Natural Resources and Civil War:
An Overview with Some Policy Options

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December 13, 2002

Draft report prepared for conference on “The Governance of Natural Resources Revenues,” sponsored by the World Bank and the Agence Francaise de Developpement, Paris, December 9-10, 2002. The views in this paper are the author’s alone, and may not reflect the views of the World Bank or the AFD. The author thanks Paul Collier and Havard Hegre for their comments on an earlier draft.
Abstract

This paper summarizes recent research on how natural resources contribute to violent conflict. Resource dependence promotes civil war in four ways: 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 finance rebel movements.

It also discusses of policy options to mitigate these problems. These include:

• removing OECD restrictions on the import of processed commodities;
• reducing the volatility of resource revenues;
• increasing the transparency of resource revenues, both internationally and domestically;
• preventive diplomacy;
• restricting the trade in conflict commodities and finance;
• banning the sale of future rights to war booty;
• restricting the payment of ransoms to kidnappers.

It emphasizes that on most of these issues, action would have to be taken at a global level.
Introduction

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 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 oil, gold, coltan, diamonds, 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 One lists seventeen recent conflicts that are linked to natural resources. In eight of these conflicts, gemstones are one of the resources; in six conflicts, 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 seventeen resource-related conflicts in Table One, nine are in Africa. Moreover, of all the world’s regions, Africa has the most worrisome conflict trends. Between 1992 and 2001, the number of armed conflicts outside of Africa dropped by half; yet the number of conflicts in Africa has stayed roughly the same [Table Two]. Moreover, within Africa, armed conflicts have grown more severe. During the 1970’s and 1980’s, half of all intrastate conflicts in Africa could be classified as civil wars – that is, they generated at least one thousand battle-related deaths each year. In the 1990’s, two-thirds of Africa’s
intrastate conflicts were civil wars. Africa had seven civil wars in the 1970’s, eight in the 1980’s, and fourteen in the 1990’s [Table Three].

Before proceeding with the summary, it is useful to clarify two things. 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 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 reduce the likelihood that resources will generate conflict – and help direct resource wealth instead to education, health, and poverty reduction.

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

1 Important studies that touch on the role of natural resources in civil wars include: Keen 1998; Collier and Hoeffler 1998, 2001; Elbadawi and Sambanis 2001; Fearon and Laitin
1. Resource Dependence and Economic Performance

Resource dependence tends to make countries more susceptible to civil war through two economic effects: reducing growth and increasing poverty.

Economic Growth

It may seem paradoxical that a ‘gift’ from nature of abundant oil, gold, or gemstones tends to cause economic distress. Yet study after study has found that resource-dependent economies grow more slowly than resource-poor economies. A recent report by the World Bank, for example, looked at the economic performance in the 1990s of countries that had large mining sectors. It found that in countries with medium-sized mining sectors (between 6 and 15 percent of all exports), 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 by 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 by a remarkable 2.3 percent a year. Collectively these mining states saw their GDP per capita fall at 1.15 percent a year – a drop over the course of the decade of almost 11 percent.

This is a catastrophic record on economic grounds alone. But it also has implications for susceptibility of these states to civil war: recent scholarship shows that

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3 This study looked only at non-fuel minerals, i.e., not oil or natural gas.
4 World Bank 2002; see also Ross 2002c.
when a country’s growth rate turns negative, a civil war is more likely to break out. 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.

Poverty Rates

A country’s reliance on non-fuel 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. One study found 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 by 12.7 per thousand; for each five point increase in oil dependence, the under-five mortality rate rose by 3.8 per thousand.

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. Not surprisingly, 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 there is widespread poverty and

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5 Collier and Hoeffler 2001; Hegre 2002.
6 Figures are taken from World Bank 2001.
7 Ross 2001b. Minerals and oil dependence was measured as the ratio of exports to GDP.
8 Collier and Hoeffler 2001; Fearon and Laitin 2002; Elbadawi and Sambanis 2002.
unemployment, since it makes the prospect of combat and looting seem more attractive by comparison.

A glance at the world’s most oil dependent states, and most mineral dependent states, illustrates these patterns. Table Four lists the world’s 20 most mineral-dependent states. Remarkably, 11 of the 20 are classified by the World Bank 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 Five 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 have suffered from civil wars in the 1990s.9

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 paper – are preliminary ideas only, designed to stimulate further analysis and discussion.

a. Promote Diversification Through Trade Liberalization

One way to reduce the dependence of governments on resource revenues is to help them 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 has been to develop “downstream”

9 Resource dependence may also “dutch disease” effects, but it is not evident that this makes states more susceptible to civil war.
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 industrialized states place higher tariffs on processed goods than on raw materials, to protect their own manufacturing firms against competition. The OECD states place no tariffs at all on the import of many unprocessed oil and minerals, including crude oil, copper, tin, zinc, aluminum, lead, and nickel. 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 plastic resins, copper wire, or aluminum kitchenware – they quickly run into OECD tariffs and non-tariff barriers [Table Six].

By removing the tariffs and non-tariff barriers to value-added goods, the OECD states could help the resource-dependent states diversify.

b. 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 volatile than the prices for manufactured goods.\textsuperscript{10} Since 1970, this volatility has grown worse.\textsuperscript{11} This means that when countries become more dependent on oil and minerals exports, they also become more vulnerable

\textsuperscript{10} Grilli and Yang 1988.
\textsuperscript{11} Reinhart and Wickham 1994.
to economic shocks.\textsuperscript{12} 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 may wind up doing more harm than good.\textsuperscript{13}

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.

2. 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.

\textsuperscript{12} 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.\textsuperscript{13} Ascher 1999; Davis et al. 2001.
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 only absorb, and effectively track, limited amounts of money. Resource
wealth often floods governments with more revenue than they can effectively manage.
Another part of the problem comes from the volatility of resource revenues: the sudden
ebb and flow of revenues tends to overwhelm normal budgeting procedures, and can
weaken state institutions.\textsuperscript{14}

There are, unfortunately, many examples of resource-linked corruption. One of
the most egregious cases is Angola. According to an IMF report, almost $1 billion
disappeared from the Angolan 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 gross domestic product. Most of these losses were linked to the country’s
dependence on oil. Large fractions of the signing bonuses for oil contracts disappeared,

\textsuperscript{14} Gelb (1988) for example, found that the oil booms of the 1970’s were generally
associated with a sharp drop in the efficiency of public investments, which indicates that
corruption levels were rising. Similarly, Collier and Gunning (1999) found 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 Malaysian,
Indonesian, 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 corruption rates in the minerals sectors of many countries.

Several statistical studies have found the same pattern. Sachs and Warner (1999)
find a strong correlation between resource dependence and a widely-used measure of
corruption; studies by Gylfason (2001) and Leite and Weidmann (1999) produced similar
results.
and the state oil company, Sonangol, was criticized for managing the country’s oil receipts through ‘a web of opaque offshore accounts,’ even though Angolan law requires that the funds be handled by the central bank.\textsuperscript{15}

Weak Government

Natural resource wealth can, ironically, weaken governments – making them less capable of resolving social conflicts and providing public goods, like health care and education.

There are two ways this can happen. 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 tanzalite – 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.\textsuperscript{16}

A second way this occurs is by weakening a state’s bureaucracy. Some scholars have found that when governments raise their revenue 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.\textsuperscript{17}

\textsuperscript{15} Cauvin 2002. Also see Global Witness 2002.
\textsuperscript{17} Mahdavy 1970; Beblawi 1987; Karl 1997; Fearon and Laitin 2002.
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 revenue sources, such as taxation.

One reason for this pattern is that when governments have an abundance of revenues, they tend to use it 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.¹⁸

A second reason is corruption, as described above: 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, which gives 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 to the military directly, 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 have found a link between a government’s accountability and the likelihood that it will suffer

¹⁸ Ross 2001a
from a civil war.\textsuperscript{19} 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, and properly counteract economic stagnation.

There are many countries that have fallen into these kinds of traps; sometimes the outcome is a downward spiral that eventually leads to civil war – for example, in the Democratic Republic of Congo, Sierra Leone, Liberia, and Algeria.

\textit{What Can Be Done?}

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

\textbf{a. Make Payments from Transnational Companies Transparent}

Governments misuse the revenues they get from natural resources, in part, because the quantities are so large, and they are collected by the government in ways it is difficult for their citizens to track. Much of it winds up in off-budget accounts or the pockets of government officials, and is never heard of again. The “publish what you pay” campaign has called attention to this problem, and developed a strategy to persuade companies to

\textsuperscript{19} See Hegre 2002 for a careful discussion of this issue.
fully disclose all payments they make to host governments. A recent report by Econ offers a careful and comprehensive assessment of this issue.

Full disclosure of all resource revenues would be a major step towards curtailing corruption in the resource sector. But it is critical that a disclosure regime be comprehensive and mandatory. A partial regime may turn out to 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 corruption levels. If the responsible companies are then replaced by other firms, which do not comply, we will have an even worse outcome, in which irresponsible firms are free to work with unscrupulous governments, and responsible firms are driven out of high-risk countries altogether.

b. Increase Domestic Financial Transparency

Even if all foreign firms complied 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 corrupt and spend their funds accountably. The World Bank, IMF and the World

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21 Econ 2002.
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.

3. 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. Table Seven lists nine secessionist civil wars in regions that have abundant mineral resources.

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 was 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 inmigration of labor from other parts of the country.

The case of Aceh, Indonesia, offers a good illustration. 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

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

23 Since any region might be perceived as having some type of resource, I have limited this list to regions that had significant oil or mineral industries in operation, or under development, at or near the time that 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.

24 This account is based on Ross 2002d.
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. This issue was seized upon by the separatist movement, popularly known as GAM (Gerakan Aceh Merdeka). 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.

a. Preventive Diplomacy

If a conflict can be anticipated, it can also 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.25 Preventive diplomacy could make a real difference.

The civil war in the 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

25 According to Fearon 2002, separatist insurgencies over natural resources tend to last longer than any other type of civil war.
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.\textsuperscript{26} 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 two million people.

Private resource firms can also help 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.

b. Increase Transparency

Better transparency in resource revenues might also help avert these conflicts. Citizens typically have little idea how much money resource projects generate; this makes them

\textsuperscript{26} O’Ballance 2000, Anderson 1999.
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.27 These fabrications
were widely believed because the Indonesian government has 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.

4. 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.28 Before the end of the Cold War,
successful rebel groups in the developing world were typically financed by one of the

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27 This claim was exaggerated by more than an order of magnitude, even under the most
generous assumptions; see Ross 2002d
28 This argument is developed by Collier and Hoeffler 2001.
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.²⁹

In Angola, for example, UNITA (National Union for the Total Independence of Angola) was backed by the United States and South Africa 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.³⁰ Similarly, in Cambodia the Khmer Rouge had long been financed by the Chinese government. But at the end of the 1980’s the Chinese government curtailed its support, which led the Khmer Rouge to adopt a strategy of selling timber and gemstones to gain funding.³¹

Why natural resources? There are probably two reasons: the extraction of natural resources can produce unusually large profits (i.e., 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 will move to a safer area, or be 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.

²⁹ Keen 1998.
³⁰ Le Billon 2001
There are three main ways that rebels raise money from resources: through the direct looting and sale of resources; through the sale of resource futures; and through extortion and kidnapping.

Direct Resource Looting

There are many examples of rebel groups that 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 gemstones, coltan, or timber. Since the late 1980s there have been seven prominent examples:

- Angola’s UNITA, which over the course of the 1990s sold hundreds of millions – perhaps even several billion – dollars worth of diamonds;³²
- Afghanistan’s Northern Alliance, which in the 1990s financed itself through the sale of $40-60 million of lapis lazuli annually;³³
- A variety of groups in Burma associated with the Kachin, Wa, and Shan peoples, sustained their armies in the 1970s and 1980s by selling jadeite, rubies, sapphires, timber, and opium;³⁴
- Cambodia’s Khmer Rouge, which at their peak in the early 1990s earned between $120 and 240 million a year from the sale of rubies and timber;³⁵
- A range of armies in the Democratic Republic of Congo have systematically looted the country from the beginning of the current conflict, in 1998, to the present; these include both foreign forces (particularly those from Rwanda,

³² Le Billon 1999.
³³ Rubin 2000.
³⁴ Lintner 1999; Smith 1999
Uganda, and Zimbabwe) and domestic militias [notably the factions of the Rassemblement congolais pour la démocratie (RCD), the Maï Maï, and the Mouvement de libération congolais (MLC)]. Among the looted goods have been diamonds, gold, coltan, timber, and coffee.\textsuperscript{36}

- 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 diamonds, timber, rubber, cannabis, and iron ore; \textsuperscript{37}

- 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 per year.\textsuperscript{38}

\textit{Sale of Future Rights to War Booty}

There is also a less common – but possibly more dangerous – type of resource transaction: the sale of future exploitation rights to the spoils of war. The seven examples above cover the sale of resources already captured by the rebels; but sometimes combatants sell exploitation rights to natural resources that are not yet under the seller’s control, but which the seller hopes 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

\textsuperscript{36} See UN Panel of Experts, 2001.
\textsuperscript{37} Ellis 1999.
\textsuperscript{38} UN Panel of Experts, 2000.
market for booty futures is informal, often covert, has no fixed location, and includes a relatively small number of actors. It only operates in Africa, at least so far.

The booty futures market can help solve the financing problems that prospective rebel movements often face, provided that 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 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.39

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 a combatant in a civil war sells natural resources that are under their control, it indicates they are in a relatively strong military position, since they control a valuable piece of territory. But if they must sell resource futures, it implies they are in a weak position, since they have not yet captured they resource whose value they hope to exploit. The sale of booty futures is a tool of the weak against the strong: it helps 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 help 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 was 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.

The trade in booty futures can not only help initiate conflicts, it can lengthen pre-existing conflicts. If either side in a civil war is near defeat, and it 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 actually 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.\(^4^0\)

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 substantial oil reserves. On the eve of the conflict, Sassou received substantial assistance from a French oil company, Elf-Aquitaine (now TotalFinaElf). Some reports suggest he received $150 million in cash; others state that Elf helped him purchase arms.\(^4^1\) 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.

\(^4^0\) 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 Belgian mining firm, Union Minière du Haut Katanga; in exchange, the firm apparently sought future mineral rights. See Gibbs 1991. During Algeria’s war of independence, the Italian oil company ENI reportedly supplied money and arms to the National Liberation Front (FLN) in exchange for future “considerations”. See Le Billon 2002a.
\(^4^1\) See Galloy and Gruénai 1997; Johannesburg Mail and Guardian 1997.
These booty future swaps – and similar trades in the Democratic Republic of Congo, Liberia, Sierra Leone, and Angola – have in each case helped initiate a war or prolong one that appeared to be ending.42

**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.43

Extortion and kidnapping have been important features of the Colombian civil war, and they also played smaller roles in the wars in Sudan and Aceh, Indonesia. 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 3,000.44

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42 See Ross 2002a.
43 Kidnappings are often carried out by other types of criminal organizations as well, including paramilitary groups and rogue police units.
44 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 US $1.5 billion from kidnap ransoms; many victims were associated with the oil industry.45

What Can Be Done?
Three initiatives could help 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.

a. 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 Process’ entails an agreement by the diamond industry to trade only diamonds that can be certified as originating from legitimate sources.46 It is too early to know how well this process will work.

Even if it works as planned, the Kimberley Process only addresses one of several conflict commodities. Other types of precious stones – rubies, sapphires, jadeite, and lapis lazuli – 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. While the trade in conflict commodities may never be eliminated, their price can be reduced considerably – thereby reducing the flow of funds to rebel groups.

46 For an excellent account of the Kimberley Process, see Le Billon 2002b.
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, enforcing restrictions on money transfers may in some ways be easier than enforcing restrictions on the resources themselves.47

b. Ban Booty Futures
The UN Security Council has taken measures against the sale of natural resources by rebel forces in Sierra Leone, Liberia, the DRC, and Angola. 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 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, Sierra Leone, the Congo Republic, and the Democratic Republic of Congo, 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 that was sold through such a contract – would be more far more effective.

c. 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

47 Winer and Roule, 2002.
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. This should include prohibitions on the sale of insurance against kidnapping, which tends to make ransom payments swifter and easier, and may reduce the precautions that potential victims should exercise.

Conclusion

This paper 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 finance rebel movements.

It also discusses a series of measures that could help stop these patterns – measures that include removing OECD trade restrictions, reducing the volatility of resource revenues, increasing the transparency of resource payments to governments, preventive diplomacy, restricting the trade of conflict commodities, banning the sale of future rights to war booty, and restricting the payment of ransoms 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 break out of this trap.

Many of the policies discussed here can only work if they are enacted at a global level. Issues like trade barriers, transparency, monitoring conflict commodities can only be addressed 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, 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 would be penalized and the underlying problems will remain unsolved.

As difficult as stopping civil wars may be, it has grown easier in the last ten 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. Ten years 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.
### Table One: Civil Wars Linked to Resource Wealth, 1990-2002

<table>
<thead>
<tr>
<th>Country</th>
<th>Duration</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>1978-2001</td>
<td>Gems, opium</td>
</tr>
<tr>
<td>Angola</td>
<td>1975-2002?</td>
<td>Oil, Diamonds</td>
</tr>
<tr>
<td>Angola (Cabinda)</td>
<td>1975-</td>
<td>Oil</td>
</tr>
<tr>
<td>Burma</td>
<td>1949-</td>
<td>Timber, tin, gems, opium</td>
</tr>
<tr>
<td>Cambodia</td>
<td>1978-97</td>
<td>Timber, gems</td>
</tr>
<tr>
<td>Colombia</td>
<td>1984-</td>
<td>Oil, gold, coca</td>
</tr>
<tr>
<td>Congo, Rep.</td>
<td>1997</td>
<td>Oil</td>
</tr>
<tr>
<td>Congo, Dem. Rep.</td>
<td>1996-97</td>
<td>Copper, coltan, diamonds, gold, cobalt</td>
</tr>
<tr>
<td>Congo, Dem. Rep.</td>
<td>1998-</td>
<td>Copper, coltan, diamonds, gold, cobalt</td>
</tr>
<tr>
<td>Indonesia (Aceh)</td>
<td>1975-</td>
<td>Natural gas</td>
</tr>
<tr>
<td>Indonesia (W Papua)</td>
<td>1969-</td>
<td>Copper, gold</td>
</tr>
<tr>
<td>Liberia</td>
<td>1989-96</td>
<td>Timber, diamonds, iron, palm oil, cocoa, coffee, marijuana, rubber, gold</td>
</tr>
<tr>
<td>Morocco</td>
<td>1975-</td>
<td>Phosphates, oil</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>1988-</td>
<td>Copper, gold</td>
</tr>
<tr>
<td>Peru</td>
<td>1980-1995</td>
<td>Coca</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>1991-2000</td>
<td>Diamonds</td>
</tr>
<tr>
<td>Sudan</td>
<td>1983-</td>
<td>Oil</td>
</tr>
</tbody>
</table>

Separatist conflicts are listed in italics.

### Table Two: Armed Conflicts in Africa and Rest of World

<table>
<thead>
<tr>
<th></th>
<th>Africa</th>
<th>Rest of World</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>14</td>
<td>33</td>
</tr>
<tr>
<td>1990</td>
<td>17</td>
<td>32</td>
</tr>
<tr>
<td>1991</td>
<td>17</td>
<td>34</td>
</tr>
<tr>
<td>1992</td>
<td>15</td>
<td>40</td>
</tr>
<tr>
<td>1993</td>
<td>11</td>
<td>35</td>
</tr>
<tr>
<td>1994</td>
<td>13</td>
<td>29</td>
</tr>
<tr>
<td>1995</td>
<td>9</td>
<td>26</td>
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<td>1996</td>
<td>14</td>
<td>22</td>
</tr>
<tr>
<td>1997</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>1998</td>
<td>15</td>
<td>22</td>
</tr>
<tr>
<td>1999</td>
<td>16</td>
<td>21</td>
</tr>
<tr>
<td>2000</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td>2001</td>
<td>14</td>
<td>20</td>
</tr>
</tbody>
</table>

Adapted from Wallensteen and Sollenberg (2000).
Table Three: Civil Violence in Africa by Decade

<table>
<thead>
<tr>
<th></th>
<th>Minor Conflict</th>
<th>Intermediate Conflict</th>
<th>Civil War</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1970-79</strong></td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td><strong>1980-89</strong></td>
<td>8</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td><strong>1990-99</strong></td>
<td>6</td>
<td>1</td>
<td>14</td>
</tr>
</tbody>
</table>

Data are taken from Gleditsch et al. (2001). 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; 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; a civil war produces at least 1,000 battle-related deaths per year.
Table Four: Non-fuel Mineral Dependent States

<table>
<thead>
<tr>
<th>State</th>
<th>Minerals Dependence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Botswana</td>
<td>35.1</td>
</tr>
<tr>
<td>2. Sierra Leone*</td>
<td><strong>28.9</strong></td>
</tr>
<tr>
<td>3. Zambia*</td>
<td>26.1</td>
</tr>
<tr>
<td>4. United Arab Emirates</td>
<td>18.2</td>
</tr>
<tr>
<td>5. Mauritania*</td>
<td>18.4</td>
</tr>
<tr>
<td>6. Bahrain</td>
<td>16.4</td>
</tr>
<tr>
<td>7. Papua New Guinea</td>
<td>14.1</td>
</tr>
<tr>
<td>8. Liberia*</td>
<td><strong>12.5</strong></td>
</tr>
<tr>
<td>9. Niger*</td>
<td>12.2</td>
</tr>
<tr>
<td>10. Chile</td>
<td>11.9</td>
</tr>
<tr>
<td>11. Guinea*</td>
<td>11.8</td>
</tr>
<tr>
<td>12. Congo, Dem. Rep.*</td>
<td><strong>7.0</strong></td>
</tr>
<tr>
<td>13. Jordan</td>
<td>6.3</td>
</tr>
<tr>
<td>14. Bolivia*</td>
<td>5.8</td>
</tr>
<tr>
<td>15. Togo*</td>
<td>5.1</td>
</tr>
<tr>
<td>16. Central African Republic*</td>
<td>4.8</td>
</tr>
<tr>
<td>17. Peru</td>
<td><strong>4.7</strong></td>
</tr>
<tr>
<td>18. Ghana*</td>
<td>4.6</td>
</tr>
<tr>
<td>19. Bulgaria</td>
<td>4.0</td>
</tr>
<tr>
<td>20. Angola*</td>
<td><strong>3.6</strong></td>
</tr>
</tbody>
</table>

*Highly Indebted Poor Country; **bold** signifies a civil war since 1990.
Mineral Dependence is the ratio of non-fuel mineral exports to GDP; figures are for 1995.
Table Five: Oil Dependent States

<table>
<thead>
<tr>
<th>State</th>
<th>Oil Dependence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola*</td>
<td>68.5</td>
</tr>
<tr>
<td>Kuwait</td>
<td>49.1</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>46.3</td>
</tr>
<tr>
<td>Yemen*</td>
<td>46.2</td>
</tr>
<tr>
<td>Bahrain</td>
<td>45.7</td>
</tr>
<tr>
<td>Congo (Brazzaville)*</td>
<td>40.9</td>
</tr>
<tr>
<td>Nigeria</td>
<td>39.9</td>
</tr>
<tr>
<td>Oman</td>
<td>39.5</td>
</tr>
<tr>
<td>Gabon</td>
<td>36.1</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>34.3</td>
</tr>
<tr>
<td>Qatar</td>
<td>33.9</td>
</tr>
<tr>
<td>Algeria</td>
<td>23.5</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>21.9</td>
</tr>
<tr>
<td>Libya</td>
<td>19.8</td>
</tr>
<tr>
<td>Iraq</td>
<td>19.4</td>
</tr>
<tr>
<td>Venezuela</td>
<td>18.3</td>
</tr>
<tr>
<td>Norway</td>
<td>13.5</td>
</tr>
<tr>
<td>Syria</td>
<td>13.5</td>
</tr>
<tr>
<td>Ecuador</td>
<td>8.6</td>
</tr>
<tr>
<td>Bhutan</td>
<td>6.8</td>
</tr>
</tbody>
</table>

*Highly-Indebted Poor Country; bold signifies a civil war since 1990.

Oil Dependence is the ratio of oil, gas, and coal exports to GDP; figures are for 1995.
Table Six: Mean OECD Tariffs on Processed and Unprocessed Extractive Products

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

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Duration</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>Cabinda</td>
<td>1975-</td>
<td>Oil</td>
</tr>
<tr>
<td>Burma</td>
<td>Hill tribes</td>
<td>1949-</td>
<td>Tin, gems</td>
</tr>
<tr>
<td>Congo, Dem. Rep</td>
<td>Katanga/Shaba</td>
<td>1960-65</td>
<td>Copper</td>
</tr>
<tr>
<td>Indonesia</td>
<td>West Papua</td>
<td>1969-</td>
<td>Copper, gold</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Aceh</td>
<td>1975-</td>
<td>Natural gas</td>
</tr>
<tr>
<td>Morocco</td>
<td>West Sahara</td>
<td>1975-88</td>
<td>Phosphates, Oil</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Biafra</td>
<td>1967-70</td>
<td>Oil</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>Bougainville</td>
<td>1988-</td>
<td>Copper, gold</td>
</tr>
<tr>
<td>Sudan</td>
<td>South</td>
<td>1983-</td>
<td>Oil</td>
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References


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