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Oil-Led Development: Social, Political, and Economic Consequences

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About the Center on Democracy, Development and the Rule of Law (CDDRL)

CDDRL was founded by a generous grant from the Bill and Flora Hewlett Foundation in October in 2002 as part of the Stanford Institute for International Studies at Stanford University. The Center supports analytic studies, policy relevant research, training and outreach activities to assist developing countries in the design and implementation of policies to foster growth, democracy, and the rule of law.

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Professor Karl has published widely on comparative politics and international relations, with special emphasis on the politics of oil-exporting countries, transitions to democracy, problems of inequality, the global politics of human rights, and the resolution of civil wars. Her works on oil, human rights and democracy include *The Paradox of Plenty: Oil Booms and Petro-States* (University of California Press, 1998), honored as one of the two best books on Latin America by the Latin American Studies Association, *The Bottom of the Barrel: Africa's Oil Boom and the Poor* (2004 with Ian Gary), the forthcoming *New and Old Oil Wars* (with Mary Kaldor and Yahia Said), and the forthcoming *Overcoming the Resource Curse* (with Joseph Stiglitz, Jeffrey Sachs et al). She has also co-authored *Limits of Competition* (MIT Press, 1996), winner of the Twelve Stars Environmental Prize from the European Community. Karl has published extensively on comparative democratization, ending civil wars in Central America, and political economy. She has conducted field research throughout Latin America, West Africa and Eastern Europe. Her work has been translated into 15 languages.

OIL-LED DEVELOPMENT: SOCIAL, POLITICAL AND ECONOMIC CONSEQUENCES

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GLOSSARY

Oil-led Development. This is development based on overwhelming dependence on revenues from the export (and not the internal consumption) of petroleum, as measured by the ratio of oil and gas to GDP, total exports, and the contribution to central government revenues.

Resource Curse. This refers to the negative growth and development outcomes associated with minerals and petroleum-led development. In its narrowest sense, it is the inverse relationship between high levels of natural resource dependence and growth rates.

Dutch Disease. Named after the negative effects of the North Sea oil boom on industrial production in the Netherlands, this phenomenon occurs when resource booms cause real exchange rates to rise and labor and capital to migrate to the booming sector. This results in higher costs and reduced competitiveness for domestically produced goods and services, effectively “crowding out” previously productive sectors.

Rent. In Adam Smith’s classic definition, this is unearned income or profits “reaped by those who did not sow.” According to economists, rents are earnings in excess of all relevant costs, including the market rate of return on invested assets. They are the equivalent of what most non-economists consider to be monopoly profits.

Rentier State. A state that lives from externally generated rents rather than the surplus production of the population. In oil-exporting states, this is measured by the percentage of natural resource rents in total government revenues.

Rent-seeking. This refers to efforts, both legal and illegal, to acquire access to or control over opportunities for earning rents. In oil dependent countries, rent-seeking refers to widespread behavior, in both the public and private sector, aimed at capturing oil money through unproductive means.

Corruption. While often used interchangeably with rent-seeking, corruption is more narrowly defined as the misuse of public power or resources for private gain, and it is generally illegal.

I. INTRODUCTION

Proponents of oil-led development believe that countries lucky enough to have “black gold” can base their development on this resource. They point to the potential benefits from enhanced economic growth and the creation of jobs, increased government revenues to finance poverty alleviation, the transfer of technology, the improvement of infrastructure and the encouragement of related industries. But the experience of almost all oil-exporting countries to date illustrates few of these benefits. To the contrary, the consequences of oil-led development tend to be negative, including slower than expected growth, barriers to economic diversification, poor social welfare performance, and high levels of poverty, inequality and unemployment. Furthermore, countries dependent on oil as their major resource for development are characterized by exceptionally poor governance and high corruption, a culture of rent-seeking, often devastating economic, health and environmental consequences at the local level, and high incidences of conflict

and war. In sum, countries that depend on oil for their livelihood eventually become among the most economically troubled, the most authoritarian, and the most conflict-ridden in the world.

Oil is a commodity with special characteristics. These include: 1) its unique role as both common natural heritage of a country and the motor of global industrialization, 2) its depletable nature, 3) its price volatility and consequent boom-bust cycles, 4) its especially high capital-intensity and technological sophistication, 5) its enclave nature, and 6) the exceptional generation of profits that accrue to the state and to private actors. The combination of these factors produces what has been called the “paradox of plenty” or the “resource curse.” This is not due to the resource itself, which is simply a black and viscous substance, and it is not inevitable. A resource boom can be beneficial or detrimental: Norway, an oil-exporter, has used the benefits of North Sea petroleum to earn the highest place on the United Nations Development Program’s list of best social development performance while other exporters, like Nigeria and Angola, are clustered near the bottom. Instead, what matters for the social consequences generated by petroleum dependence are, first, the type of pre-existing political, social and economic institutions available to manage oil wealth as it comes on-stream and, second, the extent to which oil revenues subsequently transform these institutions in a rentier direction. Because almost all proven oil reserves lie in less-developed countries where administrative institutions tend to be weak (only 4 percent can be found in advanced industrialized democracies), the probability of the resource curse is exceptionally high.

II. DEFINITIONS: OIL DEPENDENCE, THE RESOURCE CURSE, DUTCH DISEASE AND RENTIER STATES

Mineral and especially oil –led development is often promoted as a key path for countries seeking sustained economic growth. But the oil-led development model of today is significantly different from the role that energy played in the late 19th and early 20th centuries in the United States, Canada and Australia. In those earlier and more successful experiences, mining and oil exploitation contributed only a very small percentage of total economic output, never dominated exports and never came anywhere near the magnitude of dependence that characterizes contemporary oil-led development. While leaving a considerable regional impact, oil and minerals were never the motor of development.

Today, to the contrary, oil-led development means that countries are overwhelmingly dependent on revenues gleaned from the export of petroleum. This dependence generally is measured by the ratio of oil and gas exports to gross domestic product; in countries that live from petroleum rents, this figure ranges from a low of 4.9 percent (in Cameroon, a dependent country running out of oil) to a high of 86 percent (in Equatorial Guinea, one of the newest oil producers). Dependence is also reflected in export profiles, with oil in dependent countries generally making up from 60 to 95 percent of a country's total exports. Oil dependent countries can be found in all geographic regions of the world, although they are most commonly associated with the Middle East and, more recently, Africa.

Oil dependent countries suffer from what economists call the “resource curse.” In its simplest form, this refers to the inverse association between growth and dependence on

natural resource revenues, especially minerals and oil. This association repeatedly has been observed across time and in countries that vary by population size and composition, income level, and type of government; it is so persistent that has been called a “constant motif” of economic history. Specifically, countries that are resource poor (without petroleum) grew four times more rapidly than resource rich (with petroleum) countries between 1970 and 1993 – despite the fact that they had half the savings. Similar findings have been replicated through a study of the members of the Organization of Petroleum Exporting Countries (OPEC), using a different and longer time period from 1965-1998. OPEC members experienced an average decrease in their per capita GNP of 1.3 percent per year during this period, while lower and middle-income developing countries as a whole grew by an average rate of 2.2 percent per year over the same time. Moreover, studies show that the greater the dependence on oil and mineral resources, the worse the growth performance. Finally, countries dependent on the export of oil have not only performed worse than their resource poor counterparts; they have also performed far worse than they should have given their revenue streams.

The causes of this resource curse are a matter of debate, but the negative association between growth and oil and mineral wealth is not attributed to the mere existence of the natural resource itself. Oil in itself cannot encourage or hinder growth. Instead, this association is less direct and, while the weight of various specific causal mechanisms is still debated, it is generally attributed to some combination of the following factors: First, oil windfalls can hurt other sectors of the economy by pushing up the real exchange rate of a country’s currency and thus rendering most other exports noncompetitive – a

phenomenon called the “Dutch Disease.” The reduced competitiveness in agricultural and manufacturing exports “crowds out” other productive sectors and makes the diversification of the economy particularly difficult. This in turn reinforces the dependence on oil and, over time, it can result in a permanent loss of competitiveness.

Second, the long-term price deflation and price volatility of the international primary commodities market hinders economic development. Since 1970 this volatility has grown worse, and oil prices are twice as variable as those of other commodities. This means that oil economies are more likely to face more frequent economic shocks, with their attendant problems, and they are especially susceptible to acute boom-bust cycles. This oil price volatility exerts a strong negative influence on budgetary discipline and the control of public finances as well as state planning, which subsequently means that economic performance deviates from planned targets by as much as 30 percent. Volatility also exerts a negative influence on investment, income distribution and poverty alleviation.

Third, the enclave nature of the industry combined with its capital-intensity fosters especially weak linkages to the broader economy and does little to create employment. Because oil is the world’s most capital-intensive industry, the sector creates few jobs per unit of capital invested, and the skills required by these jobs usually do not fit the profile of the unemployed. If growth in the oil sector had a significant multiplier effect, this would not be such a great problem, but the productive linkages between this sector and the rest of the economy tend to be weak. Furthermore, the opportunities for technology

diffusion are very limited, and so is infrastructure development. Downstream processing industries have typically not emerged, and when they do, they are often at a competitive disadvantage.

Perhaps most important, petroleum may be one of the hardest resources to utilize well; countries dependent on oil exports seem particularly susceptible to policy failure. The reason lies in the weakness of pre-existing institutions in places where oil for export is found, their frequently authoritarian character, and the ease with which they can be transformed by an overwhelmingly powerful export sector. Generally, oil rents produce a rentier state – one that lives from the profits of oil rather than the extraction of a surplus from its own population. In rentier states, economic and political power is especially concentrated, the lines between public and private are very blurred, and rent-seeking as a wealth creation strategy is rampant. Rentier states are notoriously inefficient because productive activity suffers and self-reinforcing “vicious” development cycles can set in. Together, all of these factors slow growth, raise powerful barriers to the diversification away from petroleum dependence, and produce the skewed development patterns described by the “resource curse.”

III. THE POVERTY AND SOCIAL WELFARE CONSEQUENCES OF OIL-LED DEVELOPMENT

One of the most important social consequence of the resource curse is that oil-exporting countries have unusually high poverty rates, poor health care, high rates of child mortality, and poor educational performance given their revenues – outcomes that contradict the beliefs about what should happen within oil-exporting countries. While it is

true that most forms of primary commodity dependence are associated with poverty, not all commodities are equally culpable. Countries dependent on agricultural commodities tend to perform better with respect to poverty, minerals in general are linked to high levels of poverty, and oil dependence in particular is correlated with low life expectancy and high malnutrition rates.

Oil dependence has an ambiguous relationship with poverty alleviation, and this is related to the boom-bust cycles accompanying dependence on the resource. At the beginning of oil exploitation for export, per capita income rises during the “euphoric” or “boom” period. Especially in the initial stages of production for export, petroleum revenues initially transform a society—often suddenly and dramatically. Employment increases, infrastructure is improved, and per capita income grows rapidly. Thus, for example, per capita oil exports (meaning the average oil revenues earned per person) for North Africa and the Middle East soared from \$270 in 1970 to \$2,042 in 1980, and this fueled accelerated economic activity.

But the failure to diversify from oil dependence into other self-sustaining economic activities, especially agriculture and labor-intensive industry, becomes a significant obstacle to pro-poor development. Over time, as booms peter out, oil-exporters are plagued by (often sudden) declines in per capita income. In North Africa and the Middle East, for example, per capita oil exports plunged from the 1980 high of \$2,042 in 1980 to \$407 by 1992 as oil prices dropped and population increased. Paradoxically, in what seems to be the midst of plenty, a high percentage of people living in oil-exporting

countries tend to remain poor or suffer from dramatic shifts in their welfare that ultimately leave them in poverty. Thus, despite significant rises in per capita income, over the past several decades, all oil-dependent countries have seen the living standards of their populations drop – and sometimes drop very dramatically. This boom-bust cycle affects even the world’s richest oil exporters. In Saudi Arabia, for example, where proven reserves are the greatest in the world, real per capita income (measured in constant dollars) has plunged from \$28,600 in 1981 to \$6,800 in 2001.

For many countries, including Algeria, Angola, Congo, Ecuador, Gabon, Iran, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and Trinidad Tobago, this plunge has been very severe -- moving real per capita incomes back to the 1970s and 1980s. For a few countries, most notably Nigeria and Venezuela, the growth of poverty has been catastrophic; in these cases, real per capita income has plummeted to 1960 levels. It is almost as if forty years of development had not taken place. In Nigeria, the disparity between oil wealth and poverty is especially notable. Despite the fact that over \$300 billion in oil profits have been generated over the past 25 years, the proportion of households living below the United Nation’s absolute poverty line of \$1 per day has grown from 27 percent in 1980 to 66 percent by 1996. Income disparities are shocking: the richest ten percent controls 40 percent of the country’s wealth and its poorest 20 percent has a share of just 4.4 percent.

But oil dependence is associated with more than sudden shifts in levels of poverty and exceptionally low living standards for much of the population in petro-states. It is also

linked to unusually high rates of child mortality, child malnutrition, low life expectancy, poor health care, and reduced expenditures on education. In countries dependent on oil and/or minerals, both infant mortality and life expectancy at birth is worse than in non-oil and mineral countries at the same income levels. Simply put, when taken as a group, the more countries are dependent on oil, children born in these country will be less likely to live, will have poorer health care, nutrition and education than their resource poor counterparts, and they are likely to die sooner.

The statistics are startling. For each 5-point increase in oil dependence, the under-five mortality rate rises by 3.8 per thousand. This may be due to the fact that oil dependence is also negatively correlated with health care expenditures. Paradoxically, the more countries are dependent on oil, the less they spend on health as a percentage of GDP. In Nigeria, for example, the government spends about \$2 per person per year on health care, which is far less than the \$34 per year recommended for developing countries by the World Health Organization. But poor child welfare performance is also due to higher malnutrition rates that exist in oil dependent countries. Indeed, once the effects of per capita income are taken into account, for every 5 point rise in oil dependence, there is a corresponding one percent rise in the percentage of children under 5 who are malnourished. Compare, for example, the global average of 26.5 malnourished children per thousand to the 37.7 per thousand rate in oil-rich Nigeria.

Given the available resources, education also performs worse than expected, affecting future prospects for growth. Countries that are dependent on natural resources,

inadvertently or deliberately, neglect the development of their human resources by devoting inadequate attention and expenditure to education. Thus, school enrollments tend to be lower than in their non-resource rich counterparts. In the OPEC countries, for example, 57 percent of all children go to secondary school compared with 64 percent for the world as a whole; OPEC spends less than 4 percent of the GNP on education compared with almost 5 percent for the world as a whole (in 1997 figures). The explanation for poor educational performance in oil-exporting countries is not clear. Perhaps because the high skill level needed by oil-rich countries in their leading sector can be bought or imported, their governments do not face the same urgent educational imperatives and may underrate the need for strong educational policies. Flooded with easy money, they may perceive more urgent needs than the long-term investments in education that results in long-term development benefits.

IV. OIL-RELATED CHANGES IN SOCIAL STRUCTURE

Dependence on petroleum skews the social structure of countries. Because of the enormous capital and technological resources necessary to exploit this resource, foreigners (principally oil companies) become a dominant, if not the dominant internal social force, especially at the beginning stages of development. This has important implications for the creation of a domestic entrepreneurial class. While foreign companies may form partnerships with domestic elites, their overwhelming economic presence and capital and technological advantages mean that domestic entrepreneurs have less opportunity to develop on their own. To be successful, they must forge close ties either to the state or foreign capital, or they may be marginalized, e.g., merchants in

Middle East oil-exporters. This pattern exists in other type of primary commodity exporters, but it is more exaggerated in oil-exporting countries because domestic capitalist economic groups, notoriously concentrated in monopolies or oligopolies, are dependent on oil rents and the political power arrangements that distribute them through patronage. Thus, instead of a capitalist class, *nouveau riche* --fabulously and ostentatiously rich and dependent -- characterize oil states. But because this wealth is the result of a windfall and privileged links to the state and because it may be largely independent of merit-based efforts made by citizens, this pattern of wealthy-creation encourages rent-seeking as well as a tendency to live beyond one's means.

Middle and professional classes are also shaped by dependence on oil exports as the engine of the economy. Labor markets in oil-exporters tend to offer only three major types of jobs-- oil related, public sector and private services, and this retards the growth of a large middle and professional class. When these groups do appear, they differ from other middle and professional classes because their job prospects and standard of living are directly linked to the fortunes of the major export industry, petroleum, thus they are exceptionally vulnerable. During boom periods, for example the 1970s and early 1980s, jobs and wealth are readily available for the educated, but during bust cycles, middle and professional classes may be educated but have few job opportunities and little prospect for wealth. The outcome is often intense social and generational tension, especially in urban areas, as the population and number of educated grow and employment shrinks. This is most notable in the Middle East, where the young generation of urban middle

sectors has seen their parents' situation deteriorate and has arrived too late for economic benefits or adequate social services in stagnant economies.

At the same time, the formation of a broad-based urban working class is compromised. Because oil employs relatively few workers and their skill level must be especially high and because the rest of the labor market is skewed, dependence on oil fosters a type of labor aristocracy that is separate from most of the workforce. While this separation, delineated by educational and skill level, can be found in most developing countries, it is especially notable in oil-exporters because they have among the fastest rural to urban migration rates in the world. Rural poor not only experience the normal economic pulls to cities, but oil rents also create exaggerated expectations of new opportunities -- even as the Dutch Disease begins to bias against agriculture and agrarian interests. So rapid is the outflow from the country side that some landlords, most notably those in Iran, have been compelled to import foreign workers to till their lands. This especially rapid rural-to-urban migration means that cities are filled with a relatively small middle and professional class when compared to the vast majority of under-skilled and under-employed workers.

Finally, exceptional levels of in-migration characterize oil states. This is encouraged by the structure of the labor market as well as the pull of oil wealth. In some cases, migration has dramatically altered their profile. Most of the oil-exporting countries in the Gulf region, for example, have more foreign than national residents! Somewhere between 50 to 90 percent of private sector workers in the Gulf are foreigners. There are six million

foreigners among Saudi Arabia's 18 million residents, and foreigners are 98 percent of manufacturing workers, 97 percent of construction workers and 93 percent of service sector. This extensive in-migration further distorts levels of inequality since immigrants are generally paid less than nationals. Saudi youth, for example, often expect to earn at least SR2,500 (\$670) a month for unskilled work, while foreigners filling these jobs typically earn SR500-SR1,000 a month.

This peculiar social structure is linked to a specific “culture of oil” that permeates all social classes and groups as well as the state. As novelists, journalists and other observers have repeatedly illustrated, petroleum creates a world of illusion because some people become wealthy without effort. This means that work ethics are undermined and negative attitudes towards certain forms of work, especially manual labor, can prevail in many oil exporters. This in turn can translate into lower levels of productivity than those found in comparable resource poor states. States and people that experience a sudden influx of income they did not work hard to get have not usually developed the fiscal and financial discipline or work habits normally required to get and keep such windfalls. They tend to become accustomed to relatively high salaries and little work. For this reason, employers in oil-exporting countries report that they prefer foreign workers who will work harder for less money, grateful that they may be earning five times the salary possible in their country of origin.

Embedded in this social structure are two fundamental cleavages. First, because United States and European companies dominates the oil industry through both production and consumption, a Western definition of modernity based on the market rather than indigenous cultures is transmitted; indeed, oil-exporters may experience the most accelerated Westernization and be the most exposed to Western influence when compared to non-oil countries. At least part of the country will be linked together through this form of modernization, e.g., technocrats, public sector employees, educated elites, etc. But precisely because oil development accelerates the rate of change, because oil countries are so exposed to the West, and because the discontinuities provoked by petroleum wealth are so great, the failure of the promise of an apparently easy modernization may give rise to conservative anti-Western movements based on different principles for the organization of economic life, as in Algeria and Iran, or distinctive traditional notions about the depletion of finite resources, as among the U'wa indigenous people in Colombia.

Second, while the inequalities created by oil-led development appear to be at about the same levels as non-oil states with similar incomes, people in oil-exporting countries may experience these inequalities very differently because they occur in what is widely perceived to be a rich country. The sheer visibility of oil wealth compounds the problem. Where traditional practices are essentially conservative and egalitarian, as in some Latin American indigenous groups, or where religious practices emphasize the need to redistribute income fairly, avoid earning interest, take care of the poor, and prohibit waste and idleness, as in the Islamic world, the cultural shock can be especially powerful. When

rulers appear as wasteful, despotic and dominated by foreigners, this can produce an especially potent political mix.

V. THE RENTIER STATE

Ineffective and inefficient governance, perhaps more than any other factor, may explain the extent of poverty in oil-dependent country, but this too is related to the presence of oil. Because the revenue base of the state is the state, oil rents affect state capacity. Oil dependence skews the institutional development of the state because oil rents weaken agencies of restraint. In resource poor countries, intense population pressure on scarce resources reduces the tolerance for inefficiency and predation, and the economy cannot support extensive protection or an over-expanded bureaucracy. But in oil states, the brake of scarcity does not exist. Instead, oil dependence encourages the expansion of states into new arenas while weakening opportunities to strengthen administrative capacities, especially non oil-based tax systems, merit-based civil services, and the rule of law – fundamental elements for creating efficient states.

The impact of oil rents on effective governance has a pernicious effect on the quality of administrative institutions in less developed countries, regardless of whether they are democratic or authoritarian. First, since oil states do not have to extract the majority of their resources from their own populations, they do not have to build the institutional capacities that have historically been required by such extraction. This means that they are denied the information that is generated by a robust tax bureaucracy, and they are also denied the incentives for innovation within a civil service that stems from scarcity. Even

where state capacity embedded in tax authorities may have previously existed, oil rents tend to be undermining. With the discovery of oil, these tax authorities are often disbanded since they appear to be no longer necessary. Second, because windfall gains that arise from petroleum encourage rent-seeking behavior, the state becomes a type of “honey pot” in which competing interests try to capture a significant portion of resource rents by capturing portions of the state. A vicious cycle results in which all actors try to gain parts of the bureaucracy while governments, in turn, reward their supporters by funneling favors their way. But this means that the public sector tends to lack the corporate cohesiveness and authority necessary to exercise effective public policy. Finally, if the state is especially weak and the target of capture, it is also especially overloaded. Oil revenues are the catalyst for a chronic tendency of the state to become over-extended, over-centralized, and captured by special interests. This can be seen through the accelerated and especially large growth of the public sector, the over-extension of public expenditure, and the unusually extended periods of protection for import-competing sectors. Yet without the institutional and administrative capacity to cope with this enhanced state role, this over-extension is a formula for ineffectiveness.

The most telling indicator of declining state in capacity is the loss of fiscal control, measured by overspending and soaring debt as well as the inability of oil states to reform themselves. This is because their states degenerate into sophisticated mechanisms to transfer resources from the primary sector to politically influential urban groups, especially as windfall gains provoke a type of “feeding frenzy” to capture petrodollars. This does not occur to the same extent where labor-intensive activity drives economic

growth, such as food and agricultural products, in part because they tend to generate fewer rents. The political competition for resource rents (when combined with the often non-transparent mechanisms for distributing them) have important efficiency costs. For example, they make it more difficult for governments to moderate spending in response to the price volatility of petroleum, thereby further distorting the economy. In general, oil rents permit incapable state institutions to endure and ineffective policies to persist considerably longer than in less resource rich countries. To avoid unpopular reforms, governments use their oil as collateral for borrowing abroad or intensify the squeeze on the export sector. Petrodollars simply permit more scope for cumulative policy errors.

Finally, states that have the greatest resource endowments, and especially oil-exporting countries, also have extraordinarily high levels of corruption – a reality confirmed by stunning quantitative evidence and numerous case studies. With incomes of the order \$35 billion/year for Mexico; \$30 billion for Venezuela; \$22 billion for Nigeria, the temptations for abuse are immense, and with weak state capacity and rule of law in place, there is little institutional restraint. “People rob,” one finance minister of an oil-exporting country remarked, “because there is no reason not to.” Oil rents and institutional weakness form a vicious cycle. Quantitative evidence suggests that the extent of corruption is higher in countries in which civil service recruitment and promotion procedures rely less on merit-based considerations; where this is the case, efforts to reform the civil service are blocked in order to sustain patterns of corruption. At its worst, this can degenerate into a “corruption trap,” where payoffs at the top of political

and business institutions encourage the corruption of others until a large percentage of public and private sector figures are involved, as the case of Nigeria demonstrates.

Corruption takes place not only at the production and export stage through secret signature bonuses and opaque financial arrangements, but also as a result of extremely high and difficult to absorb investments at the “upstream” stage as well as at the trading or “downstream” stage, where massive resources tend to disappear through price transfers that are difficult to track. While transactions are obviously clandestine, evidence of oil-related corruption abounds in both the private sector and the state. The former president of the French state oil company, Elf Aquitaine, is charged with presiding over the commission payments on oil deals with African countries. Mobil oil executives are charged with illegal payments in Kazakhstan. In Angola, more than \$1 billion per year of oil revenues has disappeared between 1996-2001 – a full one sixth of the national income -- in a country where more than 70 percent of the population lives on less than \$1 per day.

Corruption contributes to the resource curse. Rulers will support policies that produce personalized rents even if these policies result in lower overall social welfare and because they need to share these rents with supporters and subordinates, the level of distortion can be very great. Policy choices are deformed in a number of ways. First, where huge oil rents are present, officials tend to favor larger public sectors with overly excessive regulatory interventions that enhance opportunities for rent-seeking. Second, policy choices are distorted towards the financing of mega projects in which payoffs can be

more easily hidden and the collection of bribes is easier while productive long-term investment remains undersupplied. Highly-capital intensive and specialized one-of-a-kind designs may be favored so that there are no reliable cost benchmarks; for example, an aluminum smelter was built for \$2.4 billion in Nigeria even though it served no valid development objective and its cost was between 60-100 percent higher than similar plants elsewhere. Infrastructure and defense projects are also favored over health and education expenditures, thereby reducing the quality of public services as well as lowering the quality of public infrastructure. Most important, corruption affects both economic growth and income levels. Economists estimate, for example, that Venezuela's average GDP growth rate would be raised by some 1.4 percent annually had it reduced its corruption to the level of Chile.

VI. OIL, DEMOCRACY, AUTOCRACY AND STABILITY

Oil and centralized rule seem to go together; and oil and democracy do not generally mix. Political scientists have repeatedly documented this relationship through case studies, and they have found a robust and statistically significant association between oil dependence and authoritarian governments. Oil appears to impede the appearance of democracy in most cases, especially in the Middle East and North Africa, though it facilitated democratization in Venezuela.

The hindering of democratization seems to occur primarily through different, though related, mechanisms. The first is based on how rentier states collect revenues. Because these states live from oil rents rather than direct taxation, they are likely to tax their

populations lightly or not at all. Thus, they are unusually detached from and unaccountable to the general population, and their populations, in turn, are less likely to demand accountability from and representation in government. In effect, the vital link between taxation and representation is broken. Studies have shown, for example, that the governments of Kuwait and Qatar became less accountable to the traditional merchant class in this way. Even in Venezuela, where some type of democracy exists, the lack of taxation has made both representation and state accountability less than expected.

A second causal mechanism depends on how regimes spend state revenues. Oil wealth produces greater spending on patronage that, in turn, weakens existing pressures for representation and accountability. In effect, popular acquiescence is achieved through the political distribution of rents. Oil states can buy political consensus, and their access to rents facilitates the cooptation of potential opponents or dissident voices. With basic needs met by an often generous welfare state, with the absence of taxation, and with little more than demands for quiescence and loyalty in return, populations tend to be politically inactive, relatively obedient and loyal and levels of protest remain low -- at least as long as the oil state can deliver. Thus for long periods an unusual combination of dependence, passivity, and entitlement marks the political culture of petroleum exporters. This is especially the case in smaller exporting states like the Gulf monarchies, where oil reserves per capita are 43 times those of large exporting states like Algeria, Indonesia, Nigeria, Venezuela, and Iran and where such costly distributive policies can be sustained for a longer time. Regimes have even used their largess to prevent the formation of social groups independent from the state that might someday prove to be political challengers or

to rid themselves of already existing challengers – a phenomenon that has been documented (during various historical periods) in Venezuela, Algeria, Iraq, Iran, Kuwait and Qatar. In the latter two countries, for example, the political distribution of oil rents eliminated the influence of the merchant class in decision making, leaving the rulers with no real political opponents that could base themselves in a social class. In Iran, under the Shah, the agricultural class was simply transformed into urban commercial (and dependent) interests through the politically judicious use of oil rents.

But the spending of oil rents supports repression as well as cooptation to keep authoritarian rulers in power. Not surprisingly, then, oil dependence is closely associated with military spending and the creation of extensive repressive apparatuses. This is in part due to the fact that superpowers are wary of letting oil reserves fall out of the control of their allies and into the hands of possible opposition groups. As a group, oil exporters spend much more money and a greater percentage of their revenues on their military and security forces than non-mineral dependent countries. For example, where the average developing country spends about 12.5 percent of its budget on the military, Ecuador in contrast spends 20.3 percent, and Saudi Arabia spends a whopping 35.8 percent. The extent of militarization is stunning. In the decade from 1984-1994, for example, OPEC members' share of annual military expenditures as a percentage of total central government expenditures was *three times* as much as the developed countries, and *two to ten* times that of the non-oil developing countries.

For these reasons, oil revenues tend to lend support, at least in the short to medium term, to whatever type of regime is in place – whether it is the occasional democracy or the more likely authoritarian ruler. While all states may use their fiscal powers to reduce dissent through coercion or cooptation, oil wealth provides states with exceptional possibilities to do so – a phenomenon that has been observed throughout the Middle East and in Mexico and Venezuela. Thus oil wealth is robustly associated with more durable regimes, and oil dependence is a positive predictor of greater regime durability. Even though authoritarian regimes in general are more likely to fall during economic crises, oil based authoritarian regimes have some cushion from this general rule. Regimes like Suharto's in Indonesia, Saddam Hussein's in Iraq, Gomez's in Venezuela, and the long-lived monarchies of the Persian Gulf (all of which lasted at least three decades) are representative of this unusual durability. Even if power shifts from one type of authoritarian rule to another (or to some form of elite democracy), political elites inherit the power that comes from control over the process of rent distribution because they control the state during windfalls, and they can consolidate this form of control through their allocative power. Thus, oil rents initially help regimes to consolidate; they enable them to endure for unusually long periods; and they even enable them to persist during periods of bust.

Yet the norm of regime stability is only part of the story. Richly detailed case studies of Nigeria, Venezuela, and Iran show that oil can help to undermine political stability over time, especially in authoritarian regimes. Virtually all oil-rich states tend to face significantly higher levels of social protest when oil revenues fall, and some of these

regimes collapse. Where regimes have developed mechanisms of social control, permit rotation in power, or have sources of legitimacy that are not based on oil rents, they are more likely to endure through boom-bust cycles. But where initial oil exploitation coincides with regime and state building, non-oil based interests do not form and patronage rents may be the main glue of the polity. Under these circumstances, these regimes are especially fragile and vulnerable during oil busts.

VII. SOCIAL AND ENVIRONMENTAL IMPACTS AT THE REGIONAL AND LOCAL LEVEL

The exploitation of oil has a profound regional and local impact, and from the standpoint of the majority of the local population, this impact is alarming. Rather than bring prosperity to a region, as is often the claim, the boom-bust cycle associated with petroleum dependence is magnified. Localities where oil is actually located over time tend to suffer from lower economic growth and lower per capita incomes than the rest of the country, greater dislocations, higher environmental and health hazards, and higher levels of conflict.

Economically, petroleum fails to offer long-term sustainable employment alternatives at the local level, but it can seriously disrupt pre-existing patterns of production. The promise of new jobs that new oil exploitation seems to offer typically attracts large numbers of migrants to an exploitation area. The rapid influx of people and the higher relative salaries of oil project workers inflate the local prices of key goods and services, bringing about a significant increase in the cost of living, even for those who do not share in the benefits of an oil project. For example, the municipality of Yopal, in the state of

Casanare, Colombia, abruptly filled with migrants hoping to find employment at salaries three to four times the minimum wage – even before nearby massive oil fields at Cusiana-Cupiagua came on stream. Rents and prices increased 300 percent, virtually overnight. But because most jobs created by the petroleum industry are temporary or seasonal in nature, and because the growth in jobs generally occurs only during the exploration phase as land needs to be cleared or equipment transported, the industry actually offers comparatively few jobs over time. Thus, while discoveries trigger massive changes, beginning with the influx of workers seeking employment on the construction of roads, pipelines and other infrastructure, these increased employment opportunities are do not last; employment levels tend to decline dramatically when infrastructure construction is complete. These problems are compounded by the expropriation of arable land for resource extraction activity and environmental damage, which promote a shift away from subsistence agriculture. The resulting instability in employment and income and food instability stress the local economy.

The social fabric of oil localities also changes, as disparities in income emerge and migrants pour in, often from other countries, ethnic groups, or religions. After the construction phase has been completed, the most likely local result of an oil boom (along with higher than average local inflation, increased migration, chronic underemployment, and food shortages) is increased prostitution, AIDS, and crime. Original residents who may not have been able to share in oil benefits increasingly clash with “newcomers,” as they see their own ways of life greatly disrupted. This is the case of the Bakola/Bagyeli ‘pygmies,’ for example, an ethnic minority in the region around Kribi, Cameroon, who

depend on forest products and hunting for their subsistence. They claim that the Chad-Cameroon pipeline construction has destroyed their medicinal plants and fishing and game areas, benefiting foreign workers and the Bantu population without providing meaningful compensation to them. The adverse impact on public health near oil localities is especially great. The migration of workers and the conditions of their housing lead to an increase in the incidences of communicable diseases, such as AIDS, other sexually transmitted diseases, tuberculosis and cholera. Along the Chad-Cameroon pipeline, for example, temporary encampments have led to the rise of prostitution and, consequently, the appearance of HIV/AIDS.

The environmental dimension of oil exploration is a chief cause of social dislocation. Hazardous wastes, site contamination, and the lack of sufficient protection of surface and subsurface waters, biodiversity and air quality (both in the immediate vicinity of the oil project and in relation to global concerns such as ozone depleting substances and greenhouse gases) have endangered the health of local populations near oil installations and pipelines and destroyed local livelihoods such as farming and fishing. Local communities, for example, report a sharp rise in infantile leukemia near oil facilities. This disruption is most profound among ethnic minorities and indigenous peoples who live off the land and whose customs and traditions may also be threatened. In Ecuador, the Cofan Indian Tribe reports the contamination of its drinking supply, In Colombia, where at least 2.1 million barrels of petroleum have been spilled since 1987 (approximately eleven times as much oil as was spilled in the Exxon Valdez disaster of 1989), severe damage to this tropical ecosystem includes air pollution, land clearings,

water contamination, soil erosion, sedimentation, and the disturbance of wildlife habitats. Petroleum wastes wash directly into local waterways, and Colombia's Institute of Natural Resources (INDERENA) has repeatedly condemned the presence of high concentrations of heavy metals and toxic polycyclic aromatic hydrocarbons, which are 300 times higher than drinking water standards in the North and 50 percent higher than international standards for oil discharges to surface waters.

But the fate of the Niger Delta region, where exploration began in 1958, is the best known example of the local impact of oil exploration. Although two million barrels per day are pumped out of the Niger Delta's mangrove swamps every day, providing Nigeria with a large share of its GDP, over 90 percent of its export earnings, and almost all its tax revenues, the people in the region have barely benefited. Despite producing energy for the country and the world, many of them do not even have electricity. While compensation paid for land acquisition and oil spillages have aided some individuals from the Ogoni minority whose land is affected, the local economy and the environment have been devastated. Gas flaring has permanently scorched the earth, destroying food crops and rendering farmlands barren. Some scientists believe that the incomplete combustion of the flares has resulted in acid rain that, in turn, has damaged crops and drinking water. Oil spillages (an average of three per month) and ruptured pipelines (either from improper maintenance or sabotage) have destroyed streams, farmlands and aquatic life. Thousands of villagers have been killed in pipeline explosions resulting from leaks, including over 700 people in one leak alone in October 1998. This has made unlivable the Alwa Ibom community in Iko, a once thriving economically stable and self-

supporting community. By most calculations, the region remains one of the most economically backward and politically marginalized in the country. As popular protest against the activities of oil companies rises and security forces are increasingly called upon for protection of facilities, it is also one of the most conflict-ridden and politically explosive.

VIII. PETRO-VIOLENCE AND CIVIL WAR

Natural resources and war are linked, but oil plays a special role in this relationship. Economists have found that high levels of primary commodity export dependence is associated with civil war, but petroleum dependence is even more likely to be associated with conflict than any other commodity. Countries dependent on oil are more likely to have civil wars than their resource-poor counterparts, these wars are more likely to be secessionist, and they are likely to be of even greater duration and intensity than wars where oil is not present. Evidence of this relationship is both statistical and case study based.

First, because oil produces such high rents, it can be the main impetus for going to war – either directly or indirectly. Oil revenues may be the catalyst for a conflict that might not otherwise have happened. In the Republic of Congo, for example, an opposition group received \$150 million funding from the French oil company, Elf-Aquitaine, to support its takeover of the government so that the company could receive more favorable treatment under the new regime (which it subsequently did). The payment financed a four-month war that resulted in 10,000 dead and the destruction of parts of Brazzaville. More

frequently, the impact of oil on the outbreak of civil conflict is more indirect -- the result of longstanding grievances over land expropriation, environmental damage, corruption, or the maldistribution of resources. This is especially true during bust cycles, as economic opportunities dry up. Recent civil wars and violent conflict in oil-exporting countries have occurred in Algeria (1991-), Angola (1975,2002), Indonesia/Aceh (1986-), Yemen (1990-1994), the Sudan (1983-), Nigeria (1980-1984), Iraq (1985-1992), and the Republic of Congo (1997, 1999). While cross border wars, e.g., the Iraq invasion of Kuwait, have also occurred, the powerful association is with civil wars.

Secessionist wars are statistically more frequent in oil-exporters than in non-oil exporters. Where secessionist movements are present, the likelihood of conflict is especially high because the promise of oil wealth appears to make viable a secession that might not seem possible in poorly-endowed areas. Not surprisingly, where oil is regionally concentrated and where benefits accrue to the nation while most adverse effects are local, secessionist wars are more likely. Examples abound. In the Sudan, war was triggered by President Numeiry's decision to place newly discovered oil fields in the country's Christian South under the control of the Muslim north. In Indonesia, the Aceh Freedom Movement has denounced the government for stealing Aceh's oil and natural gas resources as a main reason for its separatist struggle, and it has used the analogy of Brunei to convince its followers that Aceh could be equally as rich. In Nigeria, Biafra's move to secede only occurred after the government had made fiscal decisions treating oil as a centralized, rather than a regional, asset. In this way, fights over oil revenues may become the reason for ratcheting up levels of pre-existing conflict in a society.

Oil dependence is associated with particularly intense conflict. Because petroleum is so technologically sophisticated and requires so much capital, it is not easily extracted and transported; it is not “lootable” like drugs or gems. This means that it is difficult for rebels or generally unskilled groups to exploit, but governments can use this wealth to attempt preemptive repression. This is the case in Sudan, for example, where the government tried to forcibly clear entire populations away from the oilfields and the pipelines. Oil rents paid for the destruction of crops and razing of houses as well as for widespread terror against the local population. Oil’s non-lootability also means that separatist conflicts (like that of the Sudan) may be especially bloody and intractable where petroleum deposits coincide with the presence of minority groups. Where more straightforward fights over the distribution of oil rents between groups can be resolved by a new pattern of distribution, this is often not the case in separatist wars. But where oil is involved, such struggles are generally only resolved by the seizure of control of oil fields by rebels and a subsequent declaration of autonomy, or by the government’s total defeat of the minority located near the oil fields.

Finally, oil dependence, like that of other mineral resources, is associated with civil wars of long duration. Wars are expensive to pursue, and both governments and rebels can use oil rents to finance their armies. Because petroleum is transported generally through pipelines, it can be easily disrupted, and pipelines are an invitation to extortion. In Colombia, for example, oil revenues support the government’s battle against rebel movements, but because petroleum must be transported to the coast through two pipelines that are both over 400 miles long, there are almost unlimited opportunities for

rebels to extract “protection rests” and other forms of resources from oil companies. In 2000 alone, the pipelines were bombed 98 times and kidnappings for ransom were frequent; according to one estimate, rebel groups have managed to earn an estimated windfall of \$140 million annually.

IX. CONCLUSION

More than any other group of countries, oil dependent countries demonstrate perverse linkages between economic performance, poverty, bad governance, injustice and conflict. This is not due to the resource *per se*, but to the structures and incentives that oil dependence creates. Various proposals exist to mitigate this “paradox of plenty,” including demands for revenue transparency by oil companies and exporting governments, revenue management schemes, stabilization funds to mitigate price shocks, reforms of taxation and civil service, and the democratization and deconcentration of both the industry and the exporting countries. Without the implementation of reforms, the consequences of oil dependence will continue to be adverse.

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