built the gas pipe; this made many people in Mtwara angry" (Source; Ahearne and Childs, 2018: 12; Local resident and rig worker, January 2014).

Other community members also offered rhetorical threats of secession of Mtwara from Tanzania if such energy needs are not met (Kamat, 2017: 306).

These issues point to local contentions for the gas resources and its material value to be linked to the sub-national territory expressed in improved energy security. These subnational calls also manifested in the need for community benefits beyond the material value of the gas resources.

8.1.2 Communal Benefits

Notions of Communal Benefit highlight the mandatory local demands for social services and employment opportunities in Lindi-Mtwara as part of the gas production process. This goes beyond calls for energy security to encompass complementary livelihood benefits for Lindi-Mtwara.

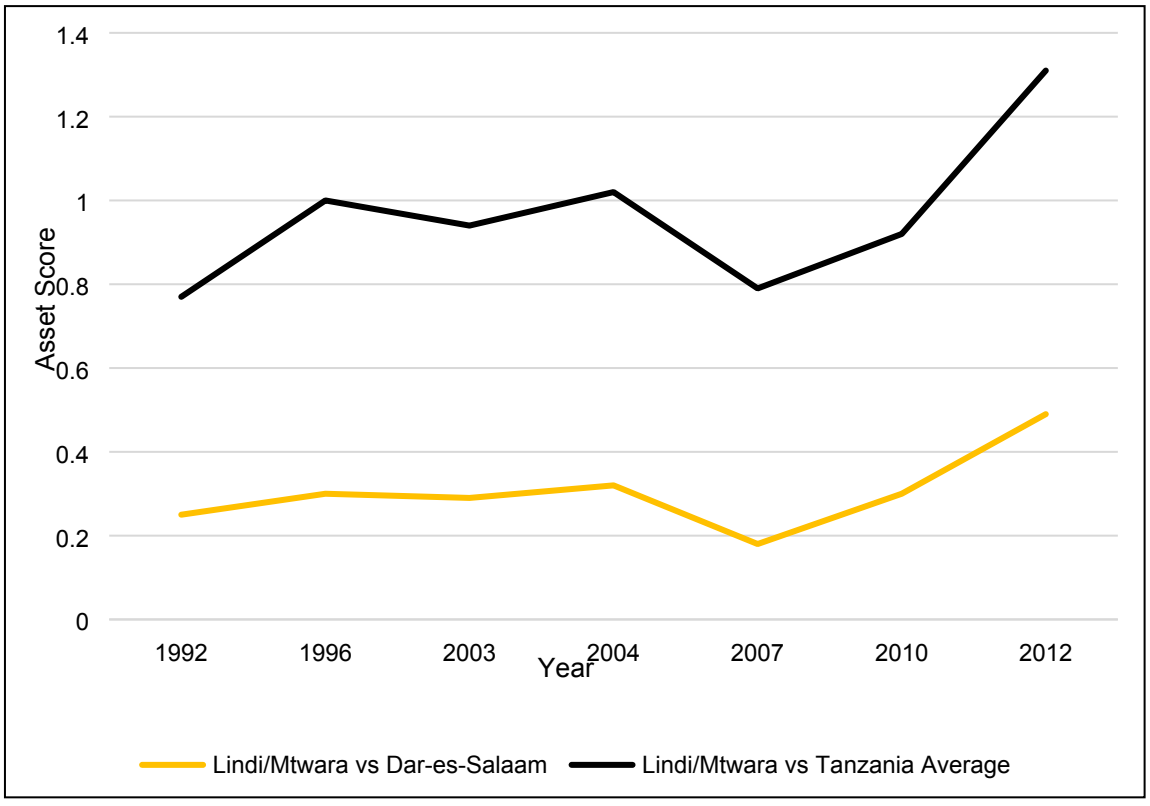
About 54% of the sampled household-heads in Lindi-Mtwara deem their economic conditions to be at least worse than other regions in Tanzania (Must, 2018: 96).[68] Additionally, 60% of the same respondents contend that the high unemployment rates and the unfulfilled central government promises of development warranted the 2012-2013 local protests to ensure that their needs are met (Must, 2018: 99). Out of the 26

[67] From a sample of 835 persons from six districts in the Lindi-Mtwara region (Must, 2018: 99).
[68] From a sample of 835 persons from six districts in the Lindi-Mtwara region (Must, 2018: 99).

Tanzanian regions, Lindi and Mtwara rank 17th and 19th respectively regarding unemployment rates (NBS, 2016).

Chart 8.1 compares the ownership of household assets between Lindi-Mtwara residents compared to the populations of Dar-es-Salaam and Tanzania (Must, 2018: 88). Here, Must (2018: 88) uses longitudinal data from *Tanzania's Demographic and Health Surveys* which track household-asset ownership; that is the proportion of respondents who own a radio, a television and a refrigerator. Since the 2012 surveys, this has expanded to include those who own a mobile phone and a telephone (Must, 2018: 88).

Chart 8.1: Ownership of Household Assets; Lindi-Mtwara versus Dar-es-Salaam and Lind-Mtwara versus Tanzania



Source: Must (2018: 88). (*Low scores represent higher inequality and vice-versa*)

Thus, chart 8.1 shows the gap in inequality for Lindi-Mtwara residents in comparison to that of Dar-es-Salaam and Tanzania. Here, the production of gas resources in 2004-2007 did not address issues of inequality in Lindi-Mtwara as it progressively fared worse in comparison to Dar-es-Salaam/national averages. However, since 2010, the production of new gas reserves has reduced the levels of these regional inequalities.

The local arguments for communal benefits from the gas production economy thus point to demands for further social services and employment opportunities through the new gas reserves. In detail, the potential to retain thermal power was seen by locals as an opportunity to further improve its development status by attracting industries, investment as well as the associated social services and employment opportunities.

Regarding social services, communities in Lindi-Mtwara demand improvements in water, education, healthcare and security services (Shanghvi, 2014: 70). Tables 8.3 and 8.4 show the average conditions of water quality and education levels in Lindi-Mtwara. The charts provide more context regarding the sustained levels of inequality between Lindi-Mtwara and the rest of Tanzania; it also shows why local Lindi-Mtwara communities demand such communal benefits. Majority of household-heads thus deem their water conditions and levels of local education-provision as poor, even amid slight improvements in inequality shown in chart 8.1.

Table 8.3: Water Condition in Lindi-Mtwara Region[69]

	Water Condition (%)
Good	21
Average	38
Poor	40
Not Sure	1
Total (%)	**100**

[Sample: 136 persons] Source: adapted from (Shanghvi, 2014: 19).

[69] From a sample of 136 persons from Songo Songo, Nanguruwe and Madimba wards in the Lindi-Mtwara region (Shanghvi, 2014: 19).

Table 8.4: Education Levels in Lindi-Mtwara Region[70]

	Education Levels (%)
Not Educated	23
Primary School	65
Secondary School	11
University/College	1
Total (%)	**100**

[Sample: 137 persons] Source: adapted from (Shanghvi, 2014: 15).

Table 8.5 also shows that water, education and health services are in high demand in Lindi-Mtwara.

Table 8.5: Demands for Social Services in Lindi-Mtwara Region[71]

	Water Services (%)	**Education Services (%)**	**Health Services (%)**
Yes	47	66	46
No	26	11	32
Don't Know	27	23	22
Total (%)	**100**	**100**	**100**

[Sample: 135 persons] Source: adapted from (Shanghvi, 2014: 24-29).

Lindi-Mtwara residents expect such social services to be provided by the government and gas companies. As already stated, the *2015 Oil and Gas Revenues Management Act* stipulates that district councils specifically affected by OG operations receive a service levy of 0.3% per quarter based on gross annual gas revenues. Out of the service levy, 20% is distributed quarterly to the specific villages where the pipelines traverse in those districts (Wangwe et al., 2017: 1). From Lindi-Mtwara to Dar-es-Salaam, the 542km pipeline passes through 113 villages (Oxfam, 2017: 5). See map 6.1.

Meanwhile adjoining communities facing similar effects of the petroleum economy without the direct spatial impact of pipelines are side-lined in the distribution of such

[70] From a sample of 137 persons from Songo Songo, Nanguruwe and Madimba wards in the Lindi-Mtwara region (Shanghvi, 2014: 15).

[71] From a sample of respondents from Songo Songo, Nanguruwe and Madimba wards in the Lindi-Mtwara region; 135 respondents responded to questions on "*Water Services*", 133 responded to that of "*Education Services*", while 134 responded to "*Health Services*" (Shanghvi, 2014: 24-29).

service levies (Wangwe et al., 2017: 1). These side-lined communities also draw attention to the unfulfilled discursive promises that were made by the government and gas companies as some of the reasons for the 2012-2013 protest, including issues of employment (Thobias & Kseniia, 2017: 81).

Regarding employment generation, communities aim to be part of the job prospects generated in the gas production chain. The following is an interview excerpt (by Ahearne & Childs, 2018: 12) of a former head of a Tanzanian NGO regarding the *Local Content Policies* in the Tanzanian gas industry;

"[The Local Content Policy is] not local, without content, and lacking genuine policy direction. They take 'local' to mean national, based on the view that a sophisticated industry requires sophisticated – meaning foreign – people" (Source; Ahearne & Childs, 2018: 12; Former head of Tanzanian NGO, January 2014).

Local content policies help indigenous entrepreneurs and potential employees participate in the forward, backward and sideways linkages of the gas production chain (Ovadia, 2016: 21). In the excerpt above, the former head of the NGO criticises the neglect of subnational employment prospects in the gas production economy; a production process that is international in scope and at best centralised at the national level.

As already mentioned, respondents from Ghana's PER contended for subnational employment prospects ("*local-local content*") to emphasise the importance of locating such employment opportunities within the subnational level of benefit. Indeed, the complaint from the Tanzanian NGO-head points to similar arguments for the subnational level to be situated as the proper territorial scale of OG employment policies (Ahearne & Childs, 2018: 12). Residents of Lindi-Mtwara hence call for entrepreneurship training, capacity building, provision of equipment and business

loans as some of the direct employment strategies needed locally (Shanghvi, 2014: 70-74). Local businesses also expect gas companies to establish their industrial operations at the subnational level to patronise their goods and services and improve the local economy (Shanghvi, 2014: 70-74).

Others also focus on the indirect employment opportunities to be created from the proposed infrastructure developments. As Kamat (2017: 308) reports of a 65-year-old resident of Mkubiru village in Mtwara region;

"In his speech, our President said that the people of Mtwara should get ready to witness dramatic developments in the region. He said that the gas project will result in the construction of big hotels, big houses, a bigger port, a bigger airport, and about fifty-one new factories, including cement and fertilizer factories, where the youth will find employment, and women too will find work. He promised us that the gas project will bring income earning opportunities for men and women" (Source; Kamat, 2017: 308; 65-year old resident, July 2013-December 2014).

Hence, apart from the promises of social services and employment opportunities, the government and gas companies also promised infrastructure developments (See section 8.2.2). Employment opportunities became the expected by-products of the intended gas infrastructure and investment opportunities. This expectation has manifested in struggles over specific infrastructure projects in Lindi-Mtwara; a case in point is the Mtwara port where local workers staged strikes regarding their opportunities for secure employment and professional advancement (Ahearne & Childs, 2018: 14). Table 8.6 highlights the high local expectations for employment-creation and businesses compared to infrastructure provision in Lindi-Mtwara. The table shows that the intended and promised infrastructure projects were seen as means to job creation by the locals. In other words, business and employment opportunities are paramount to local expectations of communal benefits, even more than infrastructure provision. Infrastructure and social services are deemed as

foundations to generate more gainful and secure employment to improve their local economy.

Table 8.6: Public View of Sampled Residents towards Future Employment and Infrastructure in Lindi-Mtwara Region[72]

	Employment (%)	Businesses (%)	Roads (%)	Railways (%)	Ports (%)
Yes	71	84	53	9	51
No	18	8	23.5	20	10
Don't Know	11	8	23.5	71	39
Total (%)	**100**	**100**	**100**	**100**	**100**

[Sample: 135 persons] Source: adapted from (Shanghvi, 2014: 24-29).

Similar to Ghana's PER, corporate OG firms in Lindi-Mtwara attempt to satisfy such mandatory community calls for benefits through voluntary corporate social responsibility projects. To this end, various gas companies provide social services such as school facilities, health facilities, health service training, improved water facilities and contributions to cultural festivals in the two regions (FEST, 2015: 8, 98, 118, 124, 134, 144; Oxfam, 2017: 8).[73] Education and entrepreneurship initiatives, forest conservation schemes, alternative livelihood programmes and improved farming initiatives are part of CSR initiatives tailored to farmers by gas companies and international development agencies (Bezu et al., 2018; FEST, 2015: 98; Mangora & Shalli, 2012: 1-10, 17-19; Shanghvi, 2014: 59-60; Wangwe et al., 2017: 6-7). A notable international development project is the "*Skills for Oil and Gas in Africa Project*" funded and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the German Federal Ministry for Economic Cooperation and Development (BMZ), UK's Department for International Development (DFID), the Norwegian Agency

[72] From a sample of respondents from Songo Songo, Nanguruwe and Madimba wards in the Lindi-Mtwara region; 134 respondents answered questions on "*Employment*" and "*Businesses*" and 135 responded to "*Roads*", "*Railways*" and "*Ports*" (Shanghvi, 2014: 24-29).

[73] Especially OG companies like PanAfrican Energy, Equinor, Mauriel & Prom, Afren Tanzania, ExxonMobil, SONGAS, Wentworth and China Petroleum Technology & Development Corporation (CPTDC).

for Development Cooperation (NORAD) as well as Royal Dutch Shell. The project focuses on improving local-content in Tanzania's gas sector (Bezu et al., 2018: 11). Health and education programmes have also been implemented by PanAfrican Energy Company for locals of Songo Songo. Forty Mtwara youth were also trained in business management by the then STATOIL, with further education facilities provided (FEST, 2015: 97).

However, evidence from extraction-based CSR projects in Tanzania show that they are mostly reactive programmes with less community involvement and meagre effects on community development and welfare (Mbirigenda & Msoka, 2015: 99, 116-118, 121-122). A 2014 study commissioned by NORAD and WWF on nine gas companies in Tanzania showed a general lack of compliance with international standards, including non-involving of communities in preparing CSR policies and implementing them (FEST, 2015: 96-97; Sembony, 2014).

In Lindi-Mtwara, CSR programmes therefore grew reactively out of the 2012-2013 local protests for benefits. For example, alternative livelihood programmes such as bee-keeping, vegetable gardening, brick-making and briquette-making and business management initiated by SONGAS provided no income to the locals (Mangora & Shalli, 2012: 19-20). This SONGAS initiative was implemented in Lindi-Mtwara villages including Marendego, Chumbi A, Muyuyu, Moyoyo West, Somanga Simu and Nyamwimbe (Mangora & Shalli, 2012: 19-20). Communities argue that such projects have become mere performative initiatives with less impactful effects on their livelihoods (Mbirigenda & Msoka, 2015: 122). In effect, such CSR programmes have not satisfied demands for mandatory communal benefits in Lindi-Mtwara as petro-extraction regions (figure 8.1).

Aside the local calls for material and community livelihood values, land compensation is also a key part of the values of non-state actors in Lindi-Mtwara.

8.1.3 Intergenerational Compensation Value

Notions of Intergenerational Compensation Value point to the temporal values of land. Here, locals argue for compensation values to reflect the future scale of intended petro-industrial projects or to guarantee long-term sustenance (e.g. employment opportunities) for the local youth. It points to land compensations that go beyond economic exchange to encompass intergenerational sustenance. The aim of this notion of land value is to protect (or at least argue for) land values that maintain the inheritability of landed benefits.

Compensations for lands acquired for pipelines and power stations are at the forefront of land value issues in Lindi-Mtwara. In the first discovery of gas reserves (1974), TPDC failed to honour land compensations after compulsorily acquiring 150 hectares of local lands (Shanghvi, 2014: 81). With the discovery of further reserves in 2010 and the construction of the 542km pipeline, compensation procedures have been applied inconsistently for the affected 113 villages (Makene et al., 2017: 2; Oxfam, 2017: 5). Compensation for gas pipe-lands in Lindi-Mtwara are thus riddled with confusions over how to valuate these lands.

First, villages in Lindi-Mtwara contend that compensation amounts are too low, and should lead to intergenerational economic opportunities (Lange, 2008: 30; Shanghvi, 2014: 33-35). In Mtwara areas like Madimba, compensation payments for every square metre of land was benchmarked between 1,750 and 1,950 Tanzanian Shillings

(€0.67-0.75).[74] However only TSh 50-80 /€0.019-0.031 was paid in reality (Shanghvi, 2014: 33-35).[75] For every coconut tree cut down, a farmer in Songo Songo (Lindi) was expected to receive TSh 25,000-40,000 (€9.6-15.4), but the government only paid half the amount as compensation to land owners (Oxfam, 2017: 9; Shanghvi, 2014: 34). Government officials from the Mtwara District Council assert that the compensation schedule denotes a payment of TSh 240,000/€94 (Shanghvi, 2014: 54) for a full-grown coconut tree although this is not substantiated in practice. The initial projected compensation amount for the Likong'o Mchinga LNG plant and industrial park was also reduced from TSh 13 billion to TSh 5 billion (from €500,000 to €193,000) after a re-valuation by TPDC, MLHHSD and the Lindi municipality (Audit-Office, 2018: 6). Residents from Msimbati ward (Mtwara) received allowances for physical displacement and rent payments while similar communities like Kiranjeranje ward in Lindi did not (Oxfam, 2017: 9). The compensation amounts ultimately failed to make up for the land loss (Oxfam, 2017: 9). As table 8.7 shows, 66% of sampled household-heads have negative experiences of these compensation processes (Shanghvi, 2014: 33).

Table 8.7: Experiences of Compensation for Gas Pipe-Lands in Lindi-Mtwara Region[76]

	Experiences of Land Compensation
Positive	13
Negative	66
Don't Know	21
Total (%)	**100**

[Sample: 136 persons] Source: adapted from (Shanghvi, 2014: 33).

[74] TSh 2538.8 = €1 (Source: https://www.xe.com/ as at 30/02/2019).
[75] Since villages are politically communal jurisdictions, rural compensations are paid to the village for loss of communal land or paid to individual village residents for loss of occupation rights (Cotula et al., 2009: 94).
[76] From a sample of 136 respondents from Songo Songo, Nanguruwe and Madimba wards in the Lindi-Mtwara region (Shanghvi, 2014: 33).

Residents of Msanga Mkuu ward (in Mtwara) also complained of such low amounts (Shanghvi, 2014: 57). The low compensations paid to Madimba residents (for the Madimba power plant) were also coupled with untimely payments. For those without alternative lands, the untimely payments rendered them with less economic options, resulting in struggles over compensations as villages contended over land boundaries. For instance, conflicts erupted between Somanga and Tingi villages (Lindi region) over a TSh 60 million (€23,100) compensation for the Mtwara to Dar-es-Salaam pipeline (Shanghvi, 2014: 66).

Other village residents from rural Mtwara also contended that they were willing to receive low compensations for their land only if it would enhance the gas extraction and create long-term employment opportunities for their children (Kamat, 2017: 309). Hence, they were willing to economically undervalue their lands to create intergenerational employment opportunities. The neglect of these promises however culminated in pressure on other land uses; for example, in Madimba ward (Shanghvi, 2014: 36).

Secondly, private gas companies employ the services of private valuers who use the average market value or selling price of land in valuating lands for compensation (Wangwe et al., 2017: 7). Hence, these valuers recommend compensations based on the current average market value or selling price of the lands (Wangwe et al., 2017: 7). In theory, compulsory land acquisition compensations are to be paid by the Tanzanian government; such compensations to be based on the present value of lands and its real-time opportunity cost through the *1995 National Land Policy* (FAO, 1997). This is because the *1967 Land Acquisition Act* and the *1999 Land Acts (Nos. 4 & 5)* grant Tanzania's President the power to compulsorily acquire lands for "*public*

interest" projects including for mining and petro-extraction (URT, 1999; FAO, 1999; REDD Desk, 1967). See tables 6.2 and 6.3. However in practice, the Tanzanian government (through MLHHSD, TPDC and UTT) instructs gas companies on the rates of compensation to be paid to affected landowners, although in some cases gas companies may decide to top up these rates to affected communities to expedite the land-acquisition process (M&PEPTL, 2014: 33, 54). Here, the central government discourages gas companies from topping up such compensation amounts for the communities (M&PEPTL, 2014: 35). This is deemed to set an unsustainable financial precedent for future projects. Nonetheless, gas companies like Mauriel & Prom use CSR projects as a complementary compensation strategy for such communities. (M&PEPTL, 2014: 35).

In effect, different land owners receive different compensation amounts for the same plots of land based on whether the central government pays or which private OG company pays such amounts.

Farmers and land owners in villages such as Msimbati, Mtandi, Mngoji and Madimba have thus raised concerns that the lack of transparency of such valuation and compensation processes are the most pressing OG issues in the Lindi-Mtwara region (M&PEPTL, 2014: 56-57). They argue for local leaders to be involved in such valuation and compensation issues to aid clarity and to voice such intergenerational sustenance issues (M&PEPTL, 2014: iv). Close to 60% of sampled household-heads contend that the OG-industrial land displacements warranted the public protests of 2012-2013 (Must, 2018: 99).[77]

[77] From a sample of 835 persons from six districts in the Lindi-Mtwara region (Must, 2018: 99).

Thirdly, local residents in Lindi-Mtwara argue that the monetary values of the compensations should correspond to the future scale of the project to be undertaken, (Wangwe et al., 2017: 7,13). In other words, larger intended OG projects should pay more in compensation and vice-versa. Kamat (2017: 309) reports of a 46-year-old resident of Mtandi village in Mtwara region;

"If you go to the oceanfront, where they have buried the pipeline, you'll see that they have uprooted hundreds of coconut trees that our forefathers had planted. One coconut tree can live up to seventy-five years or more, and if I harvest the coconuts, I can get up to Tsh 200,000 [€90] per year from each tree—every day I can harvest five to six coconuts from each tree, and at the end of the month, I can sell up to sixty coconuts from each tree. So, it's a big loss" (Source; Kamat, 2017: 309; 46-year old resident, July 2013-December 2014).

Community members therefore position the compensatory value of land in relation to the potential flow of intergenerational value that can be derived, rather than positioning land values as a stock of resources that can be paid off through one-time exchange values. It brings into stark reflection the continuous non-monetary payoffs of land as against one-time monetary compensations. Hence by arguing for compensations to be based on the scale of the proposed projects and guaranteed employment sustenance, community members highlight that the one-time monetary compensation does not represent the potential flow of profits that such lands grant to the gas companies, to central government gas revenues and to investors.

As the next section will show, the central and local governments in Lindi-Mtwara highlight land values that expedite mandatory centralisation of resource materiality and rents as well as a voluntary localisation of ad-hoc benefits.

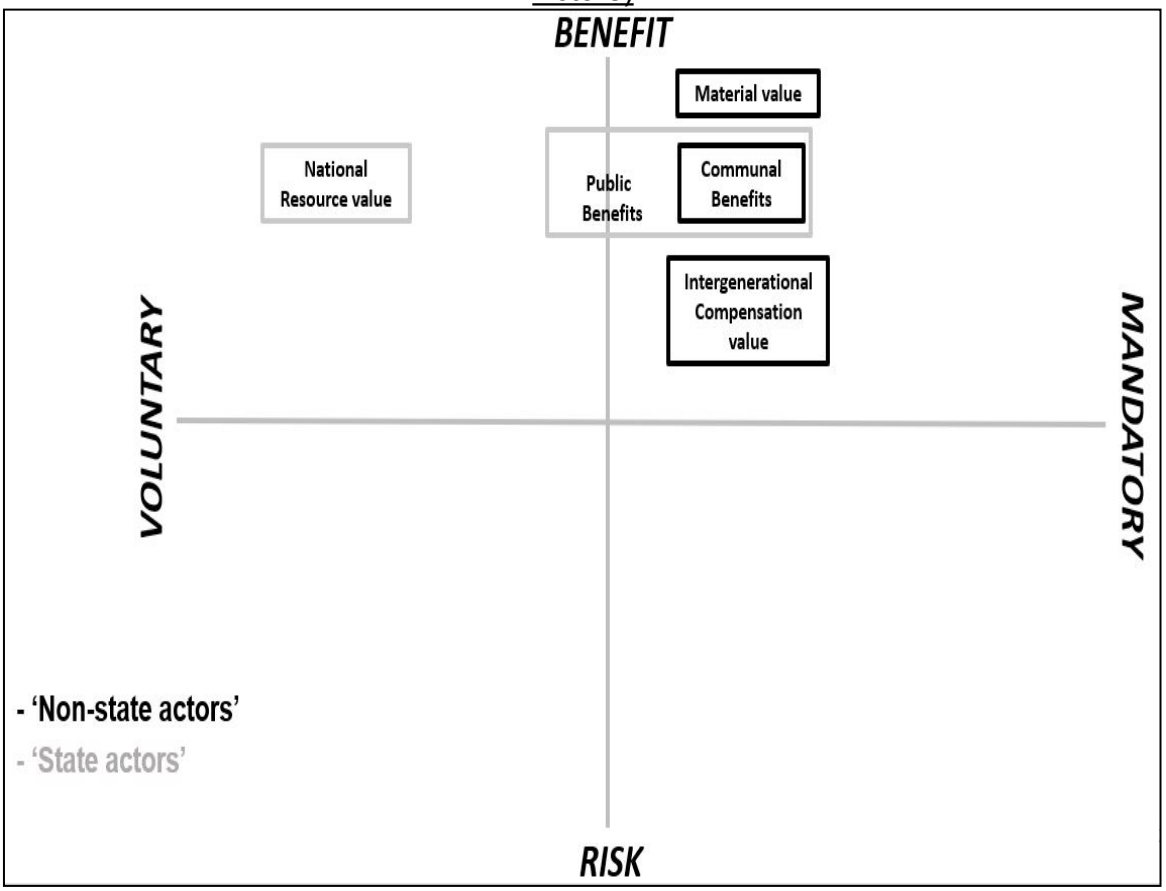
8.2 Closing Down? De/Legitimation through Discourse, Policy and Practice

This section of the chapter analyses the forms of land value pursued by state actors in Lindi-Mtwara. These include subnational actors,[78] parastatal organisations[79] as well as National level actors.[80] See figure 6.1. As already stated, district planners at the twelve District Councils are integral to the formulation of plans, to the management of gas service levies and the general environmental regulation in Lindi-Mtwara in collaboration with the National Environmental Management Council (Roe, 2017: 7). These District Councils also approve proposed land developments by Ward Development Committees and Village Councils (CLGF, 2017: 240). District land officers are also in charge of registering rights of land occupancy (Landlinks, 2016: 12). See figure 6.2.

As shown in figure 8.2, state actors in Lindi-Mtwara use a combination of voluntary and mandatory approaches to land value, stressing notions of i) National Resource Value and ii) Public Benefits. These two notions are hereby explained.

[78] Regional government officers, district planners in the twelve local government offices of Lindi-Mtwara region as well as their district land officers.
[79] Tanzania Investment Centre (TIC), National Environmental Management Council (NEMC) as well as the Vocational Education and Training Authority (VETA).
[80] Tanzania Petroleum Development Corporation (TPDC), Ministry of Lands, Housing and Human Settlements Development (MLHHSD), Ministry of Environment, the Rural Energy Agency, Ministry of Mines and Energy (MEM), Tanzania Electric Supply Company Limited (TANESCO) and Central Government officials.

Figure 8.2: Languages of Land Value in Tanzania's PER (State and Non-State Actors)



Source: Author's Construct (2019).

8.2.1 National Resource Value

National Resource Value points to the nationalisation of the material value of the gas resources. Local communities in Lindi-Mtwara call for improved energy security through the material value of the gas resources. However, the *2015 Petroleum Act* nationalises Tanzania's petroleum resources and entrusts TPDC to be national oil company (TEITI, 2015a). In addition, the *2011* and *2016 National Five-Year Development Plans* aim to tackle national energy security issues top-down from the national level. See table 6.4. These national level framings and policies were critical to the gas resources in Lindi-Mtwara being carted away to Dar-es-Salaam. In effect, the central government (through TPDC) emphasises the national material value of the

gas resources by transporting them to other parts of Tanzania, particularly Dar-es-Salaam, to feed industrial and household energy needs (Mbogo, 2018; Tanzania-Invest, 2018; FEST, 2015: 168-169; Kabendera, 2016; Zacharia, 2017; Poncian, 2019: 84; M&PEPTL, 2014: *page iii*). TPDC is the majority shareholder in the 542km pipeline to Dar-es-Salaam (M&PEPTL, 2014). Picture 8.1 shows the Kinyerezi power plant in Dar-es-Salaam as one of the gas receiving and refining facilities.

Picture 8.1: Kinyerezi I Power Plant in Dar-es-Salaam

Mhandisi Maridadi (2019). *(Actor: TANESCO)*

As already mentioned, the former President promised that 84% of the new reserves in Mnazi Bay would remain in Mtwara (Kamat, 2017: 306). Yet, attempts at local retention of the gas reserves have also been used to feed emerging industries in Lindi-Mtwara. The Dangote Cement Factory, established in Mtwara in 2015, has been connected to the 45 MW power Madimba power plant in Mtwara (Poncian, 2019: 84; Zacharia,

2017). Picture 8.2 shows the Dangote cement factory in Mtwara, owned by Nigerian billionaire entrepreneur Alhaj Aliko Dangote.

Picture 8.2: Dangote Cement Factory and Power Plant in Mtwara

Source: Innov8tiv (2015), Google (2019b). *(Size: 26 hectares) (Actor: Dangote Cement Company)*

There are also proposed industries to manufacture urea fertiliser in Lindi-Mtwara, which are expected to utilise thermal power from the Madimba power plant, the power plant to be expanded from 24 MW to 600 MW (FEST, 2015: 172).

Hence these gas resources are being directed to other parts of Tanzania or for various local industrial projects and not used for local (household) energy issues in Lindi-Mtwara.[81] To accommodate local calls for energy security in Lindi-Mtwara and other rural areas, central government agencies reduced the cost of single phase electricity connection by 60-75 percent (FEST, 2015: 8, 175-176). This was implemented by TPDC together with the Rural Energy Agency, TANESCO and the Ministry of Energy and Minerals. Communities in the Songo Songo ward also access electricity for free, through the already-existing Songo Songo gas plant (Shanghvi, 2014: 59). However,

[81] Mbogo (2018), Tanzania-Invest (2018), FEST (2015: 168-169), Kabendera (2016), Zacharia (2017), Poncian (2019: 84), M&PEPTL (2014: *page iii*).

such reduced cost and free electricity can only benefit those with electricity connection (35.5% according to the sampled study by Shanghvi, 2014. See table 8.1).

Hence, despite these improvements, Lindi-Mtwara still faces energy security issues (as section 8.1.1 has shown). This draws a contestation and territorial struggle over the material value of the gas resources. Unlike Lindi-Mtwara residents, 55% of Tanzanians believe that the distribution of the gas resources should be nationwide (Gaddis et al., 2014; cited in Lee & Dupuy, 2016a: 10). It is also estimated that the gas reserves would reduce unit cost of electricity nationwide from €0.11 to €0.05 (FEST, 2015: 175-176).

Hence, in comparison to the territorial claims by Lindi-Mtwara residents to locally retain the material value of the gas reserves, the central government emphasises Lindi-Mtwara's role as a landed conduit to harness the national resource value of the gas resources. Through the construction of pipelines, the lands in Lindi-Mtwara have become channels for transporting gas to larger cities and industrial uses. Such an approach to land value gives the state control regarding how these resources are negotiated over, both locally and internationally. Within Lindi-Mtwara, it reinforces the historical top-down governance system that has developed in Tanzania ever since the Arusha declaration, evidenced by the repression of community grievances and protests (Must, 2018: 103-104; Poncian, 2019: 79-80). Within the inter/national setting, it grants the state primacy to control and negotiate resource-rent agreements and benefits with international gas companies while neglecting local energy security issues in Lindi-Mtwara (as evidenced by the planned export of the gas resources). As the subsequent section will show, local mandatory calls for comprehensive community

livelihood benefits are also rewired by the state into notions of benefits focused on levies, transnational projects and CSR policies.

8.2.2 Public Benefits

Public Benefits highlight the specific "public" goods, services and levies gained from the gas production process in Lindi-Mtwara. It denotes the use of the gas economy by the central and local governments to create new infrastructure initiatives in Lindi-Mtwara.

This goes beyond the material value of gas reserves to highlight the economic benefits to be gained from gas-related industries in Lindi-Mtwara. It responds to mandatory local demands for social services and employment generation as forms of landed benefits. Hence, the central state focuses on large-scale industrial projects and mandatory corporate CSR policies in Lindi-Mtwara while the subnational state focuses on attracting private investments and accessing gas service levies. The spatial outcomes here include planned industrial projects, large-scale development plans yet to be implemented as well as large-scale land holdings.

The framing of OG-driven public benefits for Lindi-Mtwara was first made through central government speeches, with the then Prime-Minister (Miziengo-Pinda) promising to build over fifty factories in the two regions. The proposed factories consisted of thirteen industries to manufacture plastic, blades, fishing boats, as well as building and transport equipments in Lindi-Mtwara. It also included three cement factories, two water plant factories as well as two oil processing factories in the two regions (IBN-TV, 2013). This was written into policy in Tanzania's *2016 Five-Year Development Plan* which sets out the general direction of development in the country (MOFP, 2016). See table 6.4.

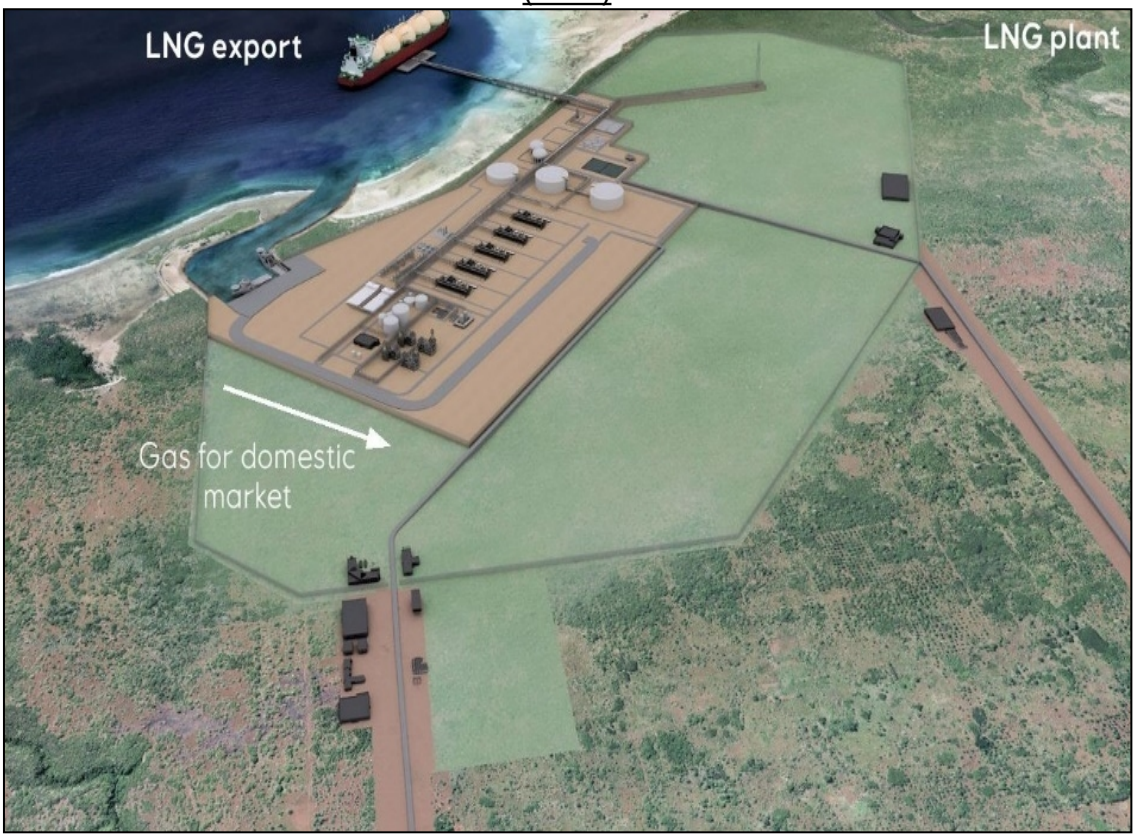
These projects were expected to be financed through revenues from the gas industry as well as private industrial investments in Lindi-Mtwara. Between 2010-2015, overall gas revenues received by the central government increased by 45%; from €14.2 million to €92.1million (Isaksen et al., 2017: 19-20).[82] Tanzania's upstream gas revenue is projected to reach €4.4 billion by 2044, according to the International Monetary Fund (Baunsgard, 2014; cited in Isaksen et al., 2017: 22). With these new revenue sources, the central government outlined various industrial projects in Lindi-Mtwara as a form of public benefit. However, these projects have not come into fruition (IBN-TV, 2013; Poncian, 2014: 57). Only the private Dangote Cement Factory has been built in Mtwara (RAS-Mtwara, 2015: 21; Roe, 2017: 7; Shanghvi, 2014: 55). See picture 8.2. Plans for the urea fertilizer factory in Mtwara have also stalled since 2012 (Mbago, 2018). Talks have also been held between the Tanzanian and German governments to set up fertiliser plants in Kilwa (Lindi) and Mtwara regions, but the factories are yet to be built (Mbago, 2018; Namkwahe & Lamtey, 2019).

Lindi region is also to benefit from the Likong'o–Mchinga LNG plant, with construction scheduled to start from 2022 (FEST, 2015: 168-169; Ng'wanakilala et al., 2019). The LNG plant project will be constructed and operated by Equinor Company in partnership with TPDC, Royal Dutch Shell, Exxon Mobil, Ophir Energy and Pavilion Energy (Ng'wanakilala et al., 2019). Equinor is a multinational state-backed Norwegian energy company while Ophir and Pavilion Energy Companies are respectively London and Singapore based. The LNG project is expected to deliver gas for domestic use and for

[82] This entailed royalties as well as other taxes. Out of the gas revenues, the central government transfers a portion equivalent to 3% of GDP into a consolidated account. Out of this 3%, 60% is earmarked for socio-economic development of various regions in the country including Lindi-Mtwara (Lee & Dupuy, 2016a: 3; 2016b, 12). See the gas rent distribution structure in the 2008 Model Petroleum Agreement (URT, 2013c; table 6.4)

export, and by its location provide employment and infrastructure benefits to Lindi-Mtwara locals (Tanzania-Invest, 2018; FEST, 2015: 168-169; Kabendera, 2016). See picture 8.3.

Picture 8.3: Model of Planned Likong'o-Mchinga LNG Plant and Industrial park (Lindi)



Source: Equinor (2018), Kabendera (2016), Tanzania-Invest (2018). *(Size: 7600 hectares) (Actors: Equinor, TPDC, Royal Dutch Shell, Exxon Mobil, Ophir Energy and Pavilion Energy)*

A second form of OG-driven public benefit is the *Mtwara Development Corridor Project*, currently in progress. This is a regional infrastructure project signed into policy in 2004 by four members of the Southern African development community, including the Tanzanian central government (SARDC, 2005). The project is being revived with funding from the African Development Bank (Ahearne & Childs, 2018: 8). The revival of the development corridor project is linked to the new Lindi-Mtwara gas reserves and its prospects for regional commerce with neighbouring countries. The project will

connect Lindi-Mtwara to Northern-Mozambique, Eastern Malawi and Eastern Zambia (Ahearne & Childs, 2018: 8). Gas production (and its associated spinoff industries) in Mtwara is pertinent to the development corridor project, as shown in map 8.1 (JDI, 2009). The project also includes road, rail and ferry links from the Mtwara port to Eastern Malawi and Zambia as well as a bridge connecting Southern Tanzania to Northern Mozambique. The latter project was completed in 2010. See map 8.2 and picture 8.4. It is hoped that the development corridor project re-activated by the new gas reserves, although still in its infancy, would provide public benefits to residents.

Map 8.1 Planned Projects for Mtwara Development Corridor

Source: JDI (2009). *(Actors: Governments of Tanzania, Mozambique, Malawi and Zambia)*

Map 8.2 Planned Transport Projects for Mtwara Development Corridor

Source: Munguibariki (2015). (*Actors: Governments of Tanzania, Mozambique, Malawi and Zambia*)

Picture 8.4. Completed Bridge between Southern Tanzania and Northern Mozambique

Source: Graham-Cole (2010). *(Length: 0.7km)* (*Actors: Governments of Tanzania and Mozambique*)

The revival of this transnational development corridor project has also sparked various private investment and funding activities, especially in Mtwara. The local government aims to capitalise on the project to initiate strategies for local benefit. The Mtwara regional government has thus set up a development fund where gas revenues would form part of the development corridor project (Shanghvi, 2014: 57, 77; Wangwe et al., 2017: 6-7; ABM, 2018).The Mtwara Port will also be expanded to 26,000 hectares to include oil and gas activities; which require acquisition of local lands (Shanghvi, 2014: 55).This also includes the improvement of local roads to the port; for instance, the Nachingwea to Masasi roads have been rebuilt for this purpose (Shanghvi, 2014: 62-63). The port expansion will also include a special economic zone to be established by Alistair Group, a Dar-es-Salaam based multinational firm (Kimaro 2015). The Mtwara-Mikindani Master Plan also specifies the establishment of such special economic zones and development corridor projects (Mtwara-Mikindani council, 2015: 14).

Picture 8.5 Construction Works at the Mtwara Special Economic Zone

Source: Alistair Group (2016). *(Size: 1.5 hectares) (Actors: Alistair Group)*

The Mtwara airport is also to be expanded to include a new 1.5 km airport-road (Shanghvi, 2014: 59; Wangwe et al., 2017: 12-13). An additional 7000 hectares of land has also been set aside for the Msijute industrial park, in keeping with the *2013 Natural Gas Policy* to "*promote and facilitate the establishment and growth of industrial parks utilising natural gas*" (RAS-Mtwara, 2015: 34; URT, 2013a: 9-10).

Additionally, regional governments in both Lindi and Mtwara are intensifying land survey activities with the help of the Unit Trust of Tanzania (UTT) to improve land access for public-private partnerships (Shanghvi, 2014: 51). The regional governments are also intensifying efforts to attract private investments in factories and hotels (Shanghvi, 2014: 64, 65). For instance, the Lindi regional government prepared a booklet that outlined the investment possibilities in the Lindi region with the aim of attracting investments. It also hosts yearly festivals which serve as investment-pitching events (Shanghvi, 2014: 65-67, 80-81).

Apart from the policies and strategies of the central and Lindi-Mtwara regional governments in deriving "*public benefit*", the constituent district councils are also implementing policies to further localise the anticipated benefits of the gas economy and its associated projects. Mtwara-Mikindani district (in Mtwara region) expanded its borders in 2013 to incorporate six surrounding wards to enhance access to lands for businesses, including local ones (Mtwara-Mikindani council, 2015; Shanghvi, 2014: 51, 54, 78). These are the Naumbu, Mbawala, Mayanga, Ziwani, Nanguruwe and Msanga Mkuu wards, incorporated through the local Master plan (Shanghvi, 2014: 51).

In addition, district governments whose lands are traversed by gas pipelines receive service levies as a form of public benefit. These service levies are the only mandatory

benefits in the gas production economy that are provided to the subnational state; as mandated by the *2015 Oil and Gas Revenues Management Act* as well as in the earlier *1982 Local Government Finance Act* (TEITI, 2015b; Ngowi, 2015). See tables 6.3 and 6.4. The service levies are payments made to local governments by gas companies who have installed pipelines in their districts (Ngowi, 2015: 1). Hence, gas companies pay 0.3% of gas sales revenue per quarter to affected local districts (Ngowi, 2015: 8-9). In 2012, Kilwa district received 33% of its local government revenues from service levies from PanAfrican Energy Company, out of which one-fifth was given to the directly-affected Songo Songo village (Ngowi, 2015: 9-18; Shanghvi, 2014: 60).[83] In Mtwara district, Mauriel & Prom Energy Company provided 3.2% of the district's revenue through service levies in 2012 (Ngowi, 2015).[84]

However, as already mentioned, most earmarked projects have not been implemented. Additionally, it is unclear how service levies have impacted local employment prospects in Lindi-Mtwara communities affected by the pipelines (FEST, 2015: 70). Even for projects that generate employment, these employment prospects are seasonal in nature (e.g. construction). Community members in Lindi-Mtwara also lack the skills to attain long-term employment opportunities in the OG industry. Estimates show that an individual oilfield in the new Lindi-Mtwara reserves would create a maximum of 400-500 long-term employment opportunities due to its capital intensive nature (Roe, 2016: 18). For instance, gas exploration activities by BG Group in 2012-2013 employed over 960 Tanzanians, however these were mostly seasonal construction jobs (FEST, 2015: 212). The Dangote Cement Factory in Mtwara is also

[83] There are discrepancies in the figures reported. Kilwa District Council reported that it receives a flat amount of TSh 480,000,000 (€185,000) while PanAfrican Energy Company claims that they pay the 0.3% quarterly rate to the Kilwa District Council. In 2012, PanAfrican Energy Company claimed to have paid €160,000 to Kilwa district (Ngowi, 2015: 9-18).
[84] Amounting to TSh 36,578,847 / €15,000 (Ngowi, 2015: 22-23).

expected to create about 5000 employment opportunities (with a projected 75% from Mtwara), although no evidence exists of these employment numbers (Shanghvi, 2014: 55).

Due to these local skills deficiencies to attain long-term employment, strategies have been introduced to equip locals with skills to be part of and benefit from the OG industry. These programmes are initiated by VETA (the Vocational Educational and Training Authority), a parastatal agency charged with facilitating, financing and coordinating vocational training activities in Tanzania (FEST, 2015: 220). See figure 6.1. In Mtwara, VETA is undertaking skill upgrading programmes to improve local skills in food preparation, plumbing, welding, carpentry, motor vehicle mechanics, electrical installation, laboratory assistantship, English language skills and offshore security services (FEST, 2015: 213). About ten Songo Songo youths access the VETA training courses yearly (Shanghvi, 2014: 59).[85] VETA also partnered with BG group to provide skills-training for 840 students in the two regions.

TPDC also provided a borehole to residents of Madimba in Mtwara (Oxfam, 2017: 8). Fifty Lindi students were also sponsored by the Ministry of Energy and Minerals to undertake vocational education courses to enhance their employment prospects in the gas industry (Shanghvi, 2014: 63).

Policies have also been introduced by the central government to coerce gas companies to be part of the development structure of local communities in which they operate. The *2013 Natural Gas Policy* mandates corporate social responsibility policies from OG companies (URT, 2013b). The aim is to make the current voluntary

[85] Source: Shangvi (2014: 59), from a focus group sample of ten officials from Kilwa District Council and Lindi Regional Government.

approach to CSR practiced by private companies in Tanzania a mandatory policy directive (FEST, 2015: 97). The *2013 National Natural Gas Policy* therefore states that;

"The government shall (i) ensure there is a contractual obligation to all investors and contractors in the natural gas activities to undertake locally prioritised community development programmes, and (ii) ensure that companies in the natural gas industry submit credible Corporate Social Responsibility action plans to the appropriate authority" (URT, 2013b: 16).

Within this, local governments are expected to prepare similar CSR guidelines for their jurisdictions and oversee its implementation (URT, 2013b: 27). In effect, CSR strategies are not only favoured by the central and local governments (as in the case of Ghana) but are mandated by law in the case of Tanzania. However, there are no evidences that the OG companies or the District Councils comply with these stipulations in Lindi-Mtwara. CSR programmes are implemented by OG companies in Lindi-Mtwara, but without any evidence of a CSR plan being followed. The impact of these central government reskilling programmes and corporate CSR programmes is yet to manifest in the local communities as seen in section 8.1.2. Community livelihoods have not seen much improvement; as earlier stated, about 54% of the sampled household-heads in Lindi-Mtwara deem their economic conditions to be at least worse than other regions in Tanzania (Must, 2018: 96).

In summary, public benefits are framed by the central and subnational governments as employment prospects that can be achieved through large-scale OG industrial projects, private investments, mandatory CSR projects and local gas levies. However, the employment effects of these strategies are yet to be realised even in the face of capacity building programmes (Wangwe et al., 2017: 12). Most of the projects are pending or in the process of construction. So far, the spatial outcomes of the supposed

public benefits of the gas economy are limited to largely unrealised plans as well as large-scale land holdings (see appendix 3).

Much like the case of Ghana, the research will show how institutions in Lindi-Mtwara and Tanzania integrate or side-line incommensurable values in the OG production process through their functions, relations and evolution over time. The case of Lindi-Mtwara is set here in the context of a centralised national governance structure as well as a dual land tenure system with state monopoly on allodial rights and local access to occupancy rights.

8.3 Lindi-Mtwara: Institutional Change in Tanzania's PER?

Tanzania's gas production sector has triggered a strengthening of existing centralised power structures. In Lindi-Mtwara, the emergence of the gas economy presents opportunities for local development but has also made the region susceptible to a more top-down central government regulation, bordering on authority imposition (Scott, 2014: 159).

- For Lindi-Mtwara, the major evidence of this centralisation is seen in the intensified transfer of land rights from local communities to the central government. In Tanzania, village land-investments of over 250 hectares requires the conversion of 'Village lands' to 'General lands' and approved by MLHHSD.[86] To enable this conversion to 'General lands' category, the occupancy rights of such lands are first transferred from the village to the central

[86] As seen in the *1999 Village Land Act* and *the 1967 Land Acquisition Act* (REDD Desk, 1967; FAO, 1999; Landlinks, 2016). Section 4.1 and 4.2 of the 1999 Village land Act states that; *"(4.1) Where the President is minded to transfer any area of village land to general land or reserved land for public interest, he may direct the Minister to proceed in accordance with the provisions of this section. (4. 2) For the purpose of subsection (1), public interest shall include investments of national interest"* (FAO, 1999).

government (through the Tanzania Investment Centre) before passed on to the intended investors. See figures 6.2 and 6.3. However such lands become permanent state lands and cannot revert back to customary village lands, even if the investment fails (Bryceson, 2015: 8; Landlinks, 2016: 14; Lange, 2008: 25-26; Mpogole & Kipene, 2013: 6-7). Local communities lose their lands in the process. The discovery of the gas resources and its land requirements therefore provides more legitimation for such intensified land transfer.

Similar to the Ghana Free Zones Authority, the Tanzania Investment Centre (TIC) is in charge of creating new land banks (Maganga et al., 2016: 32). At the height of the 2008 global land speculation, TIC was estimated to be holding about 2.5 million hectares of land in Tanzania (Cotula et al., 2009: 67). With the 2010 discovery of gas resources, over 33,000 hectares of Lindi-Mtwara lands have been part of the gas production process for new and pending power plants, pipelines, ports and related factories (see appendix 3). For instance, TPDC and other multinational energy companies[87] secured 7600 hectares of land for the Likong'o–Mchinga gas plant and industrial park. However, the previous land occupant contested the invalidation of his title deed and compensation amounts (Kabendera, 2016). With the construction expected to start in 2022, such transfered lands may lie vacant for years, with compensation to be possibly paid by the intended investor. Such forms of centralised regulation of community development and local land-use planning have resulted in a diminished role for Lindi-Mtwara local governments (Shanghvi, 2014: 51-52, 63), and less so for the constituent Village Councils. Even at the

[87] Equinor, Royal Dutch Shell, Exxon Mobil, Ophir Energy and Pavilion Energy (Kabendera, 2016; Tanzania-Invest, 2018).

regional level, district planners (e.g. in Kilwa district) complain of a lack of involvement by the Lindi regional government and vice-versa. Here is an excerpt from a focus group discussion (by Shanghvi, 2014) of ten sampled officials from Kilwa district council and Lindi regional government;

"The [Lindi] regional government is of the opinion that the large size of natural gas operations does not feature well for planning at the grass root level. As a result, the central government formulates the related plans and informs the local residents about the importance of the planned projects to the nation, region and communities through seminars. On the other side, the local government also complains of their poor involvement by the regional government in decision-making in relation to the gas industry, especially when some of the decisions countermand initial development plans" (Shanghvi, 2014: 78-79).

Thus local development is hampered by the centralised land-use projects that accompany the gas extraction economy. Furthermore, there are no energy experts to harmonise and disseminate these national level policies at the local level of land-use planning in Lindi-Mtwara (Wangwe et al., 2017: 5).

- Secondly, environmental regulation has been an area that has suffered under the extended and centralised structure of gas production in Lindi-Mtwara. As table 8.8 shows, 46% of sampled household-heads reported experiencing negative environmental effects linked to gas extraction.

Table 8.8: Public View of Sampled Residents regarding Gas-related Environmental Effects[88]

Gas-related Environmental Effects	Lindi-Mtwara Region (%)
No Negative Impacts	40
Negative Impacts	46
Don't Know	14
Total (%)	**100**

[Sample: 134 persons] Source: adapted from (Shanghvi, 2014: 36).

[88] From a sample of 134 persons from Songo Songo, Nanguruwe and Madimba wards in the Lindi-Mtwara region (Shanghvi, 2014: 36).

Additionally, focus group discussions by Shanghvi (2014) in Songo Songo, Nanguruwe and Madimba wards also revealed reports of exposure to hazardous chemicals, polluted farm crops and animals, discoloured soils, potential effects on fish catch as well as health effects of explosive activities (Shanghvi, 2014: 28-29, 37-38). Sampled residents by Must (2018: 99) also contended that these environmental issues were part of the reasons for the protests of 2012-2013.[89] Additionally, there is a lack of information by (central and subnational) state agencies regarding the local environmental effects of the gas production activities in Lindi-Mtwara (Shanghvi, 2014: 77-78).[90] Local governments in Lindi-Mtwara hence operate with inadequate resources and knowhow to oversee these issues (Shanghvi, 2014: 54). As Shanghvi (2014: 83-84) reports from officials of Kilwa district and Lindi regional government;

"The [Lindi] regional government refers to TPDC, who is the sole owner of the gas wells in Songo Songo, as the government agency that is fully responsible for ensuring that gas activities are conducted in a manner that safeguards the environment and people. Nevertheless, it observes that some time ago the gas wells exploded and the fire stayed on for about a week until firemen from India arrived to extinguish it" (Source: Shanghvi, 2014: 82; Kilwa district and Lindi Regional Government officials, May 2014).

The neglect of such an incident by agencies like TPDC coupled with the incapacited local agencies signifies the increasing (albeit ineffective) centralised institutional footprint. By mandate, the National Environmental Management Council (NEMC) is entrusted with environmental issues and not TPDC. Additionally, findings from environmental studies carried out by NEMC are not shared with district governments; for instance the case of NEMC's

[89] 40% of sampled household-heads had this opinion, from a sample of 835 persons from six districts in the Lindi-Mtwara region (Must, 2018: 99).
[90] Source: Shangvi (2014: 78-79), from a focus group sample of ten officials from Mtwara-Mikindani district and Mtwara regional government.

research in Kilwa district was not disclosed to district offiicials (Shanghvi, 2014: 84). At the Lindi Regional Government Office, natural resource officers fill the role of environmental officers (Wangwe et al., 2017: 13). The top-down nature of such institutional practices coupled with the neglect and incapacity of the local government, is an institutional change that threatens community livelihoods.

- Lastly, the struggle for benefits by communities in Lindi-Mtwara has created forms of instutional diffusion characterised not only by authority imposition, but also threats and violence (Scott, 2014: 159). The central government used violent repression to create the gas institutional status-quo and assert the current value-regime amid local protests. Mtwara residents aimed to create de-facto political power through its 2012-2013 protests, however this did not manifest into de-jure forms as the central government violently repressed the protests without much local political change (Acemoglu et al., 2005: 350, 357, 391-392). This reinforced the "*administrative occupation*" that Lindi-Mtwara encounters, whereby the central government is detached from local issues (Boone, 2003) but yet it utilises force to maintain this status-quo. Indeed, the government's decision to build the new LNG plant at Likong'o- Mchinga (Lindi) goes to show that Mtwara residents' calls for energy security have so far been ignored by the central government (Kabendera, 2016). Relatedly, individual communities in Lindi-Mtwara contend with each other for the economic 'public benefits' within the top-down value structure of the gas extraction economy. For instance, there have been intensified boundary-conflicts between Somanga, Njia Nne and Tingi villages over compensations regarding the Songo Songo pipelines in Lindi (Shanghvi, 2014: 81). Another instance is boundary-

contentions by villages in the Nangurume ward linked to the gas infrastructure on their lands (Wangwe et al., 2017: 7). These issues are driven by a host of factors aside the centralised land and gas governance structure; from the different phases of village land registrations and land title deeds acquisitions in 1975-1980s, to the informal boundary agreements between villages, to the exclusion of public-amenity spaces from registered village lands (Wily, 2003: 10). The emergence of the gas economy has however re-activated these long-standing issues, with subnational institutions and planning agencies having to regulate such potential conflicts in their jurisdictions.

Aside the regulative institutional change, there are normative aspects that require attention. Normative institutional change entail values and norms; it depends on the degree of formal and informal network ties as well as interlocking directories (Scott, 2014: 161).

- In Lindi-Mtwara, the increasing pressure on land use linked to the gas economy is intensifying informal land-purchases and compensation processes. Sellers and buyers of land hence collude to under-report land values to village authorities in order to reduce transaction fees (Wangwe et al., 2017: 7).

  For instance, in Mtwara this fee is set at 10% of the purchase cost (Wangwe et al., 2017: 7). Helmke & Levitsky (2004) argue that informal institutions *emerge* endogenously from formal arrangements (to complement, moderate or undermine formal institutions) while in other cases informal institutions emerge independently, thus predating or serving as a foundation for formal institutions (Helmke & Levitsky, 2004: 732-733). In Lindi-Mtwara, the nationalised land governmance structure together with the collectivised village land occupancy

structure has created ambiquities regarding individual land transfer in the gas economy, hence triggering informal rules around land acqusition. A case in point is Ruvu hamlet in Mchinga 2 village (Lindi) where locals transferred lands to investors without informing fellow village members (Shanghvi, 2014: 81-82). The complementary role of informal institutional norms amidst the rigid regulatory strcuture is also evident in land compensation agreements between Village Councils and gas pipeline companies. As already stated (in section 8.1.3), gas companies top-up compensation amounts for communities to speed up their intended projects (Shanghvi, 2014: 54; as reported by officials from Mtwara District Council). Other companies like Mauriel & Prom also use CSR projects as an add-on to compensation agreements (M&PEPTL, 2014: 35). Such compensation agreements hence complement the existing central government compensation rates which community members deem as unsatisfactory (Kamat, 2017: 309; Shanghvi, 2014: 33-35; Wangwe et al., 2017: 7, 13).

Mapping has also become a mode of framing that legitimises access to land and its compensation in Lindi-Mtwara. Institutional change can take effect through cultural-cognitive elements (symbols, words, signs) in shaping the extent of framing and legitimation (Scott, 2014: 164).

- The issue of mapping villages is important in Tanzania, since it affords legitimacy and records of community-existence, especially for village lands which constitute about 70% of the country's land area (German et al., 2011: 15; Landlinks, 2016: 13). Since 2011, the central government has aimed to survey all 12,000 villages nationwide to capture "*unused lands*" under government

control. This nationwide mapping is estimated to transfer about 18% (3 million hectares) of Tanzanian lands to the government although the definition of "*unused lands*" is unclear (Bryceson, 2015: 8; Landlinks, 2016: 19; Maganga et al., 2016: 21-22). Similar discrepancies are seen in the use of the term "*vacant lands*" in the *1999 Village Land Act* (URT, 2001: 27; cited in Lange, 2008: 12). According to the former Tanzanian Minister of Lands Anna Tibaijuka, the aim of this nationwide survey is to revalorise land from its state of "*dead capital*";

> *"The value of land is well reconciled as high and almost everyone's goal is to secure some for themselves and their families. As such it should follow that rural folks, who occupy vast tracks of land are sitting on a lot of wealth but because it is not surveyed and they have no title deeds to prove their ownership renders their land 'dead capital"* (Former Tanzanian Minister of Lands Anna Tibaijuka, 2011; cited in The Guardian, 2013).

Picked directly from de Soto's (2000) playbook, the strategy of revalorising dead capital in Tanzanian lands is geared towards "*dispossession through formalisation*" (Maganga et al., 2016). Around 70% of lands in Tanzania are unregistered (Mpogole & Kipene, 2013: 6). Mapping and land-surveying thus become cognitive scripts that side-line competing notions of legitimacy, land-use and its incommensurability of values. For a country like Tanzania where village communities are politically created; legitimation through mapping becomes pertinent.

In Lindi-Mtwara, the emergence of the gas economy means that such cognitive elements are used to legitimise citizenship, of those who can reap the benefits of such an economy. In Kilwa district (Lindi), community contentions over pipeline compensations are partly linked to non-updated maps and plans; here the communities are not represented on maps and are thus ineligible for

compensation (Shanghvi, 2014: 61). Contentions between Somanga and Njia Nne villages are also linked to TPDC's role in mapping the spatial imprint of gas pipelines in only Njia Nne village although the pipelines crossed both villages (Shanghvi, 2014: 81). This is exacerbated by the coexistence of communities with land-use plans vis-a-vis those without the resources to draft such plans (Shanghvi, 2014: 66).[91] For instance, Ruangwa district has only 3 out of 80 villages with land-use plans (Shanghvi, 2014: 66). Companies like SONGAS therefore provide funds for village land registration projects in communities like Rufiji and Kilwa as part of their CSR activities to gain goodwill and legitimise the communities' lands in national records (Mangora & Shalli, 2012: 8).

The role of Lindi-Mtwara as emerging petro-extraction regions renders the region doubly vulnerable to "dispossession through formalisation" (Maganga et al., 2016). It also stresses the type of value that the government wants to unleash through village lands, for various forms of land-based investment; gas extraction being the latest one. Such discursive practices influence how resources (gas reserves, lands) are appropriated (Gintis & Bowles, 1981: 3-4) and how resource nationalism is framed.

[91] Regarding large-scale master plans, only Mtwara-Mikindani has a master plan, spanning 2015-2035; out of the twelve districts and municipalities (Mtwara-Mikindani Council, 2015).

8.4 Conclusion

As this chapter has shown, local communities in Lindi-Mtwara stress the "*communal benefits*" of land while strongly arguing for the "*material value*" of gas resources to address local energy security issues. These issues are linked to the local territorial claiming of material and livelihood benefits by Lindi-Mtwara residents through calls for improved energy generation, industrial employment opportunities and enhanced public services. In addition, local communities call for compensation values to reflect the "*intergenerational livelihood prospects*" of land to maintain their current and future livelihood prospects. The argument for temporal/intergenerational value of land valuation and compensation by the local-communities contrasts with that of the state and OG firms who emphasise exchange value, opportunity cost and scarcity value of lands. Particularly, the use of opportunity cost in land compensations denotes that such compensations are based on the present monetary land value forgone (M&PEPTL, 2014: 21).

The framings of land value by the Tanzanian central government and Lindi-Mtwara local governments therefore point to notions of resource nationalism and regional competitiveness. Within this, local lands in Lindi-Mtwara are valued as thoroughfares for "*national resource value*" and "*public benefits*" to legitimise the need for national energy security and industrial projects. The historical inheritance of centralised institutional practices in Tanzania's natural resource sector has also influenced resource nationalism in the emerging gas sector. This is characterised by state control balanced with an enabling (albeit measured) environment for international OG companies, aimed at addressing the country's energy and infrastructure issues (Lange & Kinyondo, 2016: 1103).

In effect, for subnational extraction regions like Lindi-Mtwara, public benefits are legitimised through central and local government promises of employment via large-scale OG industrial projects, development corridor infrastructure projects, private OG investments, mandatory CSR projects and local gas levies. However, much like the case of Southwestern Ghana, local calls for "*communal benefits*" in Lindi-Mtwara are met by ad-hoc voluntary government reskilling programmes and corporate CSR initiatives (see figure 8.2), with its effects yet to manifest in the local communities. CSR programmes in both Southwestern Ghana and Lindi-Mtwara are implemented as voluntary add-ons to the local extraction processes, although *Tanzania's 2015 Petroleum Act* stipulates mandatory CSR policies for OG companies (TEITI, 2015a).

The centralisation of regulative institutional practices within Ghana's petro-extraction economy is evidenced by the authority imposition of central government agencies on local governments in Southwestern Ghana. In the case of Tanzania, the central government aims to regulate both the subnational Lindi-Mtwara governments and the multinational OG firms to facilitate resource nationalism, in order to re-regulate the entire extraction sector. Thus in 2017, the Tanzanian state introduced laws to re-negotiate unconscionable and exploitative extraction contracts with multinational resource-extraction companies (see section 6.4 and table 6.4). However, these progressive government policies to make OG companies more accountable are also countered by the centralised regulation of land-use governance in Lindi-Mtwara. In effect, there is limited coordination between local governments and national parastatal OG companies. There is also a lack of information (by central and subnational state agencies) regarding the local environmental effects of the gas production activities on Lindi-Mtwara.

State force has been used by the Tanzanian central government to maintain this topdown regulatory relation with Lindi-Mtwara (Althusser & Balibar, 1968: 306-307; Harvey, 1976). The state's response to local protests has been violent repression and killings. To circumvent the top-down regulatory structure, informal rules around land acqusition and land transfer have emerged, with its attendant boundary issues.

The role of Lindi-Mtwara as a petro-geography in Tanzania also makes the region vulnerable not just to state repression of dissenting voices but also to forms of exploitation masked as formalisation, that is, land mapping and village registration (Maganga et al., 2016). These cultural-cognitive elements of institutional practices (Scott, 2014: 56) are used to singularise incommensurable land values and facilitate the use of local lands as thoroughfares for centralised resource control. Similarly, in Southwestern Ghana, informal land use is delegitimised to enable 'better' valuation and rent extraction from the OG economy by seeking higher-earning (intended) OG real estate projects. In Lindi-Mtwara, mapping and land formalisation are used by the central government to litigate away opposing local claims for land-compensation, thus distilling incommensurable values into a discrete and commensurable land and gas-extraction economy.

CHAPTER NINE

9.0 What Value(s)

Chapters seven and eight served as the main empirical analysis of the research, built on a historical analysis of policies and institutions (chapters five and six), secondary research and primary fieldwork entailing interviews and longitudinal data. This chapter therefore synthesises the findings of the research, as a response to the research-questions.

This research has deployed the concept of incommensurable values to examine the regulations and contestations surrounding "land value" in Africa's emerging petro-extraction regions (PERs). Using the case studies of Southwestern Ghana and Lindi-Mtwara, the research has analysed "*How and why policies and practices on 'land value' evolve in new petro-extraction regions?*". It focuses on value as "*the weighted outcome of a decision-problem*" (adapted from Costanza et al., 2015: 166). The research has shown the evolving land-economy of such new petro-extraction regions as partly products of historical changes and partly as changes emerging anew, both informing current contestations over land-value. After the historical case study analysis, the research examined the specific land value languages used in the two case study regions as PERs and their significance for unearthing the underlying framings and subsequent outcomes (in policy formulation, spatial outcomes and institutional practices). Sections 9.1 to 9.4 will summarise the research based on the questions while table 9.1 as well as figures 9.1 and 9.2 also provide a visual representation of the findings.

9.1 Land Value Languages and Framings

Here, the research analyses the specific land-valuation languages used by local communities and state institutions in the PERs and the underlying framings.

As table 9.1 shows, non-state actors in Southwestern Ghana conceive of value along major lines of "*customary stewardship*", "*communal benefit*", "*proximal risk*" as well as "*land outside market valuations*". These articulations of land value emphasise the territorial, economic, environmental, calorific and non-instrumental conceptions of land. Similarly, locals of Lindi-Mtwara stress the "*communal benefits*" of land while strongly arguing for the "*material value*" of gas resources (to solve energy security issues) as well as for compensation values to reflect "*intergenerational livelihood"* prospects. These also emphase the material, economic and temporal values of land. Within these two case studies, articulations of land value span across the spectrum from the economic to the non-economic, from instrumental to non-instrumental. The findings herald that notions of intrinsic land values or land conservation are not necessarily emphasised by local communities; rather it highlights that forms of local land-claiming are done through articulations of non-instrumental and intergenerational land values, in order to enhance present survival and future prospects.

Much of the language of the state (both central and subnational governments) in the two case studies fall into framings of land use efficiency, competitiveness, voluntariness and resource nationalism. These framings underly the articulations of land value by the Ghanaian state (to enhance "*bureaucratic de/regulation*", "*public benefits*" and "*livelihood value*") as well as the Tanzanian state (highlighting "*national resource value*" and "*public benefits*"). The states' land value languages and the underlying framings thus invalidate community conceptions of land value.

The underlying framing of “land-use efficiency” is emphasised to ensure that institutions attain the highest and best use of land as well as natural resources. In Ghana’s PER, this framing is used to delegitimise informal land uses to the benefit of formal and OG-land uses with possibilities for further commodification through carbon sequestration projects. Here efficiency is emphasised over redistributive potential and incommensurability of land uses for local land users. In Tanzania’s case, the emphasis and forceful enforcement of gas extraction as ultimately bound for more efficient uses in Dar-es-Salaam, for industrial uses and for export, renders Lindi-Mtwara as a thoroughfare for gas transport, with negative implications for local energy security and justice.

The underlying framing of “competitiveness” points to the use of land and investment incentives to attract OG infrastructure and related-industrial hubs in the PERs; by providing an enabling environment for private OG investments to emulate flagship global petro-geographies. For Ghana’s Southwestern region, competitiveness thus becomes the logic to facilitate the meeting point of OG capital with access to land (for investors) providing one of such enabling environments. In Lindi-Mtwara, centralised land transfer for gas extraction and related development corridor projects are framed as a way to create a regionally competitive economy.

The framing of “voluntariness” provides a complement to the efficiency-enhancing and competitiveness-enhancing land uses in the two case studies. Here, affected land users – who have been competitively priced out or physically dispossessed from their lands – are left to the voluntary framings of OG charity projects and ineffectual one-time state compensations. This is especially the case of Ghana where CSR projects are discretionary and unenforceable. In Tanzania’s case, OG

companies are expected to draft CSR policies, although its implementation in Lindi-Mtwara has been tentative.

The framing of resource-nationalism, especially in Tanzania's Lindi-Mtwara, complements the state's strategies to attract the private sector. Here, the Tanzanian state frames resource nationalism to demand accountability from private OG companies while subordinating lands in Lindi-Mtwara as thoroughfares to enhance national energy security (Lange & Kinyondo, 2016: 1103; Poncian, 2019: 83).

Hence incommensurable values are funnelled through these framings. The local claims for territorial and economic benefits in Southwestern Ghana and Lindi-Mtwara (through values of "*customary stewardship*", "*communal benefit*", "*material value*") are reframed by central governments into notions of national territoriality to enhance land use efficiency and competitiveness as well as to centralise OG rents. Subnational calls for environmental mitigation against the direct and indirect OG-pollution impacts on residents are also rewired into voluntary projects to further commodify natural capital for the benefit of the land-owning minority. Notions of "*intergenerational livehood"* equity are left to voluntary CSR projects while "*land outside market valuations*" are usurped through compulsory land acquisition laws to facilitate the acquisition of land and OG rents. Compulsory land acquisition thrives on one's "*compulsion to sell/accept compensation*" and has no room for local resistance regarding land expropriation (Georgescu-Roegen, 1966; Martinez-Alier et al., 1998). Table 9.1 summarises these framings.

Table 9.1: Summary of Findings (Blue = State Actors; Yellow = Non-State Actors)

Ghana's PER						
Land Value Languages		**Framings**		**Land Use Policy Outcomes**		**Spatial Outcomes**	**Institutional Outcomes**
Bureaucratic De/Regulation		⊛ Market competitiveness. ⊛ Land use efficiency.		SDFs and structure plans in PER.		⊛ Delegitimising informal land use. ⊛ OG industrial, real estate and commercial projects.	⊛ Centralisation of planning and governance powers. ⊛ Lateralisation and privatisation of planning competences. ⊛ Ineffective local competence in dealing with incommensurability. ⊛ Institutional cognitive role as "oil-cities" (policy linked to oil futures). ⊛ Intensification of land claims and titling issues. ⊛ Central government side-lining PER regarding oil-rents. ⊛ Landed class in PER benefitting from land rents.
Public Benefits CSR		Voluntariness.		SDFs and structure plans in PER.		OG charity projects.	
Investment Value		Land use efficiency.		SDFs and structure plans in PER.		⊛ Large-scale land holdings for speculative "new city" projects. ⊛ Urban Gentrification.	
Petro Hubs		Market competitiveness.		⊛ National Land-banking. ⊛ National SEZs. ⊛ Compulsory land acquisition. ⊛ SDFs and structure plans in PER (especially Sekondi-Takoradi, Ellembelle, Shama and Ahanta West).		⊛ Large-scale land holdings for speculative petro-industrial hubs. ⊛ OG industrial projects. ⊛ Rural displacement from farmlands. ⊛ Lands for pipelines. ⊛ Restriction of fishing territory.	
Livelihood Value		Voluntariness.		SDFs and structure plans in PER.		OG charity projects.	
Customary Stewardship							
Communal Benefit							
CSV							
Subsistence Value							
Proximal Risk							
Land "Outside" Market Valuation							
Tanzania's PER							
Land Value Languages		**Framings**		**Land Use Policy Outcomes**		**Spatial Outcomes**	**Institutional Outcomes**
National Resource Value		⊛ Resource nationalism.		⊛ Petroleum acts. ⊛ National development plans.		⊛ Lands for pipelines. ⊛ Gas (and related) industries. ⊛ Rural displacement from farmlands.	⊛ Centralisation of developmental powers. ⊛ Centralisation of land transfer. ⊛ Ineffective local and central government competences in dealing with environmental incommensurability. ⊛ Forceful subordination of local interests. ⊛ Informal land transfer market. ⊛ Maps as cognitive scripts of legitimate claims to settlement status and compensation.
Public Benefits Communal Benefits		⊛ Resource nationalism. ⊛ Regional competitiveness.		⊛ Levies for land-affected districts. ⊛ CSR policies. ⊛ Development corridor projects.		⊛ Gas (and related) industries. ⊛ OG charity projects. ⊛ Large-scale land holdings for speculative infrastructure projects. ⊛ Large-scale land holdings for speculative regional petro-industrial hubs. ⊛ Lands for pipelines.	
Material Value							
Intergenerational Compensation Value							

Source: Author's Construct (2019).

9.2 Effects on Land-Use Policies and Spatial Outcomes

Here the research analysed the effects of the states' land value framings on land-use policies and spatial outcomes in the PERs.

The states' land-use framings of value influenced its policies and practices of planning in the two PERs. The 'boundaries' of valuation merges the framing of a problem with a selection of "*properties considered likely representations of the problem*" (De Roo, 2011: 136). This selection of representatives of the problem ultimately decides how incommensurable values are legitimised (or singularised) in policy-making. In the two case studies, policy formulation codifies the framing of land value into unambiguous and defensible strategies,[92] to enhance efficiency, competitiveness and forms of resource nationalism.

In Southwestern Ghana, land use policies are framed towards goals of efficiency in the OG economy to the detriment of environmental and social issues. Hence, policies on land-banking and the creation of Special Economic Zones have been the major central-government instruments to enable private OG-related land investments in the six coastal districts. Compulsory land acquisitions and compensations have also become the policies of first resort in Southwestern Ghana, especially in the state's drive to create a petro-industrial hub. In Ghana, despite the fact that professional valuers may have different views of land's market value and recognise its pluralist nature (Ablo & Asamoah, 2018), in practice, their valuation activities and its compensatory outcomes in the PER have not necessarily reflected this. Compensations have been marred by ineffective and

[92] Funtowicz et al. (1999: 8), Costanza et al. (2015: 167-170), De Roo (2011: 136).

inadequate payments. Local governments in Southwestern Ghana have also curated their spatial plans to the anticipated OG-driven land-uses such as speculative OG real estate projects. For local government actors, these policies are aimed at land-use efficiency and a competitive local economy. The result has been direct land-displacement of rural folk, gentrification of low-income urban residents as well as restriction of local fishing territory. For victims of direct land displacement in Southwestern Ghana, policies on land compensation are riddled with ineffective payments. Hence, their options of benefits are limited to voluntary CSR OG charity projects, especially if they lack the skills to enter the formal (especially petroleum) economy.

In Lindi-Mtwara, the framings of resource nationalism and regional competitiveness through the gas economy have resulted in outward-looking policies. Indeed, the country's goal of attaining a semi-industrial status by 2025 (in the 2011 and 2016 Development Plans; see table 6.4) has resulted in the utilisation of gas reserves to feed domestic-industrial uses mostly outside Lindi-Mtwara, with the potential for export. Lindi-Mtwara is also slated to benefit from the potential development corridor project, although the goal is to foster a competitive East African infrastructural hub (SARDC, 2005).

The framing of resource nationalism by Tanzania's central government is used to derive policy outcomes that demand accountability from multinational OG and mining companies; through laws to re-negotiate unconscionable and exploitative extraction contracts with multinational resource-extraction companies (see table 6.4). The result of this in the gas economy is yet to manifest. However, compared to Ghana's case where OG benefits are centralised and the OG risks are mitigated by charity projects, the

presence of mandatory CSR policies and local gas service levies in Lindi-Mtwara are potential strategies to explore in terms of OG risk mitigation in Ghana. In effect, the policy outcomes of the land value framings in the PERs emphasise efficiency-enhancing land uses to aid resource commensurability and centralisation. Institutional roles thus narrow down to these functions; thus, serving a different public under the guise of efficiency. In both cases, such "*different publics*" include the national government and OG companies, although Tanzania is initiating policies to demand more accountability from such extraction companies. The practical application of Tanzania's policy outcomes (blending private sector involvement and resource nationalism) and its evolving power positions draw implications for emerging African petro-geographies that will require attention in the future. Such policies and practices become the means to enact preferred spatial outcomes by the state in decision-making at the PERs.

The spatial outcomes of these policies have imprinted on Southwestern Ghana and Lindi-Mtwara as emerging petro-geographies. This spatial imprint dissolves notions of urban and rural by enmeshing petro-extraction to logistical hubs, land enclosures, large-scale territorial planning and utopian urban visions (Brenner, 2014: 20-21; Harvey, 2004). In Southwestern Ghana, land-use efficiency framings, policies and practices are used to delegitimise local informal urban land uses and to acquire rural farmlands. These are replaced by industrial-commercial OG uses as well as large-scale land holdings for "new city" projects and "petro-hubs". This is similar to Lindi-Mtwara, minus the new-city projects. Figures 9.1 and 9.2 summarise the spatial outcomes of the two petro-geographies, using Hein & Sedighi's (2018: 34) heuristic of petroleum-scapes.

Figure 9.1: Spatial Outcomes in Ghana's PER

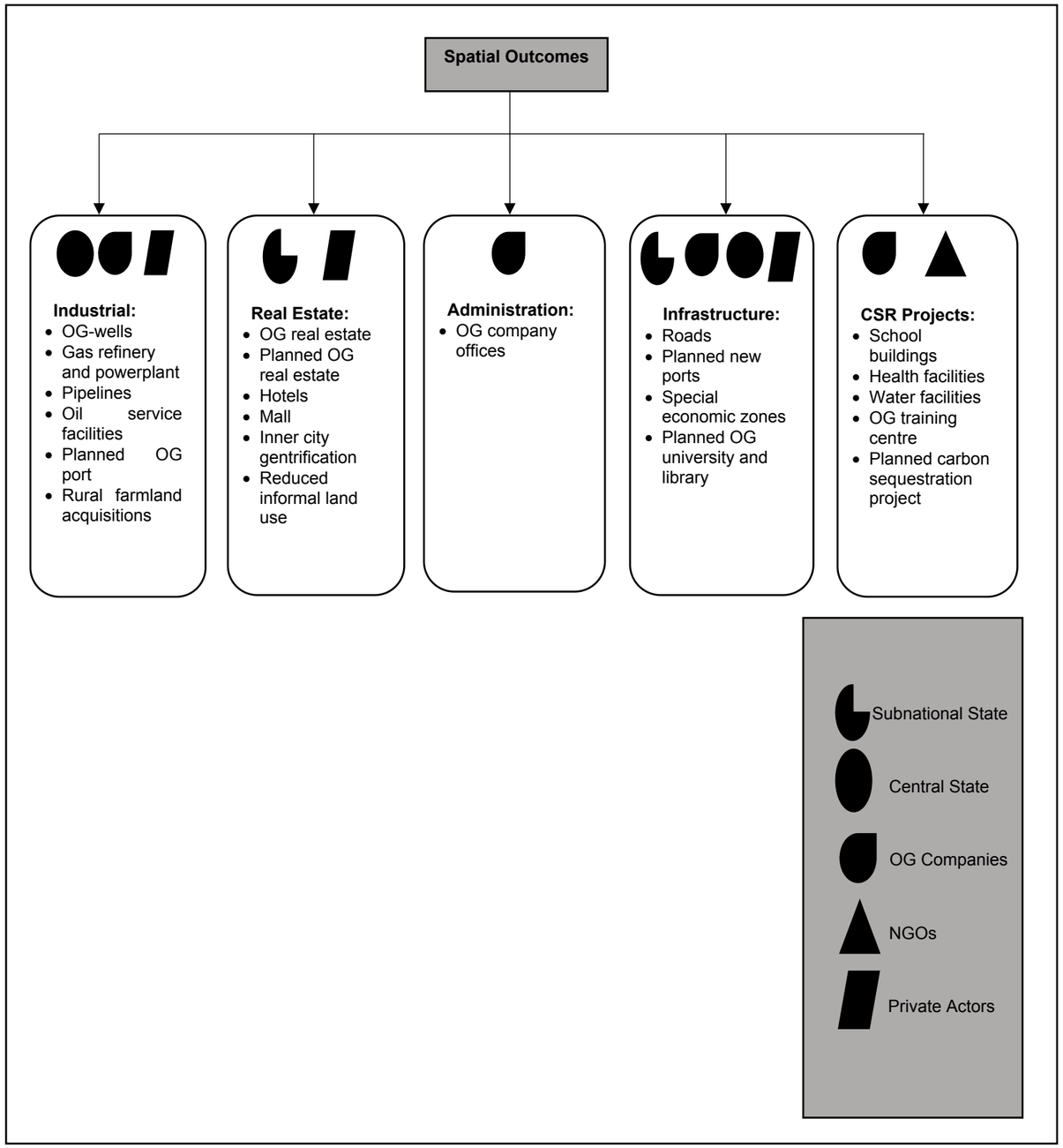
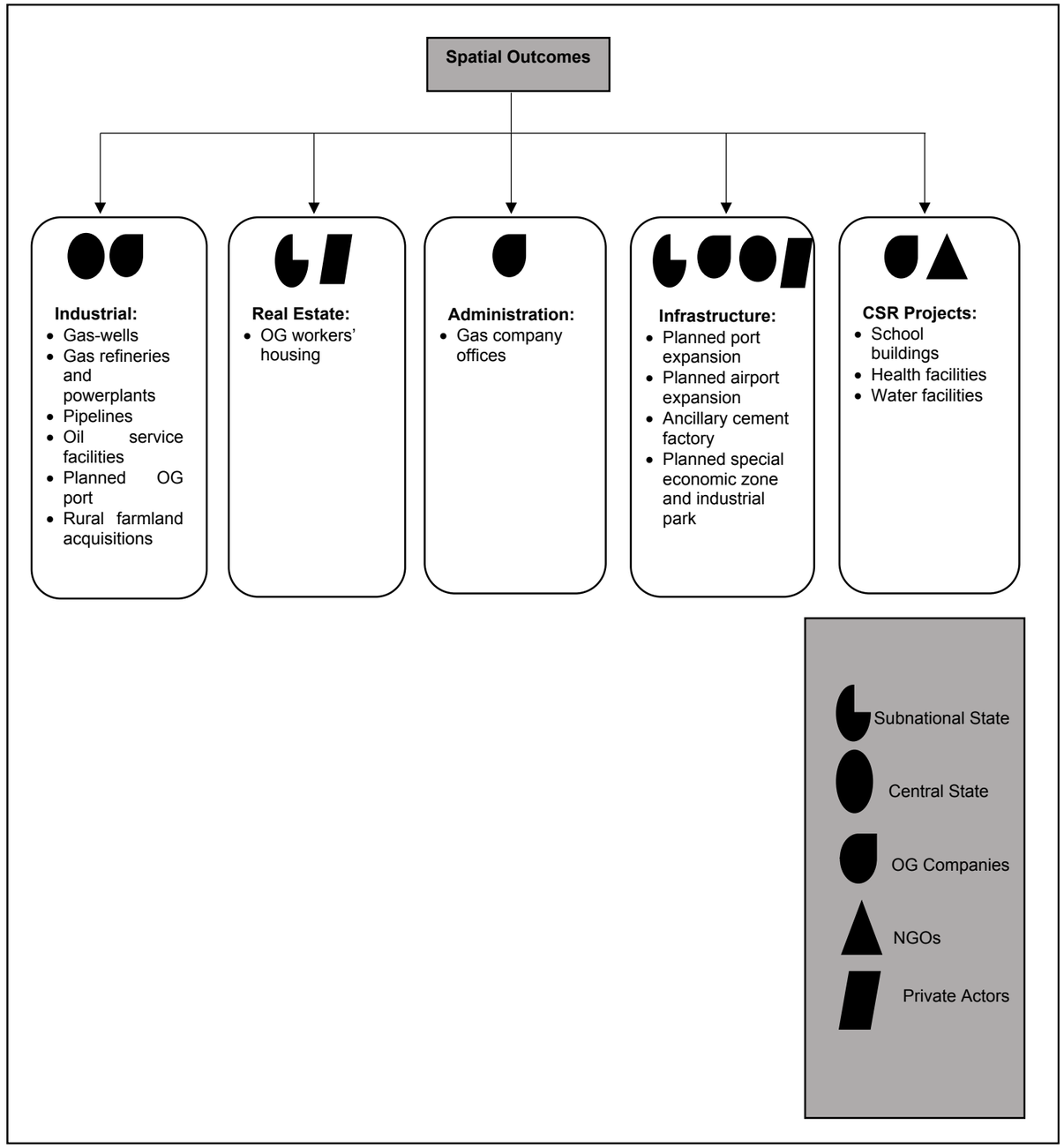


Figure 9.2: Spatial Outcomes in Tanzania's PER



Source: adapted from Hein & Sedighi's (2018: 34) heuristic of global petroleum-scapes.

Classic African Petro geographies and new-city projects such as Abuja, Port-Harcourt, Tripoli and Benghazi were deemed as post-independence modernisation projects (Hein, 2013; Keizeiri, 1983; Ali et al., 2008; Van-Noorloos & Kloosterboer, 2017: 5). By comparison, this research shows that emerging petro-geographies have a speculative and imitative logic looking to emulate the global success stories of new cities built around the oil industry as well as those developed through petro-industrial clusters (i.e. new oil city projects especially in Southeast Asia and the Gulf nations as well as existing petro-clusters such as Houston or Aberdeen). Africa's emerging petro-geographies tap into an overarching process of rapid urbanisation, general economic growth and a global search for a spatial fix on the continent; with visions to emulate global oil-cities and newly industrialising nations (Van-Noorloos & Kloosterboer, 2017: 2, 6). Ghana's government conceive the petro-economy as an opportunity for petro-industrialisation in Southwestern Ghana. This is to be built on existing infrastructural spaces (railways, ports, quays, wharves, factories, warehouses) as well as new ones. In addition, the local government in Southwestern Ghana conceives of the petro-economy as an avenue for the next big oil-city (Dubai being the most cited). Here, the role of China has been pertinent in accessing finance and the development of OG infrastructure in both cases.

Van-Noorloos & Kloosterboer (2017) show that emerging African petro-geographies are characterised by the construction of entirely new cities (Oyala, New Guinea), and the development of satellite towns in existing capital cities (Luanda, Angola). This research adds to these cases, showing the in-situ extraction of resources and production of spaces that emulate global petro-geographies. Petroleum-driven new city projects especially in

Southwestern Ghana,[93] are marketed as multi-purpose and multifunctional spaces, with implications for further enclave formation (Van-Noorloos & Kloosterboer, 2017: 5). For Southwestern Ghana, the research adds to existing empirical analysis of Sekondi-Takoradi as an oil-city,[94] by focusing on the six coastal districts as an emerging petro-region. Lindi-Mtwara is also situated as an emerging petro-geography, providing a valuable time stamp to the spatial transformations occurring in East African regions considered as emerging nodes of natural gas extraction in Africa (Ernst & Young, 2012: 3).

Petro-geographies are outcomes of the singularisation of incommensurable land values into commensurable spatial forms by the state (central and subnational) to create an enabling environment for private and centralised extractive capital. In the two cases, this is enabled by framings and policies that emphasise efficiency, a competitive economy, government-corporate expropriation of resource rents and piecemeal local benefits. Such a complex situation can be understood by attending to the multiple land interests and stresses on land. As the world's remaining oil and gas reserves are in ecologically sensitive areas (such as offshore territory), more sensitive frontiers become commoditised and abstracted into the next petro-geographies (Bridge, 2014). Contemporary research on ocean grabbing (Bennett et al., 2015; Phillips, 2018) and the use of farmlands for biofuel projects are additional examples (Harvey & Pilgrim, 2011; Cotula, 2012; McMichael, 2013; Hornborg, 2013; Huber & McCarthy, 2017).

[93] The "*Oil-Village*", "*King-City*" "*Petronia-City*" and "*Soroma Capital real estate*" projects.
[94] Obeng-Odoom (2014), Eduful & Hooper (2015), Fiave (2017), Mabe (2013).

9.3 Implications for Institutional Change

Here the research analysed the implications of such framings, policies and spatial outcomes for institutional change in the PERs.

Firstly, the regulative structures of the OG economy in Southwestern Ghana and Lindi-Mtwara are characterised by arbitrary and arguably informal discretionary use of power regarding central government projects followed by the use of compulsory land acquisition laws. In Southwestern Ghana, this regulatory umbrella has limited local normative planning to the approval of land-development permits and the facilitation of OG–related investment projects to the neglect of locally-beneficial land uses. In short, normative planning has focused on a "*competitive selection mechanism*" (Hall & Taylor, 1996: 25; Pierson & Skocpol, 2002) to enable the highest and best use of land in the OG economy in Southwestern Ghana. Local planners especially in the more urbanised Sekondi-Takoradi therefore seek "*predictability*"[95] in spatial planning. They seek to provide an enabling environment for higher-earning OG land uses with the prospects of high property taxes and low transaction cost of tax collection, as against informal land use for example. These institutional practices in Southwestern Ghana in pursuit of such narrow outcomes, coupled with their lack of resources (Fiave, 2017: 73), results in a hollowed local policy landscape filled by OG development consultants, NGOs and development agencies. The result is a simultaneous process of centralisation and fragmentation, as shown in section 7.3 (also see Brookins, 2018).

[95] Riker (1980: 445), Schotter (1981), North (1990), Chang & Evans (2005).

In Lindi-Mtwara, the pursuit of a predictable and easily governable gas economy by the central government (coupled with coercive strategies)[96] are manifested in the intensified transfer of "*vacant*" village lands into central government jurisdiction in the name of creating clear property rights, revalorising "*dead capital*" (de Soto, 2000) and facilitating resource nationalism. The outcome of this increasing centralisation in Lindi-Mtwara is the burgeoning of informal institutional practices around land acquisition to circumvent both local and central government bureaucratic control (Helmke & Levitsky, 2004). Certainty is usually implied in institutional decision-making (Funtowicz et al., 1999: 8), although in practice the complexity of such informal land acquisitions shows the weaknesses of such narrow and centralised institutional practices.

In both Southwestern Ghana and Lindi-Mtwara, institutional practices are framed along lines of efficiency, competitiveness and resource-nationalism in establishing control over property and resource rights (see World Bank, 1992 and Rajagopal, 2008), thus side-lining incommensurable values. However, such side-lined plural values do not just disappear. Rather, they manifest in intensified informal land use practices (in Lindi-Mtwara) and the use of external planning policy competences outside local government institutions (Southwestern Ghana). Additional effects are the environmental fallouts of such narrow institutional practices in both case studies. Ghana is still yet to recover from the environmental effects of the 1986 deregulated mining policies (Panford, 2016: 81-82). This is worthy of note for neoclassical-influenced institutionalism in terms of the distributive effects of a narrow conception of land use and institutional functions, which neglects the fact that "*in real life, institutions tend to do much more*" (Mkandawire, 2009:

[96] Scott (2014: 56).

20). In both case studies, institutional values and norms (Scott, 2014: 161) are not attentive to local conceptions of value(s). The ability of central and local governments in Southwestern Ghana and Lindi-Mtwara to simultaneous regulate aspects of the OG economy (through SEZs, industrial hubs, land permits, compulsory acquisition) and deregulate other aspects (i.e. environmental effects, competitive land markets) is a running theme that contextualises the framings of voluntariness, competitiveness, efficiency and resource-nationalism.

Secondly, valuation is deemed as a "*subjugation act*" (Greco, 2015: 22-23) utilised to transform political issues into technical ones (Harvey, 1985: 182; Fredriksen et al., 2014: 16). Just as Ghana's previous name (Gold Coast) marked the country as a hub of extractivism, with the emergence of the petro-economy, planners in Southwestern Ghana frame land value, create policies and perform practices to fulfil the cultural-cognitive role as "*oil-cities*". In Lindi-Mtwara, village registration and land-mapping serve as the fundamental cognitive scripts to delegitimise local land use contestations by the central government to enable the activation of "*dead capital*" (de Soto, 2000) and the pursuit of gas extraction. Mapping provides the means to access surveyed plots and investable lands to enable extraction and/or market exchange. For communities in Lindi-Mtwara, the bifurcated land (occupancy) tenure system between village lands and general/urban lands faces the risk of turning into a de-facto linear structure controlled by the central government. This is because with the onset of the OG economy, the governmental power of compulsory land acquisition for public interest projects becomes intensified. This is further complicated by the possibility of delegitimising unregistered villages and deeming non-titled lands as vacant, hence restricting their ability to even demand compensations.

In the two case studies, institutional practices are akin to "*monocropping*" where, with the emergence of the OG economy, central and local government practices are dictated by and limited to framings of efficiency and, hence side-lining local contentions of plurality (Mkandawire, 2009; citing Evans, 2004: 44). Even though such monocropping in both case studies is characterised by the institutional inheritance of colonial and western-style neoliberal policies of resource extraction (Chang & Evans, 2005: 3-4), it is also mixed with emerging futures aiming to imitate existing global practices. Here, institutional change is established not only through structural domination by the state and OG companies against local communities (see section 3.1), but also legitimated by cultural-cognitive elements through policies and practices that naturalise land dispossession and resource rent capture to create the next petro-geographies (Greco, 2015: 33, 39, 41). Institutional practices in the two cases thus embody communicative framings, policies and practices of land appropriation (Gintis & Bowles, 1981: 3-4) aimed at creating the next global petro-geography.

Lastly, the implications of this for the power relations between central governments and local (subnational) populations have implications for rethinking future petro-geographies. In Southwestern Ghana, the non-landed nature of the extraction grants the government the ability to bypass the landed effects of the OG economy on local communities and landowners. Local landed elites are not directly part of the OG rent structure, nonetheless they benefit from the rising land and rent prices in the PER. Indeed, rising land prices in the PER (and its benefits for landowners) serve as a form of legitimation of the commoditisation of natural resources in Southwestern Ghana (Harvey, 2006: 360), as some planners have retorted. However, for landless and low income locals – including

informal land users – they face the direct impacts of the central and local government policies and practices as well as the activities of OG and investment companies. This manifests in food security issues, lack of employment, economic and spatial displacement as well as unmitigated pollution effects.

In Lindi-Mtwara, the violent state repression of dissent shows the forceful arm of the state as a strong agent of institutional change in maintaining state-society relations (Althusser & Balibar, 1968: 306-307). Findings from Lindi-Mtwara show that coercion is still a tool in the state's arsenal to back policy and affirm extractivist practices. In Lindi-Mtwara, such centralisation is used to legitimise their "*political engagement as subjects of policies and projects imposed and rarely discussed*" (FEST, 2015: 70). In Southwestern Ghana, the OG economy has become the latest layer of resource extractivism in the region, this time side-lining the landed class from the direct rent structure. Unlike landed minerals, oil and gas are part of household utilities in their countries of extraction; i.e. oil and gas are often demanded locally for energy generation, transportation and domestic use. Hence, the increasing centralisation that accompanies the extraction process manifests not only in national and multinational extraction companies but also national utility companies (Ghana Gas Company, VRA, TANESCO, EWURA). This grants such national and parastatal agencies the legitimacy to forms of centralisation to repress subnational land values in creating national benefits.

In dissecting these land value languages, framings, policies, practices and spatial outcomes, this raises the question of the way(s) forward. Is the notion of plurality in land value(s) salvageable under Africa's current spotlight as the next oil and gas frontier within the current neoliberal status-quo of exchange value? Are there substantive ways forward?

9.4 The Way(s) Forward?

First, it is imperative to not detach land from its pluriform values and multiplicity of uses. For one thing, this offers security and places constraints on the market vulnerabilities that accompany land formalisation. Such incommensurable values may not be monetarily valuable but rather serve other purposes often uncaptured in land formalisation (Meinzen-dick & Mwangi, 2008: 40). Land formalisation itself can still attend to the "*threads of webs of interest*" that are normally inhered in customary land tenures (Meinzen-dick & Mwangi, 2008: 41-42). In contrast to transnational (e.g. World Bank) policy prescriptions that deem communal land rights as transitory and on an evolutionary path to private land rights (Deininger & Feder, 2014: 6), collective registration of community lands provides one example of protecting communal webs of interest in land (Cotula et al., 2009: 11; Wily, 2006). In addition, joint titling of household land can provide such protection for incommensurable land values for family members (Meinzen-dick & Mwangi, 2008: 42). Another way is to register partial interests in land instead of trading full ownership rights, thus entailing "*flexible*" arrangements (Meinzen-dick & Mwangi, 2008: 42). In Ghana's PER, community shareholder values (CSV) offered such glimpses of communities trading partial land interests for specific benefits. However, the costs of such partial registrations can be high and the terms of such agreements need frequent reinforcing to prevent land alienation (Meinzen-dick & Mwangi, 2008: 42).

Aside such technical and legal measures to capture incommensurable land values, the political nature of land needs re-emphasis. It is imperative to situate politics amid policy (Mkandawire, 2009; Rajagopal, 2008: 1347). As criticised by Harvey (1985), the role of the planner has been limited to translating political questions into technical problems for

which there are only technical solutions (p. 182-183). Also referred to as anti-politics, the technical rendering of political issues limits the space for placing incommensurable values outside logics of efficiency, competitive, transaction cost reduction and even resource usurpation (Fredriksen et al., 2014: 16).

What is valued or not comes down to who has the power to decide (Martinez-Alier et al., 2010). Alternative bottom-up and indigenous conceptions of land-use and its recognition in official policy points to such possibilities for legitimising land values in pluralist and non-economic terms. For instance is the concept of *Buen Vivir (*wellbeing*)* by the Quechua peoples of Ecuador as well as the recognition of the rights of *Pachamama* (mother Earth) in Bolivia (Gudynas, 2017; Martinez-Alier, 2015; Bebbington, 2015). Such communities provide insights into how incommensurable languages of value and institutional practices can unmake the current individualist economic-determinist notions of value. Non-economic values serve as a viable alternative to resist the commodification and privatisation of nature (see emerging debates in Bollier, 2016). Within such prescriptions, these institutional innovations show how institutions ought to function in legitimising incommensurable values (also see Funtowicz & Ravetz 1994; O'Neill, 1993: 117, 126-131; Zografos, 2015). Even within economics, the narrowed view of institutional functions and "value-creation" is being questioned (see Mazzucato, 2018).

Secondly, within institutional practices, "*added norms, viewpoints, and participants*" enhance "*provisional compromises*" for better decision-making to aid adherence and real-world outcomes (Berman, 2012: 11). Issues of food security, pollution risks, informal land use, and intergenerational land use must be at the centre of petro-extractive land uses and should not be side-lined to create projects that are detached from local benefits. For

regions like Lindi-Mtwara side-lined from the development prospects of Tanzania, the distributive injustices that accompany the gas production process highlights their status as "*differentiated citizens*" in national decision-making and notions of local benefits (Ahearne & Childs, 2018: 12, 15). Indeed, Tanzania's Ujamaa and villagization policies aimed to correct the perceived urban bias of areas like Dar-es-Salaam (Sawers, 1989), making Lindi-Mtwara one of the most villagized regions in Tanzania at the time (Ahearne & Childs, 2018: 8). The contemporary expropriation of natural gas from Lindi-Mtwara however still points to the furtherance of this urban bias. Similarly, in Ghana, the call for subnational forms of value is related to the dissatisfaction with earlier rounds of resource-nationalism. Planners and local governments must be at the forefront of local development to derive such local benefits with the emergence of such extractivist economies. Communities of extractivism face risks of land dispossession and lack of employment prospects even as OG extraction creates an economic boom in those regions. Although issues of compulsory land acquisition are enacted at the national level, local planners should spearhead advocacy initiatives in attaining alternative lands and/or sequencing alternative livelihood prospects in the short and medium term. This is especially necessary for rural folk facing such "*triple jeopardy*" of land-loss, crop-harvest loss and delayed monetary compensations (Panford, 2016: 153). Ghana's *1962 State Lands Act* provided space for such alternative lands (Ecolex, 1962b). The country's *2006 Mining Act* also included stipulations for alternative lands and resettlement as forms of compensation based on wellbeing, social and cultural values (Ecolex, 2006). The ineffective implementation of these laws means communities are still vulnerable to permanent land alienation in the PERs. Ghana's *2015 Guidelines for Large Scale Land*

Acquisitions for instance recommends flexible leasing and compensation policies in land negotiations between investors and communities. Tanzania's gas service levies for communities affected by pipelines also provide possible examples for mitigating the nationalised nature of OG rents in Ghana. Indeed, within land-use planning, advocacy and communicative planning has been one of the few (albeit maligned) areas where plurality was encouraged.[97] Within these petro-geographies, planners can adopt various strategies including setting up housing and infrastructure development funds (Eduful & Hooper, 2015: 298). Nationalised resource rents have pitfalls considering the fact that local PERs bear the environmental brunt of such extraction. The strategy of imposing social taxes against industrial pollution activities in the PERs can account to some degree for the negative impact of extraction on communities (Tideman, 1998; Bosquet, 2000), especially if such payments are fairer and delinked from land ownership as a form of club good. Institutional practices also have to attend to ecological complexity, through various strategies including installing emissions-monitoring stations in various parts of PERs in order to accordingly inform compensation and mandatory community projects for affected communities. In some cases polluting industries must be re-located or resisted altogether. Obeng-Odoom (2014) also recommends a Georgist ([1879] 2006) strategy of "*socialising oil rents*" through universal basic income policies, public education and housing provision

[97] Advocacy planning began in the 1960s in the USA (Cenzatti, 1987: 437; Checkoway, 1994: 140). It promoted democratic pluralism through the representation of diverse and underrepresented groups in public policy and political debate (Davidoff, 1965; Davidoff & Reiner, 1962; Checkoway, 1994). It was aimed at "*openly inviting political and social values*" to be examined and debated. It also rejected the "*value – neutral technician*" role of the planner (Davidoff, 1965: 331-333). An important aspect of advocacy/pluralist planning was informing the public of alternative choices, and the preparation of alternative plans embodying diverse values (Checkoway, 1994: 140-141; Davidoff, 1965: 332,334). Such values could include alternative economic futures, livelihood aspirations, protection of specific areas for cultural purposes etc. The prime focus of the planner was "*who gets what, when, where, why, and how?*" (Davidoff, 1965: 336).

as well as railway development projects. This will reconcile the increasing private acquisition of lands with a social strategy of appropriating land-rents, at least within economic contentions over value (George, [1879] 2006: 155). Land pooling has also been recommended as an economic strategy to properly plan peri-urban development especially as populations increase in such petro-geographies. Here, planners would bring together land owners in such peri-urban areas to pool together lands and pre-emptively plan for city expansion (Fiave, 2017: 73-74). An understanding of land values in extraction regions such as petro-geographies must go beyond mere windfall monopoly resource rents and private land investments.

The research has shown "*the gradual unmarked way*" in which old practices erode or are "*re-signified*" in the framings, policies and practices of land value by paying attention to "*the blocked paths and dead ends that go unnoticed*" (Li, 2014b: 181). In this erosion, incommensurable values are only framed into simplified discourses, while practices and funding streams create discursive outcomes. This research therefore finds that the delegitimisation of 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 petro-geographies in Africa, are nevertheless accelerated by these new resource frontiers.

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Appendix 1: List of Fieldwork Interviewees & Cited Secondary Research

Name	Position	Organisation(s)	Interview Date
Francis Whajah	Radio Journalist & TV Correspondent (on Oil & Gas)	Radio Maxx, Takoradi & Joy TV Ghana	11/11/2017
Nana Adjoa Entsuah	Radio Journalist	Empire F.M., Takoradi	07/12/2017
Richmond Obiri	District Spatial Planner	Jomoro District Assembly	17/01/2018 & 24/09/2018
Kwabena Asiedu Bediako	District Spatial Planner	Ellembelle District Assembly	18/01/2018
Shine Fiagome	Area Head	Environmental Protection Agency: Ellembelle District Assembly	18/01/2018
Richard Jones	District Spatial Planner	Shama District Assembly	19/01/2018
Isaac Afum	District & Regional Spatial Planner	Ahanta West District Assembly & Western Regional Coordinating Council	12/02/2018
Kwadwo Opoku Mensah	Regional Staff	Environmental Protection Agency	14/02/2018
Stephen Kankam	Deputy Director	Hɛn-Mpoano (NGO)	14/02/2018
Raphael Edem Fiave	District Spatial Planner	Nzema East District Assembly	20/02/2018
Deborah Daisy Kwabia	District Social Welfare Director	Sekondi-Takoradi Metropolitan Assembly	01/03/2018
Senu Maha-Atma Pomevor	Stool Lands Officer	Office of the Administration of Stool Lands	01/03/2018
Osei Marfo	Lands Valuation (Rating) Office	Lands Valuation Office (Rating) of the Western Regional Coordinating Council	01/03/2018
Henry Owusu	Chief Development Planning Officer	Sekondi-Takoradi Metropolitan Assembly	08/03/2018 & 13/13/2018
Obrempong Hima Dekyi XIV	Paramount Chief	Upper Dixcove	09/03/2018
Nana Egya Kwamina XI	Community Chief	Apremdo	16/03/2018
Nana Efua Badu Ackah	Metropolitan Spatial Planning Officer	Sekondi-Takoradi Metropolitan Assembly	16/03/2018
Nana Kwamena Gyabin V	Community Chief	Beahu	18/03/2018
Nana Etsin Kofi II	Community Chief	Aboade - Ahanta	21/03/2018

Hajia Hanatu Abubakar	Manager	Ghana Free Zones Authority, Takoradi	23/03/2018
Nana Ewiamanle VI	Community Chief	Akwidaa	23/03/2018
Solomon Ampofo	Natural Resources Governance Coordinator	Friends of the Nation (NGO)	04/04/2018, 05/04/2018 & 12/04/2018
Ekow Arkorful	Spatial Planner	The Consortium (Planning Firm)	09/04/2018
Nana Diaw Quaicoe III	Community Chief	Adjoa	10/04/2018
Nana Kofi Armo III	Community Chief	Egyambra	12/04/2018
Scott Ryan & Roberto Fava	Sanzule Gas Facility Team	ENI	16/04/2018
Osei Akoto Nyantakyi	Programmes Coordinator	COLANDEF (Community Land Development Foundation)	18/09/2018
Samuel Kwakye	Sekondi-Takoradi Community Liaison Officer	Tullow Company	22/09/2018
Kingsley Arthur	Ahanta Community Liaison Officer	Tullow Company	23/09/2018
Ann Marie Apam	Nzema East Community Liaison Officer	Tullow Company	15/10/2018
Mabel Darkwa	Dialogue Liaison Officer	WRCF (Western Region Coastal Foundation)	17/10/2018
Personal Communication: NanaBanyin Acquah - Thompson	Data Analysis Officer	Ministry of Food and Agriculture, Sekondi	16/01/2019
Personal Communication: Samuel Obiri	Executive Director	Centre for Environmental Impact Analysis, Ghana.	13/07/2018

Appendix 2: Tanzania Case Study: List of Secondary Research

Citation	Focus Areas	Actors	Fieldwork Date
Shanghvi, Ian (2014). Effective Management of the Tanzanian Natural Gas Industry for an Inclusive and Sustainable Socio-Economic Impact. *Economic and Social Research Foundation (ESRF)*	⊛ Songo Songo ⊛ Madimba ⊛ Nanguruwe ⊛ Lindi-Mtwara District Council ⊛ Lindi-Mtwara Regional Government	⊛ Interviews: *137 household-heads* ⊛ Two focus group discussions: *10 participants each (Lindi-Mtwara District Council and Regional Government members).*	May 2014
Kamat, Vinay (2017). Powering the Nation: Natural Gas Development and Distributive Justice in Tanzania, 76(4), 304–314.	⊛ Rural Mtwara Residents	⊛ Quantitative interviews: *160 local residents* ⊛ In-depth interviews: *24 residents* ⊛ Four focus group discussions: *6 participants each*	July 2013-December 2014
Must, Elise (2018). Structural Inequality, Natural Resources and Mobilization in Southern Tanzania. African Affair, (117/466), 83–108	⊛ Mtwara-Mikindani ⊛ Mtwara Rural ⊛ Lindi Rural ⊛ Lindi Municipality ⊛ Tandahimba ⊛ Newala	⊛ Quantitative interviews: *800 local residents.* ⊛ Semi-structured interviews: *35 local residents.*	2014-2015
Ahearne, R., & Childs, J. (2018). 'National resources'? The fragmented citizenship of gas extraction in Tanzania. Journal of Eastern African Studies, 1–20.	⊛ Lindi-Mtwara Residents	⊛ Structured and unstructured Interviews: *60 local residents* ⊛ Five focus group discussions:	2012, 2014

Appendix 3: Major Completed/Planned Industrial Projects in Case Study Regions

Southwestern Ghana					
Project	**Location**	**Progress**	**Actors**	**Size**	**Source**
Atuabo Gas Plant	Ellembelle	Completed (2015)	⊛ Ghana Gas Company ⊛ GNPC ⊛ SINOPEC	120 hectares	Asamoah (2014)
Atuabo Gas Pipeline	Ellembelle	Completed (2015)	⊛ Ghana Gas Company ⊛ GNPC ⊛ SINOPEC	111 kilometres	Arthur (2018)
Sanzule Gas Plant	Ellembelle	Completed (2018)	⊛ World Bank ⊛ ENI ⊛ VITOL ⊛ GNPC	96 hectares	World Bank (2015)
Sanzule Gas Pipeline	Ellembelle	Completed (2018)	⊛ World Bank ⊛ ENI ⊛ VITOL ⊛ GNPC	63 kilometres	ENI (undated a)
Expansion of Aboadze Power Plant	Shama	In Progress	⊛ Volta River Authority	3.6 hectares	Sam & Buckle (2017)
Atuabo Free Port Project	Ellembelle	Pending	⊛ Lonrho Company	810 hectares	Sam & Buckle (2017)
Nyankrom Special Economic Zone	Ahanta West	Pending	⊛ Ghana Free Zones Authority	1560 hectares	Sam & Buckle (2017)
Oil-Village Gated Community	Sekondi-Takoradi	Completed (2014)	⊛ Ankamah Reality Limited	40 hectares	McTernan & Mensah (2014)
King-City Project	Sekondi-Takoradi	Pending	⊛ Renaissance Capital Company & Rendeavour	1000 hectares	Rendeavour (2018), Kermeliotis (2013)
Petronia-City Project	Ahanta West	Pending	⊛ Capital Nine Zero Investment	809 hectares	Petronia-City (2015)
Soroma Capital Real Estate Project	Sekondi-Takoradi	Pending	⊛ Soroma Capital Limited	19 hectares	Webtek Ghana (2018)
Expansion of Takoradi Port	Sekondi-Takoradi	In Progress	⊛ Ghana Ports and Harbours Authority	53,000 hectares	GPHA (2016), Fiave (2017)
Shama Special Economic Zone	Shama	In Progress	⊛ Black Ivy Group	1300 hectares	Interview GFZA (2018)
Bonyere/Domunli Special Economic Zone	Jomoro	Pending	⊛ Ministry of Energy	8000 hectares	Kaku (2019)

Lindi Mtwara					
Mtwara Gas Plant	Mtwara	Completed (2007)	⊛Mauriel & Prom Limited and Wentworth Resources Limited	N/A	M&PEPTL (2014)
Songo Songo Gas Plant	Lindi	Completed (2004)	⊛Pan-African Energy ⊛TPDC ⊛TANESCO ⊛SONGAS Company	1 hectare	SONGAS (2018)
Lindi-Mtwara to Dar-es-Salaam Pipeline	Lindi & Mtwara	Completed (2015)	⊛TPDC ⊛CPTDC	542 kilometres	Oxfam (2017), FEST (2015)
Madimba Power Plant	Mtwara	Completed (2015)	⊛TANESCO ⊛TPDC	150 hectares	(Shanghvi, 2014)
Likong'o–Mchinga Power Plant	Lindi	Construction to begin in 2022	⊛Equinor ⊛TPDC ⊛Royal Dutch Shell ⊛Exxon Mobil ⊛Ophir Energy ⊛Pavilion Energy	7600 hectares	Kabendera (2016), Tanzania-Invest (2018), Ng'wanakilala et al. (2019)
Expansion of Somanga Fungu Power Plant	Lindi	In Progress	⊛TANESCO	Size undetermined	Aminex unofficial (2017a, 2017b), Mbogo (2018)
Dangote Cement Factory	Mtwara	Completed (2015)	⊛Dangote Cement Company	26 hectares	Innov8tiv (2015)
Urea Fertiliser Factory	Mtwara	Pending	⊛Potential Investors ⊛Ferrostaal Industrial Projects ⊛Haldor Topsoee ⊛Fauji Fertilizer Company	Size undetermined	Ng'wanakilala et al. (2019)
Expansion of Mtwara Port	Mtwara	In Progress	⊛Mtwara Regional Government	26,000 hectares	Shanghvi (2014)
Expansion of Mtwara Airport	Mtwara	In progress	⊛Mtwara Regional Government	1.5 kilometre road	Shanghvi (2014) Wangwe et al. (2017)
Thirteen Industries to Manufacture Plastic	Lindi-Mtwara				IBN-TV (2013)
Blade Manufacturing Company,	Lindi-Mtwara				IBN-TV (2013)
Fishing Boat Manufacturing Company	Lindi-Mtwara				IBN-TV (2013)

Building and Transport Equipment Manufacturing Companies	Lindi-Mtwara	Pending	Undetermined	Size undetermined	IBN-TV (2013)
Cement Factories	Lindi-Mtwara				IBN-TV (2013)
Two Water Plant Factories	Lindi-Mtwara				IBN-TV (2013)
Two Oil Processing Factories	Lindi-Mtwara				IBN-TV (2013)

Appendix 4: Food Prices in Western Region and Ghana (1997-2017)

- MOFA-WR (2018) *Western Region Food Prices 1997 to 2017*. Received in Person on 08/04/2018 from Ministry of Food and Agriculture (Western Region, Ghana). URL: https://drive.google.com/file/d/1wMWqUCLHqEU32vSBbNUWt0pG0BD60Wcz/view?usp=sharing
- MOFA-WR (2018b) *Ghana Food Prices 1997 to 2017*. Received in Person on 12/12/2018 from Ministry of Food and Agriculture (Western Region, Ghana). URL: https://drive.google.com/file/d/12IDhu6TDd9XXEmWXeNimf7TyCOJDc5BU/view?usp=sharing

Appendix 5: Permits for Heavy Industry, Formal Commerce, Informal Commerce and Hotels/Guesthouses in the PER (1997-2017)

Spatial Planning Departments (2018) *Six Coastal Districts Planning Permits for Heavy Industry, Formal Commerce, Informal Commerce and Hotels/Guesthouses 1997 to 2017*. Received in Person from 10/01/2018 from 20/04/2018 (Six Coastal Districts, Western Region, Ghana). URL: https://drive.google.com/file/d/1QTl9oA-M5K85_nZmDe7yK0sXPkQ-c-Gp/view?usp=sharing

Appendix 6: Land Deeds Transferred to Corporate Entities in the PER (2008-2017)

Western Region Lands Commission (2018) *Six Coastal Districts Land deeds Transferred to Corporate Entities 2008 to 2017*. Received in Person from 10/01/2018 from 20/04/2018 (Deeds Office of the Lands Commission, Western Region, Ghana). URL: https://drive.google.com/file/d/1bDu9droQeobjy4nN5SvHjwJWGPNxZ_7O/view?usp=sharing