



# NATURAL RESOURCES IN FEDERAL AND DEVOLVED COUNTRIES

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# 1. INTRODUCTION

Our way of thinking about natural resources has been fundamentally changed in the last generation. Whereas the focus on natural resources was once heavily economic and positive, today it is also about negative environmental impacts as well as about conflicts fed by or over natural resources. We have become aware of the “resource curse”, where resource wealth leads to corruption and major economic distortions rather than real prosperity for a community. At a global level, there is the challenge of how to provide food, water, energy, and housing for 10 billion people, while avoiding dangerous climate change and protecting the diversity and health of the environment. In many countries or regions, the challenge is also how to prevent violent conflict over natural resources and turn them to cooperative advantage and prosperity. While the principles and methods of good resource management are widely known, too often the actual practice falls far short and is counter-productive and unsustainable. Global production and consumption of virtually all natural resources has almost quadrupled in the last fifty years, causing climate change and severe weather disturbances, a loss of over 80 percent of the biomass of wild mammals, a 42 percent decline of natural ecosystems, and a dramatic increase in species threatened with extinction.<sup>1</sup>

While there has been a tremendous reduction in global poverty, prosperity remains highly unequal across the globe and within countries. Institutions, both domestic and global, have so far failed to respond adequately to the pace and scale of natural resource and environmental developments. Governance processes are too slow and fragmented, and the multiple combined risks exceed institutional response capacity. This is true of all countries. This paper focuses on the special challenges of dealing with natural resources in federal or devolved regimes and in situations of territorial conflict. When compared to unitary regimes, federal or devolved systems can certainly add to the challenge of natural resource governance, but at the same time the sharing of political power between central and state governments offers the possibility of making natural resource governance more sensitive to local and regional concerns, while protecting the national interest.

When the richest industrialized countries have yet to move their greenhouse gas emissions onto a sustainable path, though most have made significant progress in addressing such local environmental impacts as air and water pollution. Their wealth has also meant that any conflicts around natural resources have tended to be relatively low key and manageable politically. By contrast, most low and middle-income developing countries are challenged on all fronts as their economies and populations grow—they face serious pollution and degradation of the local environment, their greenhouse gas emissions are growing, corruption can undermine their political and economic institutions, and they often face serious tensions and even violent conflict around natural resources.

Each natural resource occurs in a physical space and in a larger political and social context. Depending on the resource, there can be disputes over ownership, governance, benefits, environmental damage, and access to and use of the resource. These disputes can play out at the local, regional, national and international levels. Resources cross internal and international boundaries and, depending on the resource, their use or development can have implications that range from local to national to

international. Natural resources differ greatly in their value, their links to livelihoods, their cultural significance and the environmental implications of their development and consumption. Extractive resources—minerals, commercial timber, gems and especially oil and gas—can be very valuable with the possibility of producing major revenues for governments or private interests, while their development may cause serious environmental damage. By contrast, land and renewable resources are most important for the use that individuals or communities make of them—for farming, grazing, settlement, fishing, harvesting wildlife and firewood. Competition around these resources tends to be over livelihoods, group identity, different kinds of rights (customary vs. property), and scarcity. Poor management of any of these can also destroy the resource. These and other characteristics can be important for the governance of different natural resources.

A United Nations report found that from 1950 to 2010, 40 per cent of civil wars in Africa have been associated with natural resources.<sup>2</sup> The resources in question include gems, timber, opium, oil, diamonds, tin, coca, gold, cobalt, cotton, natural gas, oil, coffee, rubber, fish and charcoal. Another UN study added land, water, pasture, and livestock.<sup>3</sup> There have been similar findings in Asia and South America. While natural resources can provide a causal link to violence, this is not automatic and depends on other factors shaping the political, social and economic context. One study found that the risk is highest when primary commodity exports make up about 25 per cent of GDP, while at higher levels the risk generally decreases except in the case of high levels of oil dependency. A critical factor is the capacity and quality of government. In very poor countries with weak governance, “the incentives to plunder are too strong”.<sup>4</sup>

The spatial dimension of resource conflicts can be central to their dynamics. Very local conflicts over water or pasturage may present no direct challenge to the state, which may serve as a mediator or force a solution. In other cases, warlords may compete over resources without a real political agenda. However, regional populations with a distinct identity and sense of grievance may pose a major political challenge to the state—including secession or autonomy--in seeking control of local resources. This is particularly true for oil, where if it is present “a rebellion is almost certainly to be secessionist”.<sup>5</sup> “Four types of resource dispute can present a general challenge to national stability: secessionist conflicts in which resource-rich regions seek to break away from the rest of a country; disputes over resources as part of a new national compact (i.e. in the context of a peace agreement or new constitution; grievances over standalone projects such as mines or new hydroelectric dams; and the cumulative impact of multiple small-scale clashes, typically over land, livestock and fresh water.”<sup>6</sup>

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**Examples of natural resource provisions in peace settlements with territorially based groups**

**Indonesia:** Settlement with Aceh in 2005 provided it with 70% of revenues from all current and future hydrocarbon deposits and other natural resources and the territorial sea. Aceh got little say over resource management and the life expectancy of the major gas field was relatively short.

**Mali:** Agreement with territorial collectivities in 2015 provided them 30% of budgetary revenues including an equalization formula with special attention to the northern regions; as well, the territories were to receive a percentage of revenues from natural resource exploitation on their territory, according to criteria to be mutually agreed.

**Philippines:** Agreement with the Bangsamoro of Mindanao in 2014 granted Bangsamoro 100% of non-metallic revenues, 75% of metallic revenues and 50% of fossil fuel revenues; after 4 years these amounts would be deducted from the annual block grant (and currently there is no production). Longer-term arrangement is to be reviewed annually by a fiscal policy board. The agreement became law in 2018.

**Sudan:** Comprehensive peace agreement of 2005 provided for devolved government (a southern federation within a national federation) and power sharing at the centre; the South could vote on independence in 6 years. A National Petroleum Commission was to make decisions by consensus. Producing states would receive 2% of revenues from their oil production and balance of net revenues shared 50/50 between national and southern Sudan governments. There were also provisions for a stabilization fund and a future generations fund.

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Natural resource provisions have been included in a number of peace settlements with territorially based groups, but very often these have been brief and superficial, with words such as “equitable” sharing or “better division of national wealth” that are not defined. By contrast, a few agreements have been quite specific as the examples in the box illustrate, but even a highly specific agreement such as that in Sudan was not fully respected by the national government, which was one reason for the massive vote in favour of secession. The resource provisions are usually more focused on sharing revenues than on sharing management. An exception was the agreement between the government of Papua New Guinea and the Autonomous Bougainville Government in 2001: the parties left negotiating “equitable arrangements for sharing revenues” to later, while agreeing that the extremely lucrative Panguna mine would be on the basis of a negotiated settlement, which has still not happened in 2019. A number of peace settlements involving natural resources took the form of special autonomy arrangements for a particular territory: this may have been in a previously unitary regime, such as the Philippines, or one already with special autonomy, such as Papua New Guinea, or, more rarely, in an existing federation, as happened with the small tribally distinct states of Northeastern India, which won some concessions regarding land and resources that are not available to other states.<sup>7</sup>

The resource provisions of peace settlements following insurrections have limited lessons that may apply to devolved and federal regimes that have more peaceful politics. They show how revenue sharing is frequently the dominant issue and how reluctant national governments can be to cede management

control of strategic resources. However, competition over resource revenues and resource management in peaceful politics tends to be more systemic, with less likelihood of special autonomy arrangements for particular states or regions. (Though as we shall see, the control of resources and revenue sharing arrangements in many federal and devolved contexts do sometimes involve resource revenue sharing with states and sometimes management arrangements for states; while of general application, these arrangements can substantially benefit those states with resources.)

In looking at natural resource governance in federal and devolved regimes, this paper adopts two distinct perspectives:

- comparative actual practice of natural resource governance across such regimes; and,
- normative criteria that might bear on designing natural resource governance in a devolved context given the challenges of the twenty-first century.

As we shall see, actual practice varies a good deal from country to country; moreover, there is no best answer for how natural resource governance should be organized in a federal or devolved regime—each country’s larger economic and political context will have a bearing, as will the character and location of its natural resource endowments. The distinct characteristics of the major resource types—petroleum and extractive resources, water and rivers, and land—affect the politics around them as well as the revenue and management arrangements that have been adopted, so each major type requires separate consideration. At the end of the day, the “technical” constitutional, legal or political arrangements can contribute to or detract from the possibility of effective natural resource management, but equally or more important will be larger considerations of political consensus, conflict, and culture.



## 2. CONSTITUTIONAL PROVISIONS RELATING TO NATURAL RESOURCES IN FEDERAL AND DEVOLVED REGIMES

The constitutional treatment of natural resources in federal and devolved regimes varies greatly. In some older federations, such as Australia and the United States, there is no mention of “natural resources” or of significant resources such as petroleum and minerals. In these cases, the allocation of powers over natural resources is the consequence of other powers, including the residual power, which gives subjects not assigned to the federal government to the states. However, references to “natural resources” do appear in many federal and devolved constitutions, as illustrated in the box above. Bolivia is a one extreme in having over forty clauses on the subject; various other constitutions have only one or two relatively short clauses. These constitutional provisions may articulate broad public policy objectives for the resource sector, including sustainability and development, as well as designating the order of government that has ownership of or authority over natural resources. There may be reference to the special interests of indigenous peoples and to the sharing of fiscal or other benefits from resource development. However, even when “natural resources” appear explicitly in a constitution, critical issues such as the allocation of powers over resources may be dealt with elsewhere, notably in clauses that refer to specific resources, such as oil and gas, rivers and water, land and forests. Moreover, a concept such as natural resource “ownership” can have quite different implications from one system to another. Powers over such subjects as taxation, internal commerce, the environment, exports and transportation can all be highly relevant to natural resource governance.

Resources such as petroleum and fish in a federation’s exclusive economic zone offshore can be of major importance economically or for some communities, but even in federations where the states have important constitutional powers over natural resources, these are normally limited to resources within a state’s boundaries. This may mean that the jurisdiction of a coastal state ends at the high water mark or edge of the territorial sea (12 miles or sometimes 3 miles), depending on how state boundaries are defined. Thus, most of a country’s offshore economic zone, which extends 200 miles or to the edge of the continental shelf, is deemed constitutionally to be under federal jurisdiction. Coastal states within federations have sometimes objected to this on political grounds and in some cases they have won concessions, as we shall see.

After this brief overview of constitutional provisions relating explicitly to natural resources, we can turn in the next section to issues and experiences in the management of the three major resource sectors:

- petroleum and minerals;
- rivers and water; and,
- land.

As we shall see, these pose distinct issues in terms of competition and conflict and in terms of the allocation of management responsibilities between federal or central governments and states. The

discussion of management arrangements for different natural resources is followed by a section on the arrangements for natural resource revenue sharing.

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### Examples of Constitutional Provisions Explicitly Dealing with “Natural Resources”

**Argentina:** provisions for rational use of natural resources, participation of indigenous peoples in their management and ownership by provinces.

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**Bolivia:** over 40 references including responsible use, native peoples rights, and exclusive central authority.

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**Canada:** provincial authority over non-renewable natural resources affirmed.

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**Ethiopia:** objectives of natural resource management; federal government ownership.

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**Germany:** Natural resources can be nationalized with compensation.

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**India:** Local development plans to include regard for natural resources.

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**Indonesia:** Natural resources under central power, with a role for the Council of Representatives of Regions in relation to laws.

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**Malaysia:** Provision regarding development plans.

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**Mexico:** Power of State over and its ownership of natural resources affirmed; preferential use of non-strategic natural resources on their land for indigenous peoples.

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**Myanmar:** State is ultimate owner

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**Nepal:** State to pursue objectives such as sustainability re natural resources, with fair sharing of benefits and priority for local people; creation of a Natural Resources and Fiscal Commission regarding fiscal sharing.

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**Nigeria:** Exploitation of natural resources only for social good; derivation percentage for allocation of benefits to be respected.

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**Peru:** Patrimony of nation with State sovereignty over natural resources.

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**South Africa:** Sustainable use of natural resources while promoting justifiable development and commitment to bring about equitable access to all of them.

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## 2.1 MANAGEMENT ARRANGEMENTS FOR DIFFERENT NATURAL RESOURCES

### 2.1.1 PETROLEUM AND MINERALS

Oil and gas are perhaps the most political of all natural resources, given their potential to transform an economy and government revenues, if they are abundant. Other minerals, such as copper, gold, iron ore, jewels, and coal, can also be extremely important for some countries, but their potential for

generating large surpluses for governments are typically less than for petroleum. Oil and gas development is also very capital intensive, both in the oil field and in the necessary pipelines or infrastructure for delivering the product to market. It is not a huge employer. While large-scale mining can also be capital intensive, it is usually a bigger employer than oil and gas; as well, much mining in poorer countries is small-scale and informal “artisanal mining”, employing large numbers working in very difficult conditions, sometimes reworking tailings of large mines. These extractive industries can be major despoilers of the environment—gas flaring, oil spills and pipeline leakages, toxic chemicals and waste polluting water and land. And because such resources are location specific, so are often concentrated in only some regions or local communities, which can engender rivalry over their control and benefits. The challenges in managing such resources are political, social, environmental, economic and fiscal.

The possession of large petroleum resources can present a major economic opportunity, but it can also present major challenges of inter-regional competition or conflict and for good governance and sound economic management. Petroleum rich developing countries have a sad history of failing to achieve balanced, sustainable growth and of extensive environmental damage while being pray to corruption. This is the “oil curse”. It includes “Dutch disease”, whereby oil wealth drives up a currency and undermines the competitiveness of other, more employment intensive sectors of the economy. A heavy dependence on petroleum can also make an economy and government revenues very vulnerable to swings in international oil and gas prices. There are potential remedies to deal with these risks, but too often they are ignored. Big mining can bring many of the same risks as big oil.

The political dynamics around extractive resources are strongly influenced by the size of the sector relative to the national economy. The more important the sector, the more likely it is that the federal or central government will play or seek to play a key role, whatever the constitution provides. Experts in fiscal federalism very largely support the view that jurisdiction over extractive resources should be with the federal government because:

- Given the uneven territorial distribution of resources, there could be significant regional disparities if states controlled the revenues from the sector;
- Federal governments with their more diversified revenue base are better placed to manage the volatility of petroleum revenues;
- Federal governments have lead responsibility for managing the economy, so if the extractive sector is very important, its management needs to be integrated with that of the general economy;
- States governments need greater stability in their revenues than federal governments given the nature of their spending responsibilities that are focused on services and transfers to individuals; and,
- States, especially in developing countries, often lack the technical capacity to deal with large oil companies in regulating the industry.

In practice, only some older federations ,Argentina, Australia, Canada and the United States, have given the lead on petroleum and minerals to the states; in the latter three cases. previously distinct

entities came together to form the federations and kept their their responsibilities for resources (though they are not mentioned as such in the constitutions). Even in these cases, the federal governments have sometimes used their other powers to strongly influence the development of the sector. In more modern federal constitutions, the federal government has major control of the extractive sector, even if, as in India and Malaysia, the states nominally “own” the resource.

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**Examples of constitutional provisions relating to petroleum and minerals**

*Oil and gas:* **Iraq:** “Oil and gas are owned by all the people of Iraq in all the regions and governorates” (Art. 111); **Pakistan:** oil and gas within a province or the adjacent territorial waters “vest equally in that province and the federal government” (Art. 172(3)) but offshore with federal.

*Both oil and gas and minerals:* **Canada:** “owner rights to non-renewable natural resources are vested with the provinces” (Art. 92a); **India:** Regulation of oilfields, mines, mineral development (Sched. 7.1.53 and 54) **Nigeria:** “federal proprietorship” and control of all minerals, mineral oil, and natural gas on land or in economic zone is affirmed (Sec. 44.3) along with control; **Venezuela:** “Mineral and hydrocarbon deposits... are the property of the Republic” (Art.12).

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The legal regime governing petroleum and mineral exploration and production normally deals with the following major issues:

- Hydrocarbon and mineral rights and their use
- Revenue matters, including taxation
- Environmental protection
- Petroleum and mineral transport and marketing

Petroleum and minerals have been relatively important—but never central—in Argentina, Australia, Canada and the United States. There have been periodic federal-state conflicts around resource management, notably in Argentina and Canada, when the federal government has tried to assert some measure of control over activity in the sector or to increase its fiscal take. In both countries, for example, federal governments in the past instituted taxes on petroleum exports that resulted in domestic prices to consumers lower than international prices; this reduced the value of provincial levies and shifted revenues to the federal governments and benefits to consumers rather than producers. During the depression, the Canadian government introduced a high tax on corporate profits from gold. On other occasions, federal governments have made concessions to promote development of the extractive sectors. The Canadian government has promoted the building of major pipelines, and has had tax policies to promote the development of the huge oil sands resource and of hard mineral mining. The US government, for its part, once introduced oil import quotas to protect its industry, which was awash in supply. Taxes, policies relating to pipelines, export and import controls, and price controls on oil and gas in inter-state commerce have been the major levers federal governments have used to influence the petroleum and mineral sectors when these are managed by the states. They have used these instruments in very different ways depending on commodity prices—sometimes being very deferential to market forces, and other times being strongly interventionist. The federal governments have also

developed environmental policies that are increasingly important for the extractive sector, but these policies have been motivated by environmental concerns, including most recently climate change, not a desire to influence the level of activity in the sector.

In these older federations there have been some “federal lands” onshore as well as lands under federal jurisdiction offshore. In the Western United States, the federal government retained its ownership of large land areas when new states were created, though over time it has cooperated with state governments in giving them a significant role in the management of most of these lands (but not lands under federal moratorium or designated for exclusive federal jurisdiction). In Canada’s northern territories, which do not have provincial status, the federal government has delegated significant control of minerals to the territorial governments.

In all federations, the territorial boundary of states is deemed to end either at the high water mark along the coasts, at the edge of the territorial sea (12 miles) or at 3 miles offshore (in the US). This means that the vast areas of a federation’s exclusive economic zone fall under federal jurisdiction. Given the tradition of state control of petroleum and minerals, federal jurisdiction has been unsuccessfully challenged legally in some cases. However, coastal states have tried to influence offshore activities. In the USA, partly in reaction to major oil spills, some states have taken legal action to stop offshore drilling and the federal government has put large areas under moratorium.

The Canadian and Australian federal governments have both entered unusual “joint management” arrangements with their states for offshore petroleum activity. While legal jurisdiction in the offshore has been found by the courts to be federal, the states have won political agreement to a joint management regime in their respective offshore zones. In Canada, the arrangement calls for certain “fundamental decisions”, such as initiating a licensing round or approving a development plan, to be agreed by the federal and provincial ministers, while day-to-day administration is conducted by an independent regulatory board, whose membership is equally balanced between federal and provincial nominees. In Australia, the federal government agreed that the states would have day-to-day management of their offshore zones, but that key decisions would normally require the agreement of both ministers; however, should that not prove possible the federal minister’s decision would apply. The arrangements in the Canadian and Australian offshores have worked quite smoothly in the absence of any major disagreements between governments. Given the highly capital intensive nature of offshore petroleum development, there are many fewer major decisions to be taken than would be the case on land.

With the exception of the four federations above, all other federations and devolved regimes give petroleum and mineral management to the federal or national government, whether onshore or offshore. This is true, even when the “ownership” of resources was deemed to be with the states, as in India and Malaysia.

In Brazil, Malaysia, Mexico, Nigeria, Russia, and Venezuela—all major petroleum producers—the states have no say regarding the management of the industry, or only very limited powers. The importance of the industry for various states combined with their lack of influence over developments

has meant that in a number of federations the governments or populations of major producing states have been discontent with the management arrangements.<sup>8</sup>

A few federal and devolved regimes in which the federal or national government has constitutional authority to manage the extractive industries have engaged in limited decentralization regarding the issuance of licenses for exploration and development, notably for minerals. Indonesia decentralized extractive resource management in the 1990s and subnational governments have issued more than 10,000 mining licenses. However, this regime has experienced several weaknesses in environmental regulation, transparency and enforcement, which has contributed to illegal mining and inadequate revenue collection. Local regulations have often contradicted national laws re licensing. Further difficulties have arisen, notably for investors, with the decentralization of and lack of consistency in land registries or cadastres. This case underlines the importance of a clear division of responsibilities between the national and local authorities, of strong information management, and building subnational capacity.<sup>9</sup> In principle, it can make sense for small scale or artisanal mining, as well as the extraction of sand and gravel for local use, to be managed at the state level, subject to relevant federal or national laws.

The heavy concentration of federal or central authority over petroleum and mining activity has very often resulted—especially when corruption is prevalent—in little sensitivity to local or state concerns, e.g. regarding the environment or local employment. An extreme example of local disempowerment when the federal government is the petroleum regulator has been Nigeria, where the states and local populations have been effectively excluded from participation in the industry. This marginalization combined with environmental damage and socio-economic deprivation has engendered a violent campaign for local resource control.

Some countries with centralized control of the extractive sector have tried to address local concerns through a strong emphasis on consultations with the states and publics as well as with strict environmental review requirements. The effectiveness of such arrangements depends heavily on a political commitment to consult honestly and seek to accommodate reasonable concerns. During the period 2005-15, Peru's exports from the extractive—mainly mineral—sector doubled. Poverty in the country declined substantially. However, there were many social conflicts associated with control, use and access of resources and their environmental and social impacts. In response, the government committed to building new relationships and dialogue with communities influenced by mining activities. Working with the United Nations Development Program, the approach grew into a complex structure of partnerships for dialogue, in which the presidency, major ministries (culture, environment, agriculture, and energy and mining), and ombudsman's office all developed directives and cooperative arrangements for managing dialogue with affected communities, regional governments and civil society. This led to the settlement over 3 years of 149 conflicts and disputes through the formation of 156 dialogue forums. This required substantial funding but the return has been very positive.<sup>10</sup> While the Peruvian case is in some ways special because of the large number of mines and affected communities, its commitment to partnerships and dialogue could inspire other federal and devolved regimes facing social conflicts around extractive resource development.

By contrast, Nigeria has yet to come to terms with the violent conflict around its oil industry in the Niger Delta. Despite large fiscal transfers to the governments of the oil producing states, the local populations have felt little benefit, with rampant corruption, poverty, unemployment and environmental despoliation. Criminal gangs have attack oil installations and bunker large quantities of oil. The federal government’s response has been to create a special Niger Delta Development Commission, as well as a separate Ministry, which have additional financial resources. In practice, however, these have not been effective, in part because of lack of political commitment at both the federal and state level, and so there continues to be political acrimony over shares as well as the violent criminality plaguing the industry.<sup>11</sup>

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### 2.1.2 RIVERS AND WATER

The issues around water resources in federal and devolved regimes relate overwhelmingly to the actual use of the resource and its physical management—sharing, uses, water quality, flood control, hydropower, and ecosystem sustainability. This gives water management a distinct political character focused directly on the resource itself, rather than on a second-order issue such as revenue generations, which is in marked contrast with petroleum and minerals. The political saliency of water is often tied to water scarcity and variability, which drive many water conflicts. Where water is abundant, the political pressures are usually lower, though issues such as hydropower, flood control and pollution can be important.

The water policy community has a long-standing consensus in favour of integrated water resource management (IWRM), especially within major river basins. This can be challenging within governments because of such departmental siloes as agriculture, irrigation, environment, industry; when there is a water ministry it typically has a weak mandate, in contrast with strong sectoral departments, such as for oil and gas. So the push for IWRM has been tough enough in unitary regimes, but it is that much more difficult in federal or devolved regimes, where river basins may fall into the territory of several states.

At the time of the drafting of the older federal constitutions, there was no concept of coherent water management. Old constitutions in the US and Canada make no explicit mention of water or rivers, so governments get their powers over water from a variety of constitutional headings. The treaty power is important for the US federal government in dealing with rivers, as it is in Australia. Australia, which has serious water scarcity, actually has a constitutional prohibition on the federal government from abridging “reasonable state use of rivers for conservation and irrigation”. To get round this, the Australian federal government made use of its spending power to “buy” state cooperation on the Murray–Darling basin.; the spending power also been important in the United States for the huge works of the US Corps of Engineers in damming and controlling rivers. As the examples in the box in show, that several federal constitutions do mention water vary greatly in their approaches. Ethiopia and South Africa make all rivers a federal responsibility, while Argentina, Brazil, India and Spain distinguish between federal and state rivers—which breaks the unity of water basins.

In most federations, both orders of government have some responsibilities for water. States usually lead on local issues such as water services and sanitation and the local allocation of rights to use water amongst private parties. The principles governing water allocation can vary, even within a federation,

e.g. in the United States the principle of prior use applies in some areas and that of equitable access in others.

For dispute resolution, states may go to the courts in most federations, but as experience in India shows, this is often inappropriate given the political nature of the issues, the fact that legal resolution may have little to do with good policy, and problems of compliance. Bolivia has tried to mitigate these problems with its specialized Agro-Environmental Court (Art. 189).

Federal governments often have the legislative power to intervene and resolve inter-state water disputes, but given the local or regional nature of most water disputes, experience in several countries (Canada, India, the United States) has been that federal governments can be politically reluctant to take sides and so have not intervened. While many countries have had serious tensions over water, violence has been rare.

Water can provide incentives to cooperate: it flows, has multiple uses, and can be reused. Interdependence and viewing water as a shared resource can be an opportunity for cooperation rather than conflict. Developing consensus takes time, but is key to long-term arrangements. There is a spectrum of institutions and processes for managing water conflicts and promoting cooperation, ranging from relationship building, to mediation, to substantive engagement (technical, fact-finding, advisory vs. binding). The success of different federal and devolved regimes in developing effective water management institutional arrangements varies a good deal. In water scarce environments, there can be tremendous jealousy over water allocations. Moreover, many water allocation arrangements take no account of the exploitation of aquifers, which need to be considered in relation to surface water.

River basin organizations have been increasingly adopted as a central part of the water management architecture, but some countries have been unable to develop these or have chosen not to. The examples of difference experiences show in the box gives a sense of the variety of institutional approaches. Some, such as in India, Nigeria, and the United States, have been clearly deficient but even where quite robust basin managements regimes have been put in place, they have not always succeeded in effective management of the resource. When federal or central governments have the constitutional authority to impose settlements, they sometimes do not for political reasons. Success can depend on having good quality scientific input and developing a sense of shared interest. What is clear is that water issues often cross borders in federal and devolved regimes and they engage a wide range of stakeholders and governments; this should create pressures for mechanisms for dialogue and shared decision-making<sup>12</sup>

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### 2.1.3 LAND AS A RESOURCE

Land, particularly land that is good for agriculture, forestry, and pastorage, is a critical natural resource. “Land is the object of competition in a number of potentially overlapping ways: as an economic asset, as a connection with identity and social legitimacy, and as political territory.”<sup>13</sup> As with water, competition or conflict over land tends to be over access to and use of the actual resource, rather than over major fiscal or revenue benefits. Land disputes tend to be local—often within a very small



area—but they can extend over a region. Within federal and devolved regimes, issues around land include ownership and rights to land use, the objectives of land policy, the allocation of powers over land amongst governments, and mechanisms for the resolution of land disputes; regimes differ considerably not only on the substance of their approaches to these matters, but also on the extent to which these matters are spelled out in the constitution versus legislation. Major land policy objectives in some federal countries have been to end feudal land holding and clarify security of tenure (India), to break-up large estates or nationalize large unused lands (often to transfer land to peasants or small farmers), to transfer land from white settlers to indigenous small farmers, to protect the land rights of pastoralist, indigenous, and traditional communities, and to promote rationale and sustainable land use through planning.

In general, the most extensive constitutional treatments of land in federal and devolved regimes are found in some of the more modern constitutions. Many federal constitutions make no explicit mention of “land” at all, which means that responsibilities for land policies and administration are determined by other headings, e.g. agriculture, mining, environmental protection. Others largely treat “land”, natural resources and water as an inter-connected set, leaving any refinements of policy between the three to legislation. However, as shown in the accompanying box, there are constitutions that have very extensive, explicit sections on land, which can reflect the political saliency of the issue as well as an approach of extensive details in constitutional drafting. Even when land is mentioned, it is rarely defined.<sup>14</sup> Land can sometimes be seen as the same as “territory”, but our focus here is on land as a natural resource, not territories and their political boundaries.

### **(I) LAND OWNERSHIP, INCLUDING COMMUNAL AND INDIGENOUS RIGHTS**

Land ownership has been a highly political issue in several countries, which can reflect their historically important ideological and class divisions, the legacy of colonialism, patterns of land use and occupancy, and other factors. The constitutions of Ethiopia and Mexico both reflect their revolutionary roots: the former asserts that the State owns all the land in the country (so that occupants can acquire rights of use, but never of underlying ownership), while the latter affirms that the nation is the original owner of the land, so that rights of use are a private privilege created by the nation. Other constitutions recognize private property and set out principles, including compensation, regarding its possible expropriation by the state. Brazil’s constitution provides for individuals to acquire land through occupancy and use. Most federal and devolved regimes recognize private ownership of land as well as public lands, but the constitutions may be silent on this and ownership is distinct from legislative jurisdiction, which can control use.

European colonialism imposed Western approaches to property ownership that often ran counter to the traditional indigenous regimes, so that the constitutions of some post-colonial countries distinguish between classes of land (public, community, and private in Kenya and South Sudan) or of land rights (India), where different legal regimes apply. As well, several constitutions recognize the special land rights and claims of indigenous peoples.

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**Examples of water management arrangements in federal and devolved regimes**

**United States** has seen relatively frequent interstate litigation over allocations and pollution. There are several “interstate compacts” amongst two or more states; these are consented to by Congress and operate by vote (with a federal representative) or consensus. They can address issues cooperatively, including planning, which the courts cannot. The Tennessee Valley Authority, created in the 1930s, is a unique federal corporation to manage water and regional development.

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**India’s** states have paramountcy over water including supplies and canals (Sched. 7.2.17) and have resisted federal involvement, despite federal power of regulation over interstate rivers (Sched. 7.1.56). There are 58 inter-state water agreements re shared projects and water sharing. Legislation providing for the creation of inter-state basin advisory boards has not been implemented and a federal effort for agreement on water-sharing principles failed. There is an inter-state water disputes mechanism, but its use has been limited and it is cumbersome.

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**Bolivia:** “Water” is an exclusive central responsibility; there is concurrent responsibility for potable water and treatment of solid waste with autonomous territorial entities and for irrigation and water sources with rural indigenous autonomies (Arts. 298, 299, 304)

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**Brazil** has a National System of Water Resource Management with a national council and secretariat, an agency for regulating federal waters, state councils and water resource managers, water basin committees (bringing together key actors) and basin agencies. There is concurrency for water rights (Art. 21 and 23).

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**Nigeria** has 36 state and 8 river basins, with shared federal-state responsibility for water. River basin authorities are structured around political, not hydrological boundaries, which has led to uncoordinated exploitation of irrigation water and fragmented responsibility.

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**Mexico’s** federal government has jurisdiction over water; it passed a water law in 2003 promoting decentralization and participative management, with administration by river basin councils, which bring together representatives of states, agencies, and water users.

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**Australia** is very water poor, so the federal government has progressively increased its power over water to address growing problems. It created water markets and guidelines for states on managing competition for water. It used fiscal incentives to win states’ agreement to strengthen Murray-Darling basin management. States must develop water plans subject to federal approval.

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**Spain** has national irrigation and hydrological plans, a water act, and operates under the European Union’s Water Framework Directive. Basin authorities for interstate rivers lead on water management; each has boards bringing in relevant governments and stakeholders.

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**South Africa** did a fundamental review of water while drafting its new constitution. It adopted a centralized, national approach, and rejected basin authorities as the primary managers (in part because these can complicate inter-basin transfers). Its Water Management Areas bring together stakeholders with common interests and proximity; they may, at the discretion of the minister, delegate responsibilities to catchment management agencies.

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**Switzerland’s** federal government may legislate on water protection and exploitation, while cantons manage their water resources (Art. 76)

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## **(II) ALLOCATION OF RESPONSIBILITIES FOR LAND POLICY AND ADMINISTRATION**

The lead responsibility for land policy in federations can be with the federal or state governments, or concurrent. In the older federations (USA, Canada, Australia, Argentina, Mexico) and in India and Pakistan, the lead on land issues is largely with the states, though this is without explicit mention of land in the first four constitutions. However, in all of these cases, the federal governments have access to powers that can strongly influence land use. In tiny Switzerland, land policy is largely with the cantons, but the federal parliament can legislate binding principles relating to spatial planning and regarding land of house and it conducts the National Land Survey. In a number of federal and devolved regimes, (e.g. Bolivia, Brazil, Ethiopia, Indonesia, Kenya, Mexico) constitutions give the clear lead on land issues to the federal or central government, though in practice the federal or national government may delegate certain roles to the states through legislation. In some of these cases, the constitution carves out particular responsibilities for the states or even municipal or district governments (Brazil, Kenya, Mexico), usually of a local or administrative nature. Kenya has an independent National Land Commission to manage public land on behalf of the national and county governments. The third major grouping is federations in which land policy is essentially concurrent (Nepal, South Africa, Spain), where the federal government passes framework legislation with the states may have supplementary legislation of their own as well as administrative responsibility for some of the federal legislation; some of these federations also have explicit constitutional provision for some land relevant powers, such as local planning. Malaysia, which is a highly centralized federation, is unusual in having a National Land Council, composed of high level representatives of the federal and state governments, that develops land policy for peninsular Malaya (Sabah and Sarawak having separate arrangements). Nigeria is very much an outlier in that its Land Use Act, enacted under the Generals in 1978, has been entrenched in the Constitution; its objective was to address the multiplicity of tenure systems and promote an effective and coherent land management regime, but its vesting control of land use in the state governors has produced a heavy bureaucracy and rife political corruption, resulting in a large and uncertain informal property regime. The need for deep reform was recognized by the President several years ago, but it has not yet been achieved.

Some lands within states may be deemed “federal” and so come under federal law, even when other lands are largely under state jurisdiction. This is important in the United States, where federal government has huge land holdings because land was not transferred to the western states when they achieved statehood.

There has been no comparative study of the effectiveness of the different allocations of powers relating to land in federal and devolved regimes, so any conclusions must be tentative and even speculative. In practice, in most federal and devolved systems both orders of government are involved with land policy to some degree. Highly decentralized regimes have worked reasonably well in the OECD federations, though environmental standards have sometimes varied substantially from state to state. In India’s highly decentralized regime, progress with major land reform has differed significantly between states, with Kerala and West Bengal having effected far more land redistribution than other states, but the constitution lists 284 land reform laws of specific states or areas that are substantially protected from judicial review. The highly centralized regimes provide consistency, but can be insensitive to local culture

and concerns if they do not provide opportunities for state governments and populations to provide input. Regimes heavily based on concurrency provide national standards with state and local administration, which can work well if the standards are respected. There is no best regime and the quality of land management likely reflects broader social and political standards as much as the allocation of powers.

Experience with dispute resolution regarding land has some parallels with dispute resolution for water. A few federations (Brazil, Bolivia, Mexico) have constitutionalized special courts for resolving dispute over land issues; these seem to focus on issues of title, especially in rural areas.

### **(III) COMMUNAL AND INDIGENOUS LAND RIGHTS**

Many federations and devolved regimes have significant numbers of traditional communities, which may be called indigenous or tribal. These communities typically have a close relationship to the land for their livelihood and cultural reasons and may have claims over certain traditional territories. The rights of such communities have become more widely recognized in recent years and are increasingly a political and legal issue. They are very relevant to systems of devolved governance because these communities have rights that may constrain federal or state governments and create obligations upon them, including in relation to land and resources. Several federal and devolved regimes have special provisions dealing with the rights and interests of traditional communities and indigenous peoples in land. Constitutions can recognize communal property as a distinct class (Bolivia, Kenya, South Sudan) or recognize existing or future aboriginal land claims agreements (Canada). Bolivia's new constitution greatly strengthens indigenous communities through the creation of rural native indigenous jurisdictions, which have over thirty listed exclusive or concurrent jurisdictional authorities including a number relating to land and resources. India has long had constitutional provisions for its several hundred scheduled tribes and sub-tribes; where those are numerically preponderant, a scheduled area may be designated with elements of tribal governance. In Canada and the United States, reserved lands for indigenous communities were set aside in the nineteenth century and over time these have acquired significant self-government. In Canada, self-government for some indigenous communities has been dramatically enhanced in recent years through "modern treaties" that have transferred additional lands and codified indigenous interests in different classes of land.

While many constitutions now recognize indigenous rights in some way, the respect for these rights in practice often falls short. In Mexico, for example, the federal government signed an accord with the Zapatistas to end conflict in Chiapas, but despite promises of legislation recognizing the rights to land and resources, in the end the law made it optional for states to recognize indigenous autonomy, which few have done. Kenya has created lands held in trust by country governments for traditional communities, but the system has proven weak with inappropriate decisions and a weakening of the traditional tenure system; a project in Garba Tula worked with elders to document customary laws and encourage the Isolo County Council to adopt new bylaws, though this has not yet happened.<sup>18</sup> These issues of communal and indigenous rights merit careful attention in any review of natural resources and land issues in federal and devolved regimes.

Dispute resolution around indigenous land rights has been weak in many countries. Canada's courts have recognized that governments have a strong "duty to consult" and seek reasonable accommodation with aboriginals regarding developments that affect lands of traditional use. This has shifted the ground substantially to strengthen indigenous rights in Canada, but courts in most federal or devolved regimes have been reluctant to assess the adequacy of consultations or accommodation of indigenous rights.

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### Examples of land provisions in federal and devolved constitutions

**Bolivia's** central government has authority regarding "general policy over land and territory and title to them", agrarian administration and land registry; legislation shall determine what authorities over land shall be delegated to the autonomies (Art. 298). Individual and collective property of land are recognized so long as it fulfills social or economic purposes. (Art 394)

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**Brazil's** counties have power over planning and control of urban land (Art. 30). The federal government shall grant incentives for the recovery of arid land and aid small scale-irrigation (Art 43). Occupants for at least five years of small, rural land-holdings who have made them productive shall acquire ownership (Art.191)

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**Ethiopia's** women have equal rights to men re land and inheritance (Art. 35). Ownership of land is vested in the State and peoples; government shall ensure the right of private investors to the use of land; pastoralist have the right to free land for grazing and cultivation as specified by law (Art . 40) The federal government has power to administer land and shall enact laws regarding utilization of land and other resources linking two or more states (Art. 55)

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**India's** states have jurisdiction over land, including rights, tenure, rents, transfers and alienation of agricultural land, land improvement and agricultural loans (Seventh Sched. II.18).

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**Kenya's** Constitution distinguishes between public, private

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**Mexico's** Constitution affirms that all land is originally owned by the Nation and private property is a privilege created by the Nation. Federal law may impose on private property such restrictions as the public interest may require, including limits on ownership of agricultural and other rural lands. There are also provisions re land redistribution by the federal and state governments. (Art. 27). The federal and state governments may pass laws to determine the powers of municipalities to control and supervise land use. (Art. 115)and communal land (Art. 61-63) while asserting that all land belongs to the people collectively. The central government may regulate the use of any land (Art. 66). A National Land Commission shall manage and make recommendations re public land (Art. 67). There shall be a national law establishing courts to hear and determine disputes re the environment and the use, occupation and title to land. (Art. 162)

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**Nigeria's** federal government has jurisdiction over protecting and improving land (Art. 20), but the Constitution provides that no law shall invalidate the Land Use Act (Art. 315).

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**South Africa's** Constitution includes the commitment to land reform and empowers the national government to take measures to foster access to land on an equitable basis (Art. 4).

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**Switzerland's** Constitution requires the federal government to compile necessary statistics, including on land and the environment (Art. 65). The federal government is authorized to lay down principles of spatial planning and land use and it may legislate on the development of land for housing construction; it is to maintain the National Land Survey (Art. 75 and 108).

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## 2.2 NATURAL RESOURCE REVENUE SHARING

A central feature of federal and devolved regimes is their fiscal architecture: who has what powers to raise what revenues; how the distribution of revenues is determined; who has what expenditure responsibilities. These questions have both a vertical dimension—between the federal government and the states—and a horizontal dimension—amongst the states. Such regimes vary a great deal in the extent to which revenues are raised centrally, in their procedures for allocating revenues, and in the distribution of expenditure responsibilities. In all of them, more revenue is raised centrally than is directly spent by the federal or central government, so there are arrangements for distributing some centrally raised revenues to state (and sometimes local) governments. Some regimes are centralized both in revenue raising and expenditure; others are heavily centralized in raising funds, but more decentralized in expenditures; and still others are relatively balanced with most governments being largely self-financing.

Of all natural resources, none capture the imagination as much as oil and gas as a potential source of large revenues for government. In Nigeria and Venezuela, petroleum levies have accounted for 80 or even 90 percent of all government revenues, while in Mexico and Russia, they can be as much as half of all government revenues. Other natural resources can also be important for government revenues—especially extractive minerals such as gold, copper, coltan, diamonds, iron ore, coal, and even jade—but they rarely predominate in government funding as petroleum revenues can. By contrast water is rarely a source of significant revenues—though occasionally large hydro-electric projects can be. Partly, this reflects the systematic under-pricing (or non-pricing) of water use in most regimes, where agriculture is the biggest user and a sensitive political constituency. Similarly, land is rarely a source of significant revenues for governments—land sales and rentals typically been of modest importance—with the exception of land and property taxes for local governments. So the issue of natural resource revenue sharing is overwhelming tied to extractive resources, none more than oil and gas.

The constitutional authority to impose fiscal levies on the extractive sector is normally the same for petroleum and all minerals, with the occasional exception of very small artisanal mining. In some federal and devolved regimes all fiscal levies on extractive minerals are at the federal or national level; in others, both orders of government collect from industry. There are arguments pro and con natural resource revenue raising powers being assigned to the federal or central government. Those for such an assignment include:

The very uneven distribution of natural resources, including petroleum, can give rise to significant regional disparities if states control the revenues;

- Federal or central governments, with their diversified revenue base and easier access to capital markets, are better placed than states to deal with the high volatility of resource revenues caused by big price movements;
- When resource revenues are very large, their management needs to be integrated into the broader macro-economic management of the economy;

- States typically need greater stability in revenues than national governments because of their smaller revenue base, frequently limited access to debt markets, and their structurally stable spending in areas such as education and health;

As a practical matter, some developing countries may lack the capacity to have a decentralized system of resource management and taxation. Against this, there are arguments for some decentralization of control and benefits to constituent units because:

- Many of the most immediate impacts of resource development are felt in the producing regions;
- The immobile character of natural resources means that local control and taxation is technically feasible; and,
- The producing region may face investment needs for infrastructure or incur environmental costs because of the industry's activities.

While the preponderant view amongst fiscal federalism experts is that central control of petroleum management and resources is preferable in a federation, this argument is stronger when the resource is more important relative to the economy and for total government revenues. In other words, the trade-off will depend on particular country situations.

A major issue with natural resource revenues is their allocation amongst governments, whoever collects them. This issue needs to be placed in the larger context of a federal or devolved fiscal regime. Fiscal revenues can be allocated on the basis of derivation or need. The principle of derivation means that revenues (or some of them) should be allocated to the state or locality where they are generated. In regimes where the states have extensive revenue raising powers, they typically keep the revenues they raise, so devolved taxing powers are implicitly give effect to the principle of derivation. But when such revenues are raised by the federal or central government, some of these will go to fund its own direct expenditure needs and priorities, which are not tied to the geographic origin of the revenues. At the same time, some part of federally or centrally raised revenues will be allocated to state (and sometimes local) governments. This can be done through revenue sharing or intergovernmental transfers or some combination of the two:

**Revenue sharing:** Under this approach, federally or centrally collected revenues are shared with state or local governments according to a set of rules. All revenues can be pooled for this purpose or there can be separate rules of allocation depending on the source of revenue. Shared revenues are provided to states without conditions as to how they are to be spent. In many federations, the states' share of centrally collected revenues never appear in the federal budget, but go directly into a national account, before being distributed to the states. Such revenues are often considered "own source", even when the constituent units have not determined or collected them.

**Intergovernmental transfers:** The alternative to sharing all or certain centrally collected revenues is for the federal or central government to vote to transfer funds from its budget to the state or local

governments. These transfers can be general-purpose and unconditional, like shared revenues, or conditional, in that they are to be used by the constituent units for specific purposes subject to conditions. Conditional transfers may require some proportion of matching funds from the constituent units. They provide an incentive for the constituent units to undertake programs that are federal priorities though in principle the constituent units can decline to receive them (which rarely happens).

Both revenue sharing and intergovernmental transfers can make unconditional transfers and both can accommodate allocation formulas based on various measures of *need* (e.g. a state's population size, fiscal capacity, territorial size, cost structure). Revenue sharing regimes can accommodate the principle of *derivation* as one of the criteria for allocating revenues, while the intergovernmental transfer method can make *conditional transfers*.<sup>19</sup> In practice, *the derivation principle in revenue-sharing regimes seems always to be attached to the allocation of a particular revenue stream*, not of all revenues. And natural resource revenues are the most commonly chosen revenue stream for this treatment.

Different regimes give very different weights to revenue sharing versus revenue transfers. For example, Nigeria relies very heavily on revenue sharing, while India mixes revenue sharing and some intergovernmental transfers. Canada and Mexico operate through intergovernmental transfers. Every federal or devolved regime must find its own balance. In several regimes, natural resource revenues are centrally determined and collected but then allocated, at least in part, on the basis of derivation.

The principle of need is quite flexible and applied in different ways to the fiscal architecture of federations. Some OECD federations (Australia, Germany and Switzerland) have highly developed systems of *equalization*, though assessment of need may consider only *capacity to raise revenues* or both this and *expenditure needs*; the systems may try to achieve either *full equalization* or *a limit to disparities*. Many other federal and devolved regimes, especially in developing countries, do not have a coherent, integrated definition of need nor do they have an equalization program as such. Rather, they apply several criteria (e.g. population, area, equality of states) in the allocation of the revenue pool. These may still result in quite significant fiscal disparities between states.

In principle it could be possible to design an allocation formula for distributing petroleum revenues that would be appropriate for very different oil prices and production, e.g. the share going to producing states would decline in high price or volume scenarios. In practice, however, the few constitutionalized formulas for allocating petroleum revenues provide a fixed percentage share to producing states that applies whatever the circumstances. There are real advantages to avoiding such fixed percentages in constitutions because circumstances can change. Several constitutions set out principles regarding revenue distribution but no percentages and a number combine this with the creation of fiscal commissions that make recommendations on revenue distribution.



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**Examples of constitutional provisions relating to resource or other revenue sharing**

**Bolivia's** constitution provides for 12.5 percent of petroleum revenues to go to the producing departments.

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**Brazil's** constitution provides for the federal government to provide finance to guarantee equalization of educational opportunities (Art. 211), but says nothing about equalization more generally. While oil reserves belong to the federal government, the constitution provides for financial compensation (royalties) to "producing" (and offshore bordering) states and municipalities according to rules established in specific legislation.

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**Canada's** constitution commits the federal government to making equalization payments to the provinces to ensure that they have sufficient revenues to provide reasonably comparable levels of public services at reasonably comparable levels of taxation. (Art. 36), but creates no special mechanism for this, which in practice has been controlled by the federal minister of finance.

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**India's** constitution provides for establishing finance commission on revenue distribution every three year; the commission is to make recommendations regarding "the principles which should govern the grants-in-aid" (Art. 280).

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**Malaysia's** constitution guarantees five percent of royalties to producing states.

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**Nepal's** constitution provides for federal equalization grants to provinces and local governments on the basis of need and capacity to generate revenues. It also creates a National Natural Resources and Finance Commission to make recommendations on revenue distribution.

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**Nigeria's** constitution provides that not less than 13 percent of natural resource revenues shall go to the producing states. It also creates a finance commission and a general revenue sharing arrangement, with five criteria for allocating these revenues amongst the states.

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The constitutions of Kenya, Nigeria, and South Africa all have constitutional provisions for finance commissions, but finance commissions can also be established by federal legislation, as in Australia. They are most effective when they are staffed by professionals and independent. In Germany, Ethiopia and South Africa, the states have a formal role in reviewing the sharing of revenues through the upper houses, but in Germany's case the final decision rest with the lower house. Finally, the courts have sometimes played an important role in interpreting constitutional provisions on revenue allocation.

The experience with percentage formulas for the allocation of *petroleum* revenues amongst governments has been that it can lead to major fiscal disparities amongst states. In Nigeria, the richest oil producing state has on occasion had over fifteen times more revenue per capita than the poorest non-producing state. Brazil now has detailed formulas for allocating different classes petroleum revenues amongst the federal government, the governments of "producing" and other states, and the governments of "producing" and other municipalities. (States and municipalities are deemed to have offshore zones for this purpose.) The Brazilian regime has resulted in extremely unequal shares in revenues to states and municipalities, with Rio de Janeiro state getting 75-80 percent of petroleum revenues going to states, and as few as 10 municipalities getting over 50 percent of petroleum revenues going to municipalities., Bolivia provides 12.5 percent of petroleum revenue to the producing departments, which have small populations, while the far more numerous non-producing get 31.5 percent. Indonesia has separate allocations for oil versus gas revenues to both provinces and districts

(as well as special allocations to Aceh, Papua and Papua Barat). By contrast, there are federations—Mexico, Russia, Venezuela—where the producing states get no special share of petroleum or resource revenues.

Floating above all of these arguments over the allocation of resource revenues are larger considerations of “whose resource is it?” Inhabitants of producing regions can feel strongly that they have some proprietary claim—whether it is recognized in the constitution or not—while national politicians and citizens and other regions may equally feel that the resource should be a national treasure and shared. In some federations, there is a consensus—one way or the other—on this issue, while in others it is hotly disputed.

In practice, the fiscal arrangements for natural resources across federal and devolved regimes are as varied as the management arrangements. In Argentina, Australia, Canada and the United States the states largely manage the resource and have the ability to impose various levies, such as license fees and royalties. However, the federal governments also have taxing powers that have at times of high price been used to divert revenues to the federal government (targeted corporate taxes, export taxes) or at other times to promote petroleum development (special corporate tax write-offs). A significant issue can be how a state’s petroleum revenues should affect its share of other revenues or transfers from the federal government. In Nigeria, the oil producing states’ share of petroleum revenues has no effect in reducing their share revenue from the national pool, whose allocation is based on other criteria, such a population, area and state equality. By contrast, in Australia, which has a comprehensive equalization program, a state’s resource revenues are fully included in calculating its fiscal capacity, which directly affects the equalization transfers it should receive; so producing states get little net benefit from their resource revenues. Canada has had varied approaches to including a province’s resource revenues when calculating its fiscal capacity, which determines its potential entitlement to equalization payments; however, in Canada, equalization payments are only one of a number of transfer payments to provinces, and the others (e.g. for health and social programs) are not influenced by a province’s resource revenues.

Given the volatility of resource revenues, there is a strong argument, particularly when such revenues represent a large share of total government revenues, for the creation of a revenue stabilization fund. Such a fund will receive resource revenues in years when they are above planned levels (because of high prices or production) and can be drawn down in years when resource levels fall significantly, thus permitting a stabilization of government spending. Russia adopted a stabilization fund in 2004 and it became a principal instrument for holding down excessive liquidity, and lowering inflationary pressures at a time of skyrocketing petroleum prices. In 2008 it moved to a new approach whereby oil and gas revenues were accounted for separately from other revenues and part of them were included in the federal budget, this part being called the oil and gas transfer. The size of this transfer was set and the balance of resource revenues went into a reserve fund or, above a certain threshold, into a national wealth fund<sup>20</sup>. This served Russia well during the major economic downturn after 2008. There is no such formal arrangement in Nigeria and federal measures to hold back some centrally collected revenues for various purposes, including for revenue stabilization, have been found illegal by the Supreme Court and are objected to by the states, though the federal government persists.<sup>21</sup>

However, such stabilization funds are not normally built into resource revenue sharing regimes, which is a weakness.

A number of federations have tried to address these issues of fiscal coordination through fiscal responsibility laws. Such laws can establish fiscal targets as well as procedural rules for transparency and accountability. This can include rules around borrowing and incentives for fiscal prudence<sup>22</sup>. While such laws can be helpful, it can be a challenge to get the political agreement necessary to put them in place. This is more likely to happen in the context of addressing a crisis, when the federal government must step in, as happened in Brazil in the 1990s. As well, if the federal government makes large, discretionary transfers to the constituent units, it may use this as a lever to win their cooperation. However, the challenge can be especially acute when the overwhelming share of revenues going to constituent units is through revenue sharing (as opposed to more discretionary transfers) because the federal government may have limited leverage, as has been seen in Nigeria.

The challenge of corruption and lack of transparency can be very difficult to manage politically in poorer countries. The issue of transparency takes on additional importance in federal regimes with revenue sharing in that state governments have a material stake in knowing exactly what revenues have been collected by the federal government. However, no federation gives the constituent units a role in relation to the auditing of the federal accounts, with national audit offices typically named by the national government, perhaps with parliamentary approval. By contrast, in some federations, such as India, there is one national audit office that serves the state governments as well as the national government. This has efficiency advantages and also limits the extent to which state governments can interfere with the audit function—which has been a problem in some states in Nigeria, where each state has its own audit office. Some of the newer federal-type constitutions, such as South Africa and Kenya, also give strong authority to the central government to establish rules relating to fiscal prudence.

### 3. CONCLUSION: THE CHALLENGE OF GOOD GOVERNANCE OF NATURAL RESOURCES IN FEDERAL AND DEVOLVED REGIMES

Developing any natural resource, renewable or non-renewable, creates tensions between our desire for wealth creation on the one hand and protection of our natural environment on the other. Moreover, developing the most economically valuable “extractive” resources poses major social, political and economic risks—notably the “curse” of corruption, lack of sustainability, and economic mismanagement. Other natural resources, land and water, are normally less corrupting, but they can lead to serious social and political conflicts and be devalued by poor stewardship. Fortunately, the resource curse is not inevitable and many countries have been able to benefit from resource wealth. However, poor, developing countries are particularly vulnerable to the negative consequences of resource wealth.

The principles of good resource governance are generally well established. The Natural Resource Governance Institute has developed the Natural Resource Charter with eight major precepts:

- promoting the greatest benefit for citizens through a comprehensive national strategy, clear legal framework, and competent institutions;
- accountability of decision-makers to an informed public; transparent allocation of rights to explore or develop;
- contractual and tax arrangements designed to realize the full value of the resource in changing circumstances, while attracting necessary investment;
- promotion of local benefits and the mitigation of environmental and social costs;
- investing revenues to achieve optimal and equitable outcomes for current and future generations; and, finally,
- smoothing domestic spending of revenues to account for revenue volatility.

There has been considerable progress through the Extractive Industries Transparency Initiative (EITI), a cooperative international effort that works with resource rich countries to develop sound and transparent decision-making processes and revenue arrangements. Its 52 implementing countries include several federal and devolved regimes, including Argentina, Ethiopia, Indonesia, Iraq, Mexico, Myanmar, and Nigeria. Similarly, the International Monetary Fund and World Bank have developed guidelines for good fiscal practices for resource revenue management. Their principles include the need for *clarity of roles and responsibilities*, the need for *open budget processes*, the need for *public availability of information*, and the need for *assurances of integrity*.<sup>23</sup>

Thus the standards for good resource governance are well known. However, as the EITI shows, many countries fall well short of meeting these standards, even when they nominally subscribe to them. Natural resource management and revenue sharing presents special challenges in federal and devolved

regimes. Constitutional provisions can, in principle, try to promote the realization of good resource governance standards, at least in certain regards.

They can:

- Establish requirements for transparency and probity in relation to public revenues and expenditures;
- Create independent auditing offices and anti-corruption mechanisms;
- Require environmental and social impact reviews as well as public consultation for major resource projects;
- Protect the interests of indigenous populations in relation to their tradition use of and access to natural resources;
- Set out resource revenue sharing principles and create independent mechanisms, such as finance commissions, for the periodic review of revenue allocations (while avoiding rigid percentage allocations);
- Establish resource revenue stabilization and savings funds;
- Provide for elements of shared management between federal and state governments, especially for watersheds, as well as for devolution, especially for land matters.

In practice, the natural resource provisions in federal and devolved regime constitutions rarely reflect any systematic attempt to promote good natural resource governance, though some more recent constitutions (Kenya, South Africa) have several positive features that bear on resources while not addressing them directly. Clearly, going forward, there is room in many federal and devolved regimes for stronger constitutional provisions promoting high standard for resource management and revenue sharing. Of course, there is a limit to how much can be constitutionalized. Many matters must be dealt with through legislation, and here, the federal or central government in developing countries typically has had the upper hand, especially regarding extractive industries. Too often, very centralized resource management has been insensitive to local concerns and interests, but there are models, such as that in Peru, where a serious institutional approach to consultation and conflict resolution can make a major difference. There is no single best solution as to how to arrange these matters. There are major differences between the extractive resources (petroleum and minerals), water, and land, which suggest different approaches to managing each of these. In developing countries, control of the extractive sector tends to be highly centralized, so the key issues are about improving practices and consultation rather than shared or devolved management. For water and land, however, there is significant potential for shared management of watersheds and for devolution of various responsibilities around water (such as municipal water services) and land. There is a limit to what constitutions or even legislation can achieve. Leadership and a political will to achieve high standards of resource management are equally fundamental for success.

## ENDNOTES

<sup>1</sup> David Wallace-Wells, *The Uninhabitable Earth*,....

<sup>2</sup> United Nations Environment Program, *From Conflict to Peacebuilding: The Role of Natural Resources and the Environment*, (Nairobi: UNEP, 2009) 11, 30.

<sup>3</sup> *Land and Conflict*, (UNEP, 2012)

<sup>4</sup> Paul Collier and Anke Hoeffler, “High-Value Natural Resources, Development and Conflict Channels of Causation”, in Paivi Lujala and Siri Aas Rustad (eds.), *High-Value Natural Resources and Post-Conflict Peacebuilding* (Abingdon: Earthscan, 2012)

<sup>5</sup> Paul Collier and Anke Hoeffler, “Resource Rents, Governance and Conflict”, *The Journal of Conflict Studies*, 49.4, Aug 2005, 630

<sup>6</sup> Oli Brown and Michael Keating, *Addressing Natural Resource Conflicts: Working Towards More Effective Resolution of National and Sub-National Resource Disputes*, Research Paper, Chatham House, 2015, 2

<sup>7</sup> For a fuller review see George Anderson, “Sharing Resource Wealth in Conflict Settlements” in Marc Weller, Mark Retter and Andrea Varga (eds.), *International Law and Peace Settlements* (Cambridge: Cambridge University Press, 2020 forthcoming).

<sup>8</sup> For a fuller discussion see George Anderson (ed.) *Oil and Gas in Federal Countries*, (Oxford University Press, 2010)

<sup>9</sup> Varsha Venugopal, “Assessing Mineral Licensing in a Decentralized Context: The Case of Indonesia”, Natural Resource Governance Institute, 2014,

[https://resourcegovernance.org/sites/default/files/documents/pub\\_assessingminerallicensing\\_20160809.pdf](https://resourcegovernance.org/sites/default/files/documents/pub_assessingminerallicensing_20160809.pdf)

<sup>10</sup> *Dialogue and Governance of Natural Resources in Peru*, UNDP, <https://www.undp.org/content/dam/peru/docs/Gobernabilidad%20democrática/Memoria%20Ingles%20Nueva.pdf>

<sup>11</sup> Alphonsus Isidiho and Mohammad Sabran, ‘Challenges Facing Niger Delta Development Commission (NDDC) Projects in Imo State and Niger Delta Region in Nigeria’ (2015) 5(6) *International Journal of Humanities and Social Science* 37.

<sup>12</sup> For a fuller discussion see Dustin Garrick, George Anderson, Daniel Connell and Jamie Pittcock (eds.), *Federal Rivers* (Elgar 2014)

<sup>13</sup> John Bruce and Carol Boudreaux, “Land and Conflict: Land Disputes and Land Conflicts”, USAID, March 27, 2013, file:///Users/georgeanderson/Documents/land-un/Land%20and%20Conflict%20%7C%20us%20aid.webarchive

<sup>14</sup> In discussions of land and natural resources, land is sometimes made all-inclusive, including of the sub-soil and water and even air above. The focus here is on the surface

<sup>18</sup> <http://www.focusonland.com/countries/impact-story-empowering-pastoralists-in-garba-tula-kenya/>

<sup>19</sup> For a much fuller discussion, see Boadway and Shah, *op.cit.*, pp. 291-391

<sup>20</sup> Kurlyandskaya, Galina and Gleb Pokatovich, Mikhail Subbotin, "Russia", in Anderson, *op.cit.*, pp298-300

<sup>21</sup> Iledare and Suberu, *op.cit.*, p240

<sup>22</sup> Liu, Lili and StevenB. Webb, *Laws for Fiscal Responsibility for Subnational Discipline: International Experience*, Washington DC: World Bank, 2011

<sup>23</sup> International Monetary Fund, *Guide on Resource Revenue Transparency (2007)*, p.3

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