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The Management and Use of Natural Resources and their Potential for Economic and Social Development in the Mediterranean

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Abstract

In the framework of the IAI-OCP Policy Center project this paper offers a conceptual framework to examine natural resource management in Turkey, Morocco and Italy and its implications for social and economic development. It recognizes the multiplicity of actors involved in natural resource management at the local, national and global level. It then proceeds by 1) advancing a definition of natural resources to be used in the context of this project; 2) highlighting relevant emerging issues in the empirical debates on natural resource management within economics and politics; 3) developing a series of indicators aimed at assessing the dimensions of the management and use of natural resources. In general, this conceptual framework adopts a flexible and plural approach that reflects the multidisciplinary nature of natural resource management, and recognizes the importance of country-specific factors in the relationship between natural resource management and socio-economic development.

Keywords: *Natural resources / Natural resource management / Economy*

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The Management and Use of Natural Resources and their Potential for Economic and Social Development in the Mediterranean

by Vanessa Ushie*

Introduction and outline

Natural resource abundance is typically associated with poor economic and political outcomes, as explained in the theories of the *resource curse* and *rentier state*, which have dominated the modern discourse on natural resources. However, there is a growing recognition that the relationship between natural resource abundance and economic development is highly complex and country-specific, and the capacity of domestic institutions to effectively manage natural resources is a key factor in determining long-term development outcomes. Against the backdrop of a weak global economy, recession in several key regions (especially the Eurozone), the crises and political revolutions that have gripped the Maghreb, and rapidly changing climate and energy geopolitics, resource-rich countries are in search of viable policies that can reverse or prevent the negative outcomes associated with resource abundance. Managing natural resources to drive social and economic development remains one of the greatest challenges facing the countries of the Southern Mediterranean region today. The fundamental economic and political changes that have recently swept across the region warrant a close scrutiny of the strategies that can be adopted by these countries to manage their natural resource wealth for socio-economic development. Natural resources, if properly harnessed, can play an important role in social and economic development. This project seeks to examine the relationship between natural resource management practices and socio-economic development based on comparative country case studies of three countries in the Mediterranean region, namely Italy, Turkey and Morocco.

The conceptual paper sets out the underlying analytical framework and research methodology to be adopted by the project. The paper proceeds as follows: in the first section, the paper puts forward a definition of natural resources to be used in the context of the study, and reviews the relevant literature on natural resource governance. The discussion highlights emerging economic and political issues in the field of natural resource governance and the implications of transnational natural resource governance initiatives that affect the Mediterranean countries, within and beyond the EU. In the second section, the paper discusses the mechanisms through which natural resources influence social and economic development, based on the

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theoretical and empirical framework of the "natural resource curse", and provides a concise review of different countries' experiences with managing natural resource wealth.

In the third section, the paper sets forth the research methodology of the project, based on indicators that can be used to assess natural resource management practices in the three countries. The identified natural resource management (NRM) indicators will inform the empirical fieldwork to be conducted in the three countries, which will be based on the analysis of documents and research papers as well as semi-structured interviews with a representative sample of stakeholders in the natural resource sector, drawn from the government, private sector, local "affected" communities and civil society. The NRM indicators are designed to be holistic, and encompass the entire cycle of natural resource management - from extraction, development and sale in global markets, regulation and policy framework, to revenue management and distribution to various economic sectors. Additionally, the empirical fieldwork is designed to capture the subtle, nuanced elements of NRM, such as the transparency and accountability of state institutions charged with NRM, the efficiency and sustainability of NRM policies, and the participation and engagement with affected communities and citizens. In order to fully account for political factors in the methodological framework, the country case studies will be complemented by detailed political economy analysis (PEA) for the three countries, highlighting power relations, interests and social structures that have influenced economic and political changes over time, and examining how these forces may constrain NRM in the region.

1. Analytical framework: defining natural resources and natural resource governance

There are several ways to approach the concept of "natural resources", which may involve a distinction between non-renewable natural resources (e.g. oil, gas and minerals) and renewable natural resources (e.g. biodiversity, forests and water). The project adopts a broad conceptualisation of natural resources that encompasses renewable and non-renewable resources as well as fixed natural assets such as land, following the definition advanced by the Organisation for Economic Co-operation and Development (OECD), which states that:

> "Natural resources are natural assets (raw materials) occurring in nature that can be used for economic production or consumption. [These are] naturally occurring assets that provide use benefits through the provision of raw materials and energy used in economic activity (or that may provide such benefits one day) and that are subject primarily to quantitative depletion through human use. They are subdivided into four categories: mineral and energy resources, soil resources, water resources and biological resources."[1]

This broad definition allows for a comprehensive analysis of two interrelated aspects of natural resource management of interest to the project: firstly, *natural resource abundance*, or the scope of the natural resource sector in the three countries; and secondly *natural resource dependence*, which is concerned with the extent to which the

[1] OECD, *Glossary of Statistical Terms*, http://stats.oecd.org/glossary/detail.asp?ID=1740.

domestic economy is dominated by output and revenues arising from the natural resource sector. Since natural resource sectors may vary in depth (e.g. exports of minerals as opposed to biofuel and solar energy exports) across the three countries, but may contribute asymmetrically to economic output (e.g. high concentration of mineral revenues from "enclave" mining sectors), the project should analyse the scale and scope of natural resource sectors as well as the economic significance of natural resources in the each country.

1.1. What is natural resource governance?

Natural resource governance is a concept that has become embedded in the 21st century discourse on economic development. It is often used interchangeably with natural resource management, when in fact the two concepts are distinct but complementary: i.e. natural resource management deals with the interactions between humans and the natural environment, while natural resource governance addresses the systems and institutions that determine these interactions. For the purposes of this project, natural resource governance refers to the *rules, norms and principles that determine the management of natural resources for economic use*. Beyond core principles of governance, such as transparency, accountability, equity and environmental sustainability, natural resource governance is a contested arena, in which power asymmetries are played out at the local, national and global level. Natural resource governance is centred on two interdependent building-blocks, namely the propositions: that the exploitation of natural resources generates negative externalities that require coordinated multi-level institutional responses; and, by virtue of the externalities generated by resource exploitation, that natural resource governance requires a multidisciplinary approach that straddles economics, law, politics, public policy, environmental management and international relations.

The historical origins of natural resource governance as an independent field of inquiry can be traced to early models of collective action and "neo-institutionalist" theory that evolved within neoclassical economics. In the seminal work by Douglass North (1990, 1991, 1994a, 1994b) institutions are created as a response to market imperfections arising from transaction costs in the course of exchange, as an instrument through which uncertainty in exchange can be minimised. Other "institutionalist" theorists such as Alchian and Demsetz (1973), Olson (1965, 1997), and Ostrom (1990, 2000) elevated the governance of property rights, and their allocation, protection and enforcement, as a causal factor in explaining the efficiency of the market mechanism, and the nature of institutional change. By incorporating social, historical and political factors in the framework of property rights, the debates on the governance of property rights arising from natural resources were extended beyond traditional economic analysis to indeterminate concepts such as interests, ideologies and culture. However, the "institutionalist" foundations of natural resource governance raise important questions, namely: whether governance mechanisms exist to primarily satisfy functionalist criteria within the market system,[2] i.e. the minimisation of negative externalities arising from the exploitation of natural resources, or whether natural

[2] The functionalism of neo-institutionalist theory and implications for the understanding of economic change has been recognised by Chang (2006), Harriss, Hunter and Lewis (1995), Fine and Milonakis (2003).

resource governance should reflect broader, structural factors such as unequal relations of power in the use of natural resources; and how this in turn influences the mechanisms that determine how natural resources are utilised.

Older models of natural resource governance in the 1980s and 1990s by Krasner (1983) and Keohane (1984) were focused on how nation-states could develop institutions and systems to manage their natural resources within a global political economy that was dominated by the resource-security diplomacy favoured by the dominant superpower at the time, the United States. The recent tectonic shifts in the global political economy arising from the unprecedented rise of the East Asian Tigers and emerging economies (BRICS - Brazil, Russia, India, China, and South Africa), and the emergence of a global middle class have raised implications for how the world's natural resources are managed. The demand for natural resources - energy, rare minerals, food, water and land - to feed a burgeoning global population and the structural transition in the BRICS have put severe pressure on the environment. The current geopolitics of energy have been characterised by increasing tensions over the political interests of oil-rich countries, which may be in conflict with the security needs of the United States and other Western powers, against the backdrop of the post-9/11 landscape of energy security and jihadist terrorism. Furthermore, many resource-rich developing countries have struggled with a "resource curse", unable to translate natural wealth into inclusive growth or structural transformation, while the global divide between rich and poor widens in developing and advanced economies.

The new phase of natural resource governance has been shaped by these fundamental changes in the way the world is using its natural resources. The consensus has moved to global or supra-national collective action on resource governance, with the realisation that policy responses must extend beyond the boundaries of nation-states. The influential work by Goldthau and Witte (2010) shows that the historical intersection between energy security and natural resource governance is being replaced by a new approach that reflects the presence of emerging economies (BRICS, East Asian Tigers and Arabian Gulf states) in the global political economy of natural resources. Thus, the emphasis has shifted to the globalisation of natural resource governance as a *transnational* as opposed to a purely *national* issue.[3] Private or resource-industry models of natural resource governance are also supplanting traditional (public) instruments of regulation,[4] especially in the area of environmental governance. These alternative mechanisms of natural resource governance have the capacity to mobilise non-state actors in the private sector, civil society and local communities around compliance with international standards on the social and environmental impacts of natural resource activities.[5] This illustrates the increasing importance of voluntary self-regulation by global players in the natural resource sector and, on the whole, the growing influence of non-state actors to shape the public discourse on the management of natural resources.

[3] For more analysis of the transition from *national* to *transnational* systems of natural resource governance, see Hale and Held (2011), Dingwerth (2007), Avant, Finnemore and Sell (2010), Hoffman and Ba (2005).
[4] See Hall and Biersteker (2002), Büthe (2004), Vogel (2009).
[5] See for instance Cashore, Auld and Newsom (2004) on the Forestry Stewardship Council, which has created a system for international certification of products according to their compliance with environmental standards on forestry usage.

Transnational governance initiatives have emerged in response to pressures by global civil society activists to address the links between weak regulation of natural resource sectors and negative social, economic and political outcomes, ranging from corruption and bribery scandals, through environmental disasters and conflict between local communities and natural resource companies[6], to full scale civil war and rebellions funded from natural resource revenues[7] and resulting in state failures and political collapse, with geopolitical and security implications. These governance initiatives have been structured around greater disclosure of payments made by resource companies to governments, contractual agreements, social and environmental impact assessments, and overall transparency of the extractive and other resource sectors.

Natural resource governance should be seen as a "global collective" issue, as nation-states and natural resource companies are increasingly required to comply with global standards and principles. Certainly, in the past fifteen years, there has been a proliferation of transnational resource governance initiatives, such as the United Nations Global Compact, the OECD Due Diligence Guidance, the Equator Principles (based on the International Financial Corporation Performance Standards and the World Bank's health, environmental and safety Guidelines), the International Council on Mining and Metals (ICMM) Sustainable Development Framework, the Forestry Stewardship Council, the International Monetary Fund (IMF) Resource Revenue Transparency Guidelines, the Extractive Industries Transparency Initiative (EITI), the Kimberly Process for the Certification of Diamonds, the Natural Resource Charter, the Global eSustainability Initiative, the United States Dodd-Frank Act, the United Kingdom Bribery Act, and the proposed European Union Directive on Accounting and Transparency, which would apply to the oil and gas, mining and logging industries. This is complemented by the formal recognition of the rights of affected communities in resource-rich regions under the 2007 UN Declaration on the Rights of Indigenous Peoples, which guarantees the rights of Indigenous Peoples to Free, Prior and Informed Consent (FPIC). Resource companies operating in parts of Latin America (Colombia, Peru, and Ecuador) and the Northern Territories in Canada have adopted FPIC as a principal tool for engagement with local affected communities, and the International Finance Corporation (IFC) Performance Standards reference FPIC as a standard practice for all private sector companies involved in natural resource extraction.[8] The growth of these multifarious global initiatives however, does not signify the irrelevance of national systems and structures for the governance of natural resources.

In effect, the impact of these varied transnational governance mechanisms depends on the effectiveness of domestic institutional structures (political systems, regulatory

[6] Idemudia (2009), Watts and Ibaba (2011). A striking example of the links between a poorly governed natural resource sector, corporate excesses and community strife is Nigeria's oil-rich Delta, which is home to some of the world's largest energy companies including Exxon Mobil, Royal Dutch Shell, Total, and Agip ENI, and produces over 2 million barrels of oil daily, but is wracked by environmental destruction, poverty and conflict.

[7] Hirsch (2001), Silberfein (2004) and Keen (2005) examine the role of "conflict diamonds" in fuelling the protracted civil war in Sierra Leone. See generally, Berdal and Malone (2000) on natural resource-driven wars.

[8] The importance of FPIC for sustainable, inclusive growth in local *affected* communities has been extensively examined by Colchester and Ferrari (2007), and Goodland (2004).

institutions, legal and judicial frameworks) that can facilitate compliance with these global norms and standards by governments and natural resource companies. The fact that individual governments (such as the United States, United Kingdom and EU) have created resource governance initiatives that have global reverberations also shows that nation-states play a central role in regulating the behaviour of actors in the natural resource sector. Thus, a strong interdependence exists between the national and transnational arena of natural resource governance. Transnational initiatives must also be flexible enough to adjust to changing policy priorities for various natural resource actors at the local, national and global level.

Resource nationalism, climate change and environmental sustainability, the impact of the BRICS and other emerging economies on the global natural resource landscape, corporate ethics and transparency of natural resource companies and the emergence of the transnational initiatives mentioned above - these are among the key issues that dominate the current policy debates on natural resource governance. This implies a move towards multidisciplinary models of natural resource governance, although the interests, actors and institutions may differ across disciplines.[9] However, the volatility seen in pricing of demand for, and supply of, natural resources, - especially energy - suggests that existing frameworks of natural resource governance are not adequately addressing the interests of multiple actors and players.[10] Volatility in resource prices can be destabilising for resource-dependent countries, and for countries that import a large share of their natural resource needs. Furthermore, concerns over environmental sustainability have shifted the emphasis from that of meeting short-term economic needs towards those of longer-term global distribution of natural resources, technological efficiency and social equity.[11] In sum, the field of natural resource governance is highly dynamic and a contested terrain, which has evolved in response to geopolitical shifts in the North and South, normative and ethical pressures on natural resource companies, technological and climactic impacts, and the inherent unpredictability of global markets for natural resources.

The emergence of models of natural resource governance that extend beyond the purview of nation-states has occurred in parallel to a greater push towards decentralisation of responsibilities from the state to local authorities, notably through models of community based natural resource management (CBRNM) [12] which have been applied in several countries in Africa, Latin America and Asia.[13] CBNRM is seen to embody participation and legitimacy for local peoples, which may be lacking in more centralised systems of natural resource governance.[14] Advocates of decentralisation

[9] See generally, Aalto (2008) for a discussion of the distinct approaches to natural resource governance that cut across political economy, sociology, ecology, and international relations.
[10] Lee et. al. (2012), Florini and Sovacool (2009, 2011).
[11] Pahl-Wostl (2009) addresses the need for more coordinated multi-level action on global water governance, and Lesage, Graaf and Westphal (2010) call for greater *multipolarity* in global energy governance, to reflect the rise of BRICS on energy geopolitics.
[12] For a historical discussion of CBNRM, see Brosius, Tsing and Zerner (2005).
[13] An ODI review by Shackleton *et. al.* (2002) indicates that CBNRM practices have been adopted across South Asia and Southern Africa. See also, Andersson, Gibson and Lehoucq (2004) for a comparison of decentralised forestry governance in Guatemala and Bolivia.
[14] CBNRM has become the new buzzword for natural resource management within the global aid sector. For instance, a report by the International Fund for Agricultural Development (IFAD 2004) notes that over 80 percent of approved programmes and projects between 2000 and 2004 were focused on CBNRM.

argue that local governments are better placed to manage public goods, resulting in greater accountability and efficiency in managing natural resources.[15] However, empirical evidence from countries that have decentralised natural resource management through CBRNM shows that it may not be successful in every case,[16] and is still influenced by the "local context" - the politics of power and cultural and structural factors that may lead to conflict within communities. The nature of the central government and the degree of encroachment in local authority is also an important factor in the success of CBNRM.[17] Furthermore, political devolution is not necessarily associated with better management of natural resources; in fact, sub-national governments may engage in similar or even worse corruption and predatory behaviour than central governments.[18] The importance of mechanisms through which democratic accountability can be exercised,[19] either through elections or other informal institutions, and the motives of local administrators, which are linked to the openness of electoral processes and the civic awareness of local populations, cannot be overemphasised. Given the mixed empirical evidence on CBNRM, it is best seen as a complementary approach to natural resource management, which does not supersede national or transnational governance initiatives.

The review of the academic and policy literature on natural resource governance shows that it is an evolving discipline. Given the role of "local contexts" or socio-political realities that shape and constrain how natural resources are managed in various countries, it is imperative for this project, in addressing the research questions, to strike a balance between local, national and global institutions involved in natural resource governance. Finding synergies and interdependencies between interests and institutions at the local, national and global level will enhance the understanding of the linkages between natural resource management and socio-economic development in the three countries.

2. Natural resource management and socio-economic development: theory and evidence

Abundant natural resources can be harnessed to drive economic development and prosperity. Certainly, economic development in the world's most affluent nations such as the United States, Canada and Australia was fuelled by wealth generated from natural resources, whether exploited at home or repatriated as the produce of the colonial territories in the periphery. However, by the latter half of the 20th century, the disappointing developmental outcomes in the countries of the South led to the

Devolution of control over natural resources, especially forestry, land, water and fisheries to local communities is perceived to increase participation and ownership by local people, while reducing the scope for abuses of power by centralised administrative structures.

[15] The classic case for decentralisation of political and social institutions has been made by the World Bank (2000), Putnam, Leonardi and Nanetti (1993), Crook and Manor (1998) and Putnam (2000).

[16] See for instance, Shackleton *et. al.* (2002), Larson and Soto (2008).

[17] Shackleton *et. al.* (2002), Agrawal and Gibson (1999).

[18] For a discussion of political devolution and the performance of subnational governments in resource-rich countries, see Hadiz (2004) on Indonesia, Ushie (2010, 2012) on Nigeria.

[19] Andersson (2003), and Ribot, Agrawal and Larson (2006) argue that decentralisation of natural resource governance is only effective in countries where there are democratic local institutions and instruments for ensuring political accountability.

emergence of the "resource curse" hypothesis as a causal factor that determines economic performance and long term institutional development. In this way the "resource curse" has become the definitive analytical framework for understanding how mismanagement of natural resources can lead to social, economic and political crises in countries that are structurally dependent on such resources. The *natural resource curse* is implicitly associated with non-renewable resources, especially hydrocarbons and minerals, simply because of: the permanent and unrepeatable nature of their depletion; their economic significance as raw materials in the global system of production and consumption with no close substitutes; and the size of the rents arising from the exploitation of non-renewable resources, which in many cases is so enormous as to generate a host of negative impacts, if not carefully managed.

A country's dependence on renewable natural resources (such as water, forestry and fisheries) does not necessarily evoke predictions of the *natural resource curse* to the same extent, because of their economic uses, and the magnitude of derived rents. However, with growing evidence on climate change and environmental destruction arising from the unbridled consumption of renewable resources, the management of these resources for sustainable growth and development is gaining as much prominence as the pre-existing concerns on non-renewable natural resources. The discussion of the channels through which the *natural resource curse* influences socio-economic and political outcomes as presented here focuses mainly on non-renewable natural resources, although this analysis is equally important for the management of renewable natural resources.

2.1. What is the natural resource curse?

Economic theory posits that resource abundant countries are seen to grow more slowly than countries with fewer resources. The theoretical channels of causation are as follows: firstly, natural resources generate rents which lead to predatory "rent-seeking" activities; secondly, natural resource dependence exposes countries to commodity price volatility; and, lastly, through the Dutch Disease - an overvaluation of the real exchange rate due to commodity price "booms" and the contraction of the non-booming tradable sector.[20] The empirical evidence on the *natural resource curse* is found in the influential studies by Richard Auty, who first coined the term "resource curse" in 1993, and by Jeffrey Sachs and Andrew Warner (1999, 2001), which show from cross-country growth regressions, that resource-poor countries have performed better than their richer counterparts.[21] The three main causal channels through which natural resource abundance may become a "curse" are examined below.

2.2. Natural resource booms and the Dutch disease

The impact of the discovery of significant natural resource deposits and the sudden increase in international commodity prices (or booms) is seen to have negative effects

[20] See generally, Humphreys, Sachs and Stiglitz (2007). Isham *et al.* (2005) provide theoretical arguments on the causative channels through which natural resource export structures affect economic growth in resource-rich developing countries.

[21] See also Gylfason (1999). Using cross-sectional data for 160 countries between 1985 and 1994, it is argued that in the period under review, high inflation and natural resources abundance tended to be associated with low exports and slow growth in the selected countries.

on the non-tradable sector, including agriculture and manufacturing. Models of the "Dutch disease" by Corden and Neary (1982), Wijnbergen (1984), Neary and Wijnbergen (1986) have illustrated two important effects of commodity price windfalls, namely a *resource movement effect* and a *spending effect*. Firstly, the booming sector attracts capital and labour resources from agriculture and mining, and results in an appreciation in the real exchange rate. Furthermore, booming commodity exports make imports cheaper for domestic consumers, leading to import dependence and a displacement of domestic industry.

There are many channels of causation between natural resource booms and the subsequent contraction of the non-resource intensive productive sectors of the economy, but the dominant hypothesis is one that finds a strong correlation between a booming resource sector and deindustrialisation. However, the concerns raised by the prospect of permanent deindustrialisation may be overstated, as this depends on the positive inter-sectoral linkages forged by the booming natural resource sector, as well as the extent to which manufacturing and agriculture are granted subsidies financed by the commodity price windfall.[22] The most common finding of many empirical studies is the contraction and eventual decline in agricultural performance in mineral dependent countries.[23] As Davis (1995) has argued, the "Dutch disease" may be a reflection of an adjustment to a different long-term equilibrium. Furthermore, it is not a permanent event, as deindustrialisation and resource dependence can be prevented or mitigated by appropriate state intervention, and the manufacturing industry may come to outperform mineral sectors in the long term.

The experiences of resource-rich countries with managing natural resource booms[24] lend further credence to the transience of the "Dutch disease", and the importance of coherent state responses to the adverse effects of oil windfalls. This implies that the "Dutch disease" can be tackled by strong industrial, macroeconomic and fiscal policies that protect the competitiveness of non-resource sectors in the aftermath of a resource boom. In particular, exchange rate adjustment and anti-inflationary policies must be carefully managed. Furthermore, country-specific factors, such as the credibility of political institutions, and the capacity of local bureaucrats to make appropriate policy choices are important in determining how individual countries cope with natural resource booms in the short-term.

2.3. Volatile natural resource rents and macroeconomic instability

The second channel through which the *natural resource curse* determines economic performance is the volatility of rents arising from the exploitation of natural resources. Natural resource prices are intrinsically unstable due to the volatility in global

[22] In support of this line of reasoning, Auty and Evans (1994) show that the commodity price windfalls for most mineral economies in the 1970s and 80s did not immediately result in deindustrialisation, and manufacturing was subsidised following exchange rate appreciation and a deceleration in the growth of the non-booming tradable sectors. The country case studies by Fardmanesh (1991) indicate that manufacturing sectors in the mineral dependent countries expanded even after resource booms.
[23] For example, there is well-documented evidence on the impact of (oil) windfalls on agriculture in Nigeria by Ilorah (2000).
[24] Gylfason (2001) discusses the experiences with the "Dutch disease" in various resource-rich countries.

markets.[25] Thus, countries with a narrow export and revenue base dominated by natural resources are more likely to experience exogenous shocks associated with terms-of-trade (TOT) movements.

These peculiar features of international commodity markets raise implications for the stability of export revenues in developing countries for which natural resource exports are a major source of livelihood, as well as for socio-economic and political stability. The volatility of natural resource rents and the effect on government revenues and state performance spawned a whole new literature on the impact of volatile natural resource rents[26] on economic growth and political stability in fragile African commodity export economies. Another strand of the literature highlighted the minimal production effects accruing from natural resource exploitation and export, which were assumed to occur in an enclave, with few if any inter-sectoral *linkages* developed.[27] Revenue volatility can be extremely damaging for fiscal and macroeconomic policy as it is immediately translated into boom-bust fiscal cycles characterised by pro-cyclical public revenues and expenditure, poor fiscal planning and public financial management, inflation and exchange rate instability.[28] With the combined effects of the "Dutch disease", countries with weak political institutions and low technical capacity are faced with the challenge of absorbing shocks to resource revenues while grappling with distributive politics and popular expectations of natural resource largesse. The rise of the oil-rich Gulf States and their relative success in adopting tools to prudently tackle volatile natural resource rents, particularly through the use of Sovereign Wealth Funds (SWFs)[29] and other revenue management instruments, have contributed to a more optimistic view on the capacity of resource dependent countries to address revenue volatility. SWFs and fiscal responsibility rules (FRLs) have been recommended by international financial institutions such as the World Bank and IMF as important tools in addressing natural resource revenue volatility and managing fiscal policy in resource dependent countries, and the use of these revenue management tools have

[25] Lee *et. al.* (2012) provide recent estimates of sustained volatility in natural resource prices, and link increased resource price volatility to geopolitical tensions over the control of strategic natural resources (particularly for energy, food products, primary commodities and rare earth minerals associated with the telecommunications and IT industries).

[26] Deaton and Miller (1995) demonstrate, based on empirical evidence, that commodity price growth, through its impact on economic performance, is inversely related with the rate of political exit in Africa. This intriguing finding implies a causality running from economic performance to political stability.

[27] The concept of *fiscal linkage* was first developed by Hirschman (1958). Hirschman specifically noted that while substantial fiscal linkage would arise from "enclave" production of commodities for export, the backward and forward linkage effects that were crucial for structural change would not materialise in natural resource dependent countries. He argued that there was far greater potential in creating production linkages in manufacturing activity than in resource-based industry.

[28] See for instance, Devlin and Lewin (2005) and Lewis (2007).

[29] A Sovereign Wealth Fund is a state-owned Fund established for the purpose of investing income from natural resource exports, and other non-resource income such as trade surpluses, asset sales (through privatisation), public pensions, fiscal revenues and foreign exchange reserves held by central banks. SWFs are established for a variety of economic and social objectives, ranging from fiscal stabilisation, prudent management of resource revenues, generating capital for local investment and growth, economic diversification, providing social goods and public infrastructure, and fostering inter-generational equity. SWFs hold local and foreign financial assets, and may also invest in domestic industries. SWFs are usually established through constitutional and legal articles, and may be managed by independent governing structures. There are over 40 SWFs in existence, with the oil producing countries accounting for over half of this number. SWFs currently hold around US$ 5.3 trillion in assets, with the largest being Norway's Government Pension Fund - Global, which is valued at US$ 715 billion.

proliferated in recent times (especially in oil exporting countries).[30] However, country contexts and domestic institutional factors are very important in determining how resource dependent countries manage volatility. The diversification of the tax and export base is the safest way to build economic resilience to natural resource price shocks. The transition from exporting primary commodities to manufactured goods creates a more diversified economy, employment and growth outside the (booming) natural resource sector. Channelling natural resource rents into investments in social sectors - health, education and public infrastructure, is also required for inclusive economic growth and structural change. How successful economic diversification in resource dependent countries will be is in turn determined by the prudent management of resource rents for broad-based inclusive growth, given the nature of the state charged with managing a country's natural resource wealth.

2.4. Rentier states, weak institutions and resource-driven conflict

The third set of narratives on the resource curse focuses on the role of the state and domestic institutions in managing natural resource wealth. The role of institutions in economic development has been emphasised by the work of Rodrik (1999, 2000). Strong, credible institutions respond better to exogenous shocks (such as resource booms), and can efficiently manage natural resources for economic growth and development.[31] Certainly, state responses to the challenge of managing natural resource wealth are a fundamental factor in understanding how resource abundance affects long term developmental outcomes. But this is itself further dependent on how the state relates to other actors within the domestic political economy - for the state does not exist in isolation of society, but is an embedded social actor. Thus, the nature of the state and other domestic institutions is a significant factor in accounting for long term economic performance in resource abundant nations. The institutional arguments used to account for the "resource curse" within the economic orthodoxy are discussed below.

Institutions in resource dependent countries are perceived to suffer from a peculiar malady - a perversion of "rational" and efficient decision-making processes, the destruction of state authority and credibility, and the formation of a "rentier economy", in which the capture of rents by competing individual and group interests is the major pastime of the entire society. Formal rent-seeking models developed by Krueger (1974) and Bhagwati (1982) lend credence to the debilitating effects of state interventionism, rent-seeking and rentier economies. The availability of substantial natural resource rents is seen to cause extreme policy myopia in resource-rich countries. The adoption of import substitution industrialisation, and protectionist policies in the aftermath of natural resource booms is correlated with corruption, rent-seeking and a decline in

[30] See, generally, IMF (2007), Ushie (2010).

[31] Rodrik argues that economic growth is dependent on the existence and nature of institutions that protect property rights and individual freedoms; engender participatory political processes; guarantee protection from external shocks, and allow for a reasonable degree of policy experimentation. Likewise, the relationship between endowments, geography, institutions and long-term economic performance has also been examined by Engerman and Sokoloff (2002), Easterly and Levine (2002), and Acemoglu, Johnson and Robinson (2001).

economic efficiency.[32] The existence of enormous rents earned from the export of natural resources increases the demand of the populace for redistributive policies, and the state is under pressure to spend this income by distributing the surplus among various organised interests in the short-term, when it would be better served by saving the windfall for future usage.

Isham *et al.* (2005) argue that there is a subtle difference between "point-source" and "diffuse" natural resource exports, as the former resource category (including crude oil and hard rock minerals) heightens the vulnerability of their owner-countries to external trade shocks, while institutional capacities for meeting this challenge are hampered by their endogenous nature and negative relationship with the structure of exports. Therefore, countries that specialise in point-source natural resource exports are worse off, while those with diffuse resource exports (such as agricultural cash crops e.g. coffee, cocoa) are better equipped to deal with terms of trade volatility and develop more "efficient" institutions.[33]

However, the distinction between "point source" and "diffuse" natural resources obscures the exploitative relationships required for mineral extraction, and the nature of mining activities. Point-source minerals are easily captured not because they originate from a specific geographical location, but due to landed property relations in individual countries. Where landholdings are dispersed and fragmented, productive accumulation requires the merging of concessions for profitable and efficient resource extraction by domestic elites.[34] If these elite interests dominate the state, then the pattern of distributing revenues and royalties from mineral extraction will be to their benefit. The alienation of peasants from landholdings can also occur with "dispersed" natural resources such as agricultural products, due to the power relations that lead to the consolidation of control over agrarian revenues by domestic elites. The most profound evidence of the *resource curse* is taken to be centralisation of ownership and control of natural resource rents in the state, and the enormous privilege and power that arises therefrom, particularly through the mechanism of fiscal linkages, which refers to the increased surplus that flows to the state from the booming natural resource sector.[35] Centralisation of ownership in the state leads to an increased agitation for control of state revenues by various organised interests and to violent conflict and resource struggles over the control of lucrative natural resource rents.[36] Thus, the *capture* of the state by organised interests is almost inevitable, legitimising "rent-seeking" by other members of society and resulting in the formation of predatory political structures. In

[32] Formal, sophisticated models which illustrated the impact of rent-seeking and corruption on state policy and economic growth were introduced by Murphy, Shleifer, and Vishny (1989, 1993), Mauro (1995) and Bardhan (1997).
[33] See for instance, Lederman and Maloney (2008). On the contrary, empirical evidence from Africa does not suggest that agrarian exporters (e.g. Kenya, Cote d'Ivoire) have coped better than mineral exporters (e.g. DRC, Nigeria) in reducing the level of primary commodity dependence and income volatility.
[34] See Yergin (1992) on the historical origins of the global oil industry in 19th Century United States.
[35] The state in resource-rich countries has an immense capacity to increase its economic profile and political power by controlling the flow of revenues arising from increased resource exports. This capability is most pronounced in oil rich countries, due to the magnitude of price windfalls, and the degree of centralisation and control of resource rents by the national government.
[36] Resource abundance is believed to act as a trigger for pernicious distributive struggles, national/regional conflicts and open warfare, as shown by Ross (2003a, 2004), Collier and Hoeffler (2004), Collier (2007), and Le Billon (2005).

this way, resource abundance may pervert state authority and legitimacy, and result in the entrenchment of a *rentier state* - one that is inordinately preoccupied with the passive distribution of natural resource rents among its citizens.[37]

In a nutshell, a *rentier state* is one in which there is a permanent disjuncture of the relationship between work, talent and reward. Yates (1996), who has documented extensively the fortunes of the *petro-states*, was one of the first political scientists to formally theorise the notion of the "rentier state".[38] Yates' analysis draws heavily on Hossein Mahdavy's pioneering work on pre-revolutionary Shahist Iran in 1970. Mahdahvy defines rentier states as "those countries that receive, on a regular basis, substantial amounts of *external* rent". A certain ambiguity surrounds the definition of a rentier state since, as Mahdahvy accepts, "the stage at which a country can be called a rentier state is determined arbitrarily" (Mahdahvy 1970: 428, 431), and there are implicit tensions in the analytical equivalence of state with country.

Subsequent scholarship in the past four decades has attempted to resolve these ambiguities by introducing the relationship between the state and the domestic economy as the fundamental feature of a rentier state. Thus Beblawi and Luciani (1987:87-88) extended the frontiers of the rentier state through its "subsumption" as a subset of the rentier economy, which is one in which rent plays a central role, such rents being external in nature. For a state to be deemed rentier, it must satisfy all of the following conditions: firstly the linguistically cumbersome requirement that "rent situations predominate", which would suggest that the economy is dominated by significant, lucrative opportunities for the capture of unearned income. Secondly, the rent must be "external" in origin. Thirdly, few individuals engage in producing the rent, as much of the society is preoccupied with its distribution and consumption. And, finally, the government has first say in appropriating the external rent.[39]

The rentier state is therefore one in which distributional politics is the norm, and public spending becomes the major tool of state formation. Yates (1996), in his critical study on Gabon, offers an intriguing analysis of the rentier mentality which characterises rentier economies, and reinforces the cognitive explanations of the "resource curse". For his part, Ross (1999, 2001, 2004) identifies the causative channels of the resource curse as state ownership of resource industry and the failure to "enforce" property rights (Ross 1999:319-321).

In parallel, sectoralist approaches to the political economy of the resource curse have focused on the interrelationship between state capacity, political organisation and economic structure. The classic argument by sectoralists is that "countries dependent on the same export activity are likely to display significant similarities in the capacity of their states to guide development. [...The] mechanism for the creation of this institutional sameness lies in the origin of state revenues" (Karl 1997:13). Similarly,

[37] See for instance Eifert, Gelb and Tallroth (2002), Robinson, Torvik and Verdier (2006), Deacon and Mueller (2004). Similarly, Jensen and Wantchekon (2004) find a strong correlation between resource abundance and authoritarian political structures for the African countries.
[38] See, generally, Schlumberger (2006).
[39] The externality of the rent, and its magnitude, absolves the state from statecraft - the exercise of authority over its subjects by extracting a proportion of their income to be used in the management of its affairs.

Shafer (1994) contends that within the spectrum of mono-product economies in the South, where one type of economic activity, such as mineral extraction, industrial plantation crop production, light manufacturing, or peasant cash crop production, dominates others, this provides a parsimonious common analytical metric with which to examine past development performance, simultaneously providing an almost linear, straightforward development policy recommendation: suppress loser sectors and diversify into winner sectors.[40]

Sectoralist analysis presents decisions taken by political actors in the resource abundant countries as constrained by choices which are themselves formed by the dependence on various leading sectors. In turn, the nature of the state and the character of the society are themselves conditioned by the dependence on certain commodities. Dependence on certain commodities exerts such a strong deterministic influence as to constrain the choices made by political leaders and the political fortunes of the state in the long term. The major problem with the sectoralist and "rent-seeking" perspectives is the pessimism and inexorability they associate with resource dependence.

On the contrary, the wide variation in the performance of institutions in resource dependent countries shows that rentier behaviour, corruption and predatory political structures are not inevitable. Furthermore, the complexity of domestic social and political structures and these domestic structures' effect on the evolution of the state and other political institutions cannot be discounted, and are as important as the negative effects of the resource curse. Thus, while analytical attention should be paid to the capacity of resource-rich states to manage natural resource wealth for the collective benefit of their citizens, this should not prevent an engagement with the wider social forces that are reproduced and sustained in the state architecture over time.

Several resource-rich countries have effectively harnessed their natural resource wealth to drive socio-economic development. In Bostwana, the combination of a credible "developmental" state architecture with accountable political institutions, equitable resource extraction agreements with foreign interests and a sound mineral revenue investment strategy have transformed this diamond producer into a relatively affluent, middle-income country. Norway has become a global leader in social equality by investing in public goods and redistributing income on the basis of transparent and accountable management of natural resource revenues. Norway's oil and gas regulatory structure has become an example for countries struggling with the resource curse, and it operates the world's largest resource fund, through which citizens can invest in the natural resource sector and receive appropriate financial rewards. Timor-Leste which, after years of political strife, adopted best practice in natural resource governance and enshrined transparency and accountability in its oil and gas regulatory framework, is blazing a trail for small resource-rich states. The oil-rich Gulf States of Qatar, the United Arab Emirates, Saudi Arabia, Bahrain and Kuwait have strategically used Natural Resource Funds to establish themselves as major geopolitical players

[40] Davis (1998) offers a rigorous critique of the use of sectoral analysis by political scientists in the evaluation of the developmental prospects of the resource abundant nations. See also Oliveira (2007) for an intriguing account of the evolution of statehood in the oil-rich countries of the Gulf of Guinea in West Africa.

and centres of international finance. Likewise, in some resource-rich African countries (e.g. Ghana, Liberia) natural resource revenues are being set aside to invest in the provision of social amenities and there are efforts to incorporate best practice in extractive sector governance. Brazil has risen through the ranks of developing countries by investing resource revenues in social programmes aimed at reducing poverty. By supporting competition and efficiency in its oil and gas sector, the state-owned resource company, Petrobras, is now one of the world's largest oil and gas companies and a global leader in the field of deep offshore oil extraction. In Canada, the investment of resource revenues in social goods and public infrastructure, the existence of robust public institutions, and the system of federal equalisation transfers to maintain parity between resource-rich and non-resource rich regions have underwritten social progress and economic development driven by revenues from minerals, oil and gas.

These examples of good natural resource management practices in various developing and developed countries suggest that country-specific factors and the local context constrain state capacity to manage natural resources for economic development. However, from the preceding discussion on the multiple aspects of the resource curse there emerge general elements of a successful natural resource management strategy that are important for all countries. Good natural resource management requires a multi-pronged approach that incorporates economic, social, and political and institutional strategies. First, there need to be coherent macroeconomic, fiscal and monetary policies that protect the economy and state revenues from resource-driven volatility, support efficiency in public expenditure management and investment in social goods (education, health care and infrastructure), and maintain stability in relative prices (inflation and exchange rates). This is complemented by the strategic use of industrial and trade policies to protect the competitiveness of non-resource sectors in the aftermath of a resource boom. Second, of equal importance are: a social consensus around prudent use of natural resource rents; transparent and accountable public institutions; equity and environmental sustainability, which collectively determine the rate of resource depletion; and the response by the state and wider society to the challenges of natural resource management. Third, there need to be capable regulatory institutions that efficiently govern activities in the natural resource sector, and broader socio-political institutions that support the utilisation of natural resource rents for productive uses. The final and most elusive ingredient for good natural resource management is credible political leadership that can design appropriate socio-economic policies for inclusive economic growth and social development, based on the prudent use of natural resources. Thus, the role of credible political leadership and effective public institutions is central in avoiding the pessimistic outcomes of the resource curse, and the entrenchment of a rentier state. In this light, understanding how domestic institutions respond to the challenges of natural resource management is crucial for the prudent use of natural resources for socio-economic development.

2.5. Thinking beyond the resource curse: institutions and natural resource management

In general, the academic and policy scholarship on the institutional origins of the natural resource curse raise important questions on state capacity in resource-rich countries. Notably, why do states in resource abundant countries adopt "bad" economic

policies when they should know better? The answer to this question is, presumably, the peculiar nature of certain natural resources that expose their owner-countries to the resource curse, and the centralisation of ownership in the state that accompanies natural resource booms, with attendant effects on political and economic development.

The assumption in the literature that state ownership and control over natural resource rents is a driver of the resource curse, which is then linked to resource-driven conflict and rent-seeking, is problematic because as we have seen in the review of natural resource governance in an earlier section, there are various systems of ownership (whether centralised or decentralised systems) of natural resources in the world today. Furthermore, decentralised ownership of natural resources, through community-based natural resource management (CBNRM) has produced mixed results. Decentralising control over the management of natural resource rents may not necessarily address state corruption or rent-seeking; rather decentralisation can create new, lucrative opportunities for the capture of resource rents by subnational political actors. Once again, this points to the endogenous nature of "local contexts" in determining how domestic institutions manage natural resources for social and economic development. Some writers have also argued in favour of private ownership of natural resources, on the basis that reducing state control over resource rents creates incentives for accountable and efficient fiscal and regulatory institutions, and creates new social (private) actors that can demand such institutions.[41] In the United States and Canada where private ownership of natural resources is practiced, national and subnational governments levy taxes on a broad range of activities associated with natural resource extraction, particularly the profits of extractive companies. In this way, accountability norms are entrenched in the society because resource rents are not solely monopolised by the state, but shared with private interests that have a stake in the accountability of state institutions responsible for the management of resource revenues. For many developing countries with diverse ethnic identities and politically turbulent histories, state ownership may be preferred over privatisation due to concerns over threats to national sovereignty from powerful private interests with control over resource rents. Weak technical capacity in public institutions may also reduce the ability of governments to maximise resource revenues from private ownership in the short term. This suggests that privatisation of natural resource ownership as a strategy to avoid the resource curse is also dependent on country-specific factors. Thus, individual countries must fashion ownership systems that enable the prudent exploitation of natural resources, and reflect the needs of all stakeholders.

Natural resource management should also not be viewed only through the national domestic lens. The actions of natural resource companies, the transparency and accountability of their operations in resource dependent countries, and the effectiveness of multi-level governance initiatives in the natural resource sector should be viewed as intrinsic aspects of beating the resource curse. Weak governance of natural resource companies can certainly aggravate the resource curse, particularly in contexts where the state lacks the technical capacity or authority to engage with global resource companies on an equal footing.

[41] Weinthal and Luong (2006: 46). The authors further note that there is no short-cut to building strong, credible institutions in resource abundant nations, and privatisation is also influenced by political factors which may constrain the state from divesting its ownership of mineral rights.

To reiterate the discussion in the preceding section, the most plausible challenge to the "resource curse" is the wide variation in performance of resource-abundant developing countries. Among the countries that have "escaped" the curse - Botswana, Chile, Indonesia, Malaysia and Norway,[42] - there is a wide degree of variation in economic performance, and in country comparisons between oil-rich states, which are seen as typical examples of mismanaging natural resource wealth, the developmental trajectories of Angola, Venezuela, Mexico, Iran and Nigeria have not been identical.[43] The political and economic histories of these oil-rich countries show that the composition of the national political economy in individual resource dependent countries, such as the relative influence of social structures (e.g. ethnicity, culture, race and religion) on political organisation and social institutions cannot be simply set aside.

In summary, the discussion presented in this section on the multiple causal channels for the *natural resource curse* indicates that it is not an inevitable outcome. The strategic role played by strong, credible domestic institutions in prudently managing natural resource rents and adopting effective mechanisms for natural resource governance cannot be overemphasised. Thus, for this project, an approach that jettisons linear (econometric) causality for social complexity is crucial to understanding the relationship between natural resource management and socio-economic development.

3. Political economy analysis (PEA) template for assessing natural resource management practices

The role of institutions in determining how countries successfully manage natural resources for socio-economic development is an important issue emerging from the empirical evidence on beating the natural resource curse. However, the proposed framework of indicators for assessing natural resource management may not fully capture nuanced social and political factors that influence local contexts. To this end, the project will conduct a detailed political economy analysis (PEA) for the three countries, which will inform the analysis of natural resource management practices, based on the proposed indicators. PEA is a useful tool for mapping the social, institutional and political actors in a given country or context, in order to understand the interrelationships between economic change, political interests and social institutions, and how these influence policy outcomes or planned interventions.[44] The PEA template

[42] The excellent UNRISD review edited by Hujo (2012) which looks at the management of natural resource rents and social expenditure based on detailed case studies on Norway, Botswana, Chile, Indonesia, and Nigeria amply illustrates that there is no single development trajectory for resource-rich countries. Some countries may fare better than others in beating or avoiding the resource curse (such as Norway), due to country-specific institutional and political factors, which are not replicable elsewhere. As previously stated, good resource revenue management policies, prudent allocation of resource rents to finance social development (health, education and public infrastructure), a strong, regulatory framework and credible political institutions are important factors in beating the natural resource curse. See also Humphreys, Sachs and Stiglitz (2007). These factors are the necessary ingredients in beating the natural resource curse, although they may play a different role in each country.

[43] Karl (1997) is the most comprehensive account of the political economy of the resource curse in *petro-states*, which are seen to be most vulnerable to 'rent-seeking', predatory institutions and corruption.

[44] See, generally, DFID (2003), Moncrieffe (2004).

in this case, is designed to provide a general background of the specific country context for the management of the natural resource sector, and identify the key interests, actors and institutions that can influence the anticipated policy impact of the project.

The suggested PEA template facilitates project management by identifying key stakeholders and constituencies that can enhance the policy impact of the research findings. Risks and operational challenges, as well as underlying social and political forces that might not be thrown up in the NRM assessment framework, are also made more apparent by the PEA.

Table 1. Template for country PEA on natural resource management

	Country
Context What is the current state of affairs, or *status quo*, in the area of natural resource management? How does the current institutional landscape affect the project?	
Actors Who are the important stakeholders, and what are their interests, alliances and respective levels of influence? *These could be individual or group stakeholders, state and non-state actors, or regional and global actors.* • What interests do these actors represent? • What is their bargaining power, and level of social and political influence?	
Trends Is there any recent significant change in the context of the management of the natural resource sector? *These changes could be global or regional events that influence local contexts*	
Actions Are there specific actions that can be taken to improve policies for natural resource management? *These actions could be directed at individual actors, or the environment and institutional landscape in which the actors operate* • Specific policy priorities for national governments	

4. Indicators of the dimensions of natural resource management in the three case-study countries

This section of the paper presents a series of indicators that can be used to assess the most important dimensions of the management and use of natural resources in the empirical fieldwork on Turkey, Italy and Morocco. Given the multidisciplinary nature of natural resource management, the indicators are designed to allow for the collection of qualitative evidence, and to accommodate the structural differences in the natural

resource sectors of the three countries. After conducting the political economy analysis for the three countries, these indicators of the practices and policies in natural resource management will be used in the design of the questionnaires to be completed by the researchers during the empirical fieldwork. Existing approaches to the design of global and cross-country indicators of natural resource management practices have tended to be too rigid and quantitative, or narrowly focused on specific elements of natural resource management (e.g. revenue management vs. ownership systems). The methodological framework of the project is designed to be holistic and broad enough to cover the entire spectrum of natural resource management at the local, national and global level, and the likely influence of local contexts in the three countries.

Thus, the suggested indicators of the dimensions of natural resource management in the three countries of interest are chosen for consistency with the emerging policy issues from our discussion on the dimensions of natural resource governance at the local, national and transnational level, and the elements of a good natural resource management strategy. The proposed indicators are also consistent with the specific research questions that the project seeks to address. The indicators cover the following six analytical categories:

a) The scope and nature of the natural resource sectors in the three case-study countries;
b) The contribution of natural resources to the economy - in terms of state revenues, domestic output, trade and exports, income and employment;
c) The legal and legislative framework for the ownership and management of natural resources, including the degree of oversight and accountability mechanisms;
d) The utilisation of natural resource rents by the state, i.e. the allocation of resource revenues for macroeconomic stability, social expenditure or investment, and an assessment of resource revenue management practices;
e) The nature of the system of political administration and institutional governance (i.e. centralised vs. decentralised political governance), the scope of regulatory activities in the natural resource sector, and institutional capacity for delivering statutory mandates on natural resource management; and
f) The degree of participation by relevant actors and institutions at the local and international level in natural resource management, including the European Union, global natural resource companies and the extractive sector, the United States, BRICS and other multilateral institutions.

A. The scope and nature of the natural resource sectors in the three case-study countries

The indicators in this section will identify the various types of natural resources within the country's territory, in accordance with the definition of natural resources adopted by the study.
What are the renewable natural resources of the country (e.g. water resources, fisheries, land, biofuels)?
What are the non-renewable natural resources of the country (e.g. oil, gas, solid minerals)?

B. Economic contribution of natural resources

Output
What is the size of the output, by type, of renewable natural resources?
What is the size of the output (in GDP, GNI) of the renewable natural resource sector?
What is the size of the output, by type, of non-renewable natural resources?
What is the size of the output (in GDP, GNI) of the non-renewable natural resource sector?
What is the size of the overall output of the natural resource sector?
What is the ratio of natural resource output to non-resource output?

State Revenues
What is the size of state revenues arising from renewable natural resources?
What is the size of state revenues arising from non-renewable natural resources?
What is the size of state revenues arising from the natural resource sector?
What is the share of natural resource revenues in overall state revenues?
What is the composition of natural resource revenues (e.g. corporate taxes, royalties, sale and exports, fines and penalties, etc.)?
What is the share of natural resource taxes in overall natural resource revenues?
What is the share of non-tax natural resource revenues in overall state revenues?
What is the ratio of natural resource revenues to non-resource output?

Trade and Exports
What is the size of renewable natural resource exports?
What is the size of non-renewable natural resource exports?
What is the size of renewable natural resource imports?
What is the size of non-renewable natural resource imports?
What is the share of renewable natural resource exports in total exports?
What is the share of non-renewable natural resource exports in total exports?
What is the share of renewable natural resource imports in total imports?
What is the share of non-renewable natural resource imports in total imports?
What is the ratio of natural resource exports to total output?
Major trade partners for renewable and non-renewable natural resource exports.
Major trade partners for renewable and non-renewable natural resources imports

Operations and Employment
How many renewable natural resource companies exist in the country?
How many non-renewable natural resource companies exist in the country?
What is the structure of ownership of natural resource companies (i.e. state-owned, private, multinational, etc.)?
If there are state owned natural resource companies, how are these managed?
What is the total annual turnover of the renewable natural resource companies in the country?
What is the total annual turnover of the non-renewable natural resource companies in the country?
How many residents of the country are employed in the renewable natural resource sector?
How many residents of the country are employed in the non-renewable natural resource sector?

What is the share of natural resource sector employment in total employment?
Out of the active labour force, what is the proportion of people employed in the natural resource sector to the active labour force?
Classification of natural resource sector employment (e.g. by age group, gender, region etc.)

C. The legal and legislative framework for the ownership and management of natural resources

What type of government operates in this country? (e.g. democracy, monarchy, dictatorship)
What is the system of ownership of natural resources?
Is there a legal framework for the ownership of natural resources?
Is there a legal framework for the management of natural resources?
What types of property rights to natural resources are recognised (e.g. state ownership, private, communal tenure, mixed)?
Who has the authority to grant approvals for the exploitation of natural resources?
Is the procedure for approving natural resource exploitation open and fair?
Is there a national policy on natural resource management? Is this policy being followed?
What is the role of non-executive institutions (judiciary, legislature) in natural resource management?
Is there legislative oversight over the management of natural resource revenues?
Is there judicial oversight over specific elements of natural resource management, such as environmental impacts and the rights of affected communities?
What is the degree of oversight by the legislature and judiciary over executive policies on natural resource management?
Are there specific legal instruments to tackle public or private corruption in the management of natural resource revenues?
Are there specific legal guidelines on the rights of and benefits due to natural resource producing, affected regions and their communities (i.e. FPIC)? Does the state recognise these rights?
Is there citizen participation in the legislative mechanisms for managing natural resource revenues?
Is there specific legislation on transparency in natural resource management, such as an Access to Information Act, or a Code of Public Ethics? Is such transparency legislation effective?
What is the perception of transparency in the governance of the country's natural resources, (based on global indices by Transparency International, Revenue Watch and the World Bank Corruption Index)?

D. The utilisation of natural resource rents by the state

What is the government's fiscal policy for the management of natural resource revenues? (i.e. natural resource revenues used to fund public budgets, set aside in special escrow accounts, or shared with sub-national governments, etc.)?
Is there a distinction between the management of renewable and non-renewable natural resource revenues?
What is the contribution of natural resource revenues to the public budget?

Is the public budgeting system open and transparent (e.g. using the Open Budget Index)?
What is the degree of fiscal discipline in the use of natural resource revenues? Is there a fiscal responsibility law, and is this effective?
Which economic sectors (e.g. agriculture, manufacturing, and services) receive natural resource revenues from the state?
What is the proportion of natural resource revenues allocated to social sectors (i.e. health, education, social welfare)?
What is the proportion of natural resource revenues allocated to infrastructure and public utilities?
What is the proportion of natural resource revenues allocated to domestic and overseas investment?
Is there a natural resource fund in the country? How is the fund managed?
Are there any other specific revenue management or risk management strategies for natural
resources?
Is there citizen participation in the state's strategies for managing natural resource revenues?
Can citizens freely access information from the state on the management of natural resource revenues?
Are natural resource revenues used to offset negative environmental impacts arising from resource exploitation?
Do resource-bearing, affected regions and their communities receive special revenue concessions from the state?

E. The nature of political administration and the regulatory framework for natural resource management

Political governance
What is the system of political administration in the country (i.e. federal or unitary system, monarchy)?
How many sub-national (regional, provincial, local and municipal) governments exist in the country?
What is the role of sub-national governments in the management of natural resources?
If natural resource revenues are shared between central and sub-national governments, is this practice enshrined in law?
Do subnational governments in resource-producing, affected regions receive special revenue concessions?
Do subnational governments follow the same practices on resource revenue management(e.g. on fiscal policy management, fiscal discipline) as the central government?
Is there publically available information on the natural resource revenues received by the subnational governments?
What is the average contribution of natural resource revenues to subnational budgets?
Is there public information on how subnational governments utilise the natural resource revenues to which they are entitled (e.g. sectoral allocations)?

Regulatory Framework
Is there a national strategy on the development of the natural resource sector?

What is the regulatory framework for the natural resource sector?
Is there a distinction between non-renewable and renewable natural resource sector regulation?
Are natural resource regulatory institutions independent and effective?
Do natural resource regulatory institutions have the resources - financial and technical - to perform their statutory roles?
Do natural resource regulatory institutions publically disclose information on their operations and the performance of the resource sector?
Do natural resource companies comply with the directives of natural resource regulatory institutions?
Do natural resource regulatory institutions follow global "best practice" on natural resource management - e.g. on environmental and social impact assessments, transparency and accountability of resource sectors?
Is there a process for environmental and social impact assessments (ESIAs)? Do regulatory institutions adhere to ESIA practices?
Are there legal or legislative instruments for oversight of natural resource regulatory institutions?
Are there specific regulatory instruments to address the impact of natural resource extraction on resource-producing, affected regions and their communities (e.g. impact and beneficiation agreements)? Do resource companies comply with these regulations?

F. The degree of participation by relevant actors and institutions at the local and international level in natural resource management

What are the natural resource management initiatives at the regional (EU) and global level that apply to the natural resource sector of the country (e.g. EU Directive on Transparency and Accounting, US Dodd-Frank Act, Global eSustainability Initiative, OECD Due Diligence Guidelines etc.)?
Is the country in compliance with these regional and global initiatives?
What are the economic, political and diplomatic relations between the country and established global powers - namely the United States and the EU - in relation to natural resource management?
What are the economic, political and diplomatic relations between the country and global players from BRICs and other emerging economies, in relation to natural resource management?
Do multilateral institutions (World Bank, IMF, UN, regional development banks) play any specific role in natural resource management in the country?
Are there any multinational national resource companies operating in the country?
Are multinational resource companies required to comply with regional and global initiatives on natural resource management?
Has the country taken steps to sanction multinational resource companies that violate global principles on natural resource management?

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