



# Lessons for multi-level REDD+ benefit-sharing from revenue distribution in extractive resource sectors (oil, gas and mining)

Cecilia Luttrell

Brittany Betteridge



RESEARCH  
PROGRAM ON  
Forests, Trees and  
Agroforestry

# **Lessons for multi-level REDD+ benefit-sharing from revenue distribution in extractive resource sectors (oil, gas and mining)**

Cecilia Luttrell

Brittany Betteridge

Occasional Paper 166

© 2017 Center for International Forestry Research



Content in this publication is licensed under a Creative Commons Attribution 4.0 International (CC BY 4.0), <http://creativecommons.org/licenses/by/4.0/>

ISBN 978-602-387-051-6  
DOI: 10.17528/cifor/006385

Luttrell C and Betteridge B. 2017. *Lessons for multi-level REDD+ benefit-sharing from revenue distribution in extractive resource sectors (oil, gas and mining)*. Occasional Paper 166. Bogor, Indonesia: CIFOR.

Photo by Mokhamad Edliadi /CIFOR

CIFOR  
Jl. CIFOR, Situ Gede  
Bogor Barat 16115  
Indonesia

T +62 (251) 8622-622  
F +62 (251) 8622-100  
E [cifor@cgiar.org](mailto:cifor@cgiar.org)

**[cifor.org](http://cifor.org)**

We would like to thank all donors who supported this research through their contributions to the CGIAR Fund. For a list of Fund donors please see: <http://www.cgiar.org/about-us/our-funders/>

Any views expressed in this publication are those of the authors. They do not necessarily represent the views of CIFOR, the editors, the authors' institutions, the financial sponsors or the reviewers.

# Contents

<b>Acknowledgments</b>	<b>v</b>
<b>Policy messages</b>	<b>vi</b>
<b>1 Introduction</b>	<b>1</b>
<b>2 Narratives around sub-national revenue distribution</b>	<b>3</b>
<b>3 Rationales for revenue distribution across scales</b>	<b>6</b>
3.1 Distribution based on fairness: Payment for performance	8
3.2 Distribution based on equality: Supporting development goals	9
<b>4 Country context is important in the design of benefit distribution</b>	<b>13</b>
<b>5 Conclusions: The challenge of combining objectives</b>	<b>14</b>
<b>References</b>	<b>15</b>

# List of tables and boxes

## Tables

1. REDD+ finance received vs. total revenue from extractive resources in selected REDD+ countries. 1
2. Distribution systems, institutional set-ups and conflicts in selected Latin American countries. 6
3. Models of decentralization of extractive industry revenues in selected countries. 7

## Boxes

1. Multi-level 'political settlements' and their relation to REDD+ revenue sharing 4
2. Separation of function: The Norwegian model for management of oil revenue 9
3. Oil commissions in Nigeria 10
4. Cash transfers as a channel for revenue sharing 11
5. The use of saving funds as a mechanism to guard against windfall revenues 12

# Acknowledgments

This paper was produced as part of CIFOR's project on "Opportunities and challenges for implementing REDD+ benefit-sharing mechanisms in developing countries" (<http://www.cifor.org/redd-benefit-sharing/>). The authors gratefully acknowledge funding from the European Commission, the International Climate Initiative of the German Federal Ministry of Environment, Nature Conservation, Building and Nuclear Safety, the Norwegian Agency for Development Cooperation, UKAid, the Australian Department

of Foreign Affairs and Trade, the CGIAR Forest, Trees and Agroforestry Program (<http://foreststreesagroforestry.org>) and the CGIAR Fund.

We also gratefully acknowledge Andrea Babon, Micah Ingalls, Grace Wong and Jennifer Arnold, whose critical review has helped improve the article and to Debby Rahmim and Dedek Purnama Sari for research assistance. We are also grateful to Mark Foss and Christine Wairata for help with editing and references.

# Policy messages

- Lessons from how revenues from the extractive resource sectors (oil, gas and mining) are distributed can be particularly relevant for scenarios where financial flows associated with Reducing Emissions from Deforestation and Forest Degradation (REDD+) might reach significant volumes.
- The extractive resource sectors have two main rationales for revenue redistribution: 'fairness' in ensuring the locality of production receives a greater share of revenue; and 'equality' through the investment of revenues for the development of all localities.
- Apportioning extractive industry revenue primarily to producing localities can stabilize revenue for the local government, but can also create inequalities across a nation. In the case of REDD+, this may be problematic in terms of rights; if the emission reduction is classified as a national good, revenue should accrue across the whole nation.
- Windfall revenues concentrating in particular areas can lead to political and economic hazards of resource absorption commonly termed the 'resource curse'.
- Country context is important in the design of revenue-sharing mechanisms. Better development outcomes result from transfers, which combine some sharing related to 'performance' with allocation related to specific sub-national needs.
- Designing systems for the transfer of REDD+ revenues requires clear objectives. It needs to be integrated into wider development planning, and to consider wider fiscal incentive systems and the capacity for spending.

# 1 Introduction

This brief focuses on lessons from the extractive resource sectors (oil, gas and mining) for REDD+ benefit sharing. Specifically, it examines the different ways that revenues accruing to the government are distributed to sub-national levels and the outcomes of different arrangements for doing so. These lessons are particularly relevant for scenarios where REDD+ revenues might reach significant volumes.

Table 1 shows that REDD+ finance (which is predominantly from public sources) is at a much smaller volume than revenues from extractive resources. However, in certain countries, REDD+ revenue represents a relatively large revenue source

when compared with revenue from extractives (see, for example, Sierra Leone at 28% and Burkina Faso at 19%). Commitments to mobilize climate finance following the Paris Agreement (USD 10 billion per year by 2020) provide an indication of potentially increasing REDD+ finance. Should volumes of REDD+ finance to countries increase, the question of how to distribute significant levels of revenue will become pertinent.

Two main sorts of revenue would need to be distributed in the case of REDD+: i) when central or sub-national governments receive payment from international sources for emissions reduced, and ii) when central government obtains taxes and fees

**Table 1. REDD+ finance received vs. total revenue from extractive resources in selected REDD+ countries.**

Country	REDD+ finance received (USD million)	Total extractive resource revenue (ERR) to government (USD million)	REDD+ finance as a percentage of ERR	Extractive resources	Year of ERR data
Indonesia	179.8	44,779.6	0.4%	Oil, gas, mining	2011
Peru	41.9	5,480.9	0.8%	Oil, gas, mining	2012
Republic of Congo	12.8	3,041.6	0.4%	Oil, gas	2013
Cameroon	3.9	1,529.2	0.3%	Oil, gas, mining	2012
Zambia	12.0	1,498.5	0.8%	Oil, gas	2013
Ghana	58.6	1,269.1	4.6%	Oil, mining	2013
Mongolia	4.0	1,054.9	0.4%	Oil, gas	2013
Tanzania	44.0	468.3	9.4%	Oil, gas, mining	2012
Burkina Faso	44.5	236.4	18.8%	Mining	2011
Guatemala	3.8	224.6	1.7%	Oil, gas, mining	2011
Nigeria	7.8	177.5	4.4%	Mining	2012
Mozambique	3.8	115.1	3.3%	Gas, mining	2011
Madagascar	3.8	87.3	4.4%	Mining	2011
Sierra Leone	5.9	27.6	21.4%	Oil, gas, mining	2011

Source: REDD+ finance received, Climate Funds Update 2016; ERR to government, Natural Resource Governance Institute 2015.



collected from REDD+ activities (Irawan et al. 2014). In both cases, decisions are needed on how to redistribute between central and sub-national levels.

Revenue flows are just one form of benefit from the extractive resource sectors. Other benefits include employment, infrastructure, social development, supply chain effects, corporate social responsibility, ownership/tenure, involvement in planning and consultation (Morgandi 2008; Bebbington 2013). However, Bebbington (2013) suggests that perhaps the most important benefit is the way in which the sector is taxed and how these revenues are transferred into development spending and social investment.

A key concern in decisions over public revenues is allocation across jurisdictions. In this paper, we look at the rationales behind the way revenues from the sector are shared both with sub-national governments and across extractive and non-extractive localities. This experience is relevant for key questions facing REDD+, such as how to link benefit to performance at the sub-national levels (Loft et al. 2016), how to compensate costs, how to distribute benefits across a nation and to enhance development outcomes. In so doing, we address key concerns in the debate about REDD+ benefit-sharing. These include how REDD+ might not only act as an incentive for reducing deforestation and degradation, but also be integrated into wider development planning and thus assist in achieving wider development outcomes.

In many countries, extractive resource sectors are notable for a high degree of associated conflict (Ross 2003). For example, in Nigeria and Sudan, oil has become the basis of demand for local autonomy and self-determination (Obi 2007). One major source of conflict associated with extractive resources is disagreement over distribution and use

of the significant revenues these sectors generate (Glave and Damonte 2012). Indeed, Arellano-Yanguas (2011) claims that most conflicts over extraction are based on disagreements over the amount, management and distribution of fiscal transfers back to the region of extraction.

The main dilemma in distribution of extractive industry revenues is whether to allocate revenues solely to territories that host extractive activities or to promote a wider and more equitable redistribution (Arellano-Yanguas and Mejía Acosta 2014). The debate around REDD+ benefit-sharing has, to date, focused largely around the design of incentive structures that will act to compensate locally incurred costs. It thus assumes that a significant proportion of any revenue will accrue to the locality reducing emissions.

However, experience from the extractive resource sectors suggests this distributive rationale may be problematic in terms of scale. First, in terms of rights, if the emission reduction is classified as a national good (or incurring a national cost), benefits should arguably accrue to the nation for wider development. Second, in terms of the 'resource curse', hazards associated with windfall revenues may concentrate in particular areas.

Decisions over the right formula for revenue redistribution have led to several questions. These include the definition of 'rightful beneficiaries', the challenge of ensuring some subsidiarity<sup>1</sup> and the need to minimize rewards for poor performers (Mejía Acosta 2015). The literature around extractive industries, which mirrors that of the REDD debate, highlights a clear trade-off. On the one hand, it is logical to reward regional efforts to generate their own revenues. On the other hand, there is a (re)distributive logic of investment in areas where needs are higher (Arellano-Yanguas and Mejía Acosta 2014).

---

1 Subsidiarity is the principle that matters ought to be handled, and decisions taken, by the smallest, lowest or least centralized competent authority.

## 2 Narratives around sub-national revenue distribution

Phelps et al. (2010), Ingalls and Dwyer (2016) and others raise a key concern in the debate around REDD+ over the degree to which REDD+ prompts (re)centralization of land and forest governance. There are arguably features of REDD+ – in terms of design, monitoring and rewards – that will centralize both management and revenue distribution. A dominant narrative has emerged around REDD+ benefit-sharing, and more specifically in the emphasis on performance-based finance and the concern around the centralization of the forest sector (Phelps et al. 2010) that local ‘producing areas’ and actors *should* benefit (Luttrell et al. 2013).

Two questions are relevant to this debate.

First, what kind of actor has the *right* to benefit (state vs. private/community operators)? In many cases, nation states enshrine the ‘right’ to benefit from extractive resources in their constitutions (Ahmad and Mottu 2003; Ross 2007). As it is responsible for the management of the resource, the nation state has the power to grant licenses and concessions (Morgandi 2008). There are some exceptions (most notably Papua New Guinea, Brazil and Ghana) where ‘shared ownership’ by nongovernment beneficiaries (private and communal/customary) is reflected in constitutional rules entitling them to shares of revenues (Morgandi 2008).

Many discussions on REDD+ assume that rights to carbon emission reductions will follow that of forest or land tenure. However, most countries have not clarified tenure rights that lie behind carbon emission reductions (Luttrell et al. 2013; Loft et al. 2015). Those that have clarified these rights have largely vested them in the state. Partly for this reason, and partly because of the abstract notion of carbon rights, lessons from extractive resources are pertinent.

Second, if the right to benefit is vested in the nation state, what level of state administration should accrue revenue? Our discussion focuses primarily on this question. Thus we look at what lessons the extractive resource sector can teach on how revenues are shared between local, non-local and national actors.

Despite clear constitutional rights, localities may make a claim due to the spatial origin of the resources in their territory. These claims take different forms. Some may question the right of the state over all. For example, indigenous (or other sub-national identity-based) groups may claim compensation or territorial rights regardless of national law. In other cases, local government may make demands over revenues for local development as the national ownership of the resource itself obliges local government to support these sub-national projects (Berdegué et al. 2015; Hinojosa et al. 2015).

However, any attempts by localities of extraction to secure benefits mean that central government and other localities will perceive that they have lost out. Rents from the extraction of mineral or oil exports are relatively high. As such, they generate a strong sense of entitlement among the population if citizens feel this is part of their national wealth (Ahmad and Mottu 2003; Ross 2007). On this note, Bebbington (2013) argues that subsoil resources have mobilized a particularly strong narrative of ‘resource nationalism’. This narrative argues that related wealth should be redistributed nationally to benefit the ‘people’ and ‘the poor’. Thus it is perceived to be problematic, in terms of sovereignty, for any entity other than national government to control benefits (Perreault 2013).

This highlights another feature dominating the literature on extractive resources: decisions for sub-national revenue redistribution are based

not only on clearly defined ownership rights and legal clarity, but also on the outcome of political negotiation and ‘settlements’ (see Box 1). Ownership and allocation are subject to repeated political bargaining. In many cases, the decision to transfer revenue to the localities is also the product of the constellation of preexisting actor coalitions (Morgandi 2008) and the relative power of regional and national political groups.

However, other literature highlights the way in which national governments try to get control over extractives for *national* social or political projects

or for private gain for governing elites (Bebbington 2013; Hinojosa et al. 2015). National governments may also wittingly aggravate conflict at this level to give them the excuse to gain back control (Hinojosa et al. 2015).

On the one hand, then, producing localities have high expectations for a share of wealth from extractive resources produced in their territories (Agustina et al. 2012). They are supported by the principle of subsidiarity that underpins decentralization. On the other hand, national citizens expect redistribution.

### Box 1. Multi-level ‘political settlements’ and their relation to REDD+ revenue sharing

The term ‘political settlement’ refers to a ‘common understanding’, usually between elites, about how power is organized and exercised. A political settlement refers to the balance of power and institutions that underlie the political order (Kelsall et al. 2016). It may include formal institutions for managing political and economic relations, such as peace agreements, constitutions and market regulations. It could also include informal agreements underpinning a political system such as deals between elites on the distribution of resources (DFID 2010, 22). For Khan (2010, 1) “[a] political settlement emerges when the distribution of benefits supported by its institutions is consistent with the distribution of power in society, and the economic and political outcomes of these institutions are sustainable over time.”

The REDD+ arena is located in a political settlement over the distribution of benefits from natural resources. Political settlements over natural resources are innately multi-level. They often focus around the tension between the localized production of rents versus resources being vested in the nation. Another major tension is over private gain for governing elites versus local claims about how point-source resources are extracted locally.

Parks and Cole (2010) talk about ‘secondary political settlements’ that result from political competition across multiple levels. They suggest the following types of such settlements:

1. Central penetration into local affairs – which forces local elites to operate in ways that undermine local interests. This often occurs in highly centralized states.
2. Local elite dominance of the center – powerful local elites may also dominate central politics as seen in the Philippines.
3. Contested state presence – areas where a large percentage of the population do not see national state authority as legitimate and there may be high levels of predatory behavior by elites.
4. Decentralized/autonomous settlements – where local elites exclude national elites.

Bebbington (2013) highlights Botswana and Chile as two examples of effective political settlements over resource distribution. These countries agreed that central authorities should control revenues and redistribute them through national programs. In Chile, these agreements were possible due to a strong and respected centralized bureaucracy. In Botswana, sub-national elites calculated the agreement was in their favor (Thorp et al. 2012).

These contracting claims, combined with the way in which resource extraction occurs *locally* at a point-source, have led to tensions over the distribution of revenue and conflicts over many sub-national revenue distribution decisions (Bebbington 2013). This results in unstable human settlement around extractive resources, as well as tensions between national and sub-national jurisdictions, as seen in Peru, Bolivia and Nigeria.

This is less the case in Chile and Botswana – partly because extraction does not overlap with human settlement (Bebbington 2013).

We now examine the different ways in which these narratives have been enacted in decisions over sub-national revenue distribution and the relevant lessons for REDD+ benefit-sharing.

### 3 Rationales for revenue distribution across scales

The formulas for redistribution of revenues vary according to different objectives or rationales. These range from giving compensation for costs, improving local or national development outcomes, increasing local ownership and incentives for productivity, reducing localized conflict and attaining economic stability. In most countries, a mix of these allocation criteria are used with varying proportions (Glave and Damonte 2012; Tables 2 and 3).

Within this range of rationales are two main categories in the design of revenue redistribution: fairness and equality (Morgandi 2008; Glave and Damonte 2012). The trade-off between these two rationales permeates the debate over financial distribution (Schroeder and Smoke 2003). There is similar tension in the design of REDD+ benefit-sharing (Luttrell et al. 2013).

**Table 2. Distribution systems, institutional set-ups and conflicts in selected Latin American countries.**

Country	Institutional platform	Ownership of natural resources	Distribution system based on origin	Level of conflict
Argentina	Federal	Provincial	None	Medium
Bolivia	Unitary state	People <sup>a</sup>	Percentage of hydrocarbon tax goes to producing regions	High
Brazil	Federal system	Federal government	Royalties and excises shared between the federal level and producing and bordering states/ municipalities	Low
Colombia	Unitary state with regions	State	Substantial part of royalties redistributed to non-producing areas	Medium
Ecuador	Unitary with regions	State	One dollar/oil barrel goes to the Amazonian Development Fund	Medium
Peru	Unitary with regions	The nation	50% of taxes on minerals and royalties on oil and gas and 25% of income tax on oil and gas go to the producing municipalities and regions	High
Venezuela	De facto unitary	State	Small part of royalties goes to states	Medium

Notes:

a The distinct wording of 'state', 'people' and 'nation' are taken from the national legislation concerned. By definition a 'state' is a self-governing political entity; a 'nation' is a group of people who share the same culture, but do not necessarily have sovereignty; and 'people' are a body of human beings considered generally or collectively.

Source: based on Brosio and Jimenez (2015) and Glave and Damonte (2012).

Table 3. Models of decentralization of extractive industry revenues in selected countries.

	Bolivia (Oil and gas)	Brazil (Oil and gas)	Peru (Mining and gas)	Nigeria (Oil)	Colombia (Oil since 2011)	Mexico (Oil)	Indonesia (Oil)	Ecuador (Oil)	Ghana (Mining)	Papua New Guinea (Oil and gas)
Budget revenue <sup>a</sup> (% of GDP) <sup>b</sup> of oil and gas sectors	44%	44%	n/a	15%	n/a	25%	18%	n/a	32% <sup>c</sup>	47%
Type of revenue transferred	Royalties and IDH <sup>d</sup>	Royalties and participation	Royalties and income taxes	Total oil revenue	Royalties	Total oil revenue	Total oil revenue	Total oil revenue	Royalties	Royalties
Vertical Distribution										
National government and centralized funds	37%	31%	45%	46%	52%	83%	85%	98%	91%	93%
Regional/state governments (Local government)	63%	66%	55%	54%	48%	17%	15%	2%	7%	5%
Private landlords	-	3%	-	-	-	-	-	-	2%	2%
Devolution										
Producing region/state	28%	45%	12%	13	10%	-	3%	1%	5%	3%
Producing localities	13%	21%	43%	-	-	-	12%	1%	2%	2%
Total devolution	41%	66%	55	13	-	-	15%	2%	7%	5%
Horizontal Distribution										
Region/state	9%	-	-	23%	38%	17%	-	-	-	-
Localities	13%	-	-	18%	-	-	-	-	-	-
Total formula- based	22%	-	-	41%	38%	17%	-	-	-	-
Redistribution to non- producing regions <sup>e</sup>	Yes	No	No	Yes	n/a	Yes	Yes	n/a	No	No

## Notes:

a Sector-specific taxes, e.g. royalties, special participation, specific profit tax rates, etc

b Figures from Morgandi (2008)

c This figure is for mining

d Direct tax on hydrocarbons

e From Morgandi (2008)

Source: Arellano-Yanguas and Mejía Acosta (2014) unless otherwise noted.

### 3.1 Distribution based on fairness: Payment for performance

The principle of derivation that allows sub-national governments to keep a share of the taxes or fees collected within their administrative boundaries (Bahl 2000) is based on a narrative of ‘fairness’. In this way, revenues are proportioned according to localities’ own level of production. In the case of REDD+, this could unfold in two ways. First, revenues could be allocated according to the level of carbon emission reduction. This would correspond to a performance-based approach that rewards the efforts of that locality. Second, the locality where carbon emission takes place could be compensated or reimbursed for both opportunity and implementation costs (Irawan et al. 2014). Localities will make claims related to costs incurred in extraction (Arellano-Yanguas and Mejía Acosta 2014). At the same time, the state will incur costs for providing infrastructure and institutions for licensing and oversight. Therefore, it would have some claim for compensation of those costs.

The derivation approach is often used to prevent opposition over social and environmental concerns related to resource extraction (Haysom and Kane 2009; Glave and Damonte 2012). Compensation needs will vary depending on the nature of the resource and mining methods. For example, in Peru, communities compete with companies for the mining resource<sup>2</sup> and are directly impacted. Conversely, most mining<sup>3</sup> in Chile occurs in low populated areas. And in Brazil, most extracted oil resources are located offshore (Glave and Damonte 2012).

Peru’s ‘Canon Law’ was specifically developed in 2004 to prioritize compensation for mining and gas extraction over development objectives. This responded to severe conflict in the mining sector (Glave and Damonte 2012). Through a compensation-based model, the largest percentage of transfers from the mining and gas sectors go to resource-producing municipalities. As a result, half of income taxes from these sectors are earmarked for the producing district. Two-thirds of canon transfers (tax-related transfers) and 52% of other fiscal transfers went to sub-national governments concentrated in 6 out of 25 regions that only

had 16% of the total population. This fueled perceptions of inequity and conflict over territorial boundaries.

The derivation approach has the advantage of helping ensure a stability of revenue sources for local governments. It also provides some degree of flexibility on how the funds can be spent at the local level (Bahl 2000; Bahl and Wallace 2007). Some argue this helps avoid local government having to find – often informal – ways to raise revenue themselves (Bahl 2000) and creates better relations between the central and local governments (Morgandi 2008).

However, the derivation approach can increase inequalities across a nation. Countries where extractive resources make up a large share of the budget, such as Nigeria, Bolivia, Indonesia and Mexico, are more likely to redistribute revenue among regions (Morgandi 2008; Table 3). In this selection of countries, the extractive resources sector contributes between 17% to 41% of national revenues (Morgandi 2008).

Understanding how a potential increase in local revenues associated with REDD+ interacts with wider development and economic planning is crucial. The derivation approach can make a locality more susceptible to the resource curse phenomena (large volumes of revenue associated with extractive industries) (Mejía Acosta 2015).

The outcome of Peru’s Canon Law has been a lack of planning around how revenue was to be spent. It resulted in low local government spending; during 2004–11, only 5.3% of Canon funds were spent (Glave and Damonte 2012). As a result, citizens do not feel compensated. Conflict, in fact, increased as a result of political competition over increased revenues (Arellano-Yanguas 2011). The ability of local governments to absorb financial transfers from REDD+ is also a concern in some countries. In Indonesia, for example, underspending of general budget allocation is already a problem due to low capacity for public service delivery (Alisjahbana 2005)

One significant challenge of the derivation approach is the exact location of the ‘extraction point’. This relates to the decision over the scale of the locality that should receive the revenues and location of the boundaries. Should districts neighboring producing areas also benefit? For

2 Peru’s main mining exports are copper, gold and zinc.

3 Chile’s main mined products are copper, gold and silver.

example, in Peru, producing districts transfer revenues to sub-districts regardless of whether they are producing areas (Glave and Damonte 2012). The challenge may be accentuated in the case of REDD+ as some forest areas have low population densities.

### 3.2 Distribution based on equality: Supporting development goals

Wider development based on a principle of equality offers an alternative rationale for redistributing revenues (Fischer 2007). In this case, investment is relatively higher in depressed areas to redress regional imbalances. This results in distribution beyond the locality of production. This is particularly important where production is concentrated in only a few localities, as may be so in the case of REDD+. However, a key challenge in this, particularly for REDD+, is to avoid the perverse incentive of rewarding poor performers.

Bolivia promotes a degree of devolution to sub-national actors at the same time as equal distribution across producing and non-producing localities. No locality receives more than others. Further, there is no scope for discretionary allocation without the active participation of local government. This acts as an effective check and balance on the performance of central government (Arellano-Yanguas and Mejía Acosta 2014).

Achieving development objectives might, however, involve the allocation of varying proportions of revenue according to different sub-national development indicators. For instance, Indonesia and the Philippines distribute 26% and 40% of national revenue collections, respectively, to local governments based on indicators such as population and land area (Bahl 2000). Including welfare criteria such as population and income levels in the distribution formula can lead to more equitable outcomes. In Bolivia, redistribution of revenue to non-producing localities did not

#### Box 2. Separation of function: The Norwegian model for management of oil revenue

The creation of checks and balances through the 'separation of functions' is often touted as an institutional design that guards against political interference or economic shocks associated with the resource curse (see Kolstad and Wiig 2009). The Norwegian model for its management of oil revenues is a prime example of this. First, a national oil company with commercial operations carries out commercial functions. Second, the ministry sets policy. And third, an oversight body regulates and provides technical expertise.

However, Idemudia (2012) points out that the rentier context in other countries within which such institutions are established often creates the greatest obstacle to their success. With this question in mind, Thurber et al. (2011) reviewed models for the management of the hydrocarbon sector in ten countries. They concluded that the separation of function model requires strong institutional capacity and healthy political competition to be successful. The success of Norway in transforming its oil resources into long-term wealth was based primarily on the existence of these factors (Boschini and Pettersson 2003).

Thurber et al. (2011) suggest the regulator will be captured by interests if credible institutions and political debate are not present. There is then no advantage in separating the regulatory, policy and commercial roles. Some countries (Angola and Malaysia) have relatively effective systems without separation of function. Other countries (such as Nigeria and Algeria) have attempted separation and failed.

These experiences suggest that attempts to separate functions in countries without healthy political competition can be harmful. They can crowd out incremental reform efforts and distract scarce resources, as well as increase opportunities for corruption. This focus on 'second best institutions' (Rodrik 2008) suggests an emphasis on incremental improvements in technical and institutional capacity before investing in the creation or strengthening of multiple institutions. This mirrors the policy implications of Grindle's (2004) work on 'good enough governance'. It suggests that reformers need to follow what is reasonable in their context rather than duplicating models from other contexts.



consider population, size or fiscal capacity. As a result, the lowest populated locality received almost 20 times the per capita share of the most highly populated locality (Morgandi 2008).

On the other hand, in Nigeria, the derivation approach has been eroded over time in favor of distribution principles based on need, population and equity. By 2001, five of the southern oil-producing states that were producing 90% of the oil revenue received 19.3% of revenues; meanwhile, the five non-producing northern states were receiving 26% (Ikporukpo 1996). This led to a perception of deprivation by the southern states and associated conflict. This was seen most clearly in Biafra, a secessionist state that broke away from Nigeria for three years in the late 1960s (Agustina et al. 2012). The Biafran conflict was fueled by the disparate conditions between oil-producing regions that saw non-producing areas benefiting at their expense (Humphreys 2005). This example highlights how the resource curse can be exacerbated without an appropriate distribution mechanism that considers the geo-political context of the resource state.

Morgandi (2008) emphasizes how *perception* of fair treatment by non-producing localities is as important as its actual distribution. Claims from Aceh and Papua provinces in Indonesia to extractive revenues from the regions have been high, for example. The establishment of special agreements required a protracted political settlement process as to what constituted a 'fair share' (Agustina et al. 2012).

However, Searle (2004) and Morgandi (2008) argue special agreements with specific localities

can weaken the legitimacy of overall distribution decisions. These agreements, they suggest, send a message that political lobbying rather than policy determines decisions. In Indonesia, areas of low income and high extractive resource productivity overlap (most notably in the case of Aceh and Papua). Consequently, there has been less perception of a trade-off between these two rationales.

### 3.2.1 Avoiding the resource curse

The theory of the resource curse attempts to explain the way in which many countries or areas with high revenue from extractive resources have poor economic growth, high poverty rates and governance problems (Sachs and Warner 1995; Karl 1997; Ponce and McClintock 2014). Another reason for reallocating revenues more widely to non-producing localities is the fear that large concentrated windfall sums of money will exacerbate the resource curse.

An overreliance on natural resources or extractive sectors comes with two long-term risks commonly known as the 'Dutch Disease'. First, the economy becomes more vulnerable to external shocks as a result of commodity price and market fluctuations. Second, the advantages of increased revenues from extractive resource sectors may be outweighed by other factors. Resource revenues, for example, can crowd out competition in other sectors (Shaxson and Christensen 2013) such as manufacturing or agriculture. This can cause volatile public spending and borrowing and stifle long-term growth (Fischer 2007). Hinojosa et al. (2015) highlight how large fiscal transfers in Bolivia can distort local economies and politics (e.g. the 'gas wars').

#### Box 3. Oil commissions in Nigeria

The development of independent oil commissions is one attempt to decentralize oil revenue to mitigate against the resource curse. The Oil Producing Area Development Commissions in Nigeria administer 40% of the 13% oil derivation for sustainable development in oil-producing areas. The commissions were created in response to community agitation. They aimed to shorten the distance between money and communities and to reduce potential conflict and corruption. The mandate of the commissions is limited to complement and not to take over the developmental responsibility of these areas from the state and federal governments. However, a review by Idemudia (2012) showed the commissions accused of being 'interventionist' agencies carrying out 'quick fix' development activities. A key problem has been the inability to insulate the commissions from too much political influence, their use as a tool of patronage and their lack of accountability to communities.

A number of policy solutions to reduce the impact of the resource curse have been proposed or introduced for distribution of extractive resource revenue. These include i) the separation of institutional functions (Box 2), ii) specific resource management commissions (Box 3), iii) cash transfers (Box 4), iv) creation of separate funds to bypass the budget (Box 5), and v) the establishment of transparency mechanisms (such as the Extractive Industries Transparency Initiative). A common thread across these mechanisms is the importance of the specific political and institutional contexts rather than the design of the mechanism itself.

Revenue windfalls that exceed the spending capacity of local government can lead to clientelism as seen in Bolivia, Colombia and Peru (Arellano-Yanguas and Mejía Acosta 2014). Hinojosa et al. (2015) note the irony of social movements that demand a greater share of resources only to find that local authorities are unable to invest in sustainable development and instead create rent seeking and increased conflict.

Large revenues allow politicians to focus less on long-term objectives of sustainable growth in favor of short-term gains by immediate spending. It is particularly detrimental if these gains are not

#### Box 4. Cash transfers as a channel for revenue sharing

One channel for revenue sharing involves the direct transaction of natural resource revenues from government to individual citizens through direct regular cash transfers (see Sandbu 2006). The cash transfers system aims to ensure direct benefits for citizens and limit the government's ability to divert funds (Arellano-Yanguas and Mejía Acosta 2014).

Cash is one of the cheapest ways of transferring finance (Blattman et al. 2013). It has quick disbursement and low overheads and can bypass laborious fiscal transfer systems. Thus, such transfers are assumed to increase individual purchasing power and have a direct income benefit (Moss 2011). In addition, cash is arguably more likely to be spent on human capital than loans due to interest repayments (Blattman et al. 2013).

Others argue that direct transfers enhance the 'social contract' between individuals and resource-rich states (Arellano-Yanguas and Mejía Acosta, 2014). There is evidence of increased support for politicians that support cash transfers (De La O Torres 2010). Some suggest this support can help influence electoral politics in a non-clientelistic manner by crediting a politician for improved well-being (Zucco 2010).

Unlike saving funds, which tend to work only in conducive political contexts, direct transfers can help generate a more conducive context. To do that, they create a broad-based constituency for responsible revenue management (Gillies 2010; Standing 2014). In the absence of healthy democratic institutions, however, direct cash transfers may further fuel rent seeking and clientelistic behavior. They could be used to 'appease' certain groups (Gillies 2010). In addition, they could be politically manipulated (Sewall 2008) partly because they lie outside formal accountability relations.

Other problems with the direct transfer of cash have also been raised. Cash transfers work best in contexts with functional markets: "If markets cannot supply the goods and services that poor households require, cash transfers can fail, often resulting instead in high inflation or windfall profits for the retail sector" (Samson 2008).

Bypassing established local government fiscal systems can undermine local government policies and procedures. In the case of transfers to citizens associated with the Alaska Permanent Fund for oil, Ross (2007) suggests this system has resulted in chronic budget deficits and lower productivity.

The impact of cash transfers varies by context. For example, there is some debate as to whether successful Latin American models can be transferred to other regions. There are also questions about whether cash transfers can be replicated in countries or regions with lower institutional capacity (Gertler 2005; DFID 2011). Most commentators suggest that government investment must accompany any cash transfer mechanism to ensure the presence of service delivery infrastructure (Arellano-Yanguas and Mejía Acosta, 2014).

### Box 5. The use of saving funds as a mechanism to guard against windfall revenues

Volatility is a particular feature of extractive resources revenues due to unpredictable commodity prices (Ahmad and Singh 2003). This is likely to be the case for carbon revenue given fluctuating market prices. This volatility in potential income can make it hard for long-term commitments. Some suggest that, rather than direct transfers for spending, mechanisms are needed for saving (stabilization and savings funds) to guard against the volatility of revenue (Sarraf and Moortaza 2001). As well as dealing with deficits, saving mechanisms can help prevent revenue windfalls that can exceed the spending capacity of local government. They can also allow longer-term investment in human capital and infrastructure. At the same time, they can decrease political pressure to spend resources in a short period of time (Arellano-Yanguas and Mejía Acosta 2014). Botswana and Norway present some of the best examples of this tactic. Oil revenues are managed through a central budgeting process that identifies national priorities. The two countries take a multi-year planning perspective, including the saving of revenues for future use.

However, the maintenance of saving funds requires strong political commitment and strong institutions. The effects can easily be reversed by borrowing against those assets (Davis et al. 2003; Arellano-Yanguas and Mejía Acosta 2014). Thus, such funds tend to work better with constraints on the discretionary use of executive power (Bagattini 2011) or legislative power and wider public accountability (Arellano-Yanguas and Mejía Acosta 2014).

Shaxson (2008) describes how setting up oil funds to avoid absorption problems and volatility has become a funding source for politicians in many African countries. For example, Gabon's Fund for Future Generations is estimated to have 8.8% of what it should have (Leigh 2006). Ecuador adopted a savings and stabilization fund however, during a period of rising oil prices, parliament dismantled the savings and earmarked spending of this fund (Bauer 2013).

reinvested in human capital development and non-resource sectors (Ross 2007). Ross (2007) further suggests that resource booms can enhance the political clout of private individuals who may even favor policies that impede growth.

The political implications of the resource curse are a relevant outcome to consider in the design of REDD+ benefit-sharing. Local government with easy revenue derived from sources other than income taxes does not have to rely on its

citizens (Ross 1999; Ross 2001; Shaxson 2008). This leads to a breakdown of accountability and responsiveness relationships and a stagnation of transparent and accountable political institutions (Pritchard 2013). Ross (2001, 325–361) discusses the way in which “oil and mineral wealth tend to make states less democratic” and a particular problem in countries with lower capacity in institutions: “oil does greater damage to democracy in poor countries than in rich ones” (Ross 2001, 356).

## 4 Country context is important in the design of benefit distribution

No one distributive or allocation mechanism is appropriate for every context. Arellano-Yanguas and Mejía Acosta (2014) suggest a combination of derivation with some equalizing criteria according to sub-national needs (poverty levels, local extractive capacity, basic infrastructure) have the best development outcomes. Successful derivation-based transfers require strong links with regional development plans and consideration of institutional capacity. If local government capacity is weak, a more centralized system as in Chile might be more suitable (Glave and Damonte 2012). Case studies from Peru and Bolivia (Mejía Acosta 2015), where extreme devolution has led to rent seeking and conflict, suggest that centralized management and allocation bring better social outcomes.

In the seven cases reviewed by Glave and Damonte (2012), the nature of the administration (unitary or federal) has no relation to the degree of decentralization of the extractive resource revenues (see Table 2). Some federal countries (Brazil, Nigeria) allocate more oil wealth to their regions effectively. Mexico, which is also a federal system, transfers less than 20% of revenues. Conversely, Bolivia or Peru (which are unitary countries) redistribute up to 55% of their revenues to sub-national units (Hinojosa et al. 2015).

The transfer of resources is not enough to create positive development outcomes. Such outcomes are not a result of the magnitude of revenue allocation. Rather, they depend on how the transfers are used. This, in turn, is related to the institutional capacity for effective spending, development planning and safeguards. Without strong institutions, rent distribution can lead to even more conflict. This can undermine the basis for further long-term development.

Sudden revenue windfalls can exceed the spending capacity of small sub-national districts. This was the case in some Bolivian, Colombian and Peruvian regions. It can thus open the door to

clientelistic and wasteful spending (Arellano-Yanguas and Mejía Acosta 2014). This has given attention to the way in which transfers need to be accompanied by development planning and safeguards (Morgandi 2008). Coordination with public spending priorities across sectors and with wider development goals is also critical (Arellano-Yanguas and Mejía Acosta 2014).

The work of Hinojosa et al. (2015) on the so-called gas wars in Bolivia suggests it is unclear whether large-scale mining and hydrocarbon investments can facilitate local development. Referring to the wider resource curse literature, they highlight how local government and community are unable to use finance effectively. They also suggest that local actors do not have the political weight to establish healthy relationships with international companies and national governments in this respect.

This suggests that policies are needed to increase local incomes of these local populations, as well as to address wider intra-regional structural inequalities (Modrego and Berdegué 2015). The revenue distribution system also needs to be designed with reference to wider fiscal decentralization and compensatory mechanisms. Doing so means revenues can be allocated in line with government development and planning goals. They can thus be easily integrated into budgets and/or assigned to priority sectors (Glave and Damonte 2012). For example, in Indonesia, the wider fiscal structure already favors disadvantaged localities overall. The formula regulating the General Purpose Grant (DAU)<sup>4</sup> and REDD+ revenue accruing to a region would need to consider its interaction with existing revenue sources.

---

<sup>4</sup> The DAU (Dana Alokasi Umum) aims to address horizontal imbalances among sub-national governments due to differences in locally sourced revenue and shared revenue. The size of the DAU is based on the potential revenues and fiscal needs of the region.

## 5 Conclusions: The challenge of combining objectives

The heavy focus on *revenue* generation and distribution in REDD+ is brought into question through the experience of the extractive resources sector. Hinojosa et al. (2015) argue that focusing on distribution of revenues from the extractive sectors takes a short-term view. It is driven by the private sector wanting to expand production; by government wanting political support or alliances with sub-national actors; or by popular demands for redistribution. Thus, before design of the distribution system, the main expectations for REDD+ revenues should be established. They could be geared toward direct spending, compensation of costs, wider social goals, perceived fairness, creation of long-term saving and investment, macroeconomic stability or strong local ownership (see Arellano-Yanguas and Mejía Acosta 2014).

To do this, an inclusive dialogue around how this resource fits into a wider development agenda is paramount. This dialogue is particularly challenging in the case of transfers for REDD+ revenues; most REDD+ countries have economies heavily based on the extractive or natural resource sectors. Thus, if REDD+ revenue remains insignificant relative to these sectors, it brings up the problem of not meeting opportunity costs. Inserting those revenues

into the wider development agenda remains a challenge.

Our review highlights typical problems in the extractives sector related to decentralization, including clientelism and elite capture. The ‘safeguards’ agenda in REDD+ has begun to address similar emerging political issues, particularly through attention to transparency. To further this agenda, our paper highlights lessons from the extractive sectors around other institutional solutions such as the separation of function, off-budget financial mechanisms and cash transfers.

These lessons suggest that the design, implementation and sustainability of financial distribution mechanisms depend less on technical considerations and more on political negotiations between stakeholders. In most cases, a variety of actors may have a claim on benefiting from the revenue. Thus there is constant political bargaining. This needs to be made explicit in the process of REDD+ objective setting and design. In so doing, the paper also emphasizes the importance of REDD+ revenue for supporting policy and governance reforms. These, in turn, would help address some of the institutional challenges.

# References

- Agustina CD, Ahmad E, Nugroho D and Siagian H. 2012. *Political economy of natural resource revenue sharing in Indonesia*. Working Paper 55. London: Asia Research Centre. [http://www.lse.ac.uk/asiaResearchCentre/\\_files/ARCWP55-AgustinaAhmadNugrohoSiagian.pdf](http://www.lse.ac.uk/asiaResearchCentre/_files/ARCWP55-AgustinaAhmadNugrohoSiagian.pdf)
- Ahmad E and Mottu E. 2003. Oil revenue assignments: Country experiences and issues. In Davis JM, Ossowski R and Fedelino A, eds. *Fiscal Policy Formulation and Implementation in Oil-Producing Countries*. Washington, DC: International Monetary Fund. 216–42.
- Ahmad E and Singh R. 2003. *Political Economy of Oil-revenue Sharing in a Developing Country: Illustrations from Nigeria*. IMF Working Paper No. 03/16. Washington, DC: International Monetary Fund. <https://www.imf.org/external/pubs/ft/wp/2003/wp0316.pdf>
- Alisjahbana A. 2005. Does Indonesia have the balance right in natural resource revenue sharing? In Resosudarmo BP, ed. *The Politics and Economics of Indonesia's Natural Resources*. Singapore: Institute of Southeast Asian Studies. 109–24.
- Arellano-Yanguas J. 2011. Aggravating the resource curse: Decentralisation, mining and conflict in Peru. *Journal of Development Studies* 47(4):617–38.
- Arellano-Yanguas J and Mejía Acosta A. 2014. *Extractive industries, revenue allocation and local politics*. Working Paper 4. Geneva: United Nations Research Institute for Social Development. <http://testing.ids.ac.uk/files/dmfile/Arellano-Acosta.pdf>
- Bagattini GY. 2011. *The political economy of stabilisation funds: Measuring their success in resource-dependent countries*. IDS Working Papers. 356:1–60. Washington, DC: International Monetary Fund. <https://www.imf.org/external/pubs/ft/wp/2014/wp1443.pdf>
- Bahl R. 2000. *Intergovernmental Transfers in Developing and Transition Countries: Principles and Practice*. Washington, DC: World Bank.
- Bahl R and Wallace S. 2007. Intergovernmental transfers: The vertical sharing dimension. In Martinez Vazquez J and Searle B, eds. *Fiscal Equalization: Challenges in the Design of Intergovernmental Transfer*. New York: Springer. 205–49.
- Bahl R, Boex J and Martinez-Vazquez J. 2001. *The Design and Implementation of Intergovernmental Fiscal Transfers*. Atlanta: Andrew Young School of Policy Studies, Georgia State University; New York: UN Capital Development Fund.
- Bauer A. 2013. *Subnational Oil, Gas and Mineral Revenue Management*. New York: Revenue Watch Institute.
- Bebbington A. 2013. *Natural resource extraction and the possibilities of inclusive development: Politics across space and time*. Working Paper 21. Manchester: Effective States and Inclusive Development. [http://www.effective-states.org/wp-content/uploads/working\\_papers/final-pdfs/esid\\_wp\\_21\\_bebbington.pdf](http://www.effective-states.org/wp-content/uploads/working_papers/final-pdfs/esid_wp_21_bebbington.pdf)
- Bebbington A, Hinojosa L, Bebbington DH, Burneo ML and Warnaars X. 2008. Contention and ambiguity: Mining and the possibilities of development. *Development and Change* 39(6):887–914.
- Berdegú JA, Escobal J and Bebbington A. 2015. Explaining spatial diversity in Latin American rural development: Structures, institutions and coalitions. *World Development* 73:129–37.
- Blattman C, Annan J, Green EP and Jamison J. 2013. *Women's economic empowerment: Evidence from Uganda*. Unpublished working paper. New York: Columbia University.
- Boschini AD, Pettersson J and Roine J. 2003. *Resource curse or not: A question of appropriability*. Working Paper Series in Economics and Finance No. 534. Stockholm:

- Stockholm School of Economics/Economic Research Institute.
- Brosio G, Jimenez JP. 2015. Equalization grants and asymmetric sharing of natural resources: Options for Latin America. *Urban Public Economics Review* (12-63). <http://www.redalyc.org/articulo.oa?id=50443064001>.
- Climate Funds Update. 2016. *The Latest Information on Climate Funds*. 2016. London: Overseas Development Institute. Accessed 19 September 2016. <http://www.climatefundsupdate.org/themes/redd>
- Davis J, Ossowski R, Daniel JA and Barnett S. 2003. Stabilization and saving funds for nonrenewable resources: Experience and fiscal policy implications. In Davis JM, Ossowski R and Fedelino A, eds. *Fiscal Policy Formulation and Implementation in Oil-Producing Countries*. Washington, DC: International Monetary Fund. 273–315.
- De La O Torres AL. 2010. *The politics of conditional cash transfers*. New Haven, CT: Yale University.
- [DFID] Department for International Development. 2011. *Cash transfers evidence paper*. London: DFID.
- [DFID] Department for International Development. 2010. *Building peaceful states and societies*. Practice Paper. London: DFID. <http://www.dfid.gov.uk/Documents/publications1/governance/Building-peaceful-states-and-societies.pdf>
- Fischer C. 2007. *International Experience with Benefit-Sharing Instruments for Extractive Resources*. Washington, DC: Resources for the Future.
- Gertler P. 2005. *The impact of conditional cash transfers on human development outcomes: A review of evidence from PROGRESA in Mexico and some implications for policy debates in South and Southern Africa*. Pretoria: Southern African Regional Poverty Network.
- Gillies A. 2010. *Giving money away?: The politics of direct distribution in resource rich states*. Working Paper 231. Washington, DC: Center for Global Development.
- Glave M and Damonte G. 2012. *Rent distribution and extractive industry conflict: The Latin American approach*. Policy Brief 3. Lima: Evidence and Lessons from Latin America. [http://ella.practicalaction.org/wp-content/uploads/files/121019\\_ECO\\_ExtIndConMan\\_BRIEF3.pdf](http://ella.practicalaction.org/wp-content/uploads/files/121019_ECO_ExtIndConMan_BRIEF3.pdf)
- Grindle MS. 2004. Good enough governance: Poverty reduction and reform in developing countries. *Governance* 17(4):525–48.
- Haysom N and Kane S. 2009. *Negotiating natural resources for peace: Ownership, control and wealth-sharing*. Briefing Paper. Geneva: Centre for Humanitarian Dialogue. [http://comparativeconstitutionsproject.org/files/resources\\_peace.pdf](http://comparativeconstitutionsproject.org/files/resources_peace.pdf)
- Hinojosa L, Bebbington A, Cortez G, Chumacero JP, Bebbington DH and Hennermann K. 2015. Gas and development: Rural territorial dynamics in Tarija, Bolivia. *World Development* 73:105–117.
- Humphreys M. 2005. Natural resources, conflict and conflict resolution uncovering the mechanisms. *Journal of Conflict Resolution* 49(4):508–537.
- Idemudia U. 2012. The resource curse and the decentralization of oil revenue: The case of Nigeria. *Journal of Cleaner Production* 35:183–93.
- Ikporukpo C. 1996. Federalism, political power and the economic power game: Conflict over access to petroleum resources in Nigeria. *Environment and Planning: Government and Policy* 14(2):159–77.
- Ingalls ML and Dwyer MB. 2016. Missing the forest for the trees?: Navigating the trade-offs between mitigation and adaptation under REDD. *Climatic Change* 136(2):353–66.
- Irawan S, Tacconi L and Ring I. 2014. Designing intergovernmental fiscal transfers for conservation: The case of REDD+ revenue distribution to local governments in Indonesia. *Land Use Policy* 36:47–59.
- Kahn M. 2010. *Political settlements and the governance of growth-enhancing institutions*. Working Paper (unpublished). London: School of Oriental and African Studies, University of London. [https://eprints.soas.ac.uk/9968/1/Political\\_Settlements\\_internet.pdf](https://eprints.soas.ac.uk/9968/1/Political_Settlements_internet.pdf)
- Karl TL. 1997. *The Paradox of Plenty: Oil Booms and Petro-States*. Berkeley and Los Angeles: University of California Press.
- Kelsall T, Hart T and Laws E. 2016. *Political settlements and pathways to universal health coverage*. Working Paper. London: Overseas Development Institute. <https://www.odi.org/sites/odi.org.uk/files/resource-documents/10382.pdf>

- Kolstad I and Wiig A. 2009. Is transparency the key to reducing corruption in resource-rich countries? *World Development* 37(3):521–32.
- Leigh D and Olters JP. 2006. *Natural-resource depletion, habit formation and sustainable fiscal policy: Lessons from Gabon*. Working Paper 193. Washington, DC: International Monetary Fund. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=934452](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=934452)
- Loft L, Gebara MF and Wong GY. 2016. *The experience of ecological fiscal transfer: Lessons for REDD+ benefit sharing*. Occasional Paper 154. Bogor, Indonesia: CIFOR.
- Loft L, Ravikumar A, Gebara MF, Pham TT, Resosudarmo IAP, Assembe S, Tovar JG, Mwangi E and Andersson K. 2015. Taking stock of carbon rights in REDD+ candidate countries: Concept meets reality. *Forests* 6(4):1031–1060.
- Luttrell C, Loft L, Gebara M, Kweka D, Brockhaus M, Angelsen A and Sunderlin W. 2013. Who should benefit from REDD+?: Rationales and Realities. *Ecology and Society* 18(4):52.
- Mejía Acosta AM. 2015. The governance of natural resource wealth: Some political economy considerations on enhancing social investment. In Haddad L, Kato H and Meisel N, eds. *Growth is Dead, Long Live Growth: The Quality of Economic Growth and Why it Matters*. Tokyo: JICA Research Institute.
- Modrego F and Berdegué JA. 2015. A large-scale mapping of territorial development dynamics in Latin America. *World Development* 73:11–31.
- Morgandi M. 2008. *Extractive industries revenues distribution at the sub-national level: The experience in seven resource-rich countries*. New York: Revenue Watch Institute.
- Moss TJ. 2011. *Oil to cash: Fighting the resource curse through cash transfers*. Working Paper 237. Washington, DC: Center for Global Development.
- Natural Resource Governance Institute. 2015. *EITI Dataset*. Accessed 22 November 2016. [www.resourcegovernance.org/sites/default/files/documents/nrgi\\_eitidataset\\_27july2015.xls](http://www.resourcegovernance.org/sites/default/files/documents/nrgi_eitidataset_27july2015.xls)
- Obi CI. 2007. Oil and development in Africa: Some lessons from the oil factor in Nigeria for the Sudan. In Patey L, ed. *Oil Development in Africa: Lessons for Sudan after the Comprehensive Peace Agreement*. Copenhagen: Danish Institute for International Studies. 9–34.
- Parks T and Cole W. 2010. *Political settlements: Implications for international development policy and practice*. Occasional Paper 2. San Francisco: The Asia Foundation.
- Perreault T. 2013. Nature and nation: Hydrocarbons, governance and the territorial logics of ‘Resource Nationalism’ in Bolivia. In Bebbington A and Bury J, eds. *Subterranean Struggles: New Dynamics of Oil, Mining and Gas in Latin America*. Austin: University of Texas Press. 67–90.
- Phelps J, Webb EL and Agrawal A. 2010. Does REDD+ threaten to recentralize forest governance? *Science* 328(5976):312–13.
- Ponce AF and McClintock C. 2014. The explosive combination of inefficient local bureaucracies and mining production: Evidence from localized societal protests in Peru. *Latin American Politics and Society* 56(3):118–40.
- Pritchard M. 2013. Re-inserting and re-politicizing nature: The resource curse and human-environment relations. *Journal of Political Ecology* 20:361–75.
- Rodrik D. 2008. Second-best institutions. *American Economic Review: Papers & Proceedings* 98(2):100–104.
- Ross ML. 2007. How mineral-rich states can reduce inequality. In Humphreys M, Sachs JD and Stiglitz JE, eds. *Escaping the Resource Curse*. New York: Columbia University Press. 257–75.
- Ross M. 2003. Oil, drugs, and diamonds: How do natural resources vary in their impact on civil war. In Ballentine K and Sherman J, eds. *The Political Economy of Armed Conflict: Beyond Greed and Grievance*. Boulder, CO: Lynne Rienner Publishers. 47–67.
- Ross ML. 2001. Does oil hinder democracy? *World Politics* 53(3):325–61.
- Ross ML. 1999. The political economy of the resource curse. *World Politics* 51(2):297–322.
- Sachs JD and Warner AM. 1995. *Natural resource abundance and economic growth*. Working Paper 5398. Cambridge, MA: National Bureau of Economic Research.
- Samson M. 2008. *Cash transfers to improve the protection and care of vulnerable children and to empower families in the context of the HIV epidemic in Papua New Guinea*. Port Moresby, Papua New Guinea: Institute of National Affairs, Department of Community Development and UNICEF. [https://www.unicef.org/eapro/UNC\\_PNG\\_Discussion\\_Brochure\\_121108\\_V6.pdf](https://www.unicef.org/eapro/UNC_PNG_Discussion_Brochure_121108_V6.pdf)



- Sandbu ME. 2006. Natural wealth accounts: A proposal for alleviating the natural resource curse. *World Development* 34(7):1153–70.
- Sarraf M and Moortaza J. 2001. *Beating the resource curse: The case of Botswana*. Paper 83. Washington, DC: World Bank. <https://openknowledge.worldbank.org/bitstream/handle/10986/18304/multi0page.pdf?sequence=1>
- Schroeder L and Smoke P. 2003. Intergovernmental fiscal transfers: Concepts, international practice and policy issues. In Smoke P and Kim Y, eds. *Intergovernmental Fiscal Transfers in Asia: Current Practice and Challenges for the Future*. Manila: Asian Development Bank. 20–59.
- Searle B. 2004. *Institutional aspects of the balancing fund*. Jakarta: Ministry of Finance.
- Sewall RG. 2008. Conditional cash transfer programs in Latin America. *SAIS Review of International Affairs* 28(2):175–87.
- Shaxson N. 2008. Oil for the people: A solution to the resource curse. *World Development* 39(4):475–89.
- Shaxson N and Christensen J. 2013. *The finance curse: How oversized financial centres attack democracy and corrupt economies*. Chesham, United Kingdom: Tax Justice Network. [http://www.taxjustice.net/cms/upload/pdf/Finance\\_Curse\\_Final.pdf](http://www.taxjustice.net/cms/upload/pdf/Finance_Curse_Final.pdf)
- Standing A. 2014. Ghana's extractive industries and community benefit sharing: The case for cash transfers. *Resources Policy* 40(0):74–82.
- Thorp R, Battistelli S, Guichaoua Y, Orihuela JC and Paredes M. 2012. Introduction. In Thorp R, Battistelli S, Guichaoua Y, Orihuela J and Paredes M, eds. *The Developmental Challenges of Mining and Oil: Lessons from Africa and Latin America*. Basingstoke, Hampshire: Palgrave MacMillan. 1–18.
- Thurber MC, Hults DR and Heller PRP. 2011. Exporting the 'Norwegian Model': The effect of administrative design on oil sector performance. *Energy Policy* 39(9):5366–78.
- Zucco C. 2010. *Cash-transfers and voting behavior: Electoral impacts of Brazil's Bolsa Familia program*. Working Paper. Princeton, NJ: Princeton University.

*CIFOR Occasional Papers* contain research results that are significant to tropical forest issues. This content has been peer reviewed internally and externally.

This brief focuses on lessons from the extractive resource sectors (oil, gas and mining) for REDD+ benefit-sharing. Specifically, it examines the different ways that revenues accruing to the government are distributed to sub-national levels and the outcomes of different arrangements for doing so. These lessons are particularly relevant for scenarios where REDD+ revenues might reach significant volumes. Two main sorts of revenue would need to be distributed in the case of REDD+: i) payments to central or sub-national governments from international sources for emissions reduced and ii) taxes and fees collected by central government from REDD+ activities (Irawan et al. 2014). In both cases, decisions are needed on how to redistribute revenue between central and sub-national levels. A key concern in decisions over public revenues is allocation across jurisdictions.

In this paper, we look at the rationales behind the way revenues from the sector are shared both with sub-national governments and across extractive and non-extractive localities. This experience is relevant for key questions facing REDD+ such as how to link benefit to performance at the sub-national levels, how to compensate costs, how to distribute benefits across a nation and how to enhance development outcomes. In so doing, we address key concerns in the debate about REDD+ benefit-sharing. These include how REDD+ might act as an incentive for reducing deforestation and degradation, and how it might also be integrated into development planning to help achieve wider outcomes.

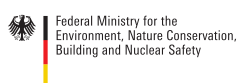


RESEARCH  
PROGRAM ON  
Forests, Trees and  
Agroforestry

This research is carried out by CIFOR as part of the CGIAR Research Program on Forests, Trees and Agroforestry (FTA). This collaborative program aims to enhance the management and use of forests, agroforestry and tree genetic resources across the landscape from forests to farms. CIFOR leads FTA in partnership with Bioversity International, CATIE, CIRAD, INBAR, Tropenbos International and the World Agroforestry Centre.

[cifor.org](http://cifor.org)

[blog.cifor.org](http://blog.cifor.org)



Australian Government  
Department of Foreign Affairs and Trade



#### Center for International Forestry Research (CIFOR)

CIFOR advances human well-being, equity and environmental integrity by conducting innovative research, developing partners' capacity, and actively engaging in dialogue with all stakeholders to inform policies and practices that affect forests and people. CIFOR is a CGIAR Research Center, and leads the CGIAR Research Program on Forests, Trees and Agroforestry (FTA). Our headquarters are in Bogor, Indonesia, with offices in Nairobi, Kenya, Yaounde, Cameroon, and Lima, Peru.

