

At the extremes

Corruption in natural resource management revisited



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Natural resource sectors are undergoing profound changes. Resources are being extracted in more remote locations within corruption-prone developing countries than was previously the case; there is an increased proliferation of actors involved in resource extraction; and a marked shift towards renewable energy, conservation and climate change projects in developing countries. Formulating generic anti-corruption policy prescriptions for the wide range of heavily contextualized corruption challenges natural resource sectors face is unlikely to help. This U4 Brief offers instead modest advice for advancing solutions through development cooperation, with a focus on analytical methods, project management approaches, and tracking evidence for effectiveness.



Corruption is a major contributor to poor development outcomes from natural resources. Both renewable and non-renewable resource sectors can motivate and facilitate corrupt practices, particularly given the vast revenues usually involved, the remoteness of many operations, the confidentiality of most contractual arrangements,

and the discretionary power of public officials exercised over 'national' resources. Analysis of corruption in natural resources is heavily influenced by the *resource curse* paradigm emphasizing the distorting effects of resource wealth on economic performance and governing institutions (Williams and Le Billon forthcoming 2017). Generic policy prescriptions for addressing corruption in resource sectors have tended to focus on the extractive industries, and usually combine measures for strengthening formal oversight and control institutions with introducing transparency in contracting and revenue flows to motivate public accountability. Recent research, however, problematizes previous analytical framings of corruption (Marquette and Pfeiffer 2015), the governance challenges usually associated with the *resource curse* (Di John 2011), and the effectiveness of many programmatic anti-corruption interventions (Johnsøn et al 2012, DFID 2015).

As anti-corruption research and policy-debates evolve, so too do natural resource sectors. Since the 2000s, many studies have pointed to ways in which global patterns of natural resource management are changing, across both renewable and non-renewable sectors. First, Klare (2008) notes a shift is taking place towards ‘extreme energy’¹ production from natural resources often in remote developing country locations, via techniques such as deep-sea drilling or mountaintop mining. Second, Bridge (2004) has quantified the rise of extractive industry investments in a small number of ‘rising star’ developing countries, such as Guinea, Mozambique and Tanzania, all of which score poorly on formal corruption indicators. Third, Naidu (2010) and Gilroy (2014) show that relatively new home countries of extractive industries (e.g. India, China, and Brazil) are increasingly involved in resource extraction in foreign jurisdictions, while Ferguson (2006) argues that the most successful new mining ventures in Africa have not been mining multinationals, but smaller and more nimble firms, sometimes referred to as ‘junior companies’. Fourth, large-scale renewable resource projects are increasingly on the agenda in many countries, including biofuel production in Ghana (Boamah 2015), wind and solar energy in Morocco (Mans 2014), and biogas in Bangladesh (Uddin and Taplin 2009).

This U4 Brief assesses these four broad trends in natural resource sectors to identify what they might mean for corruption risks. It seeks to identify emerging policy and practice challenges in natural resource management from an anti-corruption perspective, and asks what actors in development cooperation can do to address them in light of recent anti-corruption effectiveness literature. Our analysis is derived from a literature review centered on the above four trends, which generated eighty publication ‘hits’ from recent academic and policy research. We first turn to the background to and implications of these trends before returning to the question of what development cooperation actors might do to improve anti-corruption outcomes for varied natural resource sector contexts.

Trend 1: Natural resources are increasingly extracted in remote developing country locations, under extreme geological and environmental conditions

Older, relatively-easily-accessible mineral deposits in Europe and North America that have fed growth in mature economies are being rapidly depleted (Carmody 2011). Although new discoveries are still being made in established areas for resource extraction (e.g. the recent Brage find in the Norwegian sector of the North Sea), Northern firms are increasingly investing in exploration and resource extraction operations involving extreme geological and environmental conditions in Africa, Asia and Latin America.² The application of deep-water drilling techniques using mobile drilling vessels offshore Equatorial Guinea is one example (Appel 2012). Technological advancements have made accessing mineral resources in remote and less developed regions more feasible (ICMM 2012), but the geography of resource extraction is not only determined

by the location, size and quantity of deposits (Bridge 2004). Perceived economic, political and technological risks and rewards also factor in firms’ decision-making (Bridge 2004). Although security concerns are reasons for relocating foreign workers from particular sites (e.g. BP and Statoil’s 2016 decision to, temporarily, withdraw foreign staff from the *In Salah* and *In Amenas* gas plants in Algeria) this is set against a general backdrop of investor-friendly policies, laws and fiscal systems aimed at attracting significant foreign investment in resource-rich developing countries. Hilson (2002) demonstrates, for example, how favorable policies led to a growing issuance of mining licenses and concessions to foreign firms, and helped facilitate increased exploration and extraction of deposits, in remote parts of Ghana. A combination of economic and environmental-geological factors is thus driving the migration of natural resource extraction to remote locations in the developing world (Muradian and Martinez-Alier 2001).

What are the anti-corruption implications of this trend? The first and most obvious implication is that natural resource extraction may be even more concentrated in contexts where corruption prevalence is high than has previously been the case (discussed further as a separate trend below). A second implication comes from a common rule-of-thumb found in the anti-corruption literature: the more complex a particular project is to implement, the more challenging it becomes to monitor and mitigate associated corruption risks. Assuming that resource exploration and extraction activities in remote and difficult locations will involve projects that are more complex than in less challenging geographies, associated corruption risks are also likely to become more difficult to address. Third, an increased remoteness of resource extraction from centers of population and areas of formal state-control is likely to make resource extraction activities more difficult to monitor, including from an anti-corruption perspective.³

Trend 2: Extractive industries are more concentrated in contexts where corruption prevalence is high

Several recent studies point to an increased concentration of extractive industry activity in countries suffering from high levels of corruption and so-called ‘poor governance’. Carmody (2009) argues this shift involves a ‘win-win bonanza’ where foreign firms *benefit* from bad governance through securing favorable contract terms by networking with domestic political elites who serve as gatekeepers for natural resource extraction. Klare and Volman (2006) suggest a less cynical motivation, arguing that the need for additional, diversified, oil supplies by major consumer nations (particularly the United States, China and Western European countries) has simply joined with demand for more and better infrastructure in oil-rich developing countries (that happen to score poorly on corruption indicators). Stiglitz (2012) suggests there is a ‘grey-zone’ around extractive industry investments in developing countries, where optimistic governments keen to translate mineral wealth into prosperity offer ‘attractive contracts’ to established foreign mining firms due to their own lack of financial and technical resources to

develop unexploited reserves. What appears uncontested is that new extractive resource discoveries in developing countries (such as Ghana, Tanzania and Mozambique) often result *both* in expectations of rapid economic growth *and* major concerns about corruption (Fjeldstad and Johnsen forthcoming 2017). Most of these concerns revolve around the licensing of exploration and extraction activities and the distribution of resource revenues, and have less to do with the upstream processes of smelting and refining that still largely remain the preserve of more mature economies (ICMM 2012).

From an anti-corruption perspective, a geographic concentration in extractive industry activity towards country contexts that score poorly on formal corruption indicators implies that the overall risk of corruption in these countries is likely to heighten. The *resource curse* literature provides ample evidence underscoring the distorting effects of natural resource wealth on governance and control institutions, and on the conduct of politics. The danger of an increased concentration of extractive industry activities and investments in corruption-prone contexts is precisely that the booming wealth and resources associated with the sector will help drive negative governance developments in the form of increased rent seeking and patronage politics (Kolstad and Søreide 2009, Torvik 2009). That is, unless effective mitigation measures are introduced.

Trend 3: There is increased diversification in the home countries of firms involved in resource extraction; within mature economies there is diversification of firms involved in resource extraction abroad

China, India and Brazil are among a group of countries to have been diversifying their investments in foreign countries' natural resource sectors for many years. Obi (2010) shows how Chinese oil firms have entered joint ventures or undertaken oil-related construction activities (e.g. pipelines) in oil-rich sub-Saharan African countries, including in Sudan since the mid-1990s. Naidu (2010) tells a similar story with regard to Indian mining firms in Africa. Brazil, home to extractive industry giants Vale and Petrobras, are involved in Mozambique and Angola, prompting observations of a new 'Atlantic Alliance' connecting Lusophone Latin America and Africa (The Economist 2012). Major Western oil firms that dominated the extractive industries during the 20th Century have largely been displaced by national oil firms in resource-producing countries (Hoyos 2007, Bridge and Le Billon 2012).⁴ At the same time, there is evidence of a rise in the number of smaller mineral exploration and extraction firms, headquartered in OECD countries, operating in Africa, Asia and Latin America (Dougherty 2015). These include Soma Oil and Gas (UK) in Somalia and Tullow Oil (UK) in Ghana.⁵

The anti-corruption implications of this double trend are perhaps not as straightforward as often suggested. While it has become commonplace to remark, for example, that China's approach to natural resource sectors in Africa may foster inefficient

decision-making and official corruption (Hanauer and Morris 2014), Brautigam (2015) shows that common assumptions about China's role in Africa are often not borne out in reality. Levels of Chinese investments to Africa are, for example, much lower than the high numbers sometimes proposed, while areas of land 'grabbed' for agriculture are small compared to the vast areas sometimes identified (Brautigam 2015). At the same time, research on the China Exim Bank credit line in Angola (Corkin 2014) shows that the country's huge foreign loans have created space for the political manipulation of infrastructure contracts. The state-owned oil firms Petronas and Petrobras, meanwhile, have both recently been the subject of corruption allegations, the latter significant enough to topple a Brazilian government.⁶ There is evidence too that junior firms primarily involved in mining exploration are highly prone to engaging in corrupt behavior, especially when working in weak institutional contexts. Referring to the case of Guatemala, Dougherty (2015) shows that the highly competitive nature of the mining industry, the risks of exploration, and the special characteristics of junior firms (short timelines, low reputational risks, reliance on venture capital) makes them especially at risk from corruption. While it is difficult, and possibly undesirable, to draw any overarching conclusions, it is possible to state that the governance picture for the extractive industries in developing countries is becoming increasingly complex and includes a number of actors that are not party to *the* multilateral sector anti-corruption intervention: the Extractive Industries Transparency Initiative (EITI).⁷

Trend 4: Projects relating to renewable energy, conservation and climate change objectives are on the rise in contexts where corruption prevalence is high

The last decade has witnessed a surge in projects relating to renewable energy, conservation and climate change objectives in developing countries, largely driven by environmental and energy security concerns (Hawila et al 2012, EIB 2012, IEA 2014). The Global Environment Facility (GEF 2011) has, for instance, invested around USD 10 billion in over 200 renewable energy projects in developing and emerging economies. The African Development Bank too has financed projects such as an initiative aimed at exporting solar-thermal power from Tunisia to Europe and wind and geothermal energy projects in Kenya (the Turkana Wind Project and Menengai Geothermal Plant). Clark (2014) finds that the amount of new clean energy produced in 55 developing countries (including China) grew on average 19% per year since 2008, compared to 13% among OECD countries during the same timeframe. Large-scale investments in forest conservation programmes (e.g. REDD+) are also being made in developing countries such as Indonesia and the Democratic Republic of the Congo (DRC), involving a mix of public (World Bank, UN-REDD) and private sources. In short, there is strong interest in realizing the potential of renewable natural resources in developing countries to contribute to improved energy security and resilience to climate change.

This surge in renewable energy, conservation and climate

change projects is, in many instances, taking place in countries that score poorly on formal corruption indicators. A small but growing literature has begun to observe how 'green' economic policies are not immune to corrupt practices: corruption can both undermine the implementation of a 'green agenda' and green policies can themselves be instrumented for corrupt purposes. Cavanagh, for instance (forthcoming 2017), draws on fieldwork on the illegal trade in forest products in Kenya and the broader East Africa region to show how increased financing for green initiatives threatens to replicate governance problems usually found in the extractive industries. From an anti-corruption perspective, a rise in the number of green projects should be accompanied by serious consideration of corruption risks and by steps to adopt mitigation measures that fit the characteristics of various types of 'green projects'.

Advancing policy and practice solutions through development cooperation

Following scrutiny of the evidence for the effectiveness of donor-supported anti-corruption interventions over the past few years, a main message contained in recent meta-studies (DFID 2015, Johnsen et al 2012) is that anti-corruption interventions must be fit for particular contexts and will probably work best when integrated into broader reforms. Our literature review shows natural resource sectors are undergoing profound changes: resources are being extracted in more remote locations within corruption-prone developing countries than was previously the case; there is an increased proliferation of actors involved in resource extraction (from large state-owned enterprises to nimble junior firms); and a marked shift towards renewable energy and conservation projects in developing countries. Formulating generic anti-corruption policy prescriptions for the wide range of heavily contextualized corruption challenges natural resource sectors face is unlikely to help. The final section of this U4 Brief therefore offers modest advice for advancing policy and practice solutions through development cooperation, with a particular focus on analytical methods, project management approaches, and tracking evidence for effectiveness.

Focus on monitoring, evaluation and learning methods as an integral part of intervention design

An important take-away point from both Johnsen et al (2012) and DFID (2015) is that past anti-corruption interventions, including those relevant for natural resource sectors, have been supported on the basis of sometimes flimsy evidence and have involved major assumptions about the ways different societies work and how various actors operate within these societies. Most anti-corruption interventions, for example, have posited principal-agent models of behavior in developing countries, the suitability of which is contested (see, for example, Marquette and Pfeiffer 2015).⁸ A core implication of the recent anti-corruption effectiveness literature is that a greater focus should be placed on developing methods for monitoring, evaluating and learning from particular anti-corruption interventions. Baseline data, a wide range of indicators, and periodic

opportunities for reflection should become part of project cycles - not as an afterthought but as an integral element of an interventions' design. A recent example of a monitoring and evaluation approach specifically for development practitioners is that devised by the University of Birmingham's Development Leadership Programme (DLP) on how to 'think and work politically' via development programmes. Such approaches should be furthered for development interventions aimed at addressing corruption challenges in natural resource sectors, which tend to have big goals and high ambitions.

Use detailed corruption risk assessments to establish corruption risk management plans for specific interventions

Johnsen (2015) identifies a problem with most anti-corruption interventions in that they rarely move beyond corruption risk identification to risk *assessments* upon which to base actual aid management decisions. Regularly used tools such as Public Expenditure and Financial Accountability (PEFA) reports and Fiduciary Risk Assessments (FRAs) identify weaknesses in public financial management decisions, for example, but are unable to weigh the relative importance of various types of corruption risks in a particular sector, and offer little guidance on how to deal with them. On the other hand, political economy analyses of natural resource sectors may not relate closely enough to a particular programmatic intervention to produce usable policy and practice prescriptions. An alternative solution is for aid intervention designers to integrate detailed corruption risk assessments into their programmatic design work, ensuring the methods employed are capable of generating practical management options. For example, a corruption risk assessment of EITI's implementation in a particular country context could assess the corruption risks that might arise from a particular extractive industry home country, or particular type of extractive industry firm, not becoming part of the initiative, in order to identify mitigation measures.

Regularly revisit and challenge core programmatic assumptions and theories of change

Understanding of corruption challenges in developing countries is evolving and the assumptions we make about corruption, both in general and in natural resource sectors in particular, are typically informed by some combination of our theoretical perspectives, formal educational background, practical experiences, and fragments of empirical evidence. The idea of integrating corruption risk assessments as part of the design of programmatic aid interventions is to build-in opportunities to regularly revisit and challenge the core assumptions and theories of change that necessarily underpin a particular intervention. In other words, a flexible and iterative approach, involving a shuttling back-and-forth between programmatic objectives, baseline evidence, and emerging data from core programmatic indicators, is preferable to grounding an intervention in particular assumptions that may not hold true over its lifetime. Overall, the goal should be to create the best possible framework for understanding an intervention's impact while it is ongoing, allowing opportunities for corrective measures under-way, and leading to credible end-review data that provides real learning for future work.

Notes

1. The term 'extreme energy' refers to sources of energy that are harder and/or more costly to extract, are buried deeper underground, are located farther offshore, and in more hazardous and hostile regions of the planet, than more conventional energy sources (see Klare 2008).
2. Another response to mineral depletion in mature economies has been investments in new extraction techniques to develop less-easily-accessible minerals e.g. attempts to access shale oil and gas through the application of hydraulic fracturing or 'fracking' in the United Kingdom and United States.
3. One challenge is that environmental activists monitoring natural resource projects (including for anti-corruption purposes) can be killed for doing so. Global Witness (2015) found that 116 activists were murdered in 2014 across 17 countries, with most dying amid disputes over mining, hydropower and agri-business.
4. These Western (mainly Anglo-Saxon) oil firms were termed the 'Seven Sisters' and later become known as 'Big Oil'. The original group included the Anglo-Persian Oil Company (UK), Gulf Oil (US), Royal Dutch Shell (Netherlands-UK), Standard Oil of California (US), Standard Oil of New Jersey (US), Standard Oil Company of New York (US), and Texaco (US). Major oil sector players today include Saudi Arabia's Aramco, Russia's Gazprom, the China National Petroleum Company, the National Iranian Oil Company, Venezuela's PDVSA, Malaysia's Petronas, and Brazil's Petrobras.
5. Soma Oil and Gas is currently under investigation from the UK's Serious Fraud Office (SFO) for alleged corruption in the Somali oil sector. See: <http://www.independent.co.uk/news/business/news/soma-oil-gas-lobbies-uk-for-help-in-somalia-despite-serious-fraud-office-inquiry-a6694621.html>
6. See Leahy (2016) and *The Star Online* (2016).
7. As of July 2016, China, India, Brazil, Malaysia and Russia were neither 'compliant' with nor 'implementing' EITI. China has, however, expressed support for EITI and reported under the EITI framework in Gabon, Kazakhstan, Mongolia and Nigeria. Petrobras has also been a fee-paying member of EITI since 2005. See: www.eiti.org.
8. Corruption is frequently presented as a *double principal-agent problem* in which 'imperfect' formal institutions in charge of controlling corruption fail to prevent agents from opportunistic corrupt behaviour: either political leaders tasked with monitoring bureaucrats (agents) fail to adequately supervise them, thus enabling opportunistic rent extraction, or the imperfect control of officials' behaviour affords them discretion to abuse their position. While the prevention of corruption through control mechanisms can be valuable, the weak track-record of anti-corruption interventions has contributed to a revisiting of these theoretical assumptions.

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