

*Natural Resources
and Violent
Conflict*

OPTIONS AND ACTIONS

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editors



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Note

1. An additional issue, not discussed here, is whether the way of raising growth inadvertently increases the risk of conflict. Collier and Hoeffler (2003) find that policies that raise growth rates do not directly increase the risk of conflict.

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CHAPTER 2

The Natural Resource Curse: How Wealth Can Make You Poor

Michael Ross

SINCE THE MID-1990S THERE HAS BEEN a growing body of research on the causes of civil wars. One of the most surprising and important findings is that natural resources play a key role in triggering, prolonging, and financing these conflicts. This report summarizes the main findings of recent scholarship on the role of natural resources in civil wars and discusses some policy options.

The natural resources that cause these problems are largely oil and hard-rock minerals, including coltan, diamonds, gold, and other gemstones. Sometimes other types of resources are also at fault— notably timber. And if drugs are considered a natural resource, they too have played an important role in several conflicts. Table 2.1 lists 17 recent conflicts that are linked to natural resources. In eight of these, gemstones are one of the resources; in six, the resource is oil or natural gas; in five, it is some type of illicit drug; and in three cases, it is timber. In most of the conflicts, multiple resources play a role.

Resource-related conflicts may pose special problems for the states of Africa. Of the 17 resource-related conflicts in table 2.1, nine are in Africa. Moreover, conflicts in Africa, of all the world’s regions, show the most worrisome trends. Between 1992 and 2001 the number of armed conflicts outside of Africa dropped by half, yet the number of conflicts in Africa stayed roughly the same (table 2.2). Moreover, within Africa, armed conflicts have grown more severe. During the 1970s and 1980s, half of all intrastate conflicts in Africa could be classified as civil wars—that is, they generated at least 1,000 battle-related deaths each year. In the 1990s two-thirds of Africa’s intrastate conflicts were civil

Table 2.1 Civil Wars Linked to Resource Wealth, 1990–2002

Country	Duration	Resources
Afghanistan	1978–2001	Gems, opium
Angola	1975–2002?	Oil, diamonds
<i>Angola (Cabinda)</i>	1975–	Oil
Cambodia	1978–97	Timber, gems
Colombia	1984–	Oil, gold, coca
Congo, Rep. of	1997	Oil
Congo, Dem. Rep. of	1996–97, 1998–	Copper, coltan, diamonds, gold, cobalt
<i>Indonesia (Aceh)</i>	1975–	Natural gas
<i>Indonesia (West Papua)</i>	1969–	Copper, gold
Liberia	1989–96	Timber, diamonds, iron, palm oil, cocoa, coffee, marijuana, rubber, gold
<i>Morocco</i>	1975–	Phosphates, oil
<i>Myanmar</i>	1949–	Timber, tin, gems, opium
<i>Papua New Guinea</i>	1988–	Copper, gold
Peru	1980–95	Coca
Sierra Leone	1991–2000	Diamonds
<i>Sudan</i>	1983–	Oil

Note: Separatist conflicts are listed in italics.

Table 2.2 Armed Conflicts in Africa and the Rest of the World, 1989–2001

Year	Africa	Rest of world
1989	14	33
1990	17	32
1991	17	34
1992	15	40
1993	11	35
1994	13	29
1995	9	26
1996	14	22
1997	14	20
1998	15	22
1999	16	21
2000	15	19
2001	14	20

Source: Adapted from Wallensteen and Sollenberg (2000).

Table 2.3 Civil Violence in Africa by Decade, 1970–99

Period	Minor conflict ^a	Intermediate conflict ^b	Civil war ^c
1970–79	5	2	7
1980–89	8	0	8
1990–99	6	1	14

a. A minor conflict produces at least 25 battle-related deaths per year and fewer than 1,000 battle-related deaths over the course of the conflict.

b. An intermediate conflict produces at least 25 battle-related deaths per year and an accumulated total of at least 1,000 deaths, but fewer than 1,000 in any given year.

c. A civil war produces at least 1,000 battle-related deaths per year.

Source: Data are taken from Gleditsch and others (2001).

wars. Africa had seven civil wars in the 1970s, eight in the 1980s, and 14 in the 1990s (table 2.3).

Before proceeding, it is useful to clarify two facts. First, natural resources are never the only source of a conflict. Any given conflict is brought about by a complex set of events; often poverty, ethnic or religious grievances, and unstable governments also play major roles. But even after these factors have been taken into account, studies consistently find that natural resources heighten the danger that a civil war will break out and, once it breaks out, that the conflict will be more difficult to resolve. Second, natural resource dependence never makes conflict inevitable. Resource wealth raises the danger of civil war, but for every resource-rich country that has suffered from violent conflict, two or three have avoided it. Better policies may help to reduce the likelihood that resources will generate conflict and to direct resource wealth instead to education, health, and poverty reduction.

This chapter presents an overview of what recent scholarship can tell us about the role that natural resources play in civil wars. It suggests four main pathways through which resources lead to armed conflict: their effects on economies, their effects on governments, their effects on people living in resource-rich regions, and their effects on rebel movements. It offers some examples of each dynamic and discusses ways in which the international policy community could intervene to counteract these effects.¹

Resource Dependence and Economic Performance

Resource dependence tends to make countries more susceptible to civil war through two economic effects: a reduction in growth and an increase in poverty.

Economic Growth

It may seem paradoxical that a “gift” from nature of abundant gemstones, gold, or oil tends to cause economic distress. Yet study after study has found that resource-dependent economies grow more slowly than resource-poor economies.² A recent report by the World Bank, for example, looks at the economic performance in the 1990s of countries that have large mining sectors (World Bank 2002).³ It finds that in countries with medium-size mining sectors (between 6 and 15 percent of all exports), gross domestic product (GDP) per capita *fell* at an average rate of 0.7 percent a year over the course of the decade. In countries with large mining sectors (between 15 and 50 percent of exports), GDP per capita dropped an average of 1.1 percent a year, while in countries with very large mining sectors (over 50 percent of exports) GDP per capita dropped a remarkable 2.3 percent a year. Collectively these mining states saw their GDP per capita fall 1.15 percent a year—a drop over the course of the decade of almost 11 percent (World Bank 2002; see also Ross 2002c).

This is a catastrophic record on economic grounds alone. But it also has implications for the susceptibility of these states to civil war: recent scholarship shows that when a country’s growth rate turns negative, a civil war is more likely to break out (Collier and Hoeffler 2001; Hegre 2002). In the three years leading up to the war in the Democratic Republic of Congo, for example, GDP growth averaged -5.56 percent; in the three years before the Congo Republic’s civil war, growth was -1.94 percent; on the eve of Liberia’s civil war, growth averaged -1.34 percent (figures are from World Bank 2001).

Poverty

A country’s reliance on nonfuel mineral exports—and possibly oil exports as well—also tends to create atypically high poverty rates. One reason for this pattern is that resource-rich governments do an unusually poor job of providing education and health care for their citizens. Ross (2001b) finds a strong correlation between greater dependence on oil and mineral exports and higher child mortality rates: for each increase in minerals dependence of five points, the mortality rate for children under the age of five rose 12.7 per 1,000; for each five-point increase in oil dependence, the under-five mortality rate rose 3.8 per 1,000.⁴

Again, this pattern is intrinsically worrisome, but it also has consequences for a state’s susceptibility to violent conflict. The greater a country’s poverty, the more likely it is to face a civil war (Collier and Hoeffler 2001; Elbadawi and Sambanis 2002; Fearon and Laitin 2002).

It is not surprising that people are more likely to rise up against their government when their economic predicament is bad and getting worse. Rebel groups find it easier to recruit new members when poverty and unemployment are widespread, since the prospect of combat and looting seems more attractive by comparison.

A glance at the world’s most oil-dependent states, and most mineral-dependent states, illustrates these patterns. Table 2.4 lists the world’s 20 most mineral-dependent states. Remarkably, the World Bank classifies

Table 2.4 Resource Dependency: Nonfuel Mineral-Dependent States and Oil-Dependent States

Rank	Minerals		Oil	
	State	Dependence	State	Dependence
1	Botswana	35.1	Angola ^a	68.5
2	Sierra Leone ^a	28.9	Kuwait	49.1
3	Zambia ^a	26.1	United Arab Emirates	46.3
4	United Arab Emirates	18.2	Yemen ^a	46.2
5	Mauritania ^a	18.4	Bahrain	45.7
6	Bahrain	16.4	Congo, Rep. of (Brazzaville) ^a	40.9
7	Papua New Guinea	14.1	Nigeria	39.9
8	Liberia ^a	12.5	Oman	39.5
9	Niger ^a	12.2	Gabon	36.1
10	Chile	11.9	Saudi Arabia	34.3
11	Guinea ^a	11.8	Qatar	33.9
12	Congo, Dem. Rep. of ^a	7.0	Algeria	23.5
13	Jordan	6.3	Papua New Guinea	21.9
14	Bolivia ^a	5.8	Libya	19.8
15	Togo ^a	5.1	Iraq	19.4
16	Central African Republic ^a	4.8	Venezuela	18.3
17	Peru	4.7	Norway	13.5
18	Ghana ^a	4.6	Syria	13.5
19	Bulgaria	4.0	Ecuador	8.6
20	Angola ^a	3.6	Bhutan	6.8

Note: Bold signifies a civil war since 1990. Mineral dependence is the ratio of non-fuel mineral exports to GDP. Oil dependence is the ratio of oil, gas, and coal exports to GDP. Figures are for 1995.

a. Defined by the World Bank as a highly indebted poor country.

12 of the 20 as “highly indebted poor countries”—the most troubled category of states—even though they earn large sums of foreign exchange from the sale of their resources. Since 1990, five of them have had civil wars. Table 2.4 also lists the world’s 20 most oil-dependent states. Here, too, the record is grim. Three of the top six states are classified as highly indebted poor countries, and, once again, five of the 20 suffered from civil wars in the 1990s.⁵

What Can Be Done?

The international community could take two types of measures that would help resource-rich economies. These suggestions and the others in this chapter are preliminary ideas only, designed to stimulate further analysis and discussion.

Promote Diversification through Trade Liberalization. One way to reduce the dependence of governments on resource revenues is to help them to diversify economically. States with more diverse exports are better protected against international market fluctuations and are less prone to the resource curse. For oil and mineral exporters, one obvious route to diversification is to develop downstream industries, which can process and add value to raw materials. Many downstream enterprises use large numbers of low-wage workers and, hence, offer special opportunities to the poor.

Yet downstream industries in oil- and mineral-dependent states rarely succeed. One reason is that the advanced industrial states place higher tariffs on processed goods than on raw materials to protect their own manufacturing firms against competition. The states in the Organisation for Economic Co-operation and Development (OECD) place no tariffs at all on the import of much unprocessed oil and many minerals, including aluminum, copper, crude oil, lead, nickel, tin, and zinc. Yet if oil- and mineral-rich countries wish to add value to these raw materials and export them in refined or processed form—such as aluminum kitchenware, copper wire, or plastic resins—they quickly run into OECD tariffs and nontariff barriers (table 2.5). By removing the tariffs and nontariff barriers to value added goods, the OECD states could help the resource-dependent states to diversify.

Find Better Ways to Reduce Revenue Volatility. Many of the problems caused by resource dependence come from the volatility of resource revenues. For the last century, the international prices for primary commodities—including oil and minerals—have been more

Table 2.5 Mean OECD Tariffs on Processed and Unprocessed Extractive Products

<i>Product and description</i>	<i>Tariff</i>
<i>Copper</i>	
Copper ores and concentrates	0.00
Wire of refined copper, if maximum cross-sectional dimension exceeds 6 millimeters	4.06
Tubes and pipes of refined copper	4.12
Cooking or heating apparatus used for domestic purposes	3.98
<i>Aluminum</i>	
Aluminum ores and concentrates	0.00
Unwrought aluminum (not alloyed)	4.10
Wire of aluminum, if maximum cross section exceeds 7 millimeters	6.13
Table or kitchenware of aluminum	5.83
<i>Lead</i>	
Lead ores and concentrates	0.00
Refined lead	1.88
Lead tubes, pipes, and fittings	3.90
<i>Nickel</i>	
Nickel ores and concentrates	0.00
Nickel bars, rods, and profiles (not alloyed)	0.33
Tubes and pipes of nickel (not alloyed)	0.31
Cloth, grill, and netting of nickel wire	0.77
<i>Tin</i>	
Tin ores and concentrates	0.00
Tin rods, bars, profiles, and wire	0.36
Tin tubes, pipes, and fittings	0.40
<i>Zinc</i>	
Zinc ores and concentrates	0.00
Refined zinc (containing by weight 99.99 percent or more of zinc)	1.80
Zinc bars, rods, profiles, and wire	3.84
Zinc tubes, pipes, and pipe fittings	3.92
<i>Petroleum</i>	
Petroleum oils, crude oil	0.00
Petroleum resins, coumarone, indene, or coumarone-indene resins, and polyterpenes	7.00
Woven fabrics made from high-tenacity yarn of nylon or other polyamides or of polyesters	8.47
Polyethylene (used for grocery bags, shampoo bottles, children’s toys)	6.87
Polymers of vinyl chloride (PVC plastic)	7.52
Polycarbonates (used for light fittings, kitchenware, and compact disks)	7.84

Source: UNCTAD-TRAINS database (United Nations Conference on Trade and Development Trade Analysis and Information System); available at www.unctad.org/trains/index.htm [consulted June 1, 2001].

volatile than the prices for manufactured goods (Grilli and Yang 1988). Since 1970 this volatility has grown worse (Reinhart and Wickham 1994). This means that when countries become more dependent on oil and mineral exports they also become more vulnerable to economic shocks.⁶ Studies show that revenue shocks tend to promote corruption, weaken state institutions, and create a host of budget and management problems. In theory, governments should be able to buffer their economies against these market shocks by setting up stabilization funds and, perhaps, savings funds. Yet in practice these funds are often poorly managed and wind up doing more harm than good (Ascher 1999; Davis and others 2001). Policymakers should consider better ways for governments to smooth their revenue flows—not, perhaps, through stabilization funds but through other devices, such as long-term contracts and insurance mechanisms. This is a critical area for additional research and policy innovation.

Resource Dependence and Governance

Natural resource dependence also has an impact on governments. A strong and effective government should be able to offset some of the economic and social problems caused by resource dependence. But resource dependence tends to influence governments themselves, making them less able to resolve conflicts and more likely to exacerbate them. This occurs through three mechanisms: corruption, state weakness, and reduced accountability.

Corruption

The first mechanism is government corruption. There is strong evidence that, when a government gets more of its revenue from oil, minerals, and timber, it is more likely to be corrupt. Part of this problem is due to the sheer volume of resource revenues: governments can absorb, and effectively track, only limited amounts of money. Resource wealth often floods governments with more revenue than they can manage effectively. Another part of the problem comes from the volatility of resource revenues: sudden ebbs and flows of revenues tend to overwhelm normal budgeting procedures and can weaken state institutions.⁷

There are, unfortunately, many examples of resource-linked corruption. In the case of a major oil-exporting African country, almost \$1 billion reportedly disappeared from the government's accounts in 2001 due to corruption. Fiscal discrepancies over the previous several

years represented between 2 and 23 percent of the country's GDP. Most of these losses were linked to the country's dependence on oil. Large fractions of the signing bonuses for oil contracts disappeared, and the state oil company was criticized for managing the country's oil receipts through "a web of opaque offshore accounts," even though local law requires that the funds be handled by the central bank (Cauvin 2002; also see Global Witness 2002).

Weak Government

Natural resource wealth, ironically, can weaken governments—making them less capable of resolving social conflicts and providing public goods like health care and education. This can happen in two ways. One is by weakening the state's territorial control. If a country has a resource that is highly valuable and can be mined with little training or investment—such as alluvial gemstones and minerals like coltan and tanzanite—it will be difficult for the government to provide law and order in the extractive region. This opens the door for criminal gangs, warlords, and rogue military officers, who may eventually grow strong enough to challenge the government (see Reno 1995, 1998; Ross 2002b).

A second way this occurs is by weakening a state's bureaucracy. Some scholars have found that, when governments raise their revenues from oil instead of taxes, they fail to develop the type of bureaucracy that can intervene effectively in social conflicts. The result may be a heightened danger of civil war (Beblawi 1987; Fearon and Laitin 2002; Karl 1997; Mahdavy 1970).

Unaccountable Government

The third effect is reduced government accountability. Governments that get their income from natural resources become less democratic—and hence less accountable—than countries that rely on other sources of revenue, such as taxation. One reason for this pattern is that when governments have an abundance of revenues they tend to use them to quell dissent—both by dispensing patronage and by building up their domestic security forces. Indeed, oil- and mineral-rich governments generally spend unusually large sums on their military forces (Ross 2001a).

A second reason is corruption: instead of serving all citizens equally, corrupt governments tend to favor the wealthy, since the poor cannot afford to pay the necessary bribes. A third way is through the involvement of the military. In some states, resource industries are controlled

by the military, giving the military more independence from, and greater influence over, the civilian government. In Indonesia, for example, the military has a large stake in many forest concessions and collects fees from oil, gas, and mineral companies. Since this money goes directly to the military, it does not pass through the central government's normal budgeting procedures, and the legislature has no influence over how it is spent. The result is that certain resource sales make the military less accountable to the legislature, undermining Indonesia's fragile democracy.

Once again, the harm that resource dependence does to democracy is intrinsically deplorable, but it also can make states more vulnerable to civil war. Several studies find a link between a government's accountability and the likelihood that it will suffer from a civil war.⁸ Governments that are less than fully democratic are less able to resolve the grievances of their citizens and hence may be more prone to outbreaks of violent conflict.

It is easy to see how the effects of resource dependence on economies and governments can reinforce one another, creating a trap. Economic stagnation tends to destabilize governments. When governments are unstable, corruption can flourish. Corrupt governments cannot manage their economies well or properly counteract economic stagnation. Many countries have fallen into these kinds of traps; sometimes the outcome is a downward spiral that eventually leads to civil war—for example, in Algeria, the Democratic Republic of Congo, Liberia, and Sierra Leone.

What Can Be Done?

Perhaps the most important international response is to promote revenue transparency, both at the international and domestic levels.

Make Payments from Transnational Companies Transparent. Governments misuse the revenues they get from natural resources in part because the quantities are so large, and the government collects them in ways that are difficult for their citizens to track. Many of these funds wind up in off-budget accounts or the pockets of government officials and are never heard of again. The Publish What You Pay campaign has called attention to this problem and developed a strategy to persuade companies to disclose fully all payments they make to host governments. Chapter 3 offers a careful and comprehensive assessment of this issue.

Full disclosure of all resource revenues would be a major step toward curtailing corruption in the resource sector. But it is critical that a disclosure regime be comprehensive and mandatory. A partial regime

may be worse than none at all: imagine, for example, that responsible companies decide to disclose all payments they make to host governments and, as a result, they are no longer able to work in countries with high levels of corruption. If the responsible companies are then replaced by other firms, which do not comply, the outcome is even worse: irresponsible firms are free to work with unscrupulous governments, and responsible firms are driven out of high-risk countries altogether.

Increase Domestic Financial Transparency. Even if all foreign firms comply with a full disclosure rule, it would not be sufficient to sever the connection between resources and conflict. Determined governments will find ways to circumvent disclosure requirements, for example, by replacing royalty contracts with production-sharing contracts, where disclosures might mean little, or by working with domestic intermediaries instead of foreign companies.

Full *domestic* transparency—an independently audited account of all government revenues, including resource revenues—would place greater pressure on governments to reduce corruption and spend their funds accountably. The World Bank, International Monetary Fund, and World Trade Organization, export credit agencies, and the major bilateral donors may be able to bring about progress in this area, particularly if they work collectively.

Resource Abundance and Secessionist Movements

Resource wealth tends to promote civil wars through a third mechanism, by giving people who live in resource-rich areas an economic incentive to form a separate state.⁹ Table 2.6 lists nine secessionist civil

Table 2.6 Mineral Resources and Secessionist Movements, 1949–Present

Country	Region	Duration	Resources
Angola	Cabinda	1975–	Oil
Congo, Dem. Rep. of	Katanga/Shaba	1960–65	Copper
Indonesia	West Papua	1969–	Copper, gold
Indonesia	Aceh	1975–	Natural gas
Morocco	West Sahara	1975–88	Phosphates, oil
Myanmar	Hill tribes	1949–	Tin, gems
Nigeria	Biafra	1967–70	Oil
Papua New Guinea	Bougainville	1988–	Copper, gold
Sudan	South	1983–	Oil

wars in regions that have abundant mineral resources.¹⁰ These resource-inspired insurrections have several common elements. One is that, before the resource was exploited, people in these regions had a distinct identity—whether ethnic, linguistic, or religious—that set them apart from the majority population.

Another is the widespread belief that the central government was unfairly appropriating the wealth that belonged to them and that they would be richer if they were a separate state. Finally, in most cases, local people bore many of the costs of the extraction process itself—due to land expropriation, environmental damage, and the immigration of labor from other parts of the country.

The case of Aceh, Indonesia, offers a good illustration.¹¹ In many ways, Aceh—a province on the northern tip of the island of Sumatra—was an unlikely place for a separatist rebellion. Aceh played an important role in throwing off Dutch colonial rule in the 1940s and establishing the Indonesian republic. Although the Acehnese consider themselves ethnically distinct from the rest of Indonesia's population, they adhere to the same religion (Islam) and generally speak the national language (Bahasa Indonesia). Aceh had one of the highest rates of economic growth of any province in Indonesia in the 1970s and 1980s; by the late 1990s Aceh was at or above the national average in per capita income and in most welfare categories.

Yet a secessionist movement was formed in Aceh in 1976, just as a large natural gas facility was beginning its operations. The facility generated local resentments in at least four ways: the site's construction displaced hundreds of families and several entire villages; the area's development created a wave of immigration and subsequently an anti-immigrant backlash; the discharge of chemicals, plus periodic gas leaks, caused health problems among locals; and the influx of revenues, and the large police and military presence, led to exceptionally high levels of corruption. But the most important source of discontent was the belief that the jobs and the revenues from the natural gas plant were not being adequately shared with the people of Aceh. The separatist movement, popularly known as GAM (Gerakan Aceh Merdeka), seized on this issue. GAM propaganda suggested that, if independent, the Acehnese would become wealthy like the citizens of Brunei, the tiny oil-rich sultanate on the island of Borneo. Although small at first, GAM eventually won widespread support among the population, partly due to the brutality and ineptitude of the government's anti-insurgency campaign.

These essential features—an ethnically distinct population that bears too many of the costs of resource extraction and enjoys too few of the benefits—are repeated in most of the other cases and set the preconditions for a long and bitter civil war.

What Can Be Done?

Resource-inspired insurgencies are never inevitable. Often the underlying grievance—that resource revenues are not being shared equally—has merit, and addressing it through negotiations can avert conflict. Better transparency may also help.

Preventive Diplomacy. If a conflict can be anticipated, it can be prevented—at least part of the time—with preventive diplomacy. We know enough about resource-inspired secessionist movements to forecast where they are likely to occur. We also know that once they begin they are exceptionally difficult to stop.¹² Preventive diplomacy could make a real difference.

The civil war in Sudan, for example, might have been averted through wise diplomacy at a critical moment. The war began in 1983 when Sudanese President Numeiry took a series of measures that upset the delicate balance between the predominantly Muslim north and the heavily Christian and Animist south. Among these measures was his decision to place newly discovered oil in the country's south under the jurisdiction of the north and to build an oil refinery in the north instead of the south. The Sudan People's Liberation Army (SPLA) subsequently complained that the north was stealing the resources of the south, including oil; demanded that work cease on a pipeline to take oil from the south to the refinery in the north; and, in February 1984, attacked an oil exploration base, killing three foreign workers and bringing the project to a halt (Anderson 1999; O'Ballance 2000). Instead of responding to the SPLA's demands, however, the government waged a campaign of astonishing brutality. To date, the conflict has killed an estimated 2 million people.

Private resource firms can also help to prevent conflict in high-risk regions. A good example is the strategy that BP has adopted in the Indonesian province of West Papua, a resource-rich region with a long-running—and highly popular—separatist movement. BP is now in the midst of exploiting a vast natural gas field off the Papuan coast and building a \$2 billion onshore facility. This is precisely the kind of project that is likely to produce new grievances and add fuel to the separatist movement. BP has made an admirable effort, however, to anticipate this danger by engaging in widespread community consultations to minimize the costs placed on local peoples, by promoting community-based programs to help distribute the benefits of development in sensible ways, and by not allowing the Indonesian military to station troops at the facility, so as to avoid the provocations and human rights abuses carried out by the military at some of Indonesia's other major extraction sites.

Increase Transparency. Better transparency in resource revenues might also help to avert these conflicts. Citizens typically have little idea how much money resource projects generate; this makes them susceptible to exaggerated claims that their resources are being “stolen” by the central government.

In Aceh, Indonesia, the separatist movement frequently made fanciful claims about the income that was generated by the natural gas facility—for example, that an independent Aceh would have the same per capita income as Brunei.¹³ These fabrications were widely believed because the Indonesian government had long concealed and misused resource revenues, making the Acehnese justifiably suspicious of the government’s assurances. Greater domestic transparency might have prevented the propaganda of a small separatist group from gaining credibility and, ultimately, from triggering a conflict that is now in its third decade.

Rebel Financing

There are hundreds, perhaps thousands, of rebel organizations around the world at any given time. Yet only a handful grow large enough to challenge the armed forces of a sovereign government. Why are these groups successful, while most other groups fail?

There is good evidence that rebel financing is a large part of the answer. To assemble and sustain a fighting force of hundreds or thousands of soldiers, a rebel group needs a regular source of income.¹⁴ Before the end of the cold war, successful rebel groups in the developing world typically were financed by one of the great powers. Since the cold war ended, insurgent groups have been forced to find other ways to bankroll themselves; many have turned to the natural resource sector (Keen 1998).

In Angola, for example, UNITA (National Union for the Total Independence of Angola) was backed by South Africa and the United States for most of the 1970s and 1980s. But the end of the cold war, and the end of apartheid in South Africa, left UNITA with no outside sponsors. As a consequence, it began to rely much more heavily on diamond revenue to support itself (Le Billon 2001). Similarly, in Cambodia the Khmer Rouge had long been financed by the Chinese government. But at the end of the 1980s the Chinese government curtailed its support, which led the Khmer Rouge to adopt a strategy of selling timber and gemstones to gain funding (Le Billon 2000; Thayer 1991).

Why natural resources? There are probably two reasons: the extraction of natural resources can produce unusually large profits (that

is, rents), and their production is tied to a specific location and cannot be easily moved. These characteristics make natural resource firms—particularly mineral firms—unusually susceptible to looting, or extortion, on a sustained basis. If rebels instead try to loot or extort money from manufacturing firms, the firms either move to a safer area or are forced out of business. But mining firms cannot move, and they often earn enough money to pay off rebel groups and still earn a profit. These characteristics—plus the location of most resource industries in rural areas, remote from government centers—make resources an ideal source of income for rebel groups.

Rebels raise money from resources in three main ways: through the direct looting and sale of resources, through the sale of resource futures, and through extortion and kidnapping.

Direct Resource Looting

Many rebel groups have financed themselves by selling natural resources. In general, these are resources that can be easily exploited by small numbers of workers with little training and little or no investment, such as coltan, gemstones, or timber. Since the late 1980s, there have been seven prominent examples:

- Angola’s UNITA over the course of the 1990s sold hundreds of millions—perhaps even several billion—dollars worth of diamonds (Le Billon 1999).
- Afghanistan’s Northern Alliance in the 1990s financed itself through the sale of \$40 million to \$60 million of lapis lazuli annually (Rubin 2000).
- A variety of groups in Myanmar, associated with the Kachin, Shan, and Wa peoples, sustained their armies in the 1970s and 1980s by selling jadeite, opium, rubies, sapphires, and timber (Lintner 1999; Smith 1999).
- Cambodia’s Khmer Rouge at its peak in the early 1990s earned between \$120 million and \$240 million a year from the sale of rubies and timber (Brown and Zasloff 1998; Le Billon 2000).
- A range of armies in the Democratic Republic of Congo—both foreign forces and domestic militias—have systematically looted the country from the beginning of the current conflict, in 1998, to the present; among the looted goods have been coffee, coltan, diamonds, gold, and timber (see UN Panel of Experts 2001).
- In the early 1990s in Liberia, Charles Taylor’s National Patriotic Front of Liberia was thought to be earning some \$75 million a year from taxing the sale of cannabis, diamonds, iron ore, rubber, and timber (Ellis 1999).

- In Sierra Leone in the mid-to-late 1990s the Revolutionary United Front (RUF) sustained itself largely by producing between \$25 million and \$125 million in diamonds a year (UN Panel of Experts 2000).

Sale of Future Rights to War Booty

A less common—but possibly more dangerous—type of resource transaction is the sale of future exploitation rights to the spoils of war. The seven examples in the previous subsection cover the sale of resources already captured by the rebels. However, sometimes combatants sell exploitation rights to natural resources that they do not yet control, but that they hope to capture in battle. Since these transactions are for the sale of *future* exploitation rights, they might be called “booty futures.” They are similar to other types of commodity futures. But while normal markets for commodity futures—like the Chicago Board of Trade—are formal, regulated, centralized at a single location, and have many buyers and sellers, the wartime market for booty futures is informal and often covert, has no fixed location, and includes a relatively small number of actors. It operates only in Africa, at least so far.

The booty futures market can help to solve the financing problems that prospective rebel movements often face, provided they wish to do battle in a resource-rich country. If an aspiring rebel group has no money, but stands a chance of capturing valuable resources in combat, it can sell off the future right to exploit the resources it hopes to capture, either to a foreign firm or to a neighboring government. The rebels can then use this money to pay soldiers and buy arms and thus gain the capacity to capture the promised resource.¹⁵

The market for booty futures is in some ways more dangerous than the standard market for conflict diamonds and other wartime commodities, since the booty futures market tends to benefit the weakest combatants. When combatants in a civil war sell natural resources that are under their control, this indicates that they are in a relatively strong military position, since they control a valuable piece of territory. But if they must sell resource futures, this implies that they are in a weak position, since they have not yet captured the resource whose value they hope to exploit.

The sale of booty futures is a tool of the weak against the strong: it helps to fund groups that are too poor or too feeble to capture territory on their own and might otherwise be forced to surrender. It hence tends to fund the initiation of civil wars that might otherwise never begin or to lengthen wars that are on the verge of ending. The sale of booty futures is also dangerous because it has self-fulfilling properties. If the rebel group is unable to sell the future right to exploit the

resource, it might not have the funds it needs to capture the resource itself. Selling the future right to the resource makes its seizure possible. Without the futures market, the rebel offensive—and perhaps the conflict itself—would be less likely.

Not only can the trade in booty futures help to initiate conflicts, it also can lengthen preexisting conflicts. If either side in a civil war is near defeat, and is fighting for control of resource-rich territory, it can try to sell off the future right to exploit the resources it hopes to capture or retain on the battlefield. Again, the sale of booty futures can have self-fulfilling properties: the sale of future rights enables the army to capture or hold the resource itself. Instead of being defeated or forced to the negotiating table, the army is able to continue fighting—thus lengthening the war.¹⁶

In the 1997 civil war in Congo-Brazzaville, the private militia of former president Denis Sassou-Nguesso was funded, in part, by the sale of future exploitation rights to the Congo’s extensive oil reserves. On the eve of the conflict, Sassou received substantial assistance from a European oil company. Some reports suggest that he received \$150 million in cash; others state that the company helped him to purchase arms (see “Angola Aids Congo” 1997; Galloy and Gruénai 1997). These funds enabled him to defeat the incumbent president, Pascal Lissouba, following a four-month war that destroyed much of Brazzaville and cost 10,000 lives. These booty future swaps—and similar trades in Angola, the Democratic Republic of Congo, Liberia, and Sierra Leone—in each case have helped to initiate a war or prolong one that appeared to be ending (see Ross 2002a).

Extortion and Kidnapping

Under certain circumstances, rebels can earn large sums by extorting money from, and kidnapping the workers of, resource firms. Although extortion and kidnapping are endemic in conflict zones, a major resource industry can make these activities more profitable.¹⁷ Extortion and kidnapping have been important features of the Colombian civil war, and they also played smaller roles in the wars in Aceh, Indonesia, and in Sudan. In Colombia and Sudan, the targeted resource was oil—or, rather, a long oil pipeline that ran through contested territory. In Aceh, it was a natural gas facility. In Colombia, oil must be transported to the coast from the unstable interior through pipelines that are hundreds of miles long. In 2000 the pipelines were bombed 98 times. Colombia’s rebel groups have used these attacks to extort an estimated \$140 million annually; this windfall has enabled one group, the National Liberation Army (ELN), to grow from fewer than 40 members to at least 3,000 (Dunning and Wirpsa 2002). Colombia’s rebel

groups have also turned kidnapping into a major industry. According to a government study, between 1991 and 1999 they earned a remarkable \$1.5 billion from kidnap ransoms; many victims were associated with the oil industry (Pax Christi Netherlands 2001).

What Can Be Done?

Three initiatives could help to curtail the use of resources to finance rebel armies: a regime to control the flow of conflict commodities, a ban on resource futures, and restrictions on ransom payments.

Control Illicit Resource Flows. A major effort to restrict the trade in “conflict diamonds” was launched in May 2000, at a conference in Kimberley, South Africa. The Kimberley Certification Process Scheme entails an agreement by the diamond industry to trade only diamonds that can be certified as originating from legitimate sources.¹⁸ It is too early to know how well this process will work.

Even if it works as planned, the Kimberley process addresses only one of several conflict commodities. Other types of precious stones—jadeite, lapis lazuli, rubies, and sapphires—have also been used to finance recent conflicts. So have coltan and timber. All of these resources are highly “lootable”—that is, they can be extracted by unskilled workers and have high value-to-weight ratios. A comprehensive regime to ban the trade of all conflict commodities would have to address these goods as well. Although the trade in conflict commodities may never be eliminated, their price can be reduced considerably—thereby reducing the flow of funds to rebel groups.

An alternative strategy would target the financial flows generated by the trade in conflict commodities, instead of the commodities themselves. As Winer and Roule suggest in chapter 5, enforcing restrictions on money transfers in some ways may be easier than enforcing restrictions on the resources themselves.

Ban Booty Futures. The United Nations Security Council has taken measures against the sale of natural resources by rebel forces in Angola, the Democratic Republic of Congo, Liberia, and Sierra Leone. But the booty futures market creates problems that cannot be solved by ad hoc, country-specific sanctions. Sometimes the sanctions come too late: the sale of booty futures can help to initiate a civil war, while the Security Council typically intervenes only after wars have been going on for months or years. The sanctions may also be directed against the wrong party: they typically apply to rebel groups, not governments—but in Angola, Republic of Congo, the Democratic Republic of Congo,

and Sierra Leone, the government at least attempted to tap the booty futures market when rebels were approaching victory. A blanket prohibition on the sale of future rights to war booty—and strict sanctions against any commodity sold through such a contract—would be far more effective.

Restrict Ransom Payments. Anytime a ransom is paid to a kidnapper, it produces obvious short-term benefits but much larger, hidden, long-term costs. The obvious benefit is the release of the kidnap victim; the hidden cost is the encouragement it gives to all organizations that specialize in kidnapping, now and in the future. Kidnapping is like any other type of business: if it is sufficiently profitable, old kidnapping organizations will expand and new kidnapping organizations will arise. In some countries, such as Colombia and the Philippines, the kidnapping industry has grown to an alarming size. To take away the incentive that groups have to kidnap workers in the resource industry, there should be international restrictions on ransom payments. These should include prohibitions on the sale of insurance against kidnapping, which tends to make ransom payments swifter and easier and may reduce the incentives for potential victims to take precautions.

Conclusion

This chapter reviews what scholars have learned about the role that resources play in conflict. It suggests that resource dependence can promote civil war through four types of effects: by harming a country’s economic performance; by making its government weaker, more corrupt, and less accountable; by giving people who live in resource-rich regions an incentive to form an independent state; and by helping to finance rebel movements.

It also discusses a series of measures that could help to stop these patterns—measures that include removing OECD trade restrictions, reducing the volatility of resource revenues, increasing the transparency of resource payments to governments, undertaking preventive diplomacy, restricting the trade of conflict commodities, banning the sale of future rights to war booty, and restricting the payment of ransom to kidnappers. These measures are discussed in a preliminary manner to stimulate further debate and study.

Many of the countries suffering from resource-based conflicts are stuck in low-level development traps. In these countries—most of them in Africa—poverty, weak and corrupt government, and violent conflict reinforce one another. Left to their own devices, these countries will

generate extraordinary hardships for their own citizens and, ultimately, for the international community. Strong measures, like the ones discussed here, can help them to break out of this trap.

Many of the policies discussed here can work only if they are enacted at a global level. Issues such as trade barriers, transparency, and the monitoring of conflict commodities can be addressed only through comprehensive, multilateral agreements. In some cases, partial or voluntary measures may do no good at all or even make things worse. For example, if some oil companies publish what they pay and others do not, we may find the most transparent and responsible companies driven out of corrupt, high-risk environments and less responsible firms moving in. If some firms try to behave ethically by refusing to pay kidnap ransoms, while others continue to pay them, employees of the ethical firms will be penalized, and the net effect on the kidnapping rate will probably be negligible. In both examples, ethical behavior is penalized and the underlying problems remain unsolved.

As difficult as stopping civil wars may be, it has grown easier in the last 10 years. The funding that natural resources provide to governments and rebels locked in combat can be stopped; the funding that the great powers once provided to combatants could not. A decade ago, before there was much of an Internet, financial transparency was a weak tool; now it is a strong one. The international policy community has a unique opportunity—and hence, a unique responsibility—to take action.

Notes

1. Important studies that touch on the role of natural resources in civil wars include Buhaug and Gates (2002); Collier and Hoeffler (1998, 2001); De Soysa (2002); Doyle and Sambanis (2000); Elbadawi and Sambanis (2002); Fearon (2002); Fearon and Laitin (2002); Hegre (2002); Keen (1998); Reynal-Querol (2002); Ross (2002a, 2002b).

2. See Gylfason (2001); Leite and Weidemann (1999); Manzano and Rigobon (2001); Sachs and Warner (2001). Ross (1999) offers a review of this literature.

3. This study looks only at nonfuel minerals—that is, not oil or natural gas.

4. Minerals and oil dependence was measured as the ratio of exports to GDP.

5. Resource dependence may also produce “Dutch disease” effects, but it is not evident that these make states more susceptible to civil war.

6. The nationalization of foreign oil and minerals firms in the 1950s, 1960s, and 1970s has also made states more vulnerable to economic shocks. Before nationalization, foreign corporations often captured and repatriated a large

fraction of any resource rents, including those created by resource shocks. This drain of wealth was much resented by developing-state governments. Yet, ironically, the repatriation of resource windfalls provided these governments with the unintended benefit of insulating state institutions from the volatility of international commodity markets. By expropriating foreign corporations—at a time when resource prices were growing even more variable—resource-exporting governments unwittingly exposed themselves to large market shocks.

7. Gelb and Associates (1988), for example, find that the oil booms of the 1970s generally were associated with a sharp drop in the efficiency of public investments, which indicates that corruption levels were rising. Similarly, Collier and Gunning (1999) find that commodity booms in developing states, for a wide range of products, were associated with a subsequent fall in investment efficiency. Ross’s (2001c) study of the Indonesian, Malaysian, and Philippine timber sectors reports that rising timber prices led to heightened levels of corruption and the dismantling of institutions that had earlier protected the forest sector from misuse. Marshall (2001) reports evidence of unusually high rates of corruption in the minerals sector of many countries. Several statistical studies find the same pattern. Sachs and Warner (1999) find a strong correlation between resource dependence and a widely used measure of corruption; Gylfason (2001) and Leite and Weidmann (1999) produce similar results.

8. See Hegre (2002) for a careful discussion of this issue.

9. Important analyses of this problem include Collier and Hoeffler (2002); Fearon (2002); Le Billon (2001).

10. Since any region might be perceived as having some type of resource, I have limited this list to regions with significant oil or mineral industries in operation, or under development, at or near the time when the civil war began. Examples can also be found in wealthy states: Collier and Hoeffler (2002) describe the case of Scotland, where a peaceful independence movement emerged in the early 1970s following a sharp rise in the value of North Sea oil.

11. This account is based on Ross (2002d).

12. According to Fearon (2002), separatist insurgencies over natural resources tend to last longer than any other type of civil war.

13. This claim was exaggerated by more than an order of magnitude, even under the most generous assumptions; see Ross (2002d).

14. This argument is developed by Collier and Hoeffler (2001).

15. On the growing importance of private military firms, see Singer (2001).

16. The sale of booty futures is not an entirely new phenomenon. In 1960 the Katanga rebellion in the Democratic Republic of Congo, led by Moïse Tshombe, was bankrolled by a European mining firm; in exchange, the firm apparently sought future mineral rights. See Gibbs (1991). During Algeria’s war of independence, a European oil company reportedly supplied money

and arms to the National Liberation Front (FLN) in exchange for future "considerations." See Le Billon (2002).

17. Kidnappings are often carried out by other types of criminal organizations as well, including paramilitary groups and rogue police units.

18. For an excellent account of the Kimberley process, see chapter 6.

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The word "processed" describes informally produced works that may not be commonly available through libraries.

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CHAPTER 3

Who Gets the Money? Reporting Resource Revenues

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THIS CHAPTER LOOKS AT THE REPORTING of resource revenues that host governments receive. Reporting as used here includes formal reporting of revenues to a particular body, audits and reconciliation procedures, as well as requirements to make information on such revenues publicly available (although information reported to a government body or other party is not always made public). Almost by definition, reporting concerns commodities that are legally traded. Here we focus on the oil and minerals sectors, while diamonds, timber, and several other commodities are covered to a lesser extent.

Reporting is a means to achieve transparency, which itself is a precondition for curbing corruption, mismanagement, and diversion of funds. The assumption is that strong reporting practices should increase transparency and oversight of financial flows, which in turn should reduce the possibilities and temptations for misappropriation. It is also assumed that strong reporting practices and transparency could provide host-country publics with an important part of the information they need to monitor the way their government uses the revenues it accrues. However, public knowledge of the full amount of revenue available to the government (or its elites) will not, on its own, pressure a government to make better spending choices; information on spending and probably a minimum of organized political opposition must also be available for this to happen. Nevertheless, public knowledge of potential income should make it more difficult for elites to divert large amounts of such revenue from the central budget,