

TOOLKIT AND GUIDANCE FOR PREVENTING AND MANAGING
LAND AND NATURAL RESOURCES CONFLICT

CONFLICT PREVENTION IN RESOURCE-RICH ECONOMIES



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Interagency Framework Team for Preventive Action

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CONTENTS

Summary	xii
1. Introduction	5
2. How does resource dependence impede human development?	7
2.1 The macroeconomic impacts	7
2.2 Weak diversification and sectoral linkages	9
2.2.1 Capital intensity	9
2.2.2 Weak forward and backward production linkages	9
2.3 Challenges in resource revenue management	11
2.3.1 Sub-optimal revenue generation	11
2.3.2 Revenue and expenditure volatility	13
2.3.3 Resource depletion	14
3. How does deterioration in human development lead to conflict?	15
3.1 Group-level motivations	15
3.2 Individual-level motivations	18
3.3 Breakdown in the 'social contract'	20
3.4 From conflict to resource dependence: extraction as the 'default sector'	20
4. Which economic policies prevent conflict?	21
4.1 Adopting macroeconomic policies that promote structural change	21
4.2 Promoting diversification	24
4.3 Effective revenue management	26
4.3.1 Building national and local consensus on natural resource management	26
4.3.2 Tackling asymmetries during contract negotiations	26
4.3.3 Improving revenue collection	28
4.3.4 Investing revenues	29
4.3.5 Adopting revenue smoothing mechanisms	32
5. Concluding remarks	33
Appendix 1: UNDP Supported Programmes and Projects for Extractive Economies	34
Notes	41
References	43

SUMMARY

Natural resource exports such as oil, diamonds and copper provide opportunities to drive growth and human development. However, extraction of these commodities can also result in slow growth, poverty and conflict. This paper focuses on four questions. First, how does natural resource dependence impede economic and social progress? Second, how does lack of economic and social progress translate into violent conflict? Third, which economic policies lessen the risk of conflict? Fourth, what are the programmatic implications for UNDP?

By synthesizing country cases, this paper shows that resource-based countries face a higher risk of experiencing violent conflict because of increases in unemployment, inequalities and inadequate provision of social services, particularly education. Worsening economic and social conditions aggravate collective and private grievances and the breakdown in state-society relations. These, in turn, fuel conflict. Prolonged violent conflict also further increases

dependence on resource extraction, as economic activities in other sectors are disrupted. The resource sector often becomes the 'default sector', mainly as a result of its relative immobility or capital intensity. The overall outcome can be a negative cycle of resource dependence, low human development and conflict.

Resource-dependent countries that avoided violent conflicts, on the other hand, by and large adopted the following economic policy measures that were designed and implemented with a conflict-sensitive approach: 1) the adoption of macroeconomic policies that promote public investments using fiscal measures; that generate employment by stimulating the private sector through monetary policies; and that make non-resource exports competitive through exchange rate management; 2) the promotion of economic diversification; and 3) the allocation of revenue that ensures progressive distribution of wealth to address vertical and horizontal inequalities.



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> Petroleum Industry in Venezuela.

1

INTRODUCTION

A large body of work has noted that growth and human development are curtailed by the so-called ‘resource curse’ — namely, the underperforming of countries dependent on hydrocarbon and mineral resource exports (Auty, 1993). Researchers have long argued that some countries with large endowments of natural resources do not experience stable and sustained growth (Sachs and Warner, 1995 and 2001). These countries also tend to have high rates of poverty and inequality (Ross, 2001b, 2004 and 2007). Another link between resource wealth and the onset, intensity and duration of conflict has emerged from cross-sectional analyses (Collier and Hoeffler, 2002 and 2004).

Commonly, the nexus between an economy’s dependence on extractive industry exports and violent conflict is explained by emphasizing clientelist and rent-seeking behaviour as well as some negative environmental impacts.¹ This paper focuses exclusively on the *economic* drivers of conflict. The objective is to show the links between resource abundance and the deterioration in economic and social outcomes resulting from declines in labour-intensive activities, mainly agriculture and manufacturing and insufficient allocation of resources to human and physical capital accumulation. Grievances emanating from the deterioration in wellbeing, in turn, become proximate causes of conflict. Attempts to address grievances often lead to contestation over the control of rents and efforts to capture the state and the resources under its authority. Depending on the relative strength of the state, compared to main opposition groups, contestation may manifest itself through one of the following scenarios: state repression, coup d’états, rebellions, secessionist movements, militarism, inter-communal or interregional conflicts.

However, natural resource dependence does not inevitably lead to economic instability or violent

conflicts. The empirical evidence conveys a mixed picture. Some countries avoided the risks associated with resource extraction and exploited the opportunities. As Brunnschweiler and Bulte (2008, p. 617) note, “[E]conomic advisors should be aware that natural resources do not necessarily spell doom for development. Instead, their exploitation can be a valuable part of a sustainable development strategy.” Examining how some countries avoided the resource curse might be helpful to other developing countries – country-specific circumstances notwithstanding.

Drawing on such global experiences, this paper builds a case for economic policies that can counter the potential adverse impacts of hydrocarbon and mineral extraction while simultaneously maximizing the potential benefits. These policy measures can be summarized as follows. First, macroeconomic policies need to focus on: (i) fiscal policies that enhance public investments, particularly in physical, human, financial, social and institutional capital accumulation; (ii) monetary policies that crowd in the private sector for diversification and employment generation, mainly through lower interest rates and targeted credit allocations; and (iii) exchange rate management, mainly real depreciations in order to foster export competitiveness in non-resource sectors.

Second, industrial policies that promote diversification through labour-intensive production processes as well as enhancement of the extractive sector’s forward and backward linkages to the domestic economy are necessary. This also requires support for the non-resource sectors through subsidy and tax incentives. The empirical evidence indicates that public intervention, by solving coordination problems and addressing externalities, can systematically promote manufacturing capacity (Lin, 2011). Economic diversification is essential for ensuring a stable growth trajectory and thus for protecting the economy from

growth shocks, which tend to make conflict more likely. The employment creation potential of labour-intensive manufacturing creates ‘responsible stakeholders’, which indirectly lessens conflict risk. When targeted in favour of ex-combatants or resource-rich regions, industrial policy interventions can directly and effectively address some of the proximate causes of conflict.

Third, revenue management that addresses vertical and horizontal inequalities is essential. A revenue-sharing formula between the national and subnational levels based on considerations of equalization and decentralization reduces horizontal inequalities. This, in turn, has a direct and mitigating effect on conflict risk. Increased expenditure allocation to human and capital accumulation, particularly the expansion of educational opportunities, can reduce vertical inequalities.

New discoveries of oil in Ghana, Niger, Guinea, Uganda, Papua New Guinea and São Tomé and Príncipe have raised concerns that the sudden surge in oil revenues could severely disrupt these economies while potentially igniting conflict. At the same time,

other countries, such as Botswana, Trinidad and Tobago and Zambia, are fast approaching the depletion of their resources. Each set of countries faces unique development challenges. In order to adequately benefit from their newfound wealth, emerging mineral producers will benefit from formulating a policy framework for managing their extractive sectors. Retiring mineral producers, on the other hand, face an imperative to diversify their economies away from resource dependence. Both scenarios present a window of opportunity for development partners to support human development and prevention of conflict. The key economic policy measures outlined in this paper could be considered in programming in countries rich in hydrocarbon and minerals.

The paper is structured as follows. Section 2 highlights the transmission mechanisms from resource abundance to deteriorations in human development. Section 3 discusses how undesired social and economic outcomes intensify the risk of violent conflict. Section 4 outlines the policy recommendations and the potential programmatic areas for future engagement to support countries in the prevention of resource-related conflicts.



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> North Sea Oil Exploration.

2

HOW DOES RESOURCE DEPENDENCE IMPEDE HUMAN DEVELOPMENT?

Resource dependence, in its narrow economic definition (measured by the share of primary exports in GDP), is demonstrably negatively correlated with economic growth. This is the classic case of the resource curse (see the work by Sachs and Warner, 1995; Collier and Hoeffler, 2002). We use a broader definition, which highlights the negative economic and social effects of extraction, mainly high unemployment, poverty, horizontal and vertical inequalities and inadequate provision of social services. We conceptualize these negative economic and social outcomes as resource ‘risks’, which the following three factors associated with the extractive economy tend to aggravate:

1. Macroeconomic impacts, mainly those associated with exchange rate appreciation
2. Absence of diversification as well as missing forward and backward linkages, partly due to capital-intensive extraction processes
3. Weak revenue management resulting in regressive distribution of revenues between social classes and among geographical regions

2.1 The macroeconomic impacts

Imagine a simple model of an economy with three sectors: 1) a resource sector (say, oil); 2) a tradable sector (say, agriculture and/or manufacturing); and 3) a non-tradable sector (say, construction). What will the impact of an oil boom on the exporting economy be? There are three main effects that contribute to locking resource-dependent economies into low-productivity sectors:

First, the revenues flowing into the oil exporting economy increase demand for tradable and non-tradable goods and services. This demand raises the price of non-tradables (for example, construction), but

not the price of tradable (e.g., agricultural and manufactured) goods. The reason is that, in an open economy, the price of tradable goods is largely determined externally. The net effect of an oil boom on the economy, therefore, is real exchange rate appreciation or a decline in the price ratio of tradables relative to non-tradables. The increased demand for non-tradable goods is met by increased production (for example, by a construction boom). The increased demand for tradable goods, on the other hand, is satisfied by imports – and, thus, does not affect output within the domestic productive sectors. This is called the *spending effect* (see Corden and Neary, 1982).

Second, the revenue flowing into the oil-exporting country is in foreign exchange (usually in US\$). If the dollar inflow is spent on imports, there may be no impact on the domestic economy. However, if the dollar is converted into local currency and spent domestically and if the central bank does not sterilize the inflow of foreign currency, the exchange rate could appreciate. If the country follows a fixed exchange rate regime, the conversion of the dollar into local currency will increase the money supply, causing inflationary pressures. This price adjustment leads to real exchange rate appreciation. If, on the other hand, the exchange rate regime is flexible, inflows of dollars will also directly appreciate the nominal exchange rate through the demand effect (Ebrahim-zadeh, 2003). The exchange rate appreciation lowers the price of imports and the domestic price of exports (i.e., exporters exchange fewer dollars per unit of domestic currency). This is the *relative price effect*. It reinforces the spending effect mentioned above.

Third, the above two effects imply that exchange rate appreciation weakens the international competitiveness of the non-resource export sectors of an economy, typically agriculture and manufacturing. The demand and price effects described above draw resources

(labour and capital) toward the non-tradable sector, such as services and construction. For instance, in the 53 countries defined as ‘resource dependent’, the service sector contributed on average over 40 percent and as much as 70 percent of GDP over 2000-2009 (World Bank, 2011).² This is termed the *resource movement effect*. As Corden and Neary (1982, p. 825) put it, there will be “coexistence within the traded goods sector of progressing and declining, or booming and lagging, sub-sectors”.³

The associated shift in the sectoral composition of labour can worsen inequality, as returns from manufacturing and agriculture are more equitably shared than returns from resource extraction (Ross, 2007). Final demand linkages are also likely to break down due to a decline in profits and wages in the non-resource sectors. This harms public revenue collection through loss of tax revenues and foreign exchange

earnings. Empirical studies have also shown that growth led by the manufacturing sector is the fastest, with growth rates twice that of agriculture and services (Echevarria, 1997). Manufacturing is also associated with higher rates of productivity. A lagging sector, particularly in labour-intensive manufacturing, therefore is likely to lead to under- and unemployment; losses in positive externalities, mainly learning-by-doing that enhances productivity; and a reduction in human capital accumulation (see Matsuyama, 1992; Wood and Berge, 1997). Similarly, a declining agricultural sector has serious implications for food security as well as for the provision of labour, inputs and demand for the urban manufacturing sector (Gylfason, 1999). These outcomes are similar to the infamous ‘Dutch disease effect’, except that we refrain from assuming full employment and perfect market-clearing for the analysis to be true.⁴

Box 1: Nigeria: Reversal of Fortunes

Before the advent of commercial exploitation of oil in the 1970s, the Nigerian economy was relatively diversified, self-sufficient in food, and a major exporter of agricultural commodities, particularly cocoa, palm oil, ground nuts and rubber. Agriculture accounted for over 60 percent of the country’s national output between 1950 and 1965. The contribution of agriculture to GDP, in value-added terms, declined from 41 percent in the 1970s to 6 percent in the 2000s (Usman, 2007).

Nigeria also had a growing manufacturing base, mostly related to agro-processing (Sala-i-Martin and Subramanian, 2003). By the early 1970s, however, the country had turned into a ‘mono resource-based’ economy. As Table 1 shows, the oil sector grew fast and soon accounted for 98 percent of export proceeds, compared to 11 percent in 1963. The overvaluation of the naira, fuelled by the oil boom in the mid-1970s, undermined the competitiveness of Nigeria’s agricultural and manufacturing exports.⁵ Some investments were made in the agricultural and industrial sectors. But these investments were short-lived and concentrated in highly capital-intensive industries (Mahler, 2010). According to Sala-i-Martin and Subramanian (2003, p. 3), “Nigeria’s economy was substantially more unstable—reflected in the standard deviation and coefficient of variation of growth rates than other countries, including other oil producing countries”.⁶

Table 1: Oil Exports as a Percentage of Total Exports, 1963-2006

1936	1965	1970	1975	1981	1991	2000	2006
11	26	58	93	97	97	99	98

Source: Mahler (2010).

Box 2: Yemen: Dutch Disease on the horizon

After Yemen started to export oil, its foreign exchange reserves reached a volume almost large enough to cover a full year of imports. However, these positive developments were followed by a decline in the share of agriculture in GDP from 24 percent in 1990 to about 10 percent in 2005. Over the same period, the share of manufacturing fell from 19 percent to only about 7 percent. By 2006, oil accounted for 90 percent of export receipts. At the same time, the poverty headcount ratio increased from 35 percent to 54 percent, with the rate of unemployment reaching 16 percent. A country that had historically been self-sufficient in food production has become 85 percent dependent on imports.

These unfortunate outcomes could have been avoided by supporting the agricultural sector. Access to land, water and rural infrastructure were needed to revive food production and support productivity increases. Oil and gas revenue flows could finance these initiatives. The volatility in such revenues, however, necessitates increasing non-oil public revenues from their current level of a mere 8 percent of GDP. This could be achieved by reviving declining sectors and diversifying into new ones. Fishing is one promising sector, as processing provides an opportunity to rebuild the manufacturing sector.

Source: Abu-Ismaïl and McKinley (2008).

2.2 Weak diversification and sectoral linkages

2.2.1 Capital intensity

Extraction of hydrocarbons and minerals is often heavily capital-intensive.⁷ This implies that a resource-dependent economy's structure will be skewed against labour intensity in production. Capital intensity is linked to reduced demand due to under- and unemployment. Point-source resources also tend to be associated with a concentration of ownership, exacerbating inequalities (Auty, 2001). A vicious cycle of worsening wealth distribution, caused by unemployment and slow wage growth, contracts the domestic market.

The entry of women into the workplace also slows down as capital intensity in production increases. Industries that hire women in relatively large numbers, like export-oriented manufacturing, on the other hand, tend to be crowded out (as noted under the macroeconomic impacts above). Ross's comparison of Algeria and Morocco is informative in this regard. The Algerian economy is driven by oil production, which contributes on average 50 percent of GDP. Morocco does not produce oil, but has a growing export sector

based on manufacturing, particularly in textiles and garments. Women's employment in the non-agricultural sector makes up only about 12 percent in Algeria, versus 33 percent in Morocco. This difference between Algeria and Morocco is largely explained by the prominence of a capital-intensive oil industry in Algeria's economy and the role of labour-intensive manufacturing in the Moroccan economy (Ross, 2008).

2.2.2 Weak forward and backward production linkages

What makes commodities such as oil, diamonds, and copper unique is that they, by and large, are not *produced*. Nature bestows them. Therefore, the generation of wealth from natural resources often occurs independently of the development of the remainder of the economy – without using domestic capital at all or with little use of domestic labour and other production inputs. This lack of linkages to other sectors of the domestic economy explains why the extractive sector is often referred to as an “enclave” (Humphreys et al., 2007b).

Aside from capital-intensive production processes, the enclave nature of production is the direct result of a situation where value addition takes place predominantly outside of the country. For instance, for diamonds

extracted in Botswana and Sierra Leone, cutting and polishing is carried out mostly in Antwerp, Belgium. Eventually, a country gets locked into a specialization, exporting crude oil, rough diamonds and/or unprocessed minerals. This specialisation is, in turn, associated with little job creation in the domestic economy. The recent developments in Botswana, though, are very encouraging: sixteen diamond cutting and polishing centres have been established in the country. This process, known in the industry as

‘beneficiation’, could potentially create important forward linkages.

Similarly, the main inputs required for resource extraction (heavy machinery, drills, platforms and pipelines) are most often imported because of their technical complexity. A significant value of labour and capital from advanced economies goes into producing these inputs. The benefits, in terms of jobs, technology and profits, therefore accrue to developed economies, where technologically advanced firms are located.

Box 3: Botswana: Some Successes in Human Development, but Not So Much in Job Creation

Following the discovery of diamonds, Botswana increased public investment in education and health services. Over the last decade, on average, 20 percent of total government expenditure was spent on education. School fees were abolished for primary education. These investments seem to have paid off substantially. Between 1980 and 2001, the adult illiteracy rate fell by half. Secondary and tertiary enrolment rates more than doubled between 1990 and 2008.

Key health indicators also improved. The likelihood of mothers dying in connection with giving birth is less than 30 percent of the average for sub-Saharan Africa. Under-five mortality is less than 50 percent of the regional average. In 2005/06, health spending rose by more than 200 percent, compared with an overall rise in expenditure of 55 percent from 2000/01.

But job creation has been a challenge: the total unemployment rate averaged 22 percent for the two decades until 2006 (see Table 2). In 1996, the youth unemployment rate was around 38 percent. By 2001, the rate had gone up to 40 percent, only to decline to 33 percent in 2006. The 2008 economic and financial crisis also exacerbated the unemployment problem. The contribution of labour-intensive manufacturing to GDP remains at no more than 4 percent to 5 percent.

Table 2: Botswana Unemployment Rates (% of total labour force), 1985-2006

1985	1994	1995	1996	1998	2000	2001	2003	2005	2006
25.7	21.2	21.5	21.5	20.8	15.8	18.6	23.8	31.59	17.6

Source: World Bank (2011).

2.3 Challenges in resource revenue management

2.3.1 Sub-optimal revenue generation

Capital intensity, asset immobility and the geographical specificity of extractive resources would suggest tax rates to be less of a disincentive for international extractive companies. However, tax regimes are often designed in such a way that governments do not capture adequate revenues from the immense wealth generated by the extractive sector. As McKinley (2008a, p. 3) notes, “[G]overnments are prone to offer international investors many attractive tax breaks and exemptions in order to induce them to help revive the depressed export sector.” In Mozambique, for instance, the aluminium exporter Mozal is exempt from some customs duties, property taxes and value-added taxes. With the company’s exports making up 73 percent of Mozambique’s total foreign trade, this translates into substantial uncollected revenue for the host government. Experts suggest that taxing mega-projects like Mozal could raise approximately US\$ 260 million. This amount is equivalent to 60 percent of the annual foreign aid provided as budget support to Mozambique. Castel-Branco and Ossemame (2010, p. 7) note:

“[T]hree megaprojects, namely, the aluminium smelter Mozal, the Moma heavy sands project and the Sazol gas project, represent about 60% of national GDP and produce nearly 70% of total industrial production [... but] the fiscal contribution is less than 3% of total fiscal revenues and less than 1% of GDP. In terms of employment generated, the three megaprojects mentioned employ only 4% of total formal wage labour.”

The outcome of weak revenue collection by host governments in resource-rich economies is explained by Soros (2007), who applies the principal-agent theory to the case of contract negotiation around resource extraction projects. There are four groups of players with stakes in the extraction industry: 1) the people of the resource-rich country; 2) the host

government; 3) international companies; and 4) domestic companies. In an ideal world, the principal is the public within a sovereign territory, which collectively owns natural resources. The agent is the government, whose primary objective is to serve the principal (the people). Hence, in this ideal world, we would expect the government to maximize the rate of revenue captured from the extractive sector. We would also expect that it allocate these revenues equitably and efficiently. But, in the real world, this is not always the outcome – mainly because of three prominent asymmetries: asymmetric agency, asymmetric information and asymmetric bargaining power.



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> South Sudanese Show Support for National Oil Shutdown.

First, *asymmetric agency* leads to inadequate allocation of resource revenues. The agent (i.e., the government) negotiates contracts with international companies on behalf of the people (the principal). However, the agent may not serve the public well. Rather, host governments often offer generous incentives to multinational companies, because officials may have independent rent-seeking interests (see Collier, 2010). This leads to a situation where government accountability becomes oriented toward the international company rather than toward the people, because rewards can be obtained from the former. This further deprives the host government of sufficient incentive to promote economic diversification in order to generate revenues from other (non-resource) sectors. Since tax receipts become negligible compared with

the foreign exchange obtained from exporting natural resources, the host government may not feel pressure to honour its accountability to the domestic principal. In fact, a common scenario is that the share of domestic tax receipts in total revenue is lower in resource-rich economies (Fearon and Laitin, 2003). International companies also do not have it as their foremost interest to maximize revenues for the people of the resource-rich country. Their principal is the company shareholders. A common outcome is, therefore, that the gains accrue to an external principal at the expense of the domestic principal. This situation is typical in non-representative political systems.

Second, *asymmetric information* arises from the fact that extraction of hydrocarbons and minerals requires specific geological, engineering and marketing skills. The governments and peoples of resource-rich economies may not have the required technical expertise to independently explore and trade their oil or minerals. International oil companies, by virtue of their many years of experience in the business, have amassed specialized skills. The privileged position of companies automatically creates an asymmetry in knowledge – of the value of different commodities, and of where to explore and market them for the highest profit. This creates a situation where host governments are at a disadvantage in negotiations around licensing, leases and royalties, which, in turn,

leads to the generation of inadequate revenues from the sector. Some countries resolve these asymmetries by establishing state-owned oil and mining companies that develop domestic know-how and skills. This, however, does not solve the agency asymmetry mentioned above. If national companies fall under the authority of a non-representative regime, the revenues will once again not accrue to the people, but rather get captured by this ‘proxy’ principal.

Third, information asymmetry leads to *asymmetric bargaining*. Further aggravating the bargaining imbalance is governments’ inferior knowledge and expertise. International oil companies are larger (in terms of budget) and politically more powerful than many resource-rich developing countries. International companies command capital, technology and a highly skilled labour force. The Organization of Petroleum Producing Countries (OPEC) was established to counter such bargaining asymmetries. However, oil-producing countries outside of OPEC as well as mineral-producing countries continue to suffer the consequences of asymmetries in bargaining power. The oligopolistic structure of the market for international firms compounds the problem. If there were more international companies, competition would have prevailed and resource-rich countries would have emerged as ‘price-givers’.

Box 4: Some Examples of Sub-optimal Revenue Generation

Multinational companies seek and are often able to lock in low levels of taxation, secure property rights and profit repatriation rights through contracts with governments. The locking-in is designed to tackle the so-called ‘time-inconsistency problem’, according to which existing conditions risk being reversed due to future uncertainty (political, for instance).

In Peru, companies that make even relatively modest investments have been able to establish stability agreements with the government, which effectively make them immune to any tax rises for a 10-year period. For example, until 2000, companies could establish stability agreements if they: 1) invested US\$2 million in their first three years of operation; 2) invested US\$500,000 and created 20 jobs; or 3) generated US\$2 million worth of exports (UNCTAD, 2000).

The 1997 Minerals Law of Mongolia also allowed mining companies that invested over US\$2 million in the first five years of operation to sign a stability agreement, which protected them against future tax increases. Mining royalties were set at a very low level of 2.5 percent. Due to public dissatisfaction in the face of rapidly increasing mineral prices, however, the Minerals Law was revised in 2006. Royalties increased to 5 percent, and an

Box 4: Some Examples of Sub-optimal Revenue Generation (cont.)

additional 68-percent windfall tax was imposed on profits from copper and gold mining whenever prices of these minerals exceeded reference prices. Fearing the loss of foreign investment, however, the government repealed the windfall profits tax with effect in 2011.

In Zambia, tensions around contract negotiations over the country's copper mines have resulted in revenue volatility (Weeks et al., 2007). As Lungu (2009) explains, by 1996, privatization and reform of the Mines and Minerals Act introduced a revised tax regime, including a royalty tax of 0.6 percent, a corporation tax of 25 percent, a 100 percent capital allowance, and stability periods of 15 to 20 years. Following public outrage, a revision of the tax regime resulted in a 3-percent royalty, a corporation tax of 30 percent, and the introduction of a windfall tax.

The Zambian experience contrasts with that of Chile. In Chile, private mining firms pay only a 5 percent tax rate. However, unlike Zambia, Chile requires that the state-owned oil company, Codelco, hold 39 percent shares in any mining project. Codelco pays a 29 percent tax rate. This strategy has secured to the state a steady flow of revenues. Still, the public revenue loss due to forgone tax payments by private firms is estimated to be US\$10 billion (Bova, 2009). The Zambian government, in comparison, holds only a nominal 10 percent of shares in the country's largest mining company, Anglo American. As of 2007, however, it had received no dividends. The estimates indicate that Zambia forfeits about US\$50 million annually in forgone tax revenues due to exemptions, concessions and refund claims. A provision allows companies to carry losses for up to 20 years and exempts them from paying any taxes in loss years (Fraser and Lungu, 2007).

Stabilizing taxes through agreements with even a handful of large multinationals substantially restricts the fiscal space available to governments of many low-income resource-rich economies, where extractive industries account for a significant share of GDP and exports. Moreover, resource-exporting economies with similar endowments in effect enter into competition to lure international companies. This further derails their revenue-raising potential, as each country competes with the next to offer the most favourable tax holiday. The obvious outcome is that – short of a regional approach toward foreign investment – multinational companies benefit disproportionately from resource extraction. By collectively deciding on an appropriate governance framework for foreign investment, the governments of resource-endowed countries would be able to change the balance of revenue sharing in their favour. This would simultaneously strengthen their overall bargaining position, thus allowing them to tackle the asymmetries discussed above (see Box 12 on how Botswana managed to deal with the various asymmetries).

2.3.2 Revenue and expenditure volatility

Revenues earned from extraction tend to vary in the short-term, changing by large margins in a single period. Commodity price volatility is but one source of revenue instability. For instance, international copper prices declined by 32 percent in 2009. As a result, 6,000 people lost their jobs in the Zambian mining sector in November 2008 alone (AfDB, 2009b). During boom years, governments tend to increase public expenditure. This makes a fiscal crisis likely in subsequent downturns. Due to political expediency, the spending cuts often fall disproportionately on productive sectors. According to Brown et al. (2008, pp. 1-5):

"[I]t is not price volatility *per se* that is the problem—rather it is the volatility of national and individual *incomes* that obstructs long-term planning, drives commodity dependency, [and] widens inequality. [...] [U]npredictable price fluctuations can significantly reduce national revenue, [and] cost millions of jobs."

In some cases, the windfall revenues flowing to governments during boom years entice excessive borrowing to support high public expenditure levels. Natural resources are easy mortgage, as they improve

the country's sovereign credit rating. However, countries face difficulties repaying their loans during periods of commodity price busts. This has serious implications for debt accumulation. As a result, countries can lose the flexibility to use exchange rate policy instruments when both public and private debts are predominantly in foreign currency, as it happened to Peru in the 1990s. Dancourt (1999) notes that high levels of indebtedness prevent devaluation of currencies because doing so can further increase the level of public debt and debt servicing. Peru is one of the world's major producers of silver, zinc, lead, molybdenum, copper and gold. Its exposure to volatile international markets has led the country to accumulate very high levels of debt and to suffer several major debt crises. Between 1990 and 1995, 25 percent of public expenditures went to debt servicing, compared with 18 percent on capital expenditures, 21 percent on social transfers, and 36 percent on public administration and provision of public services. By 2004, Peru had accumulated public debt equivalent to 85 percent of GDP, although it has subsequently reduced its level of indebtedness.

2.3.3 Resource depletion

The long-term flow of resource revenues is affected by the fact that hydrocarbons and minerals are non-renewable. Consequently, extraction implies resource depletion. In the case of Botswana, for example, the African Development Bank (AfDB) projects that diamond production will decline sharply after 2020 and possibly cease completely around 2030 (AfDB, 2009a). The IMF has similarly estimated that cost-effective diamond mining could no longer be a viable source of revenue for the Government of Botswana as early as 2029 (Basdevant, 2008). The stocks of some of Indonesia's minerals have become either seriously depleted or, as in the case of oil, are in need of substantial new investments. In 2005, one of Indonesia's largest oil companies suggested that, without considerable new investments, the country would become a net oil importer within a decade (Thee, 2006). A 2007 audit of the gas sector in Trinidad and Tobago indicated that the country's gas reserves would become depleted by 2019 (Ryder Scott, 2007). In response, a diversification strategy has been introduced. The government aims to support the start-up of large-scale farms in food production and

agro-processing, financial services, information and communication technology, and tourism (see Hailu and Seegulam, 2008).

Sustaining revenue flows requires non-renewable resources to be converted into other forms of capital – not only for current capital accumulation, but also for bequeathing valuable assets to succeeding generations. This is best achieved by regarding extraction of non-renewable natural resources as consumption of national capital rather than as a positive contribution to income (Hamilton, 2001). Let's assume that country 'X' is endowed with the following composition of total national wealth: natural capital (including resources such as oil and copper), human capital, physical capital and financial capital. In effect, then, extracting natural resources is equivalent to diminishing total national wealth – unless resource revenues are invested in building other forms of capital (e.g., human capital through investments in education, or physical capital through infrastructure investments). The argument of preconditioned 'limits to growth' in the natural resource sector implies the need to shift the burden of revenue generation and capital accumulation through investments in other forms of capital (Lange, 2004).



> World's Largest Salt Flat in Bolivia.

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3

HOW DOES DETERIORATION IN HUMAN DEVELOPMENT LEAD TO CONFLICT?

As shown in Figure 1, *a la* Ross (2011), the number of armed conflicts in oil-producing countries has been steadily increasing. This trend contrasts with the declining number of armed conflicts in non-oil producing countries, beginning 1990. Mahler (2010, p. 8) also describes this process:

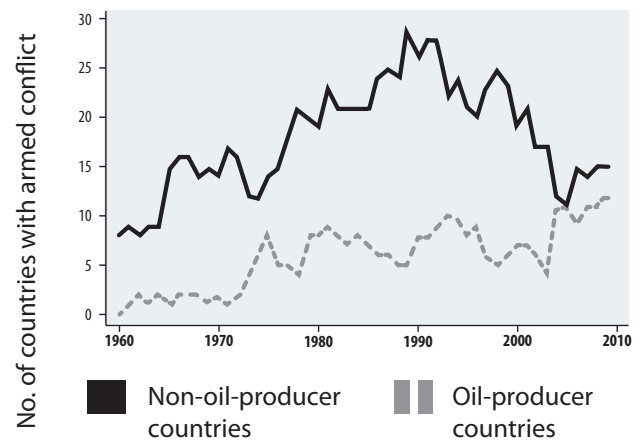
“[P]arts of the population might feel that they are deprived of the financial benefits of the resource revenues — while possibly also suffering from the ecological and social impacts of production (motive of grievance) — or that resource wealth can be the target of avaricious rebels who wish to take possession of the resource revenues (motive of greed). [...] On the other hand, resource revenues can serve as a catalyst for violent conflict by financing the rebel groups and other actors involved (opportunity, feasibility) and thus prolonging the conflict.”

Stewart (2002) argues that violent conflict arises from motivations at the individual and group levels, as well as from a breakdown in the ‘social contract’.

3.1 Group-level motivations

Group motivations for conflict emanate predominantly from grievances over *horizontal inequalities*. Horizontal inequalities can be geographical (interregional distribution of costs and benefits) or based on group identity (ethnic or religious). Large-scale extraction operations tend to spur expectations of substantial income increases, which often actually end up bypassing the local population. However, central governments often reap the largest benefits from extraction, while social and environmental costs tend to be borne by local communities residing in areas of

Figure 1: Oil Production and Armed Conflict



Source: Ross (2011).

extraction. In turn, the resulting horizontal inequalities – exacerbated by an expectations gap – breed grievances that, if left unaddressed, increase the risk of conflict (Brown, 2010; Mancini, 2008; Østby, 2008).

Deprived and dispossessed groups will fight for redress by, for example, attempting to capture resource rents (Brown et al., 2007). The contestation over rents is manifested mainly through launching coup d'états, secessionist movements and general civil strife.⁹ Privileged groups, on the other hand, fight to protect rents, rewards and benefits obtained from the extractive sector. The incentive for rent capture is fuelled by weak property rights over natural resources. Without a strong legal framework for the protection of property rights, there are no natural or legal owners of

resources before they undergo production. Since mineral deposits are ‘found’, any organized group can easily claim control over them without due political processes or citizens’ participation. Outbreaks of secessionist conflicts in Bougainville (Papua New Guinea), Aceh (Indonesia) and Southern Sudan (Sudan) are such cases where politically excluded groups (often ethnic minorities and indigenous peoples) fight to address grievances caused by interregional inequalities (Banerjee and Duflo, 2003; Benabou, 2000).

Capital-intensive resource extraction also tends to trigger separatist rebellion, specifically, by concentrating wealth in the hands of a few external capital owners while offering few benefits to local enterprises and unskilled workers. A failure of systematic, long-term engagement of relevant communities and stakeholders translates into effective exclusion from any dialogue related to the extractive industry process as well as a sense of marginalization. This, in turn, can lead to local opposition to resource extraction. In the worst cases, opposition is expressed

through overt violence against the extractive company and the government. In comparison, labour-intensive processes are less likely to cause conflict as the benefits are more widely shared (Ross, 2003).

Revenue and expenditure volatility have also been associated with a higher risk of civil conflict (Miguel et al., 2004). In Indonesia, for instance, the Aceh region became a major source of liquefied natural gas exports around 1975. The region enjoyed high growth rates until the early 1990s. During this period, sporadic rebel attacks on government facilities remained rather an irritation than a threat to the central government’s authority. During the Asian Financial Crisis of 1998, however, Aceh experienced a large negative growth shock. Aceh’s non-petroleum GDP declined by 5.9 percent in 1998 and by another 2.9 percent in 1999. In the same period, employment dropped by 37.3 percent. Subsequently, violent outbreaks with demands for secession erupted. Aceh became the centre of some of the most intense fighting, until the peace process that began on 15 August 2005 (Ross, 2008).

Box 5: Sudan: Oil, Secession and Conflict

In Sudan, the petroleum industry accounted for over 90 percent of export proceeds. Moreover, the main root causes of the civil wars were related to the inequitable sharing of resources. The first civil war was fuelled by feelings of economic and political marginalization, deprivation and disfranchisement by the Southern Sudanese population (UNDP, 2006b). As shown in Table 3, compared with Northern Sudan, Southern Sudan has lower levels of infrastructure investment, less developed agriculture and weaker trade linkages, despite a greater resource base (Patey, 2007).

Table 3: Characteristics and Nature of Resource Endowments in Northern and Southern Sudan

	N. Sudan	S. Sudan
Natural resource base	Low	High
Infrastructure investment	High	Low
International trade linkages	High	Low
Economic livelihoods	Commercial agriculture, trade, oil	Subsistence agriculture, pastoral livelihoods, oil

Source: Adapted from Switzer (2002, p. 3).

Box 5: Sudan: Oil, Secession and Conflict (cont.)

Two interrelated issues triggered the second civil war and sustained it for over two decades. First, the government (based in the North) unilaterally re-drew the boundary between the North and the South to create another 'neutral' regional state – Unity – to be shared by the North and the South. The central government also decided to locate an oil refinery in the North, and not in the South, where oil is produced. The South took these measures as a repudiation of the 1972 peace agreement and as a prolongation of economic disfranchisement.¹⁰ In the early 1980s, Southerners in senior positions in the national army defected to form the South Sudan Liberation Army (SPLA).

Second, the oil revenue sharing agreement remained a major bone of contention – primarily over fairness, transparency and management. The fact that oil resources in the North were not shared equally was deemed unfair. Southerners highlight the lack of transparency on the part of the government and the multinational companies in reporting the true revenue figures. By some accounts, deliberate under-reporting has been as high as 27 percent. This undermines the 'equal-wealth'-sharing agreement. The fact that the various peace agreements were essentially wealth-sharing agreements serves as a measure of the magnitude of the problem. The Comprehensive Peace Agreement (CPA), for example, had an oil-sharing formula at its core (D'Agoot, 2009).

Box 6: Nigeria: Oil, Grievances and Conflict

The oil-producing states in Nigeria's Niger Delta – Bayelsa, Rivers, Akwa Ibom, Cross River and Edo –account for more than 90 percent of the country's gross oil production. The share of oil revenues allocated to the producing regions peaked at 50 percent in 1970 before declining to 3 percent by 1999 (UNDP, 2006a). As Zalik (2004, p. 405) put it, the "incarnation of the derivation dispute was motivated by a federal government move to grant revenues accruing from offshore oil to the Federation rather than to coastal states."

By 2005, 54 percent of Nigerians were living on less than US\$1 per day, up from 35 percent in 1970. As mentioned above, the crowding out of agriculture and manufacturing also led to high levels of unemployment. Grievances over marginalization have been key drivers of civil conflict whether the conflicts are secessionist/separatist (e.g., Biafra in the 1960s and the Ogoni Peoples Movement in the 1990s), state-community, community-community, or community-company – or a combination of all three, such as the Warri Crisis in the Niger Delta (Zinn, 2005). In many oil-producing regions, the youth, in particular, have resorted to joining groups that take up arms (Sala-i-Martin and Subramanian, 2003).

Another type of oil-related violence in Nigeria is linked to an 'economy of violence' characterized by hostage-taking of oil company employees and attacks on installations. These actions are often carried out by disenfranchised, armed and unemployed youth militias (Onyeuku, 2007). Land scarcity and the lack of jobs have also induced internal migration and overpopulation in many Niger Delta states. Coupled with pre-existing ethnic and religious tensions, the situation has resulted in extremely volatile intercommunity relations within the oil-producing regions (UNDP, 2006a). Between 1966 and 1998, the Nigerian presidency changed hands nine times, all but one of them through military coups. The state, therefore, did not enjoy the stability necessary to manage revenues and allocate them equitably and efficiently to address horizontal inequalities (UNDP, 2006a).

Box 7: Peru: Mining, Inequality and Conflict

Between 2002 and 2008, Peru demonstrated impressive growth rates of above 7 percent annually. Mineral exports reached 62 percent of total exports by 2008. The rise of the mining sector, however, has been accompanied by an increase in conflict and violence. In December 2010, the Peruvian government's Ombudsman's office, Defensoria del Pueblo, reported a total of 164 active and 82 latent conflicts across the country. Of the 164 active conflicts, 42 percent were listed as mining-related (Defensoria del Pueblo, 2010).

Ten provinces account for 90 percent of Peru's mineral production. Despite their resource wealth, four of these – Pasco, Cajamarca, Cusco and Junin – located in the Amazon and Andean regions, where the majority of indigenous populations are concentrated, continue to suffer the highest poverty rates in the country. The overall national poverty rate is 36 percent, compared with 41 percent in the regions of the Amazon rainforests and 56.2 percent in the Andean mountains.

An Index of State Density (IDE) introduced in the National Human Development Report of Peru in 2009 measures the degree of delivery of public services: health, education, water, sanitation, electricity and legal services. The index confirms that regions with lower levels of human development and higher levels of poverty, which are also mineral-producing regions, receive significantly lower levels of social and infrastructure services (UNDP, 2009).

According to community leaders, the two primary sources of conflict in Peru are: (i) few employment opportunities for local communities, which exacerbates existing horizontal inequalities; and (ii) insufficient compensation for the environmental costs of mining (primarily water pollution) and for the relocation of communities away from their land (often the source of their livelihood) (International Alert, 2008). Most of the benefits of extraction accrue to those outside the mining communities, such as foreign investors, migrant workers and suppliers from other parts of the country. For example, one of the largest gold mining companies in Peru operating in the Cajamarca department (province) has recruited about 8,000 workers annually during the mine preparation process, of whom only 40 percent came from within the department and even a smaller proportion came from the community immediately adjacent to the mine. Only 6 percent of purchases of non-labour inputs came from within the department, with the rest acquired from the capital, Lima, or imported (McMahon and Remy, 2001). Since 2002, the bulk of royalty revenues went to the mineral-producing regions in Peru. However, with the surge in international commodity prices, beginning in 2003, this distribution formula raised concerns over disparities in resource allocation between departments, provinces and municipalities, as well as concerns over subnational absorption capacity. For example, in 2006, 8 of 24 regions received 75 percent of total royalty transfers. Some observers noted that sudden revenue increases could not be absorbed by the regions in question. This is due partly to a lack of public administration capacity and partly to the difficulties associated with swiftly designing and implementing quality public investment projects. The latter issue is exacerbated by the pressure faced by local authorities to spend resources quickly in order to appease the local population. The net effect was reported to be high levels of investment concentration in a small number of localities combined with questionable quality of investments (Arellano-Yanguas, 2008).

3.2 Individual-level motivations

Individual-level motivations that will increase the likelihood of violent conflicts in resource-rich economies arise from *vertical inequalities*. Vertical inequality lines individuals or households up vertically and measures inequality over the range of individuals

rather than groups. Such inequalities result mainly from poverty, unemployment, low level of education and lack of access to social services.¹¹ Unemployment has been shown to increase the likelihood of violent conflict and, in particular, of insurgency-based civil wars. An abundance of unemployed unskilled labour provides fertile grounds for rebel-group mobilization.

Sectoral shifts – for instance, a decline in the agricultural and manufacturing sectors – may deepen existing inequalities, injuring already marginalized groups. The capital-intensive nature of extractive industries offers little employment opportunities, particularly for the unskilled, women and the elderly (Ross, 2007).

Countries with large resource sectors and low tax revenues also tend to have lower education rates (Gylfason, 2001). The decline in manufacturing activities implies that spending on education may fall, as the demand for skilled labour declines. Low education levels, in turn, heighten the risk of conflict. According to Collier and Hoeffler (2004), in countries experiencing civil war, the average male enrolment rate was 45 percent. By increasing enrolment by 10 percentage points, a country can significantly cut its risk of conflict, from 14 percent to around 10 percent.

This finding is consistent with the demographic and the youth bulge theories of conflict, which suggest that uneducated, unemployed (as well as skilled and disenfranchised) youth are the likely recruits for any group that rewards them for engaging in ‘rebellion’.

Exploitation of ‘diffuse’ mineral deposits, as opposed to ‘point’ deposits, increases the likelihood of wars and conflicts (Le Billon, 2001). When resources are ‘diffuse’, their extraction requires minimal technology. In such cases, artisanal miners, usually migrant workers, flourish. These workers compete with local communities for assets and opportunities, particularly land and jobs. Conflict is, therefore, likely to arise over property rights. Governments often respond by repressing artisanal mining activities, on the grounds that they are unlicensed, create environmental pollution, use child labour, engender violence, etc.

Box 8: Sierra Leone: Unemployment and Conflict

Sierra Leone experienced more than a decade of political turmoil, where 75,000 people lost their lives and more than half the population was displaced since 1991. Research has shown that the majority of fighters and recruits come from illicit diamond miners and slum dwellers, who could not find employment opportunities (Smillie et al., 2000).

The war was preceded by a severe deterioration in human development. Between 1971 and 1989, GDP per capita decreased by 37 percent (Humphreys et al., 2007b). Horizontal inequalities were high. In terms of education, only 1 percent of school-aged children from rural communities attended secondary school, while the figure was 17 percent in small urban centres. The urban/rural ratio of estimated annual income per capita was 3 to 1. Infant mortality was 13.3 percentage points higher in rural areas, relative to the capital city of Freetown (Riddell, 1985).

Vertical inequality, measured by the relative income share held by the poorest and richest strata of the population, is alarming. The poorest 20 percent of the population hold less than 2 percent of income (World Bank, 2011). Resource wealth also still does not translate into welfare for the general population. In 2009, the extractive sector accounted for as much as 64.1 percent of total export proceeds. Yet minerals extraction contributed only 0.4 percent of GDP and made up 1.0 percent of total revenues (IMF, 2010).¹²

As Karl (2007) notes, public spending in resource-dependent countries predominantly goes to consumption, rather than to development. Sierra Leone fits this scenario. Before the outbreak of the war, development expenditure accounted for only 7.6 percent of total government expenditure (Zack-Williams, 1990; Bellows and Miguel, 2006). The Government recently established the Diamond Area Community Development Fund (DACDF). This mechanism ring fences 25 percent of public revenue from the diamond exports levy for the development of mining communities. Compensatory development spending is a good start for addressing group and individual grievances.

3.3 Breakdown in the ‘social contract’

The asymmetric agency concept, discussed above, explains why governments may have little incentive to trade political power for the right to impose taxes (cf. the principle of *no taxation without representation*). In such cases, the social contract fails. One manifestation of this is that the state does not provide adequate social services. The people, in turn, reject state authority and its legitimacy and refuse to significantly contribute to tax revenues. The empirical evidence shows that sub-optimal revenue levels lead to state weakness (defined as the inability to deliver basic services or maintain law and order). Weak state capacity increases the likelihood of conflict, partly by making state capture less costly for opposition groups (Fearon and Laitin, 2003).

The social contract also breaks down when revenues and expenditures are volatile. Miguel et al. (2004) calculated that a *negative* income shock of five percentage points increases the likelihood of conflict by 50 percent in the following year. One explanation is that contraction in manufacturing and agricultural activities could diminish the social capital building properties of commercial and market interactions among producers and consumers (Humphreys, 2005). Volatile incomes and expenditures also weaken the ability of governments to repress dissent (Ross, 2006). This is despite the finding that hydrocarbon and mineral dependence is positively correlated with high military spending (Ross, 2001a). Dal Bó and Dal Bó (2004), on the other hand, illustrate that commodity booms and associated *positive* income shocks increase the value of controlling the state. This has led to the ‘state capture’ hypothesis or what Karl (2007) describes as “the state as honey pot” scenario.

In Ghana, for example, the extractive sector contributes 34.5 percent of export proceeds (IMF, 2010). Since most of Ghana’s gold is mined by large-scale publicly traded enterprises, it provides large tax revenues. This enables the state to strengthen the social contract. Mining revenues fund investments in infrastructure and social welfare schemes such as the Program of Action to Mitigate the Social Costs of Adjustment (PAMSCAD). Snyder and Bhavnani (2005) noted that investments in social welfare explain Ghana’s peaceful legacy. Where conflict did break out

– as it did in northern Ghana in a dispute between the Konkomba and Nanumba communities – substantial government spending, targeting those affected by the fighting, quickly contained the violence and restored the social contract.

3.4 From conflict to resource dependence: extraction as the ‘default sector’

In addition to being a potential *cause* of violent conflict, resource dependence is also a *symptom* of conflict. Conflict itself increases dependence on resource extraction by weakening markets as well as dislocating manufacturing, services and agricultural activities. While a stable political environment is a precondition for investments in these sectors, the resource sector is less sensitive to conflict. The greater willingness of extractive companies to accept risk can be explained by the capital-intensity of extractive operations with high sunk investments. Furthermore, resource extraction is inherently location-specific.

As discussed above, the extractive sector has weak linkages with the remainder of the domestic economy. The bulk of inputs are imported and the outputs are exported. The commodities are primarily traded in international markets, a fact that makes the sector largely unaffected by domestic conflict. During and after conflict, the extractive sector, thus becomes the ‘default sector’. For instance, until the onset of civil war in Angola in 1975, the country’s economy was relatively diversified and enjoyed high growth levels. From 1960 to 1974, annual GDP growth averaged 8 percent. However, with the advent of the war, the country’s economic structure underwent a drastic reconfiguration. Between 1973 and 1985, industrial output dropped by almost half, turning Angola into one of the most resource-dependent countries in the world (Le Billon, 1999).

4 WHICH ECONOMIC POLICIES PREVENT CONFLICT?

This paper has analysed the economic distortions likely to result from an economy's dependence on the extractive sector. It has linked these distortions to deteriorations in economic and social conditions, which, in turn, increase the risk of conflict. In support of our approach to resource-related conflicts, Miguel et al. (2004, p. 746) conclude that “economic conditions are the most critical determinants triggering civil conflict”.

On the other hand, some of the resource-dependent countries have avoided violent conflicts. Drawing on such global experiences, this section builds a case for economic policies that can counter the potential adverse impacts of hydrocarbon and mineral extraction, while simultaneously maximizing its potential benefits. The economic policy measures that have been designed and implemented with a conflict-sensitive approach are:

1. Macroeconomic policies that promote public investments using fiscal measures; that generate employment by stimulating the private sector through monetary policies; and that make non-resource exports competitive through exchange rate management
2. The promotion of economic diversification
3. Effective revenue management that ensures progressive distribution of wealth to address vertical and horizontal inequalities

4.1 Adopting macroeconomic policies that promote structural change

Hailu and Weeks (2011) provide a framework of macroeconomic policy options that are likely to foster growth and human development in resource-rich

economies (see Table 5). These countries have one advantage: they are not constrained by the supply of foreign exchange.

In the short term, therefore, fiscal policy can focus on maximizing resource revenue and preventing excessive increases in aggregate demand. Monetary policy would focus on expanding credit. Central banks can employ instruments that alter the balance sheets of commercial banks, through regulation of reserves. Exchange rate policy needs to prevent appreciation. With sufficient reserves of foreign exchange, maintaining a stable exchange rate is a relatively easy task.

In the medium term, fiscal policy would focus on public investments to foster diversification of the economy through investments in the non-resource tradable sector. Infrastructure projects would focus on directly facilitating tradable production. On the revenue side, broadening the tax base is a priority, along with introducing direct taxes. Monetary policy would also support economic diversification by stimulating private investment into non-resource tradables. Because a floating exchange regime cannot protect the non-resource tradable sectors, policy needs to focus on maintaining a competitive real exchange rate.

The experiences of Angola, Botswana and Indonesia illustrate that careful real exchange rate management, including timely depreciations, can save an economy from the macroeconomic distortions associated with ‘Dutch disease’-type effects. In Angola, exchange rate management has protected the non-oil tradable sector from collapsing in the post-war era. While oil exports and revenue contributed substantially to Angola's recovery and growth, the non-oil sector also grew by an average of 17 percent between 2003 and 2007. In fact, by 2006, the growth of the non-oil sector (mainly trade, commerce and manufacturing) outstripped the

growth in the oil sector. The government of Angola has used the exchange rate as its main instrument to

manage the economy (Gottschalk and Martins, 2008).

Table 5: Macroeconomic Policy Options for Resource-rich Countries

Short-term

	Objectives and Actions	Comments
Fiscal Policy	<p>Expenditure: Prevent overheating and create a reserve fund for countercyclical intervention and investment.</p> <p>Revenue: Maximize income on resource flows by setting appropriate royalties and tax rates.</p>	<p>Major task is to restrain recurrent expenditure and instead direct funds toward investment in strategic tradable sectors.</p> <p>Vigilance is required to prevent revenue loss through transfer pricing and other tax avoidance mechanisms.</p>
Monetary Policy	Use central bank rate and regulation of commercial bank reserves to prevent excessive inflationary pressure.	Main source of inflationary pressure may be private sector investment in the non-tradable sectors.
Exchange Rate Policy	Employ stable exchange rate regime to prevent nominal appreciation.	The immediate task may be to tackle the trade deficit.

Medium-term

	Objectives and Actions	Comments
Fiscal Policy	<p>Expenditure: Public investment to encourage and facilitate diversification into non-resource tradable sectors.</p> <p>Revenue: Broaden the direct tax base, with a view to preventing excessive inequality.</p>	<p>Typical problem in resource-rich countries is the relative or absolute decline of the non-resource tradable sectors.</p> <p>Among the policy challenges are inequality, corruption and failure to diversify the tax base.</p>
Monetary Policy	Facilitate private investment that supports a diversification of the economy into non-resource tradables and support active exchange rate management.	Central banks need to balance the monetary expansion, which is likely to derive from pursuing a fixed exchange rate, and manage overheating pressures.
Exchange Rate Policy	Maintain a stable real exchange rate in order to maintain a diversified economy, including a productive non-extractive tradable sector.	Key to successful long-term development.

Source: Hailu and Weeks (2011).

Box 9: Exchange Rate Policy in Botswana

Botswana has been relatively successful at avoiding exchange rate appreciation. As shown in Table 6, the Pula was devalued 10 times between 1977 and 2005. The alliance among policy makers and cattle exporters allowed the government to adopt the necessary fiscal and monetary policies to curtail real exchange rate appreciation (Poteete and Gramajo, 2005). However, exchange rate management favoured the cattle sector alone and has not led to broader economic diversification. Botswana continues to grapple with problems associated with high export concentration and high levels of unemployment (Love, 1994). The dominant mining sector only employs 3 percent of the workforce (Jefferis, 2009).

For instance, the effects of the 2008 financial crisis led to the suspension of several mining operations, pushing nearly 2,000 mining employees into unemployment by May 2009. The crisis led to a near-elimination of diamond sales by the last quarter of 2008, compared to average monthly sales in the range of US\$200 million to US\$300 million in the preceding period (AfDB, 2009a). The lesson is that macroeconomic policy must be coordinated: exchange rate policy alone, without fiscal and monetary policies that stimulate diversification, would be ineffective.

Table 6: Successive Devaluations of the Pula

Date	Action	Comments
April 1977	5 percent revaluation of the Pula	Anti-inflationary measure in response to imported inflation
November 1980	5 percent revaluation of the Pula	Anti-inflation measure
May 1982	10 percent devaluation of the Pula	Stabilization measures in response to balance of payments crisis
July 1984	5 percent devaluation of the Pula	Competitiveness measures due to the continued appreciation of the Pula against the rand
January 1985	15 percent devaluation of the Pula	Competitiveness measure
June 1989	5 percent revaluation of the Pula.	Anti-inflation measure
August 1990	5 percent devaluation of the Pula	Competitiveness measure
August 1991	5 percent devaluation of the Pula	Competitiveness measure
February 2004	7.5 percent devaluation of the Pula	Competitiveness measure
May 2005	12 percent devaluation of the Pula	Competitiveness measure

Source: Bank of Botswana (<http://www.bankofbotswana.bw>).

4.2 Promoting diversification

Use taxation to incentivise economic

diversification: Governments can design incentive structures for extractive companies: (i) to strengthen forward and backward linkages with the domestic economy and (ii) to ensure the survival of small-scale mining operations, which contribute to local employment generation. In Queensland, Australia, for example, substantial tax reductions are offered to companies that export metals that have been processed in the state. Similarly, in Western Australia, local value added is encouraged through the imposition of higher royalty rates on unprocessed mineral products. South Africa's gold mining 'dividend withholding tax' involves a reduction (to the extent of a full waiver) of income tax liability for companies that reinvest their gold dividends in the host country's mining sector (Cawood and Minnitt, 2002). This type of mechanism could similarly be used to create incentives for companies to reinvest profits in non-extractive sectors in favour of economic diversification.

Invest revenues in agricultural development: A thriving agricultural sector ensures self-sufficiency in food production. The high current international food prices are an indication that global demand for agricultural products presents an opportunity for resource-rich countries.¹³ Public investments to improve rural infrastructure, irrigation, provision of seeds, fertilizers, and other inputs are critical for increasing productivity. Uzbekistan's experience provides a good policy lesson. The country experienced shocks due to a decline in the price of its major exports, mainly cotton and oil. Policy makers, however, took actions to diversify the country's export base. Between the periods 1995-1999 and 2003-2006, non-oil, -cotton, and -gold exports as a share of total exports increased by 12 percent. Investments in the domestic agricultural sector led to a decrease in the share of food imports in total imports from 22 percent to 9 percent (McKinley, 2008b).

Support the manufacturing sector, particularly labour-intensive activities: Besides learning by doing, which, in turn, enhances productivity and stimulates human capital accumulation, labour-intensive manufacturing activities are likely to be

associated with a more equitable sharing of returns. Growing profits and wages in these sectors contribute simultaneously to tax revenues and foreign exchange earnings. Women also tend to benefit favourably from employment generated in manufacturing. Policy interventions that protect manufacturing activities (especially where a country holds a comparative advantage) include offering subsidies, maintaining low interest rates, and ensuring credit allocation to the private sector.¹⁴

Promote forward and backward linkages: The extractive sector should tap into local capital and labour inputs to increase local content and strengthen local linkages along the extraction value chain. In cases where mineral deposits are alluvial, local small-scale mining operations can be integrated with those of large companies. In Venezuela, for example, sub-concession of licenses to artisanal miners accompanied by training in mining techniques and businesses created linkages to the local economy. Most of all, as Di John (2008) argued, the government's import-substitution strategy was successful at generating rapid manufacturing growth, because there was a consolidated and centralized state with a clear diversification strategy. Botswana's recent attempt to establish a diamond cutting and polishing industry, in turn, is a good example of *forward* linkages. Brazil recently announced that its oil sector, run by the state-owned Petrobras, would adhere to the local content rules. Nearly 95 percent of the oil supply chain will be using local content.¹⁵



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> UNDP Helps Mongolian Farmers.

Box 10: Chile: Enhancing Technology Transfer, Local Content and Diversification

Minerals, predominantly copper, constitute approximately 57 percent of Chile's total exports. But the sector employs just about 1 percent of the working population (Ruiz-Dana, 2007). Through an economic diversification strategy, the government managed to stimulate job creation in other sectors. The strategy entailed policy incentives designed to promote the winery, fruit production and salmon fishing subsectors (Havro and Santiso, 2008). Three mechanisms have been used successfully to achieve these objectives:

- a) Partnerships between the Government of Chile and the corporation known as *Fundación Chile* ensured technological transfer and diffusion in the winery and fruit production subsectors.
- b) The creation of the Fund for Innovation and Competitiveness (FIC) for the allocation of royalty payments from copper mining to fund research and development activities in the strategic areas of human capital formation, science and technology promotion, as well as innovation.
- c) The use of the state-owned copper company Codelco to support smaller local companies in the mining sector by building their capacity (i.e., local content or sourcing of local competencies) and providing vital technological and other linkages between the extractive industry and other sectors. For example, in the 1970s, approximately 10 percent of engineering services in the Chilean mining industry came from Chilean providers. This had increased to 90 percent by the 1990s (Havro and Santiso, 2008).

Box 11: Indonesia: A Successful Diversification Strategy

The share of oil and gas in Indonesia's public revenue *fell* from a high of 49 percent in 1982 to 23 percent in 2005. This was a direct result of a strategy with two vital characteristics: i) sector policies that supported the agricultural and manufacturing sectors (mainly textiles and footwear); and ii) policy flexibility, as demonstrated through the country's careful transition from import substitution to export-led growth. The policy of attracting foreign investment has been largely successful at targeting the labour-intensive manufacturing sector. The policy took advantage of both the relatively lower labour costs and access to the US market following the preferential trade concessions provided under the Generalized System of Preferences (GSP) scheme (Rosser, 2007). At an average annual growth rate of about 12 percent, manufacturing grew at the highest rate between 1965 and 1997. The success of Indonesia's industrialization strategy is based on building vital sectoral linkages, investing in human and physical capital, and providing targeted subsidies and tax breaks (Usiu, 1997).

Revenues from the natural resource sector were invested in agriculture, mainly in irrigation and land reclamation. It also provided subsidies for inputs, such as fertilizer, pesticide, seeds as well as irrigation. Between 1970 and 1984, the total irrigated land area in Indonesia increased from 3.7 million to 4.9 million hectares, the use of subsidized fertilizers increased from 0.2 million to 4.1 million tons, and the use of subsidized pesticides increased from 1,080 tons to 14,210 tons (Barbier, 1989). As noted by Panayotou (1993, p. 64), "[T]he Indonesian government subsidized pesticides at 82 percent of the retail price." After achieving self-sufficiency in rice (import substitution), the strategy moved towards export crops (outward orientation and export-led growth). Indonesia has recently become the largest producer and second-largest exporter of palm oil, and ranks as the fourth-largest coffee producer and exporter in the world (Fuglie et al., 2010).

4.3 Effective revenue management

4.3.1 Building national and local consensus on natural resource management

Collier (2010), in his book the *Plundered Planet*, noted that the estimated value of *known* natural resources per square kilometre in OECD countries is about US\$114,000. This amount compares with the estimated natural resource wealth in Africa of US\$23,000 per square kilometre. Collier argues that, since natural resources are randomly distributed, Africa is also expected to have a distribution of natural resources similar to that of the OECD countries. The low estimate is therefore simply to be taken as an indication that resources in Africa, so far, are largely undiscovered. With the number of discoveries on the rise, we would expect the value of Africa's resources to rise concurrently. In this context, it becomes critical to establish a compact between governments and the people regarding good governance of extractive resources.

Introduce transparency provisions with a Charter of Good Governance and natural resource laws:

Emerging mineral producers will benefit from the formalization of principles for the transparent management of natural resource revenues in national legislation. This would complement the international-level approach such as the Extractive Industries Transparency Initiative (EITI). The United Nations has endorsed the sovereignty of nations over their natural resources. Moreover, most national constitutions include a provision that ascribes ownership of natural resources to the state.¹⁶ Expansion of this provision to include measures of consultation, transparency and good governance in the natural resource sector is urgently needed.

From an early stage, the formulation of resource legislation should be the subject of extensive public consultation. Timor-Leste's Petroleum Acts (Laws No. 2005/8 and 2005/9) and the Oil Law for São Tomé and Príncipe (Law No. 8/2004) are examples of national legislation drafted with the specific objective of harnessing resource wealth for advancement of human development. In 2006, the first draft of an oil revenue law for Iraq was completed. However, disputes over the real advantages of the draft law for the Iraqi people have

prevented the law from being passed into national legislation. In Chad, the government recently amended its existing petroleum revenue management law (Law No. 001/PR/99). The amendment, among other things, earmarks 10 percent of the country's oil revenues for poverty reduction expenditures. Most recently, Ghana's Parliament ratified the Petroleum Revenue Management Bill to regulate how the country spends and saves expected windfall revenues from newly discovered oil reserves. None of these laws, however, are embedded in a broader charter of principles at the constitutional level.

When Niger adopted a new constitution in 2010, it included extraordinary transparency measures for the natural resource sector. Among other assurances, Article 150 requires the publication of natural resource contracts as well as natural resource revenues on a disaggregated, company-by-company basis. As a supplement to these constitutional provisions, Niger has taken further steps by adopting a "Charter of Good Governance". The Charter was designed through broad stakeholder involvement and defines fundamental principles of good governance of mineral resources.

4.3.2 Tackling asymmetries during contract negotiations

Support countries to strengthen standards and guidelines for contract negotiations, at the regional or subregional level: The information and bargaining asymmetries commonly associated with contract negotiations between large multinational companies and host governments can be tackled. This is best done by adopting a set of common standards and guidelines for contract negotiations. Coordination could be at the regional or subregional level. This approach will reduce competition among resource-producing countries through the provision of unfavourable concessions in order to attract foreign companies. The Southern African Development Community (SADC) has recently developed a framework for the harmonization of mining policies, standards, legal, and regulatory regimes in the subregion (UNECA and SADC, 2004). The SADC provisions have since fed into the African Union's formulation of the African Mining Vision (AU, 2009). These initiatives need to be supported and strengthened.

Support international coalitions to influence

contract negotiations and publicize contract

details: Information and bargaining asymmetries can also be further diminished through transparent negotiation of extraction contracts. Open and transparent discussions provide a potential for naming and shaming, which may result in more equitable contractual settlements and potential increases in revenue flows to host governments. It would also create an incentive for international companies to adhere to ethical standards similar to those of their home countries or some international standard. The Publish What You Pay (PWYP) campaign and the Extractive Industries Transparency Initiative (EITI) are promising steps in this direction.

Award contracts through an open auction system:

Auction systems provide a transparent and efficient method of assigning rights to international extractive companies in a manner that could increase revenue

capture by host governments. By reducing rent-seeking and encouraging competition through a fair and open process, auctions could benefit both bidders and host countries. Independent third parties can be invited in conducting auctions, followed up by an independent review and certification of the auction process by an auditor or trustee (Cramton, 2007). Another way of mitigating companies' fears of expropriation or adverse renegotiation of the extraction contract is through 'share bidding'. In this case, oil companies offer the host country equity shares in the extraction project. The company offering the highest government share wins the contract. This approach partly shifts risks from oil companies and onto the country, while simultaneously aligning the interests of the company and the host country.

The partnership between De Beers and the

Box 12: The Debswana Model: Tackling Asymmetries

The Government of Botswana has largely been successful at overcoming the information and bargaining asymmetries suffered by many governments. The establishment of Debswana, a joint venture between De Beers and the Government of Botswana (GoB), has played a critical role. At the time of the first kimberlite diamond discoveries in 1968, the GoB held 15 percent of Debswana's shares. With the official commissioning of additional and much larger mines, the government renegotiated a favourable 50-50 percent shareholding agreement.

When the market for diamonds recovered in 1986, Debswana negotiated the sale of its stockpile to De Beers in exchange for a substantial cash payment plus a 5-percent ownership share in De Beers *itself*. With the transformation of De Beers from a public to a private company in 2001, the GoB's stake in the company increased to 15 percent. This has given the Government an even greater say in mining operations and has provided it with access to significant dividends from De Beers's profits – even from mining operations outside Botswana.

By means of its strong standing within the world's largest diamond-producing company, the GoB has managed to gain access to high-level information regarding the operation of the global diamond industry. It is estimated that the Government today captures a total of 80 percent of all profits generated by the diamond mining industry, through a mixture of mineral royalties, profit taxes and dividends from its shareholding.

Source: Dunning (2005) and Jefferis (2009).

Government of Botswana is one example of a government's shareholding in private mining projects (see Box 12 above). Chile's mining law requires that the state-owned oil company, Codelco, hold 39 percent shares in any mining project. The Government of Mongolia recently signed a shareholder agreement with international mining

company Ivanhoe Mines Ltd. (of which Rio Tinto is a major shareholder) around the development of what is expected to become the country's largest mining project, Oyu Tolgoi. According to the agreement, the Government will hold 34 percent of total shares in the project.¹⁷

4.3.3 Improving revenue collection

Adopt tax regimes that ensure stable flow of revenues:

The challenge for governments in resource-rich economies is to maximize revenues while offering investors sufficient incentives to explore, develop and extract the country's resources. Governments may address this trade-off through at least two types of fiscal regime: On the one hand, governments may decide to implement a *tax-based fiscal regime* that levies corporate and other subsidiary taxes equally on all sectors. One critical advantage of such a system is that it is easy to administer. This is important in developing countries, where the capacity of tax authorities is often limited. The alternative is a system, where the government imposes a special tax (or royalty-based fiscal regime) on extractive industries.¹⁹ A royalty is intended to compensate for the depletion of a country's natural capital base. It essentially represents an ownership transfer tax (Cawood and Minnitt, 2002). Royalties may either supplement a tax-based fiscal regime or substitute for specific tax modalities. This translates into a vast spectrum of hybrid regimes.

Governments that decide to implement a royalty-based fiscal regime for the extractive sector have at least three options when deciding on the tax base upon which the royalty is levied. Otto et al. (2006) distinguish among (i) a profit- or income-based royalty that is contingent on measures of profitability; (ii) a unit-based royalty that is contingent on the quantity of the material produced (measured in units of weight or volume); and (iii) a value-based system that is contingent on the production value (usually the market or sales value). Each system is associated with distinct advantages and drawbacks and poses unique challenges and opportunities for mobilizing revenue and curtailing capital flight.

Investors generally prefer to operate under a profit-based royalty regime. This system responds to downturns in market prices and thus allows companies to maintain mining projects, which temporarily generate zero or negative income, at no extra cost. The government, however, collects no revenue in the first few years of the project cycle, where no profit is generated – or, for that matter, in any year where costs exceed revenue. Furthermore,



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> Iron-Ore in Liberia.

while it may be relatively simple to draft and enact sophisticated royalty legislation, serious challenges can arise in its enforcement and administration. This may explain why profit-based royalty systems have been associated with relatively higher levels of capital flight.²⁰

One solution to the apparent incompatibility between investor preferences and a government's need for a stable revenue flow seems to be a hybrid royalty system. In Jamaica, for example, where the extractive sector (mainly alumina and bauxite) contributes 60 percent of foreign revenues, mining companies are subject to a profit-based royalty system. However, when profits dip below a certain threshold, companies pay a minimum tax based on the value of production. In the state of British Columbia in Canada, both a value-based and a profit-based royalty are calculated for each mining company. The government collects either the higher of the two or both. In case of the latter, the amount of the value-based royalty is typically credited against the profit-based royalty (Otto et al., 2006). In order to avoid misperceptions and mistrust, it is important to ensure that basic information and explanations about revenues and the decision-making process of designing the revenue collection system are shared with the public. Specifically, it is critical to guarantee that the local communities directly affected by resource extraction are continuously consulted and informed from the initial stages.

Strengthen the institutional capacity of administrative agencies responsible for levying and collecting taxes: Adequate institutional capacity is critical for enhancing tax collection efficiency, including curtailing tax

avoidance. According to Land (2009), institutional capacities are particularly critical for realizing maximum government take. These include: i) the capacity to negotiate effectively with extractive companies; and ii) the capacity to administer and enforce the taxation regime. Profit-based and some hybrid royalty systems, in particular, tend to place strong demands on institutional capacities. The sophisticated accounting practices of multinational companies make it difficult to identify instances of internal trading and mispricing. It is estimated, for example, that Ghana has lost approximately €36 million between 2007 and 2010 due to price fixing (DanWatch and Concord Danmark, 2010). Recently, advocacy organizations have pointed to loopholes in international tax regulation that make tax evasion easier for companies. This may call for international measures to counteract commercial capital flight. For example, legal reforms could be introduced that require companies to separately report their profits in each individual country in which they operate.²¹

4.3.4 Investing revenues

Ensure adequate investments in social and economic assets: If revenues are used for public investments in physical assets and human capital, the cycle of resource dependence, low human development and conflict is likely to be broken. As Gottschalk and Martins (2008, p. 4) argue:

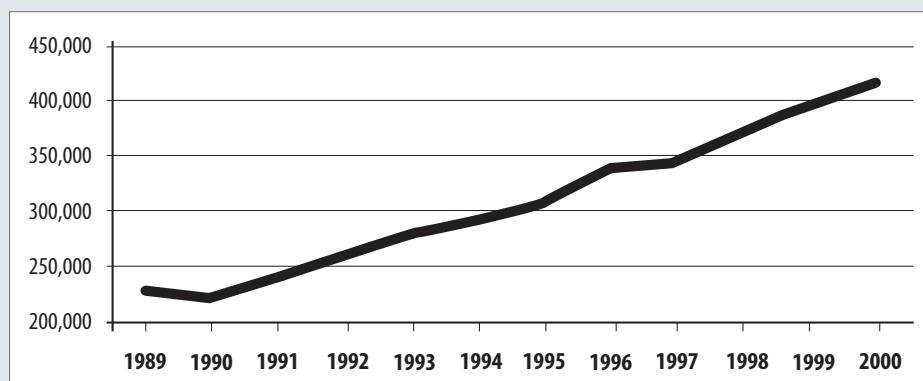
“[A] better legacy to leave is a higher level of economic and social development, based on widespread public investment. While oil revenues last, they should be ploughed into financing an economic diversification strategy that could broaden the future revenue base beyond oil. But some oil revenue would still need to be saved when oil prices are high in order to smooth fiscal expenditures when they drop, as is happening now.”

Box 13: Chile: Revenues and Social Expenditure

In order to attract foreign investors, Chile opted to have one of the lowest taxation regimes among the world’s copper producers. Royalty payments, though, became effective with the 2005 Royalty Law. Consequently, tax revenues increased by 61 percent between 2005 and 2006.²² Between 1994 and 2006, 72 percent of government revenues were made up of tax receipts from outside the copper sector (Ruiz-Dana, 2007).

Even without royalties, successive governments managed to increase funding for education, health and other social programmes. The minimum wage, increased yearly and was tied to the rate of inflation and productivity. A universal public healthcare system – the Universal Access and Explicit Guarantees (AUGE) – was put in place. As shown in Figure 1, per capita social expenditure doubled between 1990 and 2000.

Figure 1: Per Capita Public Social Expenditure in 2000 pesos, 1989-2000



Source: MIDEPLAN (2001).

Box 14: Mongolia's Human Development Fund

Mongolia has experimented with different mechanisms for channelling mineral revenues to social expenditure. While in place, 100 percent of the proceeds of a temporary windfall tax were deposited into Mongolia's Development Fund (MDF). One third of the fund holdings went to filling the budget financing gap, another third was reserved for capital investments, and the remaining one third was earmarked for spending on social protection (Ragchaa, 2008).

In 2009, the MDF was replaced by the Human Development Fund (HDF). Like its predecessor, the HDF is funded entirely by mining-related revenues (royalties, taxes and dividends). By law, the fund's assets can be transferred to citizens only, in four different forms: (i) payments for pension and health insurance premiums; (ii) housing purchases; (iii) cash benefits; or (iv) payments for health and education services (World Bank, 2010).

Between 2003 and 2008, expenditures on social protection (the majority of which were in the form of cash transfers) were 12 percent of government expenditures, or 4.4 percent of GDP. These figures are significantly higher than for most countries at a similar level of development (World Bank, 2010).

Allocate resources to address horizontal and vertical inequalities: A common policy approach to mitigating horizontal inequalities is to adopt regional expenditure policies that decentralize resource rents. Indonesia, Peru and Ghana are among the countries that have implemented fiscal decentralization frameworks (ICMM, 2009). This can be justified on the basis of 'compensation for depleting the capital base and environmental degradation in the resource-rich areas. The two main approaches are: (i) to endow subnational governments with the authority to levy taxes directly on the mineral industry; and (ii) to arrange resource transfers to the subnational level via different kinds of direct and indirect resource revenue-sharing mechanisms. Targeted conflict-sensitive policies to reduce horizontal inequalities help in mitigating the translation of grievances into violent resistance and secessionist sentiments.

One of the costs that tend to fall disproportionately on the population of the resource rich area is the dislocation of labour. Changes in the structural composition of the economy tend to punish already vulnerable groups such as unskilled labourers and female workers in the tradable sector. Ross (2007) recommends that governments commission research on how growth in the extractive sector will affect the distribution of income. The findings can then inform policies to mitigate and/or reduce vertical

inequalities. He identifies three types of policy measures to offset vertical inequalities associated with structural shifts in the economy due to dependence on the extractive sector: (i) the promotion of productivity and export growth in the agricultural and/or manufacturing sectors to offset the structural shifts in the economy caused by exchange rate appreciation; (ii) the provision of new government jobs to displaced workers from the productive sectors; and (iii) the direct targeting of disadvantaged groups through pro-poor measures such as quotas for the allocation of jobs, distribution of assets or educational access.

Leading up to the oil price boom of the 1970s, Indonesia adopted various measures that successfully prevented a rise in vertical inequalities. Currency devaluation and a pro-export regulatory stance supported sustained growth in the manufacturing sector. This macroeconomic regime was coupled with investment in universal primary education as well as the introduction of price controls on foods and kerosene, which make up the bulk of a typical poor household's consumption basket (Ross, 2007). However, Stewart (2010) warns that the third category of targeted approaches to managing inequalities should be temporary and should include measures to avoid the rent-seeking that could emerge from execution of such schemes.²³

Box 15: Indonesia: Conflict Mitigation Through Revenue Allocation

Not only did Indonesia use its natural resource revenues to promote agriculture and industry, but it built primary schools, one in every subdistrict. The poverty headcount fell from 70 percent to 13 percent between 1965 and 1997. However, in spite of these successes, feelings of relative deprivation and marginalization, particularly by indigenous communities, surfaced. While vertical inequalities (as measured by the Gini coefficient) have remained relatively low and stable (at approximately 0.33), horizontal inequality remains a major problem.

The associated grievances can be linked to a series of violent outbreaks. As shown in Table 4, separatism and centre-regional conflict have been seen in the resource-rich regions of Aceh and Papua and somewhat also in Riau and East Kalimantan.²⁴ Some studies have found that living conditions in these resource-rich regions, measured by significant social indicators, were below the national average. For example, by 2004, Papua, one of Indonesia's most resource-rich regions, had one of the country's highest poverty levels, at 38.7 percent (Komarulzaman and Alisjahbana, 2006). According to Tadjoeiddin (2007, p. 24):

"In terms of household purchasing power, they [the oil-producing regions] are in a worse situation, with all regions having a lower purchasing power than the national average. [...] Furthermore, in 1996, in terms of the poverty headcount measure, Aceh, Riau and East Kalimantan were poorer compared with their situation two decades earlier in 1976 [...] and the poverty rate in Papua was three times higher than the national average."

Policy makers have acted to reduce horizontal inequality. Natural resource revenues were distributed across regions in the form of spending on agriculture and basic social services, such as basic education and community health (Tadjoeiddin, 2002; 2007). The specific measures include fiscal decentralization laws for Riau and East Kalimantan and the special autonomy laws for Aceh and Papua. The government has been able to reduce the conflict risk level to 'low', thereby preventing violence from degenerating into full-blown wars.

Table 4: Natural Resources and Conflicts in Indonesia

Provinces	Main resources	Level of conflict	Manifestation of conflict
Aceh	LNG, timber	High	Organized secessionist political movement Significant violent insurgency by an organized rebel group (the Free Aceh Movement, GAM)
Papau	Oil, copper, gold, LNG, timber	Medium	Disorganized secessionist political movement and minor violent insurgency by a disorganized rebel group (the Free Papua Movement, OPM)
Riau	Oil, LNG, minerals, timber	Low	Minor political secessionist sentiment
East Kalimantan	Oil, LNG, minerals, timber	Low	Minor political secessionist sentiment

Source: Tadjoeiddin (2007).

4.3.5 Adopting revenue smoothing mechanisms

Governments should ensure that temporary gains become long-term benefits, especially in the event of a fall in the international prices for oil or minerals. In terms of managing resource revenues, the context-specific approach put forward by Sachs (2007) is a good starting point. Countries at different stages of the development trajectory face different challenges and will, accordingly, benefit from different saving-investment formulas. For example, low-income countries are better served by investing in infrastructure as a foundation for economic diversification. Middle-income countries, on the other hand, benefit more from targeted spending toward social protection, education and technological and scientific development. Finally, high-income countries, many of which face ageing populations, would, *ceteris paribus*, benefit from prioritizing welfare spending, mainly the financing of old-age pensions. Depending on a country's specific situation, saving a portion of revenues might make sense. Unduly diverting resources from critical

investments, though, is not a viable strategy. The least-developed economies, specifically, should not over-save. As Sachs (2007, p. 189) notes, “[T]o the extent that the oil income is used for public investments, the oil is turned into long-lived physical assets and human capital rather than financial capital.”

Researchers at the Centre for Global Development, for example, suggest that oil revenues be paid directly to citizens as direct cash transfers (Moss and Young, 2009). The states of Alaska (USA) and Alberta (Canada) have schemes that distribute the dividends from oil revenue investments to the public in the form of direct cash transfers. The expected advantage of this approach is that it will help make governments more accountable (Moss, 2011). While cash payments are attractive, they may not be optimal in least-developed economies. As mentioned above, the major development constraint in these countries is usually insufficient public investment (for example, in physical infrastructure and human capital). Direct payments to citizens tend to fuel private consumption. While important, such consumption is not a viable strategy to trigger the structural transformation of an economy.

Box 16: Some Mechanisms for Revenue Management

Protecting public finances from shocks by adopting income smoothing mechanisms is a sensible strategy. For instance, the Government of Timor Leste followed the Norwegian model and set up a petroleum fund in 2005. The proceeds are invested in US government bonds. The Government withdraws roughly 3 percent to 6 percent of fund holdings annually (Gomes and Hailu, 2009).²⁵

As a means to smooth revenue between boom and bust years, Angola established a ‘reference value’. Revenues arising from an oil price higher than the reference level cannot be spent. Instead this ‘excess’ revenue is deposited into an oil reserve as savings for future spending. The Chilean government adopted an ‘explicit fiscal surplus target’ of 1 percent of GDP. In response to improved debt levels, the surplus target was reduced to 0.5 percent in May 2007. The funds that were freed through this measure enabled more spending on education (Havro and Santiso, 2008).

In the 1990s, the Government of Botswana introduced a policy tool known as the Sustainable Budget Index (SBI). The index specifies a ratio of non-investment spending to recurrent revenues. An SBI value greater than 1.0 means that consumption is partly financed by resource revenues, which is considered to be fiscally unsustainable. SBI values of 1.0 or less indicate fiscal sustainability because it implies that government consumption is financed entirely by non-resource domestic revenues (Lange and Wright, 2002).

5

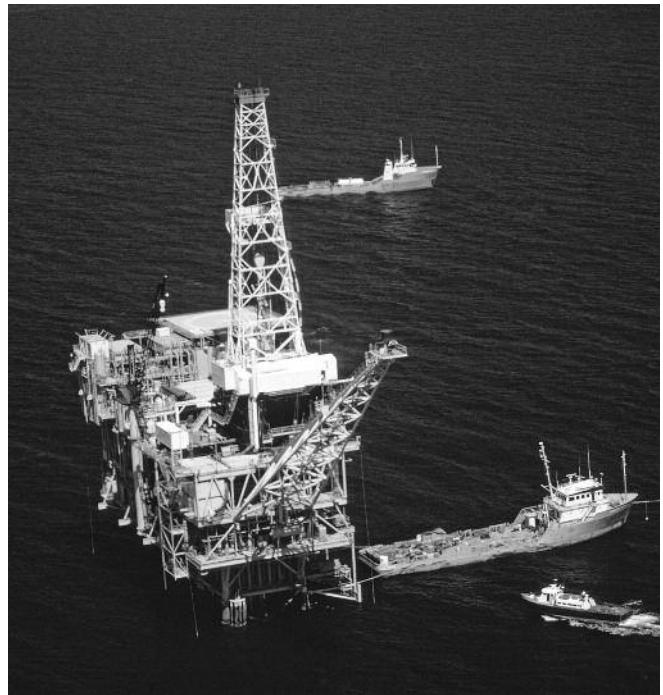
CONCLUDING REMARKS

While extractive resource exports such as oil, gas and minerals provide opportunities for growth and human development, an overreliance on such exports is also associated with the risks of slow growth, poverty and conflict. By synthesizing country cases, this paper highlighted that resource-based countries have a higher risk of entering into conflict because of increases in unemployment, inequalities and inadequate provision of social services. Worsening economic and social conditions are likely to aggravate collective and private grievances and contribute to a breakdown of state-society relations. These, in turn, fuel conflict.

The above-mentioned negative outcomes, however, can be overcome by exploiting the opportunities offered by resource wealth. By and large, successful countries adopted the following economic policy measures: i) fiscal policies that promote public investments; ii) monetary policies that generate employment by stimulating the private sector; iii) exchange-rate policies that make non-resource exports competitive; iv) diversification strategies that supported manufacturing and agricultural activities; and v) revenue allocation that ensured progressive distribution of wealth to address vertical and horizontal inequalities.

Chile and Indonesia are examples of countries that have managed the risks well and seized the opportunities to advance human development. These countries, by and large, have maintained a competitive exchange rate; have revived their agriculture and manufacturing sectors; have allocated revenues through social expenditures and technological acquisition; and have avoided major conflicts. Botswana has been particularly adept at negotiating favourable revenue-sharing arrangements. Yet, as deposits are becoming depleted, the country remains almost fully dependent on diamond exports for the generation of foreign exchange and unemployment rates are high.

Some newly emerging countries will become large exporters of minerals and hydrocarbons. These new entrants have the opportunity to learn from successful country experiences about how to manage the risks and to capitalize on the opportunities of resource wealth. In this category of new entrants are Cambodia, Mongolia, Ghana, Guinea (Conakry), Niger, South Sudan, and Uganda, to mention just a few. UNDP and other development partners can support these new entrants as well as established exporters of hydrocarbon and mineral resources to manage their resources for advancing human development and security.



> Oil-drilling platform.

© UN Photo/Brownie Harris

APPENDIX 1: UNDP-SUPPORTED PROGRAMMES AND PROJECTS FOR EXTRACTIVE ECONOMIES

For instance, UNDP programming has addressed some of the challenges specific to extractive economies across all regions (see below). The work has so far mainly focused on the following areas:

- South-South knowledge exchange on issues related to managing the extractive sector
- Generation of knowledge through national human development reports
- Legislative support – for instance, technical support for the formulation of a legal framework for revenue management
- Advice on resource allocation formulas and targeting mechanisms, e.g., to regions and provinces
- Strengthening institutional capacity for transparent revenue management
- Environmental impact analysis of extractive industries
- Support for small-scale mining projects, mainly in the form of micro-financing
- Technical advisory support to design economic diversification plans

In addition, given the growing awareness of the need to strengthen capacities in this area, the European Commission (EC) partnered with the Expert Reference Group of the UN Framework Team for Preventive Action (FT) in the fall of 2008 to set up the Programme on Strengthening Capacities for the Consensual and Sustainable Management of Land and Natural Resources. The main objective of this Inter-Agency Programme (DESA, DPA, PBSO, UNDP, UNEP and UN-Habitat) is to strengthen the ability of national stakeholders and their UN and other international counterparts to: (i) analyze, prevent and resolve disputes over natural resources, including those related to extractive industries; (ii) minimize tensions over natural resources; and (iii) develop sustainable solutions to achieve peace.

Country (by region)	Project/Programme Description	Type of Intervention
Africa		
Angola	UNDP Angola held a Development Jango on the role of natural resources and the need for economic diversification.	Facilitating dialogue/ policy discussions
Central African Republic	UNDP CAR has, in partnership with the HIPC initiative, undertaken the EITI validation process.	Support of EITI process;
Democratic Republic of Congo	The 2008 National Human Development Report identifies the mining sector as one of the two founding pillars of the DRC economy (the other being agriculture) and argues that proceeds from precious stones and metals (diamonds and gold) have played a central role in both internal and interstate conflicts involving the DRC.	Report/analysis: extractive resources and conflict
Gabon	UNDP Gabon receives funding from Shell Gabon to implement its microfinance programme in the country. A MoU between the two agencies was signed in 2005.	Funding
Liberia	<p>The Diamonds for Development (D4D) project is a joint UNDP – Government of Liberia initiative, focusing on the sustainable use of revenues from mineral resources for poverty reduction especially in mining communities.</p> <p>UNDP, in partnership with VH1 Rock Docs and Article 19 Films, has produced the 90-minute documentary film "BLING". The film focuses on the complex relationship between blood diamonds, conflict, the influence of Hip-Hop music and culture and community development. The objective is to raise a voice on behalf of the millions of diamond diggers and to help disadvantaged communities and entrepreneurs reach their full economic potential. UNDP, in collaboration with the Special Unit for South-South Cooperation (SSC) of UNDP, facilitated the GoL's participation in the second in a series of high-level meetings for oil-producing countries of the South. The meeting was held in Nairobi, Kenya 12 – 15 October, 2009 and was aimed at continuing the collaboration and exchange of experiences among Southern oil and gas producers, which began at the first High-Level Meeting held in 2007 in Doha, Qatar.</p>	Extractive revenues for poverty reduction
Nigeria	<p>UNDP Nigeria implements the Niger Delta Job Creation and Conflict Prevention Initiatives – namely, agro, ICT, sewing, hair dressing, welding, electrical wiring, maintenance, masonry, carpentry and mechanics. This will encourage non-oil industries in the region, thus reducing the country's existing dependency on the oil sector.</p> <p>UNDP Nigeria supported a team composed of officials of the Ministry of Finance, a National Petroleum Development Company, as well as representatives of academia to participate in the first South-South High-Level Meeting on oil and gas.</p>	Extractive resources and conflict (job creation); economic diversification; South-South

Country (by region)	Project/Programme Description	Type of Intervention
Africa		
Sao Tome & Principe	<p>UNDP São Tomé and Príncipe's "Plate-forme d'Echange sur le future de STP" project strengthened the national capacities to define ideal transparent and sustainable business opportunities on the foundation of oil. The project was based on experiences of other oil economies.</p> <p>UNDP ST & P implemented a project targeting the improvement of living conditions of local populations through CSR management of future oil revenues.</p>	<p>Transparency in EI sector</p> <p>CSR in the EI sector</p>
Sierra Leone	<p>UNDP Sierra Leone has provided capacity development support to strengthen the management of Sierra Leone's natural resource sector in order to attract substantial investment to the sector, create jobs and expand state revenue.</p>	<p>Extractive revenues for sustainable development; facilitating dialogue/policy discussions</p>
South Africa	<p>Anglo American, one of the world's largest mining companies, unveiled a new project to create more jobs, support entrepreneurship and boost local economies in South Africa. The multinational corporation is answering the Business Call to Action (BCtA), a global initiative challenging companies to apply their business expertise, technology and innovative spirit to tackling poverty and contributing to the achievement of the MDGs.</p>	<p>CSR in the EI sector</p>
Sudan	<p>The Participatory Economic Policy Reform project, jointly funded by the World Bank (through the WB Post-conflict Fund), the Canadian International Development Agency (CIDA) and UNDP, focuses on promoting intra-Sudanese dialogue on the allocation and use of public resources.</p>	<p>Inclusive natural resource management</p>
Regional Bureau for Africa (RBA)	<p>UNDP's RBA has formulated an innovative project aimed at building capacities for negotiating and regulating investment contracts (with an emphasis on contracts related to the exploitation of natural resources). This project is being piloted in five countries (Liberia, Mozambique, Rwanda, Sierra Leone and Tanzania) and uses the technical skills of reputable NGOs such as Revenue Watch International and the International Senior Lawyers Project. Among other things, the project has assisted in the re-negotiation of important mining contracts in Sierra Leone.</p> <p>RBA, in partnership with the Government of South Korea, has contributed to the formulation of relevant trade and investment promotion policies in 10 countries and three economic communities. This includes support for setting in place expanded capacity for three African countries that rely heavily on their extractive industries (Liberia, Sierra Leone and Tanzania) for increasing the revenue generated from extractives in order to increase investments toward poverty reduction and achievement of the MDGs.</p>	<p>Capacity development: negotiating and regulating investment contracts</p>

Country (by region)	Project/Programme Description	Type of Intervention
Arab States		
Libya	UNDP Libya worked with the government toward economic diversification. The initiatives focused on building national and local capacities, introducing microfinance initiatives, and raising awareness of economic opportunities, particularly for women and youth.	Economic diversification
Qatar	Encouraged by the UNDP Special Unit for South-South Cooperation, Qatar has taken a lead role in promoting South-South cooperation in the oil and gas sectors, bringing together some 42 countries in Africa, Asia, the Middle East and Latin America, as well as international organizations, to share and exchange experiences in effective hydrocarbon management.	South-South
Saudi Arabia	<p>UNDP has supported a diversification strategy, focused on employment generation. The 9th National Development Plan emphasizes the need for "continuing the structural development of the Saudi economy through the deepening of the process of horizontal and vertical diversification of its production base in order to realize tangible increases in employment opportunities and in the contribution of non-oil sectors to GDP and to exports."</p> <p>UNDP assisted the Government to create a legal framework for a prosperous sector of museums and antiquities as part of the efforts to promote tourism and thereby diversify the economic base away from the sole reliance on oil and gas revenues.</p>	Economic diversification; legal reform
United Arab Emirates (UAE)	Regional disparities persist, due largely to the concentration of economic activities and natural resources (oil) in a few emirates. Development of remote areas is part of the 2008-2011 national strategy. UNDP seeks to secure support for, and provide technical cooperation to, the less resource-endowed emirates.	Inclusive natural resource management
Yemen	The Economic Diversification Support Programme (EDSP) promoted inter-sectoral linkages through the formulation of a Non-Oil Based Development Strategy and the facilitation of policy dialogue between relevant line ministries and the Ministries of Finance and Planning.	Economic diversification; facilitating dialogue/policy discussions
Regional Bureau for the Arab States (RBAS)	<p>The UNDP report "Development Challenges in the Arab States: A human development approach" calls on Arab states to adopt a new economic approach with two interrelated features. The first is a shift from a growth model based on oil and raw materials, which does not induce development to the model of the developmental state, where the measures of success are the performance of the productive sectors, the reduction of poverty and inequality, and job creation.</p> <p>The 2002 Arab Human Development Report highlights the inability of countries in the Arab region to harvest their oil riches for human development.</p>	Economic diversification; Report/analysis: using extractive revenues for sustainable development

Country (by region)	Project/Programme Description	Type of Intervention
Asia and the Pacific		
Cambodia	<p>UNDP Cambodia generates and disseminates knowledge on developing the oil, gas and mining for economic and social development</p> <p>UNDP Cambodia's "Insights for Action" project has successfully organized the high-level international conference on "Fuelling Poverty Reduction with Oil and Gas Revenues Comparative Country Experiences".</p>	<p>Capacity development: revenues for sustainable development</p> <p>Facilitating dialogue/policy discussions</p>
India	<p>Technical assistance was provided to build capacity of communities in the use of Environment Impact Assessments (EIAs) and the EIAs were tested in communities in mining areas of Orissa, Madhya Pradesh, Jharkhand and Bihar. Mobilized community action for escalating these issues to the relevant government authorities.</p>	<p>Community capacity development; environmental protection</p>
Indonesia	<p>UNDP Indonesia's LEAD Project (Legal Empowerment and Assistance for the Disadvantaged) aims to increase access to justice across Mining and logging-affected communities can now bring grievances to the complaints centre for investigation and follow-up.</p>	<p>Community capacity development</p>
Iran	<p>UNDP Iran has introduced UNCTAD's ASYCUDAWorld customs system in Iran. This is expected to help assist the country's efforts to diversify its trade and move away from depending on oil exports.</p>	<p>Economic diversification through trade</p>
Mongolia	<p>A tentative outline for the 2010 NHDR for Mongolia includes a chapter on mining and sustainable development, asking the question "Can mining be an opportunity for sustainable human development in Mongolia?"</p> <p>The 2006 mid-term review of UNDP's Country Programme Action Plan (CPAP) for Mongolia concluded that among other outcomes, addressing the environmental impact and governance issues related to an emerging mining sector should be included in the CPAP cycle.</p>	<p>Report/analysis: using extractive revenues for sustainable development Environmental protection; governance</p>
Papua New Guinea (PNG)	<p>The PNG Liquefied Natural Gas project (a resource extraction project led by Exxon Mobil) has reduced the Government's perceived need for ODA and as such reduced the level of donor access to government decision makers. There will be a need to re-engage with GoPNG in terms of defining what technical assistance and capacity development will look like in the context of increased revenue streams from extractive industries.</p>	<p>Programming</p>
Timor-Leste	<p>The objective of the 2010 NHDR for Timor-Leste, "Managing Natural Resources for Human Development: Developing the Non-Oil Economy", was to create a greater awareness, especially among policy makers, of the danger of misusing oil/gas revenues.</p>	<p>Report/analysis: extractive resources and conflict</p>

Country (by region)	Project/Programme Description	Type of Intervention
Europe and the Commonwealth of Independent States (CIS)		
Albania	UNDP Albania organized training sessions in the Czech Republic for practitioners, with a special focus on environmental issues, related to mining. Participants were from Kosovo and the Former Yugoslav Republic of Macedonia.	South-South; environmental protection
Azerbaijan	<p>UNDP Azerbaijan is strengthening the capacity of the GoA to develop a competitive non-oil sector.</p> <p>UNDP Azerbaijan supports the Azerbaijan Foundation for Investment Promotion and Advice (AZPROMO) to support export promotion in the non-oil sector.</p> <p>In 2007, UNDP produced the "Converting Black Gold into Human Gold". The Report recommended ways of using the country's oil revenues for sustainable development and building a competitive non-oil sector.</p> <p>UNDP Azerbaijan contributed to the capacity building programme of the Ministry of Economic Development's (MED), the Institute for Scientific Research on Economic Reforms (ISRER) and Azerbaijan Foundation for Investment Promotion and Advice (AZPROMO) on development of non-oil sectors in four areas: tourism, transit and transport, agriculture and regional development.</p>	<p>Capacity development: diversification</p> <p>Capacity development: economic diversification</p> <p>Report/analysis: using extractive revenues for sustainable development</p> <p>Capacity development: economic diversification Report/analysis: economic diversification</p>
Kazakhstan	<p>UNDP Kazakhstan has supported the local NGO Transparency Kazakhstan in developing the organisation's website. TK has carried out an "Assessment of Level of Transparency in Extractive Industry".</p> <p>The role of the extractive sector in the development of the Kazakhstan economy was touched upon in the Background Study for the UNDP report "Regional Cooperation for Human Development and Security in Central Asia".</p>	<p>Transparency in EI sector</p> <p>Report/analysis: using extractive revenues for sustainable development</p>
Kyrgyz Republic	In the Kyrgyz Republic, UNDP works on the "Primary Mercury Supply Project" in partnership with UNEP. The goal of this project is to assist the Kyrgyz Republic to transition to more sustainable economic activities over the long term, in light of the future global mercury treaty. Ultimately, limiting mercury supply globally will encourage the transition to alternative technologies in areas where mercury is still used.	<p>Post-EI sustainable development</p> <p>Extractive revenues for sustainable development</p> <p>Community capacity development; advocacy</p>
Montenegro	UNDP Montenegro organised a study tour to the Slovak Republic for 14 practitioners, representatives and experts from ministries and industry/private sector to learn from the Slovak experience in environmental management and remediation of priority mine sites.	South-South
Russia	7 companies joined Global Compact in 2008, 2 of them being large transnational corporations based in Russia (Lukoil and OJSC Territorial Generating Company).	CSR in the EI sector
Uzbekistan	UNDP has launched a project with funding from the GEF. Initiatives include a project aimed at mainstreaming biodiversity into the oil & gas sector, as well as capacity building for sustainable land management.	Environmental protection; EI governance

Country (by region)	Project/Programme Description	Type of Intervention
Latin America and the Caribbean		
Bolivia	UNDP Bolivia produced the Human Development Report 2008 "The other frontier: Alternative uses of natural resources in Bolivia".	Report/analysis: revenues for sustainable development
Ecuador	The Government of Ecuador and UNDP have signed a historic deal establishing a Trust Fund to step up protection of an ecological site in an oil-rich area of the Ecuadorian Amazon. The agreement establishes the commitment to leave an estimated 846 million barrels of crude oil lying under the Yasuní National Park, a World Biosphere Reserve since 1989. With the trust fund signed, Ecuador will be seeking contributions from governments, with the objective of raising at least 50 percent of the estimated US\$7 billion that tapping the oil would bring.	Alternative resource mobilization; environmental protection
Guyana	Community-level awareness and education of the new Amerindian Act and new mining legislation targeting small miners were also completed.	Natural resource management: policy development; legislative support
Peru	UNDP Peru has published the publication "Energy, Mining and Petroleum" on the role of CSR in the mining and petroleum sectors.	CSR in the EI sector
Trinidad and Tobago	During the UN Development Decade (1961-1970), UNDP provided technical assistance to the GoTT, leading to the discovery of oil and gas	Technical support: EI development
Venezuela	UNDP Venezuela has received funding for project implementation from a set of private-sector partners, principally from the oil sector, including Total and Statoil.	Funding
Regional Bureau for Latin America and the Caribbean (RBLAC)	RBLAC provided assistance to a dialogue on mining in Argentina.	Facilitating dialogue/policy discussions
UNDP-wide		
Human Development Reports	Among the Issue Notes commissioned for the 2005 Human Development Report was one entitled "Wealth for the Few, Poverty for the Many: the Resource Curse – Examples of Poor Governance/Corporate Mismanagement". The note provides an overview of conflict spurred by large-scale mining companies.	Report/analysis: Inclusive natural resource management
South-South Cooperation	In response to the demand from a number of new oil-producing countries and the positive reception given the first South-South High-Level Meeting on Oil and Gas Management held in Doha, Qatar in September 2007, the Government of Kenya agreed to host the second South-South High-Level Meeting in Nairobi from 12 to 15 October 2009.	South-South

NOTES

- ¹ Humphreys et al. (2007) note that natural resources are different from commodities that are created from production processes. For instance, oil and diamonds can have significant market value without undergoing production processes. This characteristic means that property rights and ownership titles are poorly defined. In addition, the resources can be produced and consumed independently, without linkages with other economic activity in the exporting country. These attributes, in turn, create the political and economic conditions that increase the risk of conflict.
- ² Countries where the mineral sector on average contributed over 25 percent of total government revenue and/or mineral exports made up at least 25 percent of the value of total export proceeds (IMF, 2010).
- ³ A society exports in order to generate foreign exchange, so it can buy imports. If natural resources provide sufficient foreign exchange, then the need to pursue other export activities becomes less important.
- ⁴ The term ‘Dutch disease’ originally referred to natural gas production in the Netherlands. The country enjoyed high prices for its gas in the 1970s. Foreign exchange engulfed the nation, making the *guilder* rise substantially in value against major currencies. The appreciation of the exchange rate made non-gas exports uncompetitive. Tulip exports are given as an example. A 1,000 guilders worth of tulips by January 1970 would have cost a wholesaler in London about £665. By December 1979, the cost reached £1,168 (Beattie, 2009). This was a side-effect of the resource movement effect whereby resources previously devoted to activities other than the extractive resource (tulips, for instance) were channelled toward resource extraction (gas in this example) and other non-tradable production.
- ⁵ Sala-i-Martin and Subramanian (2003) have argued that this was a deliberate decision intended to create rents (through the black market premium) at a time of declining oil revenues-
- ⁶ As Onyeuku (2010, p. 13) adds, “The social infrastructure is run down. Electricity supply is so unreliable that most households and industries rely on imported power generators so as to generate their own power supplies. [...] It is estimated that only about 36 percent of Nigerians have access to electricity.”
- ⁷ ‘Point resources’ (as opposed to ‘diffuse resources’) tend to be more capital-intensive. Examples of ‘diffuse’ extractive resources include diamonds and gold. These tend to be extracted by small-scale ‘artisanal’ or ‘alluvial’ diggers operating with simple technology such as shovels and sieves.
- ⁸ There are at least three sources of revenue volatility: 1) the rate of extraction varies over time, beginning with an ever-increasing rate and reaching a peak. After a few years, the rate of extraction declines as resources become depleted or difficult to explore or mine. Revenue flows therefore follow the same variation; 2) payments received by resource-rich countries are not constant over time. Payments vary according to the licenses; leasing and royalty agreements. A typical contract contains significant tax breaks for the first few years. Then higher revenues kick in; and 3) international commodity prices tend to be highly volatile, causing severe instability in revenue and expenditure (Humphreys et al., 2007).
- ⁹ Grievance-fuelled conflicts may have their source at either of two levels: at the local level of the mining community, an unequal distribution of costs and benefits may cause grievances. At this level, grievances often translate into no more than (low-level) social conflict, as seen in Nigeria’s Niger Delta. However, grievances are felt more widely and, particularly under circumstances where the population suffers high levels of unemployment and low levels of education, they transform themselves into full-scale armed conflict, as seen in Sierra Leone.
- ¹⁰ The Addis Ababa Agreement concluded the first Sudanese Civil War. It granted Southern Sudan regional autonomy, creating the Southern Sudan Autonomous Region.
- ¹¹ The rational choice approach explains that poverty lowers the *opportunity* cost of rebellion and diminishes the individual incentives for maintaining order (Blattman and Miguel, 2010). Conflict risk is often exacerbated by weak state capacity. According to Fearon (2005, pp. 503-504), “It seems more likely that high oil exports indicate a weaker state given the level of per capita income and possibly a greater “prize” for state or secessionist capture, both of which might favor civil war.”
- ¹² The World Bank projections also show that mineral exports could yield an annual production worth more than US\$370 million, creating direct and indirect employment for as many as 38,000 people. This would sustain the livelihoods of approximately 300,000 people (World Bank, 2008).
- ¹³ Where land is scarce, other sectors need to be considered. For instance, the United Arab Emirates adopted successful diversification strategies. They built on their ports, diversified into banking, finance and tourism.
- ¹⁴ In Botswana, for example, the Government recently adopted a fiscal rule requiring mining revenues to be used to expand the economy’s productive base, rather than to fund consumption expenditure (BMI, 2011).
- ¹⁵ See *The Economist* at <http://www.economist.com/node/21536570>
- ¹⁶ The U.N. Resolution on Permanent Sovereignty over Natural Resources, adopted by the United Nations General Assembly on 14 December 1962 (G.A. res. 1803 (XVII), 17 U.N. GAOR Supp. (No.17) at 15, U.N. Doc. A/5217 (1962)) declares the right of peoples and nations to permanent sovereignty over their natural wealth and resources. It also establishes that this right must be exercised in the interest of their national development and of the well-being of the people of the State concerned.
- ¹⁷ Initially, the Government’s 34-percent share of the project’s initial capital cost will be financed by a loan from Ivanhoe Mines Ltd. The loan is to be repaid at an interest rate of LIBOR plus 6.5 percent.

- ¹⁸ Common tax instruments applied to the mining industry include corporate income tax and a range of secondary taxes, such as labour taxes, fuel taxes, import and export duties, etc.
- ¹⁹ There are varying degrees of discrimination. Some systems discriminate between the mining industry and other industries, while other systems discriminate at the level of different minerals or even individual mines.
- ²⁰ Multinational mining corporations have been found using aggressive tax planning and trade mispricing to evade tax payments. It is estimated that approximately US\$1 trillion (or an amount equal to eight times total global development assistance) is illegally moved out of developing countries every year. About two thirds of this is due to commercial tax evasion. Ghana, alone, has lost approximately €36 million between 2007 and 2010 due to price fixing (DanWatch and Concord Danmark, 2010).
- ²¹ At present, international regulation allows companies to disclose a single cumulative annual report for the entire corporation.
- ²² Part of the increase is also attributed to the high copper and molybdenum prices during this period.
- ²³ The global evidence shows that social assistance programmes such as cash transfers, costing typically less than 2 percent of GDP can have positive impacts on educational outcomes. Colombia's Familias en Acción programme reduced the incidence of illness among children through supplying nutritional supplements. This led to a reduction in disruptions in school attendance (Hailu and Soares, 2008). Zambia's social cash transfer programme in the district of Kalomo increased the incidence of asset ownership from 8.5 to 41.7 percent of households and increased enterprise investments (Schuering, 2008). The public sector plays a critical role, acting as employer of last resort and providing job training. For instance, Ghana's National Youth Employment Programme (NYEP) created employment for over 100,000 youth. Under Ethiopia's Productive Safety Nets Programme (PSNP), over 7.3 million people have found productive employment. The employment programme in Sierra Leone created jobs for 14,000 workers (UNDP, 2010).
- ²⁴ This also coincided with the independence of East Timor in 1999, which possibly provided some inspiration to regional secessionist interests elsewhere.
- ²⁵ The projections are based on oil prices of between US\$40 and US\$60 per barrel until the petroleum deposits are depleted around 2025.

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