

Sharing the Wealth: A Roadmap for Distributing Myanmar's Natural Resource Revenues

Andrew Bauer,
Paul Shortell
and
Lorenzo Delesgues

FEBRUARY 2016

Contents

Executive summary	1
Introduction.....	4
Decentralization, deconcentration and natural resource revenues in Myanmar	8
FISCAL DECENTRALIZATION AND SUBNATIONAL FINANCES IN MYANMAR	8
DECENTRALIZATION AND DEVOLUTION PROCESS IN MYANMAR	15
LOCATION OF NON-RENEWABLE NATURAL RESOURCES AND SCALE OF RESOURCE REVENUES.....	18
Eight principles for resource revenue transfers	22
Designing a revenue sharing regime	30
AGREEING ON REVENUE SHARING OBJECTIVES	30
DECIDING THE VERTICAL ALLOCATION.....	34
DECIDING WHICH REVENUE STREAMS TO SHARE.....	35
DECIDING ON A RESOURCE REVENUE SHARING PRINCIPLE AND FORMULA (HORIZONTAL ALLOCATION)	37
DECIDING ON RECIPIENTS	46
STABILIZING RESOURCE REVENUE TRANSFERS.....	50
EARMARKING RESOURCE REVENUES	51
TRANSPARENCY AND OVERSIGHT MECHANISMS.....	52
NEGOTIATION PROCESS AND VENUE FOR IMPLEMENTATION.....	55
Conclusion	57
Key questions for consideration by policymakers.....	58
Bibliography	59

Boxes:

REVENUE SHARING VS. BENEFIT SHARING.....	7
OIL, GAS AND MINERAL TAX ASSIGNMENTS.....	16
MONGOLIA REVENUE SHARING CASE STUDY	28
BOLIVIA REVENUE SHARING CASE STUDY	44
PHILIPPINES REVENUE SHARING CASE STUDY	47

Executive summary

Oil, natural gas and mineral revenues are generated in nearly every state and region in Myanmar, with the most important onshore interests lying in Bago, Kachin, Magway, Mandalay, Sagaing, Shan and Tanintharyi. In these areas and others, extractive activities have significantly impacted livelihoods and the local environment. Populations in affected areas also assert a lack of direct benefits from the extractive industry.

In response, the newly elected National League for Democracy (NLD) has committed to “work to ensure a fair distribution across the country of the profits from natural resource extraction, in accordance with the principles of a federal union.” Furthermore, regional and state leaders and several ethnic armed groups have pointed to natural resource revenue sharing as a key component in national reform, fiscal decentralization and peace processes. As such, distribution of natural resource revenues to subnational authorities will be a central component of any decentralization effort and could even feature in discussions around the creation of a new Myanmar federation.

Depending on how any prospective system is designed, resource revenue sharing can help address three separate issues: improving development outcomes and the quality of public investment; attracting high quality private investors to the sector; and securing a lasting peace.

Many countries have designed revenue sharing regimes to enhance public service delivery, improve inter-regional equity, and strengthen national unity. Success is dependent on having revenues reflect expenditure responsibilities, ensuring predictability and stability of revenue flows, and the ability of all levels of government and relevant stakeholders to reach a consensus on a formula that can survive political transitions. In other words, any revenue sharing system must be efficient, fair and transparent.

FISCAL DECENTRALIZATION, SUBNATIONAL FINANCES AND EXTRACTIVE ACTIVITIES IN MYANMAR

Excluding illegal activities and payments to ethnic armed groups, almost all public oil, gas and mining tax and non-tax revenues are collected directly by the Union government or state-owned entities, as prescribed by the 2008 Constitution. Transfers of these resource revenues and general revenues to subnational governments are made on an *ad hoc* basis. They are disproportionately large on a per capita basis in conflict-prone areas and states and regions with more activist politicians, though there is also evidence that states and regions with greater development needs are receiving a higher share of revenues. As Myanmar decentralizes and devolves power to subnational authorities, the overall size of transfers is also increasing year-on-year.

As of 2013, there were large-scale mines operating in all but two states and regions and active legal mines in all but Chin state. Among the most important of these are the Letpadaung copper mine in Sagaing region; jade mines in and around Hpakant township in Kachin state; ruby and sapphire mines in Mandalay region (Mogok) and Shan state (Mong Hsu); and the Kyaukpahto and Modi Taung gold mines in Sagaing and Mandalay regions, respectively.

Mineral exploration activities are also underway in nearly every state or region. Among the most promising deposits are iron ore in Kachin, Bago and Shan states, lead and zinc in Shan, and gold in Mandalay and Sagaing. The Ministry of Mines has plans to expand copper, nickel and chromite production at a minimum.

Foreign and independent sources place the value of mineral exports and production much higher than the officially reported USD 1.15 billion in exports in 2013/14. According to UN trade data, nearly USD 12.3 billion in precious stones were exported from Myanmar to China alone in 2014. An independent assessment by Global Witness valued gross jade production in Myanmar at roughly USD 31 billion in the same year. Despite the methodological challenges associated with calculating the value of mineral production—especially given the scale of smuggling activities and underreporting and the difficulty in accurately pricing precious stones such as jade—by these estimates, actual mineral exports were more than 10 times more valuable than what was reported by the government.

According to Myanmar's first Extractive Industries Transparency Initiative (EITI) report, published in January 2016, the Union government collected MMK 442 billion (approximately USD 460 million) in mineral revenues in 2013/14. Gems and jade represented 88 percent of this amount. Mineral sector payments contributed approximately 7 percent of Union government non-state-owned economic enterprise (non-SEE) fiscal revenues in 2013/14.

While most oil and gas production is currently off-shore, pipelines run through many states. The older gas network serving the Yadana and Yetagun fields runs through Yangon, Bago, Mon and Tanintharyi. The new Shwe oil and gas pipeline passes through Rakhine, Magway, Mandalay and Shan. As of April 2014, there were also 17 on-shore blocks producing oil or gas. On-shore oil and gas companies are active in nearly every state, especially in Bago and Magway. They are noticeably less active in Chin, Shan, Kachin and Tanintharyi.

The oil and gas sector generates more revenue than the mineral sector for the government. The Union government collected MMK 2,569 billion (approximately USD 2.7 billion) in oil and gas taxes, equity returns, signature bonuses, custom duties, royalties and in-kind production in FY 2013/14. Oil and gas sector payments contributed approximately 40.5 percent of estimated Union government fiscal revenues in 2013/14, excluding payments from SEEs.

While publication of extractive sector payments is a good first step, project-by-project production and payments data—preferably disaggregated by revenue stream—would be needed to implement a resource revenue sharing system that benefits producing regions in Myanmar. The first Myanmar EITI report does not provide this information, nor is it publicly available elsewhere.

EIGHT STEPS TO DESIGNING A RESOURCE REVENUE SHARING SYSTEM

Our paper outlines eight considerations for natural resource revenue sharing in Myanmar:

- **Agreeing on revenue sharing objectives.** Extractive-specific revenue sharing systems are usually established to achieve one or more of the following goals: (i) compensate local communities for the negative impacts of extraction; (ii) mitigate or prevent violent conflict; (iii) respond to local claims for benefits, based on ideas of local ownership; and (iv) promote regional income equality between resource and non-resource rich regions. Achieving consensus on the objective(s) is essential since any resource revenue sharing system ought to be designed to reflect the objectives.

- **Deciding on vertical distribution.** Vertical distribution refers to the split in revenue shares between the national and all subnational entities. To prevent wasteful spending or poor service delivery, transferred revenues ought to match expenditures over the medium-term. While there is no one-size-fits-all system for vertical distribution, subnational expenditure responsibilities must be taken into account.
- **Deciding on which revenue streams to share.** Any revenue sharing formula must consider whether to cover all revenue streams or only some (e.g., royalties). It must also consider whether to cover only onshore or both onshore and offshore activities.
- **Deciding on horizontal distribution.** Resource revenues can be distributed between subnational entities according to two principles: a derivation-based principle, whereby a higher proportion accrues to the producing area; or an indicator-based principle, whereby revenues are allocated according to needs (e.g., poverty rates; education outcomes) or revenue generating capacity (e.g., population; regional GDP). Currently, Myanmar does not publish enough accurate project-level data to implement a derivation-based formula and does not disclose enough data to even model such a formula. For these reasons, our report only models four indicator-based formulas using census data.
- **Deciding on recipients.** While region- and state-level authorities might be the most obvious recipients of resource revenue shares, governments in other countries make transfers to traditional authorities, municipalities, landowners and even directly to residents. These are all possible considerations in Myanmar.
- **Improving incentives for efficient spending (stabilization and earmarking).** The manner in which resource revenues are transferred—for instance if they are transferred in lump-sum or smoothed, or if they are earmarked for specific expenditure items like education—will help determine whether or not they contribute to improving development outcomes.
- **Transparency and oversight mechanisms.** One challenge many countries face is that local governments cannot verify whether they are receiving their resource revenue entitlements under the law. Transparency and oversight mechanisms can improve the chances that resource revenue sharing will reduce conflict rather than exacerbate it.
- **Negotiation process and venue for implementation.** Other countries' experiences indicate that a fair, stable and efficient system requires stakeholder consensus on any revenue sharing formula, as well as codification in law.

Introduction

A historic transition in natural resource governance is underway in Myanmar.

Notable developments include new standardized contract terms for oil and gas licenses, the release of Myanmar's first Extractive Industries Transparency Initiative (EITI) report, and the formation of a Ministry of Finance committee chaired to establish a sovereign wealth fund that would save a share of oil and gas revenues. However an important reform—with implications for peace and security, growth, investment, and development of the peripheral regions and states—is still in a preparatory stage: the decentralization of natural resource revenues.

In its 2015 post-election manifesto, the National League for Democracy (NLD) committed to “work to ensure a fair distribution across the country of the profits from natural resource extraction, in accordance with the principles of a federal union.” Along with sovereignty over education, this is one of the only mentions of federalism in the manifesto. Both reforms are expected to contribute to peace and security.¹

Even prior to the 2015 election, leaders from several ethnic minority parties—namely from Chin, Kachin, Rakhine and Shan states—openly called for greater resource revenue sharing. Ethnic armed organizations have also made statements that natural resources must be included as a topic “for further negotiations” with the Union government. As the process advances, this issue will become ever more crucial to satisfying demands for greater autonomy from the central government. Still today, combatants in areas of

active conflict claim control over “natural resource development” as a shared goal.²

Without a doubt, distribution of natural resource revenues to subnational authorities will be a major target of any decentralization effort. An immense political transformation, requiring modifications to the 2008 Constitution, would be needed to create a true federal state in which sovereignty would be shared by national and subnational governments. In the meantime, much can be done without constitutional change if the government wishes to introduce a degree of “fiscal federalism” in Myanmar.³

This discussion paper outlines options available under the current legal structure to help the new leadership fulfill its commitment to decentralize natural resource revenues. It is also meant to inform Myanmar's broader discourse on how best to distribute these revenues. First, it briefly outlines the current state of fiscal decentralization in Myanmar. Second, it describes the size and location of extractive activities given the limited information currently available. Third, it aims to share good practices for revenue distribution and international experiences. Fourth, it outlines policy options and considerations for policymakers on intergovernmental transfers and addresses the debate on tax assignments.

We recognize that a large number of resource revenues are *de facto* collected by state-owned economic enterprises (SEEs) and military-affiliated companies. We also note that in the Union Peace Conference and in the public discourse different options ranging from true federalism to fiscal

1 National League for Democracy (2015) *2015 Election Manifesto*.

2 Lynn, Thet Aung, and Mari Oye (2014) *Natural Resources and Subnational Governments in Myanmar: Key Considerations for Wealth Sharing*. IGC-MDRI-The Asia Foundation. Discussion Paper No. 4; Transnational Institute (2015) *Political Reform and Ethnic Peace in Burma/Myanmar: The Need for Clarity and Achievement*. Myanmar Policy Briefing No. 14, April 2015.

3 Fiscal federalism is a system where certain functions and instruments of government are decentralized to state or regional bodies.

decentralization are being considered. Keeping all of that in mind, this paper assumes that the vast majority of natural resource revenues will be continue to be collected by the Union and its SEEs as prescribed in the constitution and that, should the government choose to transfer a portion to subnational entities, transfers would be made from this pool of funds. In other words, we assume that the central government will continue to collect nearly all revenues from natural resources. It also takes current administrative divisions and expenditure responsibilities as provided in the 2008 constitution.

This paper does not consider in-kind revenue sharing whereby a portion of tax obligations can be spent on local infrastructure or social programs rather than paid in currency, such as is the case in Papua New Guinea.

WHY IS IT IMPORTANT TO GET RESOURCE REVENUE SHARING RIGHT?

Oil, gas and mineral revenues are generated in nearly every state and region in Myanmar, with the most important interests lying in Bago, Kachin, Magway, Mandalay, Sagaing, Shan and Tanintharyi. Myanmar also has significant offshore gas production. In response to the significant impacts petroleum and mining activities have on local livelihoods, as well as a perceived lack of control and benefits accruing to local populations, distribution of natural resource revenue has been raised a main demand by several ethnic armed groups.⁴

Getting resource revenue sharing right in Myanmar is not just important for peace and

security; it is also a key component of economic reform and growth. High quality investors—reliable businesses that use the latest technologies in their commercial activities and best practices in their corporate social responsibility (CSR) actions—are attracted by administrative stability and predictability. These firms also seek to work in business environments where they are able to secure a robust social license to operate. They seek a clear understanding of their relationships with different levels of government and how payments are meant to flow. Their experience tells them that uncertainty of administrative control, along with low public service provision, often leads to local residents near mine sites or petroleum fields demanding greater benefits from extractive companies. Stability, predictability and transparency of resource revenue flows are more likely to attract the “right kind” of foreign direct investment (FDI) and new technologies, which in turn can improve local skills and business development.

At the moment, investors view Myanmar, particularly its resource sector, as a high-risk proposition due to ongoing conflicts and administrative uncertainty. BMI Research, one of the world's leading risk analysis companies, highlights the “severe operational risks” generated in part by “numerous layers of red tape” and slow improvements to political stability and security.⁵ NRG's own report on SEEs in the extractive sector, *Gilded Gatekeepers: Myanmar's State-Owned Enterprises in Oil, Gas and Mining*, reinforces this finding, as the mining sector in particular is characterized by a complex regulatory

4 Myanmar Peace Monitor (2015) *Background on Economic and Political Stakes*. Online: <http://mmpeacemonitor.org/>.

5 BMI Research (2015) *Myanmar Operational Risk Report*. BMI Research / Fitch Group. Online: <http://store.bmiresearch.com/myanmar-operational-risk-report.html>.

Getting resource revenue sharing right in Myanmar is not just important for peace and security; it is also a key component of economic reform and growth.

regime dominated by both official state-owned companies (e.g., No. 1 Mining Enterprise) and military-affiliated quasi-state-owned companies (e.g., MEC, UMEHL). In 2014, Myanmar was ranked the world's 24th most fragile country by the Fragile States Index, just behind North Korea and Cameroon, mostly because of regional conflicts, uneven development across regions and the challenges of state legitimacy.⁶

Equally important as mid-term goals of peace, stability and economic growth are improving development outcomes and the quality of public investment in Myanmar. The 2014 census indicates that Myanmar has one of the shortest life expectancies (66.8 years) and the lowest levels of access to clean water (70 percent) in Asia. Only 32 percent of households use electricity for lighting. More than 25 percent of households do not use toilets. Ayeyarwady, Rakhine, Shan, Magway and Tanintharyi in particular have been left behind. Moreover, according to the World Bank, Myanmar places in the bottom five percent worldwide in terms of government effectiveness at delivering services.⁷

Natural resource revenues can be used to both drive economic development and to help close the development gap between regions. If designed correctly, a revenue sharing system could improve the public sector's delivery of social services, both by providing financing for capital projects and creating the right incentives for spending money in the public interest.



Jade can only be legally sold at the Jade Emporium in Naypyitaw. A small piece can be sold for millions of dollars. Photo by Andrew Bauer for NRGi

Success or failure—in generating a lasting peace, improving the investment climate and improving the quality of public spending—depends on the details. The design of revenue sharing regimes can enhance public service delivery or harm it, improve inter-regional equity or exacerbate it, and strengthen a national union or weaken it. Success is dependent on limiting imbalances between revenues and expenditure responsibilities, predictability and stability of revenue flows, and the ability of all levels of government and relevant stakeholders to reach a consensus on a formula that can survive political transitions. In other words, any revenue sharing system must be efficient, fair and transparent.

6 Fund for Peace (2015) *Fragile States Index 2015*. Online: <http://fsi.fundforpeace.org/>

7 Government of Myanmar (2014) *The 2014 Myanmar Population and Housing Census*. Online: <http://countryoffice.unfpa.org/myanmar/census/>; World Bank (2013) *Worldwide Governance Indicators*. Online: <http://info.worldbank.org/governance/wgi/index.aspx#home>

Box 1. Revenue sharing vs. benefit sharing

Natural resource revenue sharing—whether through intergovernmental transfers or direct taxation by subnational authorities—is not the only way that producing states and regions or affected communities can capture a share of the benefits from extraction. Indeed, resource revenue sharing should be viewed within the broader concept of “benefit sharing” in the extractive sector.

In addition to financial income being shared with subnational authorities, who in turn finance public services, there are five ways residents affected by oil, gas or mining activities can benefit. First, national governments can target services directly to producing areas or affected communities. This can be done by prioritizing service delivery and infrastructure projects to these parts of the country or through a more formal process of fiscal decentralization. Fiscal decentralization does not imply that political decision making is placed in the hands of locally representative bodies or that government officials responsible for these public services are physically located in the community. It only implies that money is placed in the hands of those officials responsible for a specific geographic area.⁸

Second, companies can be required to make in-kind payments in the form of infrastructure or public services. For example, in Kyrgyzstan, Liberia, Nigeria, Sierra Leone and Yemen, national mining laws require extractive companies to spend a certain percentage of their gross revenue on local development.⁹ In the Liberian case, company payments to local projects are tax deductible, which means companies can reduce the amount of tax they have to pay to governments for each dollar spent on local development. This represents a shift of benefits from the national government to the company and local community. In other cases, extractive companies can be required to provide additional infrastructure such as communication technologies, power stations, water systems, roads, rails and ports, or share access to this infrastructure with local residents or businesses. In Mozambique, for example, Vale is being required to share its railroad from the Moatize coal mine to the Nacala port with freight and passenger cars.¹⁰

Third, companies can make voluntary payments to communities in the form of infrastructure, services or cash, usually as part of their corporate social responsibility (CSR) package. For example, in Peru, some large mining companies agreed to spend 3.75 percent of after-tax profits on a “Voluntary Support Fund” to be used for special development spending in resource rich areas. The Voluntary Support Fund mechanism was agreed with the central government in exchange for the repeal of a windfall profits tax. The loss in fiscal revenues cost the government about USD 500 million.¹¹

Fourth, local citizens can receive a share of the resource in-kind. For instance, citizens in producing areas or affected communities can be offered a share of coal production or provided low-cost access to oil or natural gas. While citizens may benefit directly from extraction, any in-kind distribution would likely lead to less income for governments and possible abuse of the natural resource distribution system, as we have seen in Libya and Nigeria where subsidized gas is smuggled in mass quantities.

Finally, producing areas or affected communities can benefit from ‘local content’ policies that require operating companies to develop local employment targets, give preference to local suppliers in the procurement of goods and services, develop local skills, improve local technologies, or invest in downstream value-added industries, such as processing plants or refineries.¹²

8 Bird, Richard M. and Robert D. Ebel (2006) “Fiscal federalism and national unity” in *Handbook of Fiscal Federalism* (eds. Ehtisham Ahmad and Giorgio Brosio). Cheltenham: Edward Elgar Publishing Ltd.

9 Wall, Elizabeth and Remi Pelon (2011) *Sharing Mining Benefits in Developing Countries: The Experience with Foundations, Trusts and Funds*. World Bank. Extractive Industries Development Series #21.

10 For more details, see Toledano, Perrine et al. (2014) *A Framework to Approach Shared Use of Mining-Related Infrastructure*. Vale Columbia Center for Sustainable International Investment. Online: http://www.vcc.columbia.edu/files/vale/content/A_Framework_for_Shared_use_Jan_2014.pdf

11 Grupo Propuesta Ciudadana (2012) *El Programa minero de Solidaridad con el Pueblo: Evaluación de Transparencia*. Reporte de vigilancia No. 5; Lopez, Rocio Moreno (2013) *Corporate Direct Social Expenditures: A Monitoring Guide for Civil Society Organizations*. Online: <http://www.resourcegovernance.org/sites/default/files/Subnational-SocialExpenditures20151125.pdf>

12 For more details, see Esteves, Ana Maria, Bruce Coyne and Ana Moreno (2013) *Local Content Initiatives: Enhancing the substantial benefits of the oil, gas and mining sectors*. Revenue Watch Institute. Online at: http://www.resourcegovernance.org/sites/default/files/RWI_Sub_Enhance_Benefits_EN_20131118.pdf

Decentralization, deconcentration and natural resource revenues in Myanmar

FISCAL DECENTRALIZATION AND SUBNATIONAL FINANCES IN MYANMAR

Myanmar is subdivided into seven states, seven regions, five self-administered zones, one self-administered division and one union territory. Below regions and states are several layers of subnational authorities, including districts, townships, towns, villages and urban wards. These lower layers of administration have vague mandates and are controlled by the central government's General Administration Department (GAD) of the Ministry of Home Affairs (MOHA).¹³

Under Schedule I of the 2008 Constitution, the Union government has exclusive or primary responsibility over the most costly public services, namely education, public health, defense, large infrastructure projects such as national railroads and large-scale energy production and distribution, social welfare and large-scale natural resource extraction and processing. That said, the Union government has the authority to deconcentrate authority over any of these public services should it so wish.

States and regions each host a partially elected *hluttaw* (local parliament) and are led by a chief minister appointed by the President from among *hluttaw* members, who include members of the armed forces. Under Schedule II of the 2008 Constitution, states and regions are responsible for legislating and administering a wide variety of activities. Among the most significant potential expenditure responsibilities are:

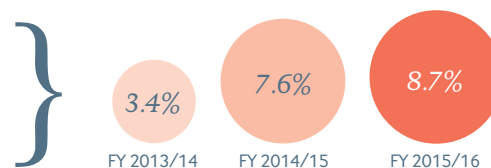
- Small and medium-sized electric power production and distribution
- Local ports
- Local roads and bridges
- Local housing and urban planning
- Agriculture, including pest control and water management infrastructure
- Recreation centers, museums, libraries, cultural heritage protection, and gardens
- Environmental crisis response
- Cutting and polishing gemstones
- Salt and salt products

While these responsibilities are nominally under local government control, in practice government officials administering them usually still work in union ministries. For instance, within the Ministry of Construction, the Department of Housing Development and the Department of Maintenance of Roads, Buildings and Bridges are under regional or state control, while all other departments are under union control. Similarly, at the Ministry of Agriculture and Irrigation, the Agriculture Department is under regional or state control while the Irrigation Department is under union control. Even more confusing, a state or regional minister is in charge of regulating bamboo, charcoal and small forestry production, yet the union Ministry of Environmental Conservation and Forestry (MOECAF) is in charge of implementing these regulations. In short, there is confusion over which level of government regulates and administers certain activities.¹⁴

13 World Bank (2015) *Myanmar Public Expenditure Review 2015*. World Bank Group, September 2015.

14 Nixon, Hamish et al. (2013) *State and Region Governments in Myanmar*. MDRI and The Asia Foundation.

Union allocations to all states and regions as a percentage of the national budget for FY 2013/14.



Furthermore, government officials under the authority of state or regional cabinet members are accountable to MOHA rather than state or regional administrations, which in most cases do not yet exist. Therefore, while state and regional cabinet members yield *de jure* power over the public services listed above, government officials responsible for delivering them recognize that their career prospects depend on satisfying their MOHA superiors, who are in turn accountable to the union government.¹⁵

State and regional governments may levy excise taxes, land taxes, water taxes, road tolls and taxes, and royalties on fisheries. In the extractive sector, they may only collect mineral taxes from gravel and sand producers. They may also sell or lease state or regional government property and make profits on state or regional government-owned enterprises.

Self-administered zones and divisions function differently according to Schedule III of the 2008 Constitution. Legislative and executive powers are held by “leading bodies” and chairpersons are appointed or indirectly elected by the Union government from among regional or state *hluttaws* and the Armed Forces. Their legislative and administrative responsibilities include:

- Roads and bridges
- Public health
- Fire prevention
- Maintenance of pasture lands
- Environmental conservation and preservation, including forests
- Local water and electricity

Revenues for self-administered zones and division are drawn from Union, regional and state budgets.

Naypyitaw is the one union territory. Since there are few extractive activities in Naypyitaw, we will not cover its administration.

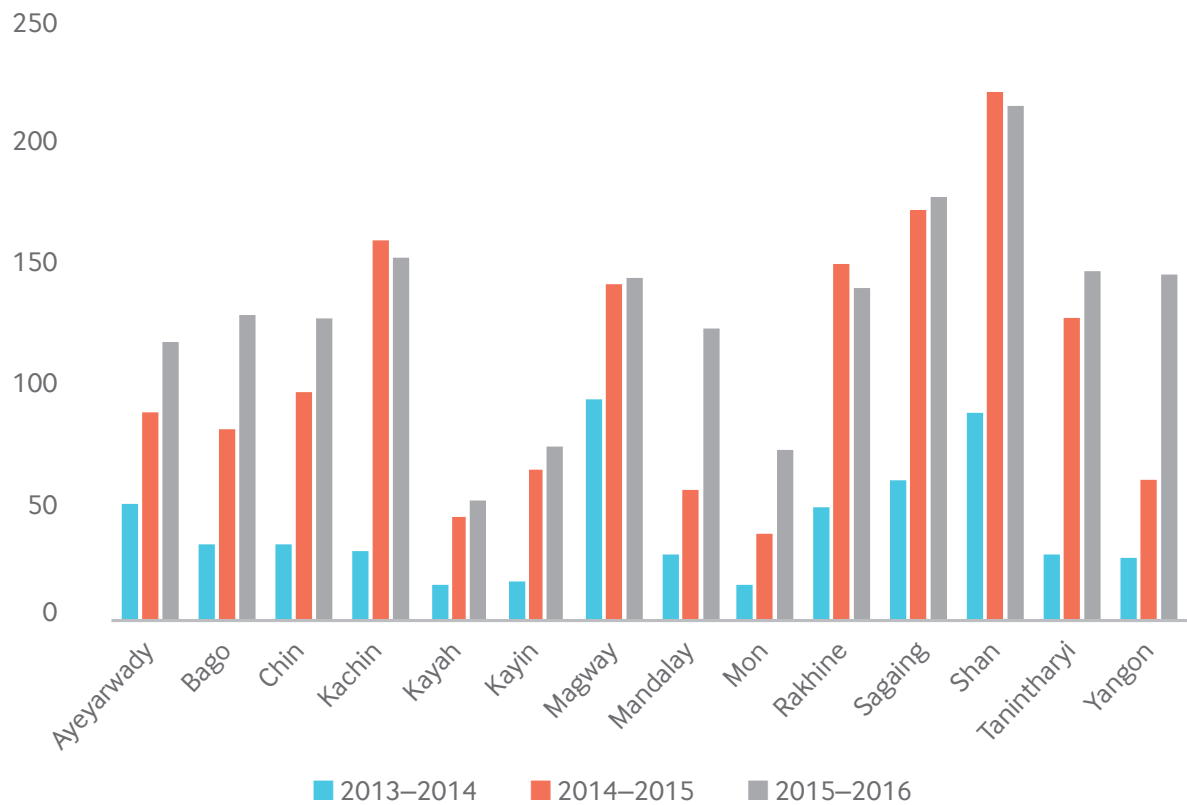
In addition to the formal decentralization process initiated by the 2008 Constitution, since 2011 the Union government has undertaken several reforms in the direction of fiscal decentralization. For instance, state and regional budgets for public services and development projects have increased substantially.¹⁶ In FY 2013/14, the Union allocated 3.4 percent of the national budget to state and region loans and grants. The budgeted amount increased to 7.6 percent of the budget in the FY 2014/15 and 8.7 percent of the budget, or MMK 1.8 trillion, in FY 2015/16.¹⁷ (See figure 1.)

15 World Bank (2015) *Myanmar Public Expenditure Review 2015*. World Bank Group, September 2015.

16 Nixon, Hamish, and Cindy Joeline (2014) *Fiscal Decentralization in Myanmar: Towards a Roadmap for Reform*. MDRI and The Asia Foundation. Discussion Paper No. 5.

17 Xinhua (2013) “Myanmar parliament approves 2013-14 re-drawn state budget” at http://news.xinhuanet.com/english/world/2013-03/21/c_132252445.htm; Lwin, Ei Ei Toe (2014) “Military spending still dwarfs education and health” in *Myanmar Times* at <http://www.mmmtimes.com/index.php/national-news/10000-military-spending-still-dwarfs-education-and-health.html>; Thant, Htoo (2015) “U Thein Sein gov’t last budget approved” in *Myanmar Times* at <http://www.mmmtimes.com/index.php/national-news/13864-u-thein-sein-govt-s-last-budget-approved.html>.

Figure 1. Union budget contributions to states and regions (FY 2013/14 to FY 2015/16) (billion kyat)



Note: Does not include loans from the Union government to state and regional governments. Loans accounted for 2.3 percent, on average, of total Union transfers to state and regional governments over the three-year period.

In the words of one finance ministry official, past transfers to states and regions have been based on a principle of “ask and ye shall receive.”

These intergovernmental transfers accounted for the majority of state and regional revenues. In FY 2013/14, fiscal transfers represented about 64 percent of state and regional revenues, with self-generated revenues constituting about 36 percent (likely less in FY 2014/15). Of this 36 percent, 54.2 percent came from non-tax sources such as land leases, road tolls and mandatory payments from SEEs.¹⁸ Another 30.4 percent came from capital receipts such as land sales. Only 15.4 percent came from taxes.¹⁹

State and regional governments generally spend close to 100 percent of revenues, meaning that subnational spending is somewhat “pro-cyclical”; state and regional governments spend more when the economy is growing and less when the economy is shrinking. Capital expenditures dominate subnational spending, with salaries and wages generally making up less than 20 percent of state and regional budgets. This is reflective of the respective mandates of the Union and states/regions. While the Union is responsible for public services requiring a lot of staff, like education and health, states and regions are responsible mainly for small- to medium-scale infrastructure.²⁰

In practice, state and regional governments submit budgets to the Union government. This is followed by a period of negotiation between governments on the appropriate degree of subnational financing. The incentive for state and regional governments is therefore to enlarge budget deficits so they can

argue for greater transfers, and to spend loans and grants while they save self-generated revenue. In the words of one Ministry of Finance official, past distribution has been based on a principle of “ask and ye shall receive.” The only exception to this principle has been the 5 percent of fiscal transfers allocated to ‘development funds’ which are divided on the basis of poverty incidence rates.²¹ That said, past allocations have also often guided current allocation decisions. Efficiency and equity considerations are usually not factored into allocation decisions.

Since no revenue sharing formula currently exists, it is also relatively easy for officials to make allocations based on political rather than efficiency and equity considerations. For instance, Chin, Kachin, Kayah and Tanintharyi states and regions currently enjoy higher per capita allocations due in part to violent conflicts in those areas and in part to more activist state and regional politicians.²² Based on official population and 2015-16 fiscal transfer figures, Chin state received 250,600 kyat per person (USD 195), Kachin received 88,500 kyat per person (USD 69), Kayah received 166,700 kyat per person (USD 130) and Tanintharyi received 103,800 kyat per person (USD 81) (see Table 1). The average across all states, regions and territories was 65,800 kyat per person (USD 51), with Ayeyawady, Bago, Mandalay, and Yangon receiving the lowest per capita shares.²³

18 SEEs must pay 20 percent of after tax profits to the state or region where they operate.

19 Lynn, Thet Aung, and Mari Oye (2014) *Natural Resources and Subnational Governments in Myanmar: Key Considerations for Wealth Sharing*. IGC-MDRI-The Asia Foundation. Discussion Paper No. 4; World Bank (2015) *Myanmar Public Expenditure Review 2015*. World Bank Group, September 2015.

20 World Bank (2015) *Myanmar Public Expenditure Review 2015*. World Bank Group, September 2015.

21 Local development funds typically fund small-scale infrastructure projects such as small bridges, roads between villages and drainage and irrigation projects. They are usually managed under the supervision of both local government and a locally elected fund management committee. For more information see Robertson, Bart et al. (2015) *Local Development Funds in Myanmar: An Initial Review*. MDRI-Action Aid-Asia Foundation. Online: <http://asiafoundation.org/publications/pdf/1548>.

22 Interviews with Kachin government representative on 02/05/2014 and Ministry of Finance on 09/07/2015.

23 Exchange rate from January 1, 2016. USD 1 = MMK 1,285

Table 1. Regional and state statistics

State/region/ territory	Large scale mines (1)	Small scale mines (1)	Exploration sites (1)	Total (1)	Fiscal transfers from Union to state / regional governments FY 2014/15 (billion kyat) (2)	Fiscal transfers from Union to state / regional governments FY 2015/16 (billion kyat) (3)	Mineral taxes FY 2013/14 (million kyat) (4)	Estimated population in 2014 (million) (5)
Ayeyarwady	3	4	2	9	85.6	115.6	11.7	6.2
Bago	-	11	2	13	78.9	126.2	15.9	4.9
Chin	-	-	11	11	97.5	125.3	0.01	0.5
Kachin	3	110	90	203	157.2	150.4	1.1	1.7
Kayin	11	29	53	93	67.1	72.0	1.8	1.6
Kayah	1	11	11	23	43.3	50.0	0.3	0.3
Magway	1	20	25	46	139.9	141.6	11.1	3.9
Mandalay	41	324	50	415	55.3	121.6	11.1	6.2
Mon	7	25	11	43	36.1	70.7	6.5	2.1
Naypyitaw	2	-	-	2	-	-	-	1.2
Rakhine	1	-	-	1	157.4	137.6	2.3	3.2
Sagaing	18	277	18	313	170.7	175.8	31.7	5.3
Shan (North)	18	72	56	146	219.7	213.6	11.8	5.8
Shan (South)	11	133	90	234				
Shan (East)	1	46	116	163				
Tanintharyi	17	74	37	128	125.6	145.3	0.8	1.4
Yangon	-	-	-	-	62.9	143.6	27.7	7.4

Sources: (1) Ministry of Mines; (2) Union budget law 2014-15; (3) Union budget law 2015-16; (4) Government gazettes 2013-14; (5) Myanmar Census 2014.

Notes: Mineral taxes refer to payments for gravel and sand production collected directly by state and regional governments. Under current rules, small-scale mines are defined as those less than 1 square kilometer in area. It is expected that these guidelines will be revisited in lights of an amendment to the Myanmar Mines Law (1994) passed in December 1995, which establishes a new category of medium-scale licenses.

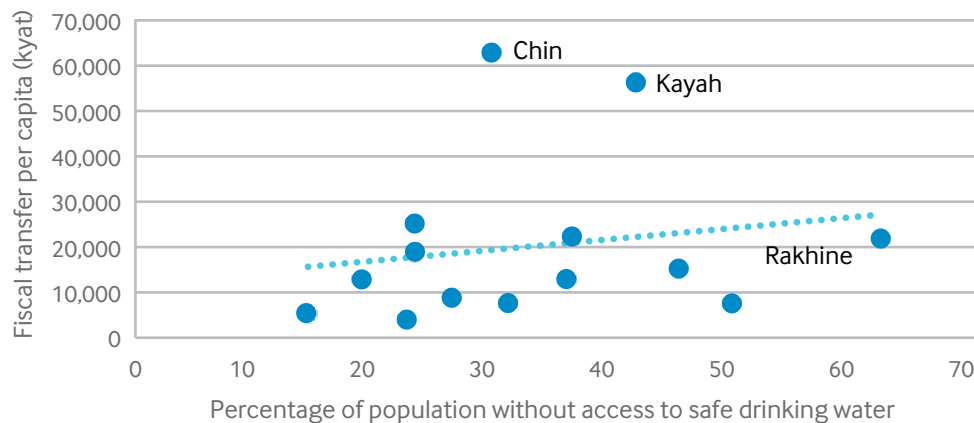
The Union government seems to favor state and regional governments that are conflict-affected, have greater development needs, and have more activist politicians.

That said, there are fewer needs for public investment in some other states and regions, namely Mandalay, Naypyitaw, and Yangon. These areas have some of the strongest development indicators in the country, thanks in part to more infrastructure investments and better access to health and education services. Subnational allocations reflect these regional disparities to a degree. Figures 2 and 3 show fiscal transfers per capita relative to clean water and literacy indicators. We observe a small positive correlation between the size of fiscal transfers per capita and development indicators.²⁴ In other words, the government seemed to favor states and regions with greater development needs in 2013/14.

On the other hand, there seems to have been little correlation between the size of fiscal transfers per capita and own-source revenue generation per capita in 2013/14, as figure 4 shows. Thus, states and regions that collect the least revenue directly have not received higher transfers per capita in the past.

According to the Ministry of Finance, as of 2016, allocations will begin to be driven by three sets of indicators: population, poverty and regional GDP. More indicators, which have yet to be determined, will be added to the formula over time. Data will be provided by the Ministry of National Planning and Economic Development and will draw partly on the latest census.

Figure 2. Fiscal transfers per capita and access to clean water (FY 2013/14)



24 According to poverty indicators and the 2014 Myanmar census, Ayayawady, Chin, Magway, Shan, Rakhine and Tanintharyi are the least developed states and regions in Myanmar.

Figure 3. Fiscal transfers per capita and illiteracy rate (FY 2013/14)

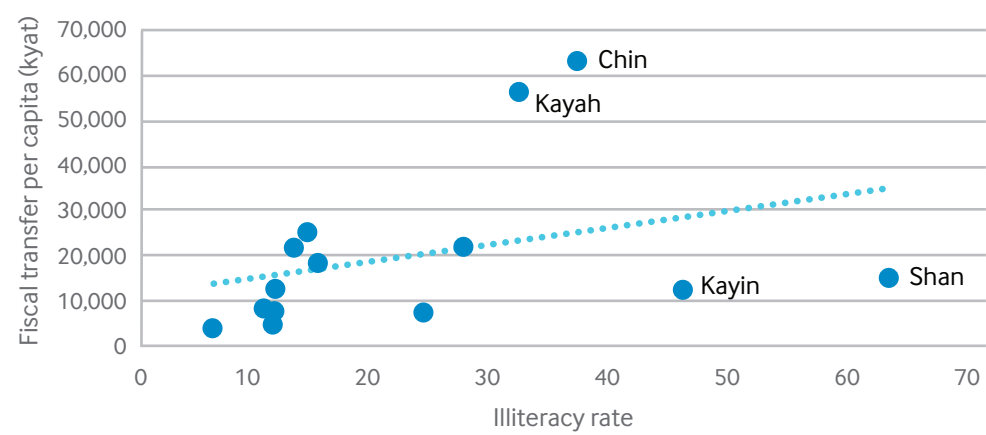
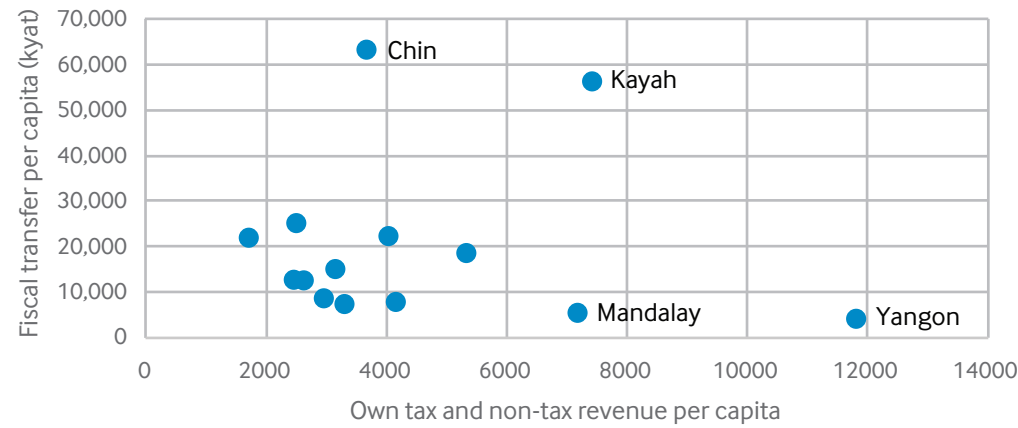
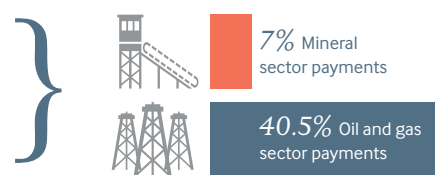


Figure 4. Fiscal transfers per capita and own-source revenue generation (FY 2013/14)



Source: NRGi calculations using World Bank and Ministry of Finance data and Myanmar 2014 Population and Housing Census

Oil and gas sector payments contributed approximately 40.5 percent of Union government non-state-owned economic enterprise fiscal revenues in 2013/14. The mineral sector contributed approximately seven percent.



DECENTRALIZATION AND DEVOLUTION PROCESS IN MYANMAR

A process of decentralization and devolution is currently underway in Myanmar. In the education and health sectors, both Union responsibilities, some hiring and capital spending decisions have been devolved to Union government staff based in the states and regions. And in the housing, small infrastructure, forest management and agriculture sectors, for instance, state and regional governments have direct responsibilities to legislate and implement certain activities.

Fiscal decentralization has followed administrative decentralization. Even as general fiscal revenues have grown, the government has allocated a greater percentage of the budget to the states and regions each year over the past three years. Yet larger fiscal transfers bring risks. As Nixon and Joeline (2014) note, “given the limited expenditure responsibilities currently devolved to state and region control, further increases in the state and region budgets may in fact take resources away from essential social and economic services that are in the Union budget – for example by overfunding local services at the cost of education or health. [...] Such a situation in which local governments were able to overspend while central government became cash-strapped occurred in China in the mid-1990s, during a similar ‘revenue-led’ fiscal decentralization.” Since education, health and large infrastructure projects are still under Union jurisdiction (even if health and education sector implementation is carried out mostly at the state and regional level by national authorities), significantly large supplementary subnational transfers could starve these key growth-generating sectors of financing.

Additionally, an increase in subnational transfers without a corresponding increase in fiscal responsibilities could lead to wasteful spending. Resource-rich regions are particularly susceptible to this problem, especially in countries that have a resource-specific revenue sharing system. In Colombia, for instance, the municipality of Puerto Gaitán saw its local budget balloon by a factor of 100 as a result of increased oil revenue transfers. While some useful infrastructure was built, such as state-of-the-art schools, much of the “windfall” revenue was wasted. For example, the town built an expensive amphitheater and a concrete arch monument. Today, as oil prices have plummeted, the town is in depression.²⁵ A wiser course of action may have been to “park” some revenues for use when oil prices declined and prioritize immediate spending on education, health and growth-enhancing infrastructure (e.g., roads, water), preferably aligned with a costed multi-year local development plan.²⁶

Subnational government capacity to spend is a major challenge in Myanmar. This problem is likely to become more acute as the government further devolves powers to the states and regions. On the other hand, should greater expenditure responsibilities be assigned to subnational jurisdictions in the future without adequate revenue transfers or revenue generating capacity allocations, there is a risk of creating unfunded liabilities.

In short, in order to have maximum impact, the on-going reform effort would need to link new sources of revenue with expenditure responsibilities and be linked to local administrative capacity building. This would require costing fiscal needs per area of responsibility, clarifying the service delivery responsibilities of each level of government and providing spending guidelines and training to subnational governments.

²⁵ Garcia, Jacobo G. (2015) *Oil boom's end threatens pain for much of Latin America*, Associated Press, Feb 25. <http://bigstory.ap.org/article/d5dbf417515e42fdb464b0706fa5b043/oil-booms-end-threatens-pain-much-latin-america>.

²⁶ See Bauer (2013) for more information on subnational resource revenue management.

Box 2. Oil, gas and mineral tax assignments

The 2008 constitution allocates the vast majority of oil, gas and mineral taxation rights to the Union government. Within the extractive sector, states and regions may only tax gravel and sand producers. On more valuable oil, gas and mineral extraction they may only levy excise and land taxes.

Some groups in Myanmar have advanced the idea of direct taxation by subnational jurisdictions as a means for local governments to gain more control over revenues. In many countries, revenue allocations from the central government to local governments are delayed or uncertain. In response, a few countries have assigned significant extractive taxation authority or full or partial ownership to subnational jurisdictions (e.g., Argentina, Australia, Canada, India, United Arab Emirates). See the table opposite for more examples.

Some of the main arguments against significant tax assignments to subnational entities have to do with local governments' capacities to manage revenue collection, negotiate contracts, enforce contracts, and manage volatile revenues. Sophisticated tax administrations and negotiation capacity are required when dealing with large oil and mining companies. Furthermore, resource taxes are fairly volatile and uncertain, which can destabilize resource-dependent local governments. National governments are usually better equipped to negotiate and enforce contracts, collect resource revenues and smooth fiscal transfers than subnational governments.

Myanmar's tax administration is already fragmented and lacking capacity. At least seven different ministries collect taxes and fees. Taxpayer identification numbers do not yet exist. Data management systems are outdated and the Internal Revenue Department (IRD) is understaffed.

This has led to significant tax arrears, a high degree of tax avoidance, and an inability to properly account for all government revenues, issues the IRD is currently addressing. While these challenges might warrant the decentralization of tax collection to subnational governments—linking regional and state politicians to local citizens and in doing so improving subnational government accountability—such a policy would further fragment tax administration. It would also transfer these powers to bodies with weak capacity to manage tax collection.²⁷

Dual licensing when tax assignments are shared presents an additional challenge. Where both national and local governments are allowed to license mines, we often witness over-licensing by local authorities eager for additional sources of revenue. We also see a lack of coordination between the national and local governments. This can lead to overlapping claims, environmental degradation and loss of resource revenues over the long-term, as we have seen in Indonesia.²⁸

27 World Bank (2015) *Myanmar Public Expenditure Review 2015*. World Bank Group, September 2015.

28 Venugopal, Varsha (2014) *Assessing Mineral Licensing in a Decentralized Context: The Case of Indonesia*. Natural Resource Governance Institute. Online: <http://www.resourcegovernance.org/publications/assessing-mineral-licensing-decentralized-context-case-indonesia>.

Mineral tax assignments and collection by level of government in selected countries

Country	Government structure	Corporate income tax		Royalties		Property / land taxes	
		N	S	N	S	N	S
Argentina	Federal	X			X		X
Australia	Federal	X		X*	X	X*	X
Brazil	Federal	X		X		X	
Canada	Federal	X	X	X*	X	X*	X
Chile	Unitary	X				X	
China	Regionalized unitary	X		X		X	
Democratic Republic of the Congo (DRC)	Unitary	X			X		X
Ghana	Unitary	X		X		X	
India	Federal	X			X		X
Indonesia	Regionalized unitary	X		X		X	X
Kazakhstan	Unitary	X			X		X
Kyrgyzstan	Unitary	X		X			X
Mexico	Federal	X		X		X	
Mongolia	Unitary	X			X		X
Myanmar	Unitary	X		X		X	X
Peru	Unitary	X		X	X		X
Philippines	Regionalized unitary	X	X	X	X**		X
Russia	Federal	X	X	X			X
South Africa	Unitary	X		X			X
Tanzania	Regionalized unitary	X		X			X
United Arab Emirates	Federal		X		X		X
United Kingdom	Regionalized unitary	X					
United States	Federal	X	X	X	X*		X

Sources: PwC; NRGi (as of 2015)

Note: Other revenue streams, such as sales taxes, dividends and license fees, are not included in the table

N – National government; S – Subnational government (state, provincial, regional or municipal); * - only applicable in federally administered territories;

** - royalties only assessed and collected by indigenous groups and some local government units

LOCATION OF NON-RENEWABLE NATURAL RESOURCES AND SCALE OF RESOURCE REVENUES

Minerals

As of 2013, there were large-scale mines operating in all but two states and regions (not including Yangon) and there were active legal mines in all but Chin state. Among the most important of these are the Letpadaung copper mine in Sagaing region; Tagaung Taung nickel mine in Sagaing region; jade mines around Hpakant township in Kachin state; ruby and sapphire mines in Mandalay region (Mogok) and Shan state (Mong Hsu); and the Kyaukpahto and Modi Taung gold mines in Sagaing and Mandalay regions, respectively.

Exploration activities are also underway in nearly every state or region (see Table 1). Among the most promising deposits are iron ore in Kachin, Bago and Shan states, lead and zinc in Shan, and gold in Mandalay and Sagaing. The government has plans to expand copper, nickel and chromite production at a minimum.²⁹ The map in Figure 5 shows the location of several large mines and the extent of mineral occurrences.

Jade, rubies, sapphires, gold, nickel, copper and limestone represent Myanmar's most significant

mineral and quarrying exports. According to the GOUM Central Statistics Office, the estimated export value of Myanmar's mineral resources in 2013/14 was USD 1.15 billion, not including rubies, sapphires or coal. Jade represented over USD 1 billion of the USD 1.15 billion. The government officially collected at least USD 854.7 million in taxes, royalties and production entitlements from all minerals in the same year.³⁰

It is likely that the true value of exports and production is much higher. The 2014 Myanmar Gem Emporium alone generated USD 3.4 billion in sales, while gold exports in 2012/13 were valued at over USD 400 million. Foreign and independent sources provide even larger estimates. For instance, according to U.N. trade data, nearly USD 12.3 billion in precious stones were exported to China alone in 2014.³¹ Furthermore, an independent assessment by Global Witness valued gross jade production in Myanmar at roughly USD 31 billion in the same year.³² Accurately pricing precious stones such as jade and our inability to measure the scale of smuggling activities and underreporting present methodological challenges to calculating the value of mineral production. By these estimates, however, actual mineral exports were more than 10 times more valuable than what was reported by the government.

29 British Petroleum Statistical Review of World Energy – June 2015, accessed on November 15, 2015, <https://www.bp.com/content/dam/bp/pdf/energy-economics/statistical-review-2015/bp-statistical-review-of-world-energy-2015-full-report.pdf>; Fong-Sam, Yolanda (2014) "The Mineral Industry of Burma" in *2012 Minerals Yearbook: Burma* (ed. U.S. Geological Survey) Washington DC: U.S. Department of the Interior. Online: <http://minerals.usgs.gov/minerals/pubs/country/2012/myb3-2012-bm.pdf>.

30 Moore Stephens (2015) *MEITI Reconciliation Scoping Study MSG – meeting*, 17 September 2015, powerpoint presentation.

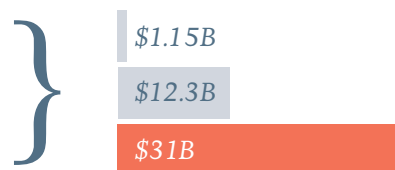
31 United Nations International Trade Statistics Database, accessed November 15, 2015. <http://comtrade.un.org/db/default.aspx>

32 Global Witness (2015) *Jade: Myanmar's "Big State Secret"*. October 2015. Online: <https://www.globalwitness.org/en-gb/campaigns/oil-gas-and-mining/myanmarjade/>.

Official mineral exports: USD 1.15 billion.

Official imports of precious stones from Myanmar declared by China: USD 12.3 billion.

Global Witness estimate of jade production value: USD 31 billion.



According to Myanmar's Extractive Industries Transparency Initiative (EITI) report, the Union government collected MMK 442 billion (approximately USD 460 million) in mineral revenues in 2013/14.³³ Gems and jade represented 88 percent of this amount. Great Genesis Gems Company, Wai Aung Ka Bar and Richest Gems Company were some of the largest taxpayers.³⁴ Mineral sector payments represented approximately 7 percent of Union government non-SEE fiscal revenues in 2013/14.³⁵

It bears mentioning that Myanmar governments are not the only tax collectors in the country. Several ethnic armed groups also collect taxes from mining companies. For instance, the Kachin Independence Army (KIA) has established a fairly formalized tax collection system in the Hpakant jade mines. "There are about 40 to 50 joint venture companies from China and Myanmar," KIA Major Teng Seng said. "We regularly take tax from them. We have a good relationship."³⁶

Oil and gas

The sale value of oil and gas in 2012/13 was estimated around USD 5 billion, with gas exports alone accounting for nearly USD 3.7 billion.³⁷ While most oil and gas production is currently off-shore, pipelines run through many states. The older gas network serving the Yadana and Yetagun fields runs through Yangon, Bago, Mon and

Tanintharyi. The new Shwe oil and gas pipeline passes through Rakhine, Magway, Mandalay and Shan. (See figure 2.) As of April 2014, there were also 17 onshore blocks producing oil or gas.³⁸

Myanmar has not reached its full oil and gas potential. The country has 10 trillion cubic feet of proven natural gas reserves and significant oil prospects—exploration and production are ramping up. While much of the activity is occurring offshore, there are at least 49 onshore blocks in different phases of auction, exploration or production. On-shore oil and gas companies are active in nearly every state, especially Bago and Magway. They are noticeably less active in Chin, Shan, Kachin and Tanintharyi.

At present, the oil and gas sector generates significantly more revenue for the government than the mineral sector. According to Myanmar's first EITI report, published in January 2016, MMK 2,569 billion (approximately USD 2.7 billion) was collected in oil and gas taxes, equity returns, signature bonuses, custom duties, royalties and in-kind production in FY 2013/14.³⁹ Petronas and TOTAL were by far the largest taxpayers in the oil and gas sector. Oil and gas sector payments represented approximately 40.5 percent of estimated Union government non-SEE fiscal revenues in 2013/14.⁴⁰

33 Exchange rate is nominal 2013/14 dollars, same as that used in the MEITI report, which is based on an annual average exchange rate from FY 2013/14.

34 Myanmar Extractive Industries Transparency Initiative (2015) *EITI Report for the Period April 2013-March 2014: Oil, Gas and Mineral Sectors*. December 2015.

35 IMF data in World Bank (2015) *Myanmar Public Expenditure Review 2015*. World Bank Group, September 2015.

36 Mang, Lun Min (2015) "Tensions rise in jade-rich Hpakant" *The Myanmar Times*, July 3, 2015

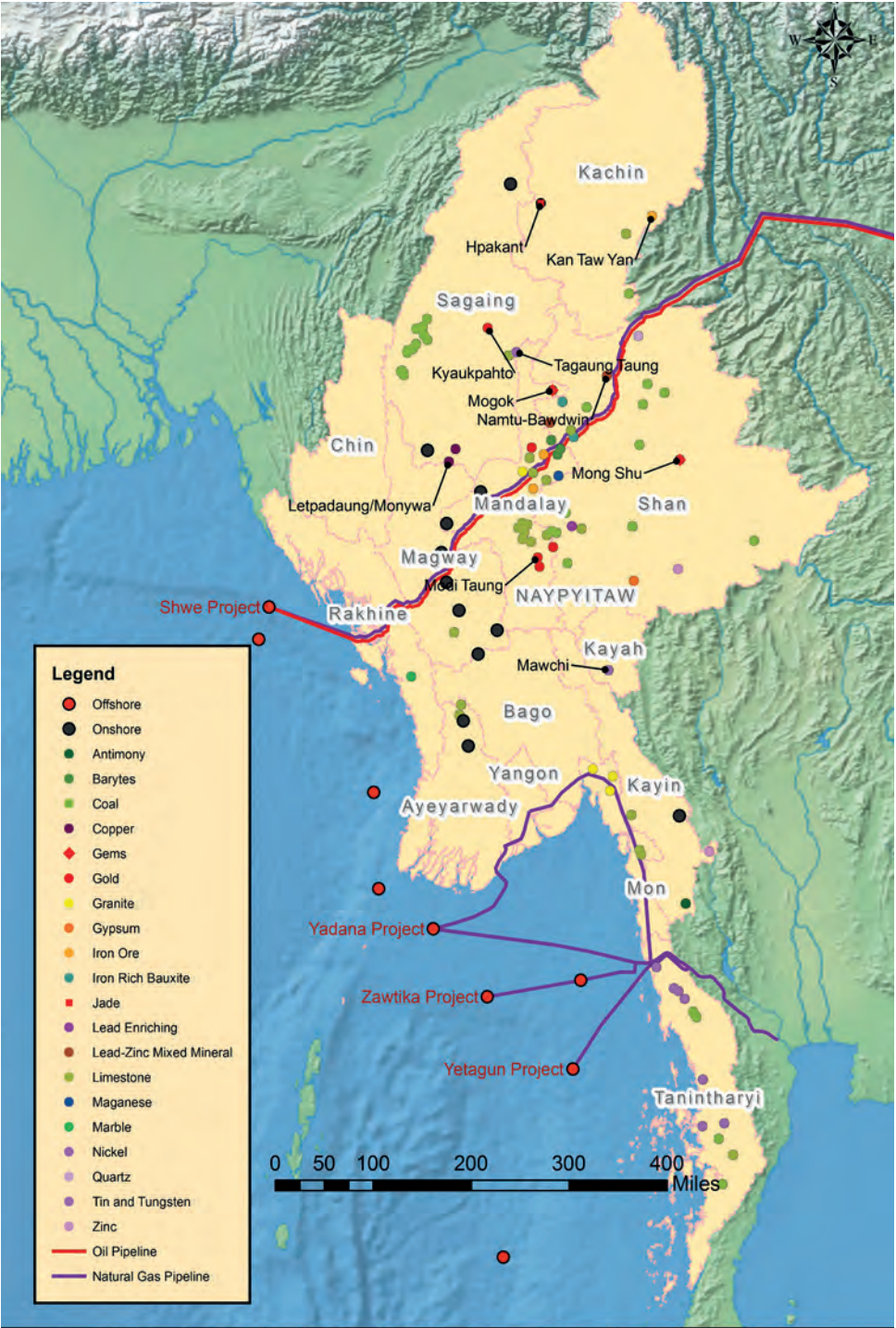
37 Government of Myanmar – Central Statistical Organization, accessed November 22, 2015, <http://www.csostat.gov.mm/>

38 Chandler, Albert T. and Daw Khin Cho Kyi (2014) *Myanmar Upstream Oil and Gas Sector*. Presentation by Chandler & Thong-ek Law Offices. Online: http://www.myanmarlegalservices.com/wp-content/uploads/2014/04/Myanmar-Upstream-Oil-Gas-Sector-7_280414_1255300_1.pdf

39 Myanmar Extractive Industries Transparency Initiative (2015) *EITI Report for the Period April 2013-March 2014: Oil, Gas and Mineral Sectors*. December 2015.

40 IMF data in World Bank (2015) *Myanmar Public Expenditure Review 2015*. World Bank Group, September 2015.

Figure 5. Map of extractive activities in Myanmar



Mapmaker: Thet Naing Oo

Subnational extractive revenues

According to an interview with government officials, the administration is not able to provide comprehensive data on the breakdown of extractive industry revenues flows by state or region due to the inadequacy of the current public financial management information system as well as a lack of sector oversight.⁴¹ The only resource revenue flows disaggregated by state or region are mineral taxes, which are essentially surface taxes for quarrying, sand extraction and production of bricks, and represent less than 0.001 percent of state and regional fiscal revenues. Consequently we are only able to produce state and region budget revenues and expenditures in the aggregate.

In addition to mineral taxes, state and regional governments collect land taxes (5 kyat per acre) and license fees from extractive companies. According to the 2008 constitution, license fees may not be collected by these governments. However interviews with officials indicate that they are nonetheless collected from small-scale miners.⁴² Regional or state officials informally allocate extraction licenses and the revenues they generate go directly to subnational governments. It is unclear whether or not they are recorded on government balance sheets. Notwithstanding their legality, combined these mining revenues usually represent less than 1 percent of state or regional government fiscal revenues.



Rubbies and sapphires are mainly produced in Mandalay region and Shan state. Photo by Andrew Bauer for NRGi

As previously mentioned, Myanmar's first EITI report does not identify revenues on a state or regional basis, though a list of licenses and concessions by location is provided. The report also does not cover self-administered zones, does not provide project-by-project payment information, and does not break down payments by company *and* revenue stream—all necessary information for implementation of a derivation-based natural resource revenue sharing regime.

41 Interview with Ministry of Finance (24/06/2014)

42 Interviews on 18/03/2014, 26/03/2014; Dickenson-Jones, Giles et al. (2015) *State and Region Public Finances in Myanmar*. MDRI-IGC-The Asia Foundation. Discussion Paper No. 8. Online: <http://asiafoundation.org/resources/pdfs/SRPublicFinancesENG.pdf>.

Eight principles for resource revenue transfers

The unique characteristics of oil, gas and minerals pose a number of challenges for governments establishing a resource-specific intergovernmental transfer system. Non-renewable resources are finite and revenues generated from them are notoriously volatile, responding sharply to fluctuations in commodity prices. These characteristics imply that any *large* transfer linked to these revenues could exacerbate the boom-bust cycle in a producing region.

For instance, the small coastal district of Ite in southern Peru has seen a boom in recent years. (See figure 6.) Thanks to tax revenue from the local copper mine, mostly collected by the national authorities and then transferred to the local level, the municipal government budget has jumped from less than USD 500,000 to more than USD 13 million annually. Peruvian law requires these subnational funds to be used for investment projects, so the municipality has embarked on a race to build infrastructure. As reported, “in addition to the town’s perfectly maintained roadways, the infrastructure projects also included an oceanside statue, a stadium, three schools, a football court, a playground and a modern, mirror-sided municipal building abutting the district’s new main square.”⁴³

This spending glut on infrastructure, financed by resource revenues, has had a noticeable side effect: a rise in construction wages. In response, farmers and agricultural laborers have been drawn out of the fields and into the construction sector, lowering agricultural output.



Figure 6. Construction in Ite, Peru

Photo by Claudia Viale for NRGi

The new infrastructure has benefited residents of Ite. However the municipality lacks both the long-term public investments and the financial savings to maintain the current standard of living far into the future. Inadequate resources have been devoted to training teachers, building health systems and financing social programs to benefit future generations. Mining revenues have been largely consumed rather than invested or saved. And the movement of labor away from the agricultural sector threatens the region’s agricultural prospects well into the future. Once the copper mine has been depleted, Ite risks a decline in standards of living, perhaps even leaving citizens worse off than before the boom.⁴⁴

As this example illustrates, any resource revenue transfer system ought to be designed to encourage long-term development planning, investment rather than consumption, and build strong health and education systems rather than unnecessary infrastructure.

43 Viale, Claudia (2011) *Paradox in Peru: The Challenges of Mining Revenue in Ite*. RWI Blog, 3 October 2011. <http://www.resourcegovernance.org/news/blog/paradox-peru-challenges-mining-revenue-ite>

44 Bauer, Andrew (2013) *Subnational Oil, Gas and Mineral Revenue Management*. Revenue Watch Institute. Online: http://www.resourcegovernance.org/sites/default/files/RWI_Sub_Oil_Gas_Mgmt_EN_rev1.pdf

However there is no one-size-fits-all system for revenue sharing; global practices governing intergovernmental transfers vary widely. At one extreme, in unitary states like Afghanistan, Algeria, and Saudi Arabia, the national government collects all resource revenues and manages most subnational authorities directly. At the opposite extreme, the United Arab Emirates is completely decentralized. Each emirate collects taxes and royalties directly from extractive companies and shares a portion of these revenues with the central government.

Between these extremes are federal and fiscally decentralized unitary states. In most federal states, like Argentina, Australia, Canada, India and the United States, taxation is shared between the national and subnational governments and there is some degree of revenue transfer between regions. By and large, general taxes like corporate income taxes and withholding taxes are paid to the national government while mineral-specific taxes such as royalties are paid to the state or provincial government, though details vary (see Box 1). In fiscally decentralized unitary states like Bolivia, Indonesia, Norway, Peru and the Philippines, most resource revenues are collected by the national government and there are significant transfers to subnational governments to provide public services.

Exceptions do exist. Iraq, for instance, is officially a federal state. Yet in practice resource revenue management is fairly centralized, with the national government collecting nearly all resource revenues and redistributing them to subnational authorities on a near *ad hoc* basis. Analogously, the Russian

Federation has full control over natural resource revenues except in the case of three production sharing agreements (PSAs) that require companies to make direct transfers to the oblasts (provincial administrative divisions) of Sakhalin and Nenets. Until 2002, of the oil revenues collected by the national government, 60 percent were transferred directly to subnational authorities where production was taking place. Since then, revenues have slowly been centralized. Today, only property taxes and 60 percent of rental fees are collected by the oblasts; all other fiscal transfers are made at the discretion of the federal government.⁴⁵ In Brazil, another federal state, all major sources of revenue from the mineral sector are collected by the national government and redistributed based on a formula. In contrast, mineral royalties are collected by the states in Kazakhstan, a unitary country.

In both federal and unitary states, direct tax collection from extractive activities can constitute a significant proportion of local budgets. From 2012-14, over 25 percent of all fiscal revenues collected in Alberta, Canada came from direct petroleum taxation. In Ghana, property rates collected from a single mining company, Anglo Gold Ashanti, have constituted on average 17 percent of Obuasi district's fiscal revenues over the last five years.

Countries that distribute natural resource revenues to subnational authorities via an intergovernmental transfer system can be grouped according to the degree of *de jure* derivation, meaning what is written in law. In one group are countries where

45 Kurlyandskaya, Galine et al. (2010) *Oil and Gas in the Russian Federation*. Conference on Oil and Gas in Federal Systems, March 3-4, 2010. Online: http://siteresources.worldbank.org/EXTOGMC/Resources/336929-1266445624608/Framework_Paper_Russian_Federation2.pdf

all resource revenues are pooled centrally with revenue from other sources and form part of regular transfers to subnational governments that do not treat resource revenues any differently from non-resource revenues, such as Algeria, Chile, Norway or Vietnam. General intergovernmental transfers constitute the majority of subnational financing around the world.

In a second group are countries that have created a unique intergovernmental transfer system for natural resource revenues without allocating a significantly larger portion to producing regions, such as Mexico.

In a third group are countries that separate out natural resource revenues and make allocations from this pool to producing regions or communities using a legislated derivation-based formula. This list includes Brazil, Colombia, Democratic Republic of the Congo (DRC), Ecuador, Ghana, Indonesia, Iraq, Mongolia, Nigeria, Papua New Guinea, the Philippines, South Sudan, Uganda, and Venezuela. Malaysia has a similar system whereby a fixed 5 percent royalty is given to producing states according to an agreement with Petronas, the national oil company. Bolivia, Peru and the Canadian territories (treated differently than the provinces) would also fit into this category, though significant “clawback” provisions generally leave producing regions without significantly larger transfers than non-producing regions.⁴⁶

Many resource-rich subnational governments in countries with derivation-based formulas are fairly dependent on these resource revenue transfers. In 2014, oil, gas and mining revenue transfers

constituted 27 percent of fiscal revenues in the oil-rich Indonesian regency of Bojonegoro. Revenue projections indicate that once oil production peaks in 2017, more than 50 percent of fiscal revenues will come from extractive-related transfers. In Nigeria and Peru, more than 80 percent of some regional governments’ budgets depend on resource revenue transfers from central governments.

Countries can have mixed systems. Nigeria, for instance, allocates no less than 13 percent of oil revenues to states according to each state’s level of production. The remaining 87 percent of oil revenues is then pooled with other fiscal revenues. Of this new general pool, about 47 percent is allocated to states and municipalities according to a formula which includes population, social development and revenue generation effort indicators. The remaining 53 percent is allocated to the central government. Thus, the system is a mix of a general intergovernmental transfer system and a derivation-based system (groups 1 and 3).

Mongolia also has a mixed system whereby 5 percent of mining royalties and 30 percent of petroleum royalties are pooled and then redistributed to aimags (provinces) and the capital city according to a formula that includes population, population density, remoteness, size of the territory, development indicators, and tax generating capacity. Additionally, 30 percent of mining royalties go directly to mining aimags. What’s more, 50 percent of license fees will go directly to the mining aimag’s local development fund. Thus, the Mongolian system is a mix between a special transfer system for natural resource revenues and a derivation-based system (groups 2 and 3).

46 In public finance, a clawback provision refers to an increase in subnational revenues leading to a proportionate or disproportionate decrease in fiscal transfers from the central government.

Similarly, Iraq has a legislated derivation-based “petrodollar” system that allocates at least 1 USD per barrel produced to the governorates. However it also allocates 17 percent of all oil revenues (minus 5 percent to Kuwait for reparations and the cost of exports to Turkey) to the oil-producing Kurdish Regional Government (KRG), regardless of level of production or revenues generated in that region. Thus, the Iraqi system is a mix between a special transfer system for natural resource revenues and a derivation-based system (groups 2 and 3).

The KRG allocation in Iraq is also an example of an *ad hoc* revenue sharing system. The fiscal arrangement between the national and subnational authorities is a product of a political agreement which set a precedent rather than a law. Kazakhstan has a similar *ad hoc* arrangement: the oil-rich (and conflict-affected) regions of Atyrau and Mangistau have usually received higher per capita transfers than other oblasts. The United Arab Emirates, in contrast, is the sole example of an upward revenue sharing arrangement. In this case, fiscal transfers from the oil-producing emirates to the center are made on an *ad hoc* basis.⁴⁷

While in most cases legislation improves stability and predictability of these intergovernmental transfers, fostering good subnational budget planning, legal requirements do not always ensure

that local governments receive their entitlements. The DRC mining code, for instance, states that producing provinces should retain 40 percent of the royalties derived from minerals extracted from their territory. Compliance with the rule is weak. Additionally, the lack of information on fiscal transfers from either central or provincial government authorities prevents verification.

Each of these cases differs in terms of tax assignments and the formula for sharing resource revenues. What links them is that they each have a special system to distribute oil, gas or mineral revenues.

Debates in several countries on resource ownership, local rights and the role of the state highlight the need for a framework to develop revenue sharing arrangements or reform existing ones. While we have examined policies and practices in several countries, decisions on revenue sharing are extremely context specific, limiting our ability to provide generic advice. That said, we can enumerate eight principles for efficient, fair, stable and transparent resource revenue sharing in Myanmar. These principles are extrapolated from case studies and grounded in the Natural Resource Charter, which emphasizes investing resource revenues to achieve optimal and equitable outcomes, for present and future generations.^{48 49}

47 Vinuela, Lorena et al. (2014) *Intergovernmental Fiscal Management in Natural Resource-Rich Settings*. World Bank Report No. 91343-GLB. Online: <http://documents.worldbank.org/curated/en/2014/01/20302404/intergovernmental-fiscal-management-natural-resource-rich-settings>

48 The Natural Resource Charter (NRC) is a set of principles for governments and societies on how to best harness the opportunities created by extractive resources for development. The Charter and other information can be found at www.naturalresourcecharter.org. A NRC benchmarking exercise has been carried out in Myanmar.

49 Bahl, Roy (2004). *Revenue Sharing in Petroleum States*. *Petroleum Revenue Management Workshop Proceedings* (p. 162). Washington: ESMAP; ESMAP (2005) *Comparative Study on the Distribution of Oil Rents in Bolivia, Colombia, Ecuador, and Peru*. Washington, DC, ESMAP (Joint UNDP/World Bank Energy Sector Management Assistance Programme: 142); Morgandi, Matteo (2008) *Extractive Industries Revenues Distribution at the Sub-National Level*. Revenue Watch Institute. Online: <http://www.resourcegovernance.org/publications/extractive-industries-revenues-distribution-subnational-level>; Qiao, Baoyun and Anwar Shah (2008) *Natural Resource Revenue Sharing: Principles and Practices*. Working Paper.

Principle 1. Clarify objectives. Resource revenue sharing regimes are often created without agreement on why they are being created. As a result, their design often fails to meet any specific objective, whether it be compensation for extractive activities, regional equalization or conflict prevention or mitigation. A regime need not have a single objective, but each objective ought to be clarified in policy or legislation.

Principle 2. Balance revenue and expenditure assignments. Decentralization of fiscal revenues should be linked to the costs of public service delivery given subnational expenditure responsibilities. If revenues are much greater than what is required, the incentive for the local government will be to build conspicuous and potentially wasteful infrastructure, such as monuments, and not necessarily plan for operations and maintenance expenses. Costs of construction may also rise, meaning that construction company owners will reap the benefits of higher fiscal transfers rather than the local residents. On the other hand, if revenues to local governments are inadequate to finance local government expenditures, essential public services, such as education, health or infrastructure, might be underfunded. In Brazil, the Philippines and South Africa, subnational governments have been allocated key expenditure responsibilities, such as education, public order and safety, social protection and transportation. In these countries, resource revenues simply add to the fiscal space available to provide these services. In other countries, like Kazakhstan and Uganda, subnational governments have very few direct responsibilities. In these cases, windfall resource revenues are in a sense “extra” money for local authorities to allocate.⁵⁰ The decision on expenditure responsibilities assigned to different levels of government should be agreed upon before any decision is made on revenue sharing.

Principle 3. Promote fiscal responsibility. Local government bankruptcies or wasteful spending can lead to crises at the local level or national government bailouts. Thus the design of any revenue sharing formula ought to create incentives for subnational governments to spend fiscal transfers efficiently. Options for promoting fiscal responsibility include limiting subnational governments’ abilities to borrow; saving a portion of windfall resource revenues in a sovereign wealth fund; national approval of subnational budgets; conditional grants; consultations between national and subnational authorities on the budget; or simply moral suasion to control spending. No matter which option is chosen, a balance needs to be found between allowing local government flexibility to spend according to their needs and promoting fiscal responsibility.

Principle 4. Smooth fiscal expenditures and make spending predictable. Large and unpredictable transfers of natural resource revenues can destabilize a local economy and generate the wrong incentives for making quality public investments. It is incumbent on the central government to either provide a predictable and smooth source of financing to local governments or provide them the tools to smooth transfers. This can mean smoothing revenue transfers on behalf of local governments or allowing them to address resource volatility autonomously through debt management or saving in a sovereign wealth fund.

Principle 5. Simplicity and enforceability. Any revenue sharing formula must be simple enough for low-capacity local government authorities or civil society groups to verify the information in order to build trust between governments as well as with citizens. Simplicity also helps prevent corruption: transfers are more easily verified under a simple system. In practice, this means setting a single or maximum two objectives for the transfer regime

50 Bauer, Andrew (2013) *Subnational Oil, Gas and Mineral Revenue Management*. Revenue Watch Institute. Online: http://www.resourcegovernance.org/sites/default/files/RWI_Sub_Oil_Gas_Mgmt_EN_rev1.pdf



Oil field in Minhla Township, Bago region. Photo by Matt Grace for NRGi

and including just a few variables in any revenue sharing formula.

Principle 6. Achieve national consensus on the formula. Consensus building on any revenue sharing formula is extremely important for the stability of the formula and for meeting the regime's objectives, especially in politically contested and ethnically diverse environments. If key stakeholders disagree on the formula and it is implemented regardless, the regime might be viewed as illegitimate and not addressing local concerns, leading to even greater conflict. We have seen the consequences of lack of consensus-building in many countries. In 2012, some 200,000 people demonstrated in the streets of Rio de Janeiro over what was perceived as an unfair Brazilian revenue distribution scheme. In more extreme cases, the lack of consensus around revenue sharing has exacerbated violent conflict in Peru and Iraq.

Principle 7. Codify the formula in law. Any revenue sharing formula should be codified in legislation or regulation. Codification improves

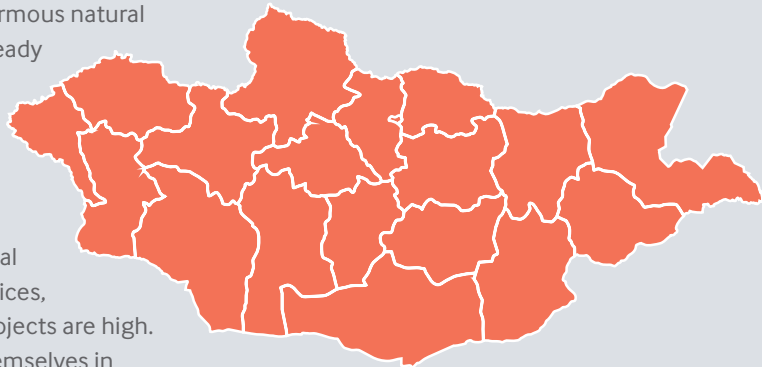
predictability and forces authorities to discuss the objectives of any revenue sharing formula. It also encourages public debate on the advantages and disadvantages of certain proposals.

Principle 8. Make revenue sharing transparent and verify amounts. Subnational governments can only know whether they are receiving their legal share of resource revenues if there is a clear revenue sharing formula and they can verify the value of taxes and royalties collected from mines and petroleum fields on their territory. Without project-by-project data on revenues and independent verification of the figures, calculation of revenue shares by local governments may not be reliable. In the Democratic Republic of the Congo (DRC) and the Philippines, subnational governments do not know whether they are receiving their resource revenue entitlements under the law. The resulting lack of trust and confusion undermines national government efforts to use resource revenue transfers to secure a lasting peace.

Box 3. Mongolia revenue sharing case study

Nicknamed "Minegolia" for its enormous natural resource potential, Mongolia is already a significant copper, gold, and coal producer and a small producer of oil and gas. In a country where local communities are often very small, scattered and impoverished, and there is a general lack of infrastructure or social services, expectations from large mining projects are high.

Mining communities often find themselves in direct conflict with companies or the government because of lack of regulations or dialog, as well as unrealistic expectations around resource-related benefits.



Over the last few years, the country has witnessed increasingly frequent conflicts between affected communities and mining companies. For example, in recent years local community representatives confronted companies for environmental, local content, transparency and economic issues in almost all major mining regions. These include Huvsgul over the impact of phosphorus deposit development, Umnugovi over the water issues on Rio Tinto's Oyu Tolgoi project, and Dornogovi over the impact of uranium exploration on livestock and human health.

Mongolia is a unitary state with a degree of political and fiscal decentralization. Aimags (provinces) are governed by an elected local parliament. Governors are approved by the Prime Minister. The local parliament can set its own legislation which cannot be overruled by central government institutions if it does not breach the law. Most aimags have Citizens' Halls, which are used to discuss spending proposals by the government before actual decisions are made. Residents and other relevant stakeholders directly participate in the process. Soums (sub-provinces) are accountable to the aimags. The expenditure responsibilities of each level of government are presented in the table below.

Most government revenues from the mineral and oil sectors are centralized. While aimags have no tax collection authority, the capital city and soums can collect small fees and a few ancillary taxes (see table below). Aimags and soums cannot sell mineral licenses, however they are consulted during the licensing process and are allowed to sign community development agreements with companies.

Some mining-related revenues are distributed to local governments through earmarking and local development funds. Twenty five percent of domestic VAT payments, 5 percent of mining royalties, 30 percent of petroleum royalties, and budget surpluses of local governments are distributed to local governments. These funds are collected into the General Local Development Fund then redistributed to aimags and the capital city according to a formula that includes population, population density, remoteness, size of the territory, development indicators and tax generating capacity. Then, aimags and the capital city redistribute at least 60 percent of the fund to the lower level soums or horoo in case of the capital city.

Recently, local governments in mining regions have complained that they are not receiving large enough compensation compared to the non-mining regions because of the costs associated with mining at the local level. To voice their concerns, local governments supported only 6 percent of mining applications in the first quarter of 2015.

In response, the government passed a new law whereby 65 percent of mining royalties will go to the central government, 5 percent will continue going to the General Local Development Fund and then redistributed according to the formula, and 30 percent will go directly to mining aimags, of which one third is reallocated to the soums. What's more, 50 percent of license fees will go directly to the mining aimag's local development fund, of which 50 percent is sent to the soums. This law, which only applies to certain mining projects, will go into effect in 2016.

Expenditure responsibilities by level of government

National	Capital city and aimag	Soum
<ul style="list-style-type: none"> • Education services • Health services • Defense • Pensions • Foreign affairs • Mining • Energy • Industrial policy • National transport infrastructure (e.g., roads, railways) 	<ul style="list-style-type: none"> • Urban planning and establishing new infrastructure • Social care, welfare services and poverty alleviation • Development of small and medium-sized enterprises • Water supply, sewerage and drainage systems • Housing • Public transport • Environmental protection and rehabilitation • Large scale roads and bridges • Utilities for public areas, landscaping, public hygiene, street lighting, cleaning, and waste removal • Maintaining electrical infrastructure 	<ul style="list-style-type: none"> • Utilities for public areas, public hygiene, street lighting, cleaning and waste removal • Protection of nature and the environment • Public lighting • Maintenance of sidewalks, recreational areas and children's playgrounds

Revenues by level of government

National	Capital city and aimag
<ul style="list-style-type: none"> • Corporate income tax • Value added tax • Excise tax • Customs duties • Fuel and diesel tax • Mineral royalties • Mining license fees • Air pollution fees • Water pollution fees • SOE dividends 	<ul style="list-style-type: none"> • Personal income tax • Land use fees • Immovable property tax • Vehicle tax • Water use fee • Common minerals royalty • Income on local property

Designing a revenue sharing regime

Given the importance of enacting an efficient, stable, predictable, transparent, fair and effective revenue sharing regime, below are some key considerations for policymakers in agreeing to a formula or regime.⁵¹

AGREEING ON REVENUE SHARING OBJECTIVES

Without knowing why a country is sharing revenues between national and subnational jurisdictions, it might be impossible to reach a stable agreement on a revenue sharing formula. In general, there are five possible reasons why national governments might share general revenues with local governments:

- **Covering expenditure responsibilities.** Subnational governments are often allocated expenditure responsibilities—for instance over health, education or local roads—yet may not have the revenue-generating capacity to fulfill their mandates. National governments can make grants to local governments to fill the financing gap.
- **Improved public service delivery.** Some academics have long argued that local governments can provide some public services more efficiently than national governments. Local governments may have greater access to information on local needs than national governments. Fiscal decentralization can also generate positive competition between regions leading to better service provision for all. Finally, if they can be voted out of power, local government officials can sometimes be more accountable to citizen demands than national authorities. That said, the empirical evidence on efficient service provision is mixed. Corruption and mismanagement is often decentralized along with revenues, especially where there is a lack of local government accountability and low administrative capacity.
- **Equalization between regions.** Certain regions may have less revenue generating capacity than others, either because they have smaller tax bases or weaker public administration. Furthermore, the costs of providing public services may be higher in certain regions than others—especially in rural areas. National governments sometimes transfer a greater proportion of revenue per capita to these poorer regions to equalize opportunities and income levels across the country.
- **National government control.** The national government may want to promote national standards in health, education and other social services. Besides regulating local government behavior, national governments can incentivize local governments to adhere to national standards by making conditional grants.
- **Risk-sharing and fiscal stabilization.** Certain regions may experience environmental, social or economic crises. This is certainly the case in natural resource-dependent regions. Resource-rich regions regularly experience large positive and negative shocks to employment levels, inflation and economic growth in response to rising or

51 The design of a general revenues sharing regime would require additional considerations. For instance, deciding whether to allocate block grants or matching grants. This paper is focused only on revenues derived from natural resource extraction. See Nixon and Joelene (2014) for general revenue sharing issues.

falling commodity prices and production. However subnational governments usually do not have the tools to manage these shocks as well as national governments. First, they are often constrained by a lack of access to financing; local governments often have trouble borrowing money to help smooth these shocks, either because the national government limits borrowing to prevent over-indebtedness or because banks do not have adequate information on their creditworthiness. Second, since they do not have their own currency, the exchange rate cannot adjust to a large inflow or outflow of capital. Thus, if a new mine opens, wages and prices usually increase, harming competitiveness in other sectors of the economy, especially agriculture and manufacturing (this is called localized 'Dutch disease'). National governments can help smooth local public expenditures and insure against shocks by transferring more revenues to poorer or crisis-affected regions.

More than 20 countries not only share general revenues but also have a specific revenue sharing scheme for *revenues derived from sales of oil, gas or minerals*. Four often unstated typical objectives that appear to drive the establishment of sharing arrangements explicitly focused on natural resource revenues are: (i) compensating local communities for the negative impacts of extraction; (ii) mitigating or preventing violent conflict; (iii) responding to local claims for benefits based on ideas of local ownership; and (iv) promoting regional income equality between resource and non-resource rich regions.

Compensation for the negative impacts from extraction. Oil, gas and mining activities can cause damage to the environment or public health, for instance as a result of gas flaring or acid mine drainage. Indeed, pollution from extraction can contaminate rivers downstream from a site and the entire watershed over hundreds of square kilometers, not only the immediate vicinity of the mine site or oil field. New production can also lead to the loss of livelihoods, especially for farmers and others who are displaced or relocated in favor of extractive activities. Furthermore, the presence of oil or mining companies in a region may raise rents and costs of everyday non-tradeable services like taxis and restaurants. This can harm people who continue to live in the area but do not directly benefit from increased wages or economic opportunities. Finally, extractive industries may attract migrants to the region, adding congestion to public utilities (such as clogging transportation networks like roads and railroads or straining water delivery systems). For example, mining in Antofagasta region in Chile has attracted a large inflow of workers from other parts of the country, resulting in negative effects on income and employment for people originally from that region.⁵²

Local governments can use resource revenue shares as compensation, or to fund efforts to mitigate the social and environmental losses associated with extraction at the production site and across all affected areas. Ecuador, for instance, levies a USD 1 fee per barrel of oil produced in Amazon region, the implicit assumption being that environmental damage is directly linked to the barrels of oil that a company produces.⁵³ In the United States, the state of California levies a fixed rate on each barrel of oil

52 Aroca, Patricio and Miguel Atienza (2008) *La conmutación regional en Chile y su impacto en la Región de Antofagasta*. Departamento de Economía, Instituto de Economía Aplicada Regional (IDEAR), Universidad Católica del Norte.

53 Viale, Claudia and Edgardo Cruzado (2012) *Distribution of Revenue from the Extractive Industries to Sub-national Governments in Latin America*. Revenue Watch Institute.

or 10,000 cubic feet of natural gas produced that is remitted to the Department of Conservation's Division of Oil, Gas and Geothermal Resources. This rate is established each June based on the department's needs.⁵⁴

Conflict mitigation and prevention. Since oil, gas and minerals are point-source resources, a single violent conflict can cause harm to local residents and bring production to a halt, jeopardizing revenues for the entire country. Local leaders can therefore extract concessions in the form of resource revenues in exchange for peace and security around the field or mine. Resource revenue sharing can help build peace by encouraging dialogue between national authorities and local leaders and generating a "peace dividend" for locals.⁵⁵ National governments will sometimes transfer a share of resource revenues to local governments in resource-rich regions to preserve or create harmony between the central government and the regions, as has been the case in Indonesia, southern Iraq, Kazakhstan, Mongolia, Nigeria and Papua New Guinea.

That said, resource revenue sharing does not always prevent conflict—it can exacerbate it. The prospect of extra income can create incentives for new political groups to claim ownership, and to use resource revenues to finance violent actions. For example, between 2005 and 2008, the increase in global mineral prices and the consequent

increase in fiscal transfers to mining regions incentivized local leaders in Peru to instigate violent protests in order to extract additional transfers from the central government and gain jurisdiction over mine sites.⁵⁶

Local claims for benefits based on ideas of local ownership. Affected communities' claims often originate from a sense of ownership over resources, especially if the same ethnic group occupied the land before the contemporary state was established. Where these claims have been ignored, companies have sometimes been violently targeted by local populations, as in the case of the Conga project which was suspended at the request of the Peruvian government following community conflict.⁵⁷ In the extreme, when a claim is not satisfied or where there is a sense of injustice or dearth of benefits for locals, central governments have sometimes faced the threat of secession or violence against the state. In Indonesia, for instance, oil and gas production in the impoverished region of Aceh led to grievances that fueled a pre-existing conflict for self-determination.⁵⁸ As a result, a local 'right' to a share of resource revenues has been codified in some countries' constitutions and legislation (e.g., Argentina, Colombia). In others, such as Aceh and West Papua, Indonesia, local governments in conflict affected areas have been allocated a larger share of resource revenues than in other parts of the country.

54 The rate as of June 2013 was \$0.1406207 on each barrel of oil and 10,000 cubic feet of natural gas produced. Brown, Cassandra (2013) *State Revenues and the Natural Gas Boom: An Assessment of State Oil and Gas Production in Texas*. National Conference of State Legislatures. Online: <http://www.ncsl.org/research/energy/state-revenues-and-the-natural-gas-boom.aspx>.

55 Bailey, Rob et al. (2015) *Investing in Stability: Can Extractive-Sector Development Help Build Peace?* Chatham House Research Paper.

56 Javier Arellano-Yanguas (2010) *Local politics, conflict and development in Peruvian mining regions*. Institute of Development Studies, University of Sussex.

57 David, Rachel and Daniel Franks (2014) *Costs of Company-Community Conflict in the Extractive Sector*. Harvard Kennedy School. Online: http://www.hks.harvard.edu/m-rcbg/CSRI/research/Costs%20of%20Conflict_Davis%20%20Franks.pdf

58 Haysom, Nicholas and Sean Kane (2009) *Negotiating natural resources for peace: Ownership, control and wealth-sharing*. Center for Humanitarian Dialogue. October 2009.

Regional income equality between resource and non-resource rich regions. In some countries where natural resource-rich regions are some of the poorest, resource revenue sharing has been used to reduce regional inequalities. The government of Bolivia, for example, transfers one percent of national gross value of petroleum sales to Beni and Pando, as they were originally the two poorest departments in the country. Peru transfers additional mineral revenue shares to producing municipalities that have low social and economic indicators. Mexico makes oil revenue transfers to the states based on population, fiscal capacity and equalization indicators. And Kazakhstan transfers a disproportionate share of resource revenues to Atyrau and Mangistau, two of the poorest and most-resource rich oblasts.⁵⁹

A large number of countries also redistribute the revenue from resource extraction to poorer regions and those without resource production. Mongolia, for instance, allocates five percent of mining royalties and 30 percent of petroleum royalties according to a formula that includes remoteness and development indicators.

On the other hand, resource revenue sharing based on a derivation principle can also exacerbate inequality. For example, the Brazilian state of Rio de Janeiro is the nation's third wealthiest in terms of GDP per capita. Still, the revenue sharing formula—which allocates 52.5 percent of royalties and 40 percent of “special participation” earnings to the state—exacerbates regional inequality by allocating a disproportionately large share of resource revenues to this wealthy region. In response, some governments have enacted equalization mechanisms to address inter-regional inequalities. For example, Australia, Canada and Mexico have each introduced an explicit equalization transfer payment scheme to offset differences in natural endowments between regions, though a few, like Canada, specifically exclude some natural resource revenues from their formulas.

Relevant stakeholders in Myanmar may wish to agree on the goals of any revenue sharing regime before proceeding to negotiate any details.

59 Najman, Boris et al. (2004) “Redistribution of oil revenues in Kazakhstan” in *The Economics and Politics of Oil in the Caspian Basin* (eds. Boris Najman, Richard Pomfret and Gael Raballand). Abingdon: Routledge.

DECIDING THE VERTICAL ALLOCATION

One of the most important decisions the government can take is deciding the share of revenues assigned to each level of subnational government, authority or institution. In the literature, this allocation is referred to as the vertical distribution. Table 2 illustrates vertical distribution of resource revenues in a few countries.

Vertical distribution ought to be a function of the relative cost of adequate service provision over national and subnational expenditure responsibilities, respectively. It should also be a function of the revenue generating capacity at each level of government. The first step in deciding the vertical distribution is to estimate the costs of each expenditure item under each government's jurisdiction as well as the revenue generation capacity for each level.

Separating out oil, gas and mineral revenues from a general revenue sharing regime poses special challenges as these revenues are finite and particularly volatile. Allocating a fixed percentage of resource revenues to subnational jurisdictions will lead to unpredictable and large increases and decreases in revenue transfers to resource-rich regions. The resulting volatility generates incentives for over-spending on wasteful legacy projects during commodity boom periods and either painful cuts or a ratcheting up of public debt during busts. National governments usually have greater capacity to deal with revenue volatility than subnational governments. Different mechanisms for dealing with this volatility are discussed in later subsections.

Table 2. *De jure* derivation-based intergovernmental transfer formulas in selected countries

Country	Resource	Revenue stream	Central government	Producing regional/provincial/state governments	Municipal/district governments		Private (e.g., landowner, traditional institutions)
					Producing	Non-producing	
Brazil	On-shore oil	Royalties	12.6%	52.5%	26.2%	8.7%	0.5-1.0%
	On-shore oil	Special participation (some fields)	50%	40%	10%	0%	0.5-1.0%
Ghana	Minerals	Royalties	91%	-	4.95%	0%	4.05%
Indonesia	Oil	All	84.5%	3.1%	6.2%	6.2%	0%
	Gas	All	69.5%	6.1%	12.2%	12.2%	0%
	Minerals	Royalties	20%	16%	32%	32%	0%
Philippines	Minerals	All	60%	8%	18% municipality; 14% barangay	0%	0%
Uganda	Petroleum	Royalties	93%	-	6%	0%	1%

Sources: National legislation; Augustina, Cut Dian et al. (2012) "Political economy of natural resource revenue sharing in Indonesia," Asia Research Centre Working Paper 55; Morgandi, Matteo (2008) "Extractive Industries Revenues Distribution at the Sub-National Level," Revenue Watch Institute.

Note: Some listed countries also have other types of intergovernmental transfer systems in addition to the derivation-based intergovernmental transfer system.

DECIDING WHICH REVENUES STREAMS TO SHARE

While some countries choose to share all revenue streams between levels of government, others opt to transfer only certain streams. The most common revenue streams include royalties, signature bonuses, profit taxes, property taxes, goods and service taxes, border taxes, dividends from government equity, production entitlements, and fines and penalties.⁶⁰

Uganda's parliament recently struggled with this issue during debates on the 2015 Public Finance Management bill. The final version includes a provision that six percent of petroleum royalties will be "shared among the local governments located within the petroleum exploration and production areas". Half of this amount is allocated between local governments based on level of production or impact, where production is where extraction takes place or where oil is uploaded onto any transport platform. The remaining half is shared based on "population size, geographic area and terrain." Resource-related grants are unconditional. An additional one percent royalty will be allocated to a "gazetted cultural or traditional institution." Ghana (mining) and Papua New Guinea (oil and gas) also only share royalties.

Ecuador, Mexico and Nigeria, on the other hand, are examples of countries that share all revenue streams with local governments. In other cases, countries may choose to share some streams but not others, or may vary the regime based on the commodity. In Canada, both national and provincial governments collect their own corporate income taxes, while royalties are only collected by the provincial governments. In

Indonesia, all oil and gas revenue streams are shared with local governments, however only mineral royalties are shared.

Considerations for including certain revenue streams

The reasons for sharing only some but not all streams are both practical and political. First, from a practical perspective, not all revenue streams can be easily linked to a given project in a given state or region. For instance, companies with multiple operations in a country may aggregate profits taxes over several projects. In such a circumstance, it would be largely arbitrary to assess what share of corporate income tax is associated with a given mineral project or oil field. Royalties, on the other hand, are based on volume or value of production. As such, they can be easily linked to a mine or petroleum field in a specific location.

Second, royalties and signature bonuses are easier to calculate than, say, profits taxes—all one needs is production volume, quality of the product and market prices in order to estimate royalty revenues. License fees are even easier to calculate. These streams thus lend themselves more naturally to collection or verification by subnational governments. Other revenue streams, especially profits taxes, require much more information to estimate, such as costs.⁶¹ Profits taxes or dividends from government equity may also not be collected in certain years due to cost recovery or tax incentives. Linking subnational payments to these difficult-to-estimate revenue streams may generate confusion in years when production is high but payments are low.

60 IMF (2014) *Government Finance Statistics Manual 2014*. Washington D.C.: IMF.

61 In a typical extraction project, gross sales will become greater than zero before taxable profits, often many years before. Therefore the tax collecting authority will receive revenues from gross sales taxes before profit taxes. Additionally, if there is a fall in commodity prices, it is likely that gross sales will be positive more often than profits.

Third, royalties are more predictable and less volatile than other revenue streams. Given the difficulties inherent in managing year-to-year revenue volatility—and the deleterious impact of volatility on the quality of public investment—it may be easier to manage large royalty payments than other revenue streams.

These three points may suggest that subnational governments would be well served to collect a share of royalties, property taxes and license fees rather than profits taxes, dividends on government equity or production entitlements. However any revenue sharing regime that covers only some streams might be considered “cheating” subnational governments out of their fair share since natural resource revenues consist of the sum of all streams.

Furthermore, different revenue streams start flowing at different times in the extractive life-cycle. For instance corporate income tax only starts being collected once costs have been recovered, while royalties are collected as soon as production begins. Also, the magnitude of different streams varies significantly. In general, after the onset of production, royalties, profits taxes and goods and services taxes are much larger than, say, property taxes or license fees. Distributing different revenue streams, therefore, has implications for both national and subnational budgets. Ultimately, the allocation of revenue streams ought to be a function of the respective expenditure responsibilities of national and subnational governments.

A final consideration—particularly important in Myanmar given specific claims by groups in Rakhine and elsewhere—is whether any revenue sharing regime will include both onshore *and* offshore oil, gas and even mining activities.⁶² While in general offshore resources are the exclusive jurisdiction of the central government, in Australia, Brazil, Canada and Italy, revenues from these sources are shared with the closest neighboring subnational governments.⁶³

Each of these four countries has a specific history that explains why offshore resource revenues are shared. For example, despite a Supreme Court ruling in 1984 that offshore oil and its proceeds are under federal jurisdiction, the Canadian government negotiated an accord with the oil-rich province of Newfoundland in 1985 which splits the benefits evenly between both levels of government. This deal was the product of an election promise by a political party eager to win parliamentary seats in Newfoundland.

Notwithstanding these experiences, offshore resource revenue sharing remains rare. Offshore production generates fewer direct negative impacts on adjacent populations—for instance on the natural environment and on livelihoods—notwithstanding disruptions to fisheries and the potential for oil spills. Offshore resources are also more difficult for local leaders to occupy. Therefore offshore production is less susceptible to extortion in exchange for peace and security.

62 Deep-sea mining is expected to begin off the coast of Papua New Guinea soon.

63 Brosio, Giorgio (2006) “The Assignment of Revenue from Natural Resources” in *Handbook of Fiscal Federalism* (eds. Ehtisham Ahmed and Giorgio Brosio), Cheltenham: Edward Elgar Publishing.

DECIDING ON A RESOURCE REVENUE SHARING PRINCIPLE AND FORMULA (HORIZONTAL ALLOCATION)

Horizontal distribution describes the distribution of resource revenue among subnational jurisdictions at the same level of authority. Excluding direct resource tax collection, there are two channels that are commonly used to transfer natural resource revenues to local governments: A derivation-based transfer from the central government that is a defined share of resource revenues generated in that region, usually measured by production value, or an indicator-based transfer whereby the amount transferred is calculated using a formula consisting of objective and measurable indicators, such as population, poverty rates, or regional GDP. Within indicator-based transfer systems, all revenues can be pooled and then redistributed, or natural resource revenues can be separated from other types of revenue.

The majority of resource revenue sharing systems—especially in emerging economies—are derivation-based. The reasons are that they are often simpler to explain to the population and key stakeholders, easier to calculate, and require less data than indicator-based transfer systems. However they are also generally pro-cyclical: governments in resource-rich regions receive more revenues just as extractive activities are ramping up in the region, and transfers decline when production slows. Derivation-based transfers generally exacerbate boom-bust cycles.

As mentioned, Brazil, Democratic Republic of the Congo, Ghana, Indonesia, Iraq, Mongolia, Nigeria, Papua New Guinea, the Philippines, Uganda,

and South Sudan are among the countries with derivation-based formulas for all or certain revenue streams, though some of these countries also have additional indicator-based systems. The Indonesian case provides a useful illustration. The Indonesian government distributes 3.1 percent of total oil revenue to the producing province, 6.2 percent to the producing regency, and 6.2 percent is equally distributed to all other regencies in the producing province. Gas is distributed 6.1 percent to the producing province, 12.2 percent to the producing regency, and 12.2 percent distributed equally to all other regencies in the producing province.

The regions of Aceh, Papua and West Papua are subject to special arrangements with the central government whereby Aceh received 70 percent of oil and gas revenues from 2002-2011 and Papua and West Papua receive 70 percent from 2002-2027. After these periods, their shares will be reduced to a maximum of 50 percent each.⁶⁴ This has meant massive oil and gas revenue windfalls for certain regions, such as a USD 1.2 billion windfall distribution to Riau (pop. 6.4 million) and a USD 280 million distribution to North Kalimantan (pop. 628,000) in 2014. One weakness is that it has resulted in large inflows of revenues into oil- and gas-rich regions during boom years, followed by drastic falls in revenue during periods of price declines or once resources are depleted. Since many local jurisdictions do not have the absorptive capacity to manage large windfalls, soaring government expenditures have often led to local inflation—especially for rents, construction and local services—or profligate spending on government employee bonuses and glamour projects.

64 Agustina, Cut Dian et al. (2012) *Political economy of natural resource revenue sharing in Indonesia*. Asia Research Centre Working Paper 55.

While the regime has been stable since 2004, one of the challenges has been that the formula does not permit resource revenue sharing with affected regencies if they are not producing and not in the producing province. As the map below shows, Blora and Bojonegoro sit on top of one of Indonesia's most lucrative oil fields, the Cepu block. Yet, because the wells are mostly located in East Java's Bojonegoro regency, and Blora is in Central Java province, Blora receives few resource revenue transfers. (See figure 7.)

Indicator-based systems can, in theory, be a more effective means of channeling resource revenues to those that need it most (e.g., poorer regions, less educated regions, those suffering from environmental damage, those with less revenue generating capacity). They can also help reduce regional inequalities in cases where derivation-based formulas cause resource-rich regions to become much richer than resource-poor regions. Canada, for instance, uses a complex formula to equalize opportunities across the country yet still

Figure 7. Map of Blora and Bojonegoro, Indonesia



provide preferential treatment for resource-rich regions. In brief, Canadian provinces collect royalties and provincial corporate income tax, while the national government collects national corporate income tax. This has contributed to a situation where income in oil-rich provinces is much higher per capita than in non-resource-rich provinces. Canada's provincial "equalization formula" helps rectify this situation by calculating the revenue generating capacity of each province on a per capita basis. If, according to an agreed formula, a province has below-average ability to generate own-source revenues, then it is eligible for an equalization payment.⁶⁵ Natural resource royalties are excluded from this formula, which allows resource-rich provinces like Alberta, Newfoundland and Saskatchewan to keep a larger share of their revenues. (Transfers to Canada's Northern territories are managed somewhat differently.) South Africa employs a similar principle, except that instead of measuring revenue generating capacity using a complex multi-indicator formula, it uses regional GDP as a proxy for fiscal capacity.⁶⁶

While Canada's system focuses on supplementing provincial budgets for those provinces that have difficulty raising revenue, some indicator-based systems also use measures of expenditure needs, such as population, poverty rates or a wage index. Mexico allocates its petroleum revenue according to a formula that consists of population and revenue generation, as well as a third variable,

weighted less than the others, that benefits states with low populations and high revenue generation.⁶⁷ Australia's equalization formula uses a combination of revenue capacity and expenditure needs indicators. Needs indicators include population density and level of urbanization. An independent Commonwealth Grants Commission makes an assessment of how revenues should be distributed to the states and territories.⁶⁸

The advantage of an indicator-based system is that it tends to depoliticize the revenue sharing issue by shifting disagreements over the formula into technocratic hands. Instead of arguing over greater revenue shares, the debate becomes about appropriate indicators and data accuracy. That said, the Australian and Canadian systems have come under criticism for the same characteristic that causes them to be lauded: their complexity, which makes them relatively non-transparent. Indicator-based formulas also require enormous amounts of detailed regional-level data to be able to calculate revenue allocations effectively, a serious disadvantage for implementation in Myanmar. Some relevant data is currently available via the *Integrated Household Living Conditions Survey 2009-10* or *The 2014 Myanmar Population and Housing Census*. However any indicator-based formula would need to be developed around existing data sources. In Myanmar, these may not be updated regularly and are limited in scope, coverage and accuracy.

65 Roy-César, Edison (2013) *Canada's Equalization Formula*. Library of Parliament Research Publications, Government of Canada. Online: <http://www.parl.gc.ca/Content/LOP/ResearchPublications/2008-20-e.htm#a3>

66 Shah, Anwar (2007) "A Practitioner's Guide to Intergovernmental Fiscal Transfers" in *Intergovernmental Fiscal Transfers: Principles and Practice* (eds. Robin Boadway and Anwar Shah). World Bank: Washington DC.

67 Castaneda, Luis Cesar and Juan E. Pardinas (2012) *Sub-national Revenue Mobilization in Mexico*. IDB Working Paper Series No. IDB-WP-354; Courchene, Thomas and Alberto Diaz-Cayeros (2004) "Transfers and the Nature of the Mexican Federation", *Achievements and Challenges of Fiscal Decentralization: Lessons from Mexico* (eds. Marcelo M. Guigale and Steven B. Webb), Washington DC: World Bank.

68 Wilson, Leonard S. (2007) "Macro Formulas for Equalization" in *Intergovernmental Fiscal Transfers: Principles and Practice* (eds. Robin Boadway and Anwar Shah). World Bank: Washington DC.

Bolivia, Canada (territories only) and Peru are examples of countries that utilize both derivation-based and indicator-based approaches, distributing resource revenues horizontally according to both production and population. They are also examples of countries with clawback provisions on their derivation-based transfers. In Peru, transfers from the *Canon Minero* and mineral royalties disproportionately benefit mineral-producing regions. In an attempt to address this inequality, the central government tries to equalize payments by allocating higher amounts of general intergovernmental transfers to non-producing local and regional governments. Local governments of the regions of Amazonas, Huánuco and San Martín, which receive few mineral revenue transfers, receive significantly greater intergovernmental transfers per capita from the non-resource based pool of funds. Similarly, the ten regional governments whose intergovernmental transfers were above the national average receive relatively fewer royalty and *Canon Minero* payments.

Similarly, in Canada, the Northwest Territories are allowed to retain the lesser of 50 percent of mineral, oil, gas and water-related revenues, or five

percent of an amount called the Gross Expenditure Base, calculated at between CAD 70 million to CAD 100 million per year over the coming decade. Of this amount, 25 percent is passed onto some aboriginal governments. However, under the formula that determines the annual unconditional transfer from the Government of Canada to the Northwest Territories, for each dollar the territory raises itself in taxes, approximately 70 cents are removed from the federal transfer. In other words, even if resource taxes rose significantly, much of the revenue would be clawed back.⁶⁹

Any agreed formula ought to be derived from the objective(s) of the transfer system. For instance, if a derivation-based system is developed and the goal of the transfer system is compensating regions for loss of livelihoods and environmental damage, then it would make sense to define “affected areas” and transfer revenues to these areas. Similarly, if an indicator-based system is selected and the goal of the transfer system is also compensating regions for loss of livelihoods and environmental damage, then appropriate indicators might be the numbers of jobs lost or a measure of environmental damage in the affected area. (See table 3 for more examples of this principle.)

69 Bauer, Andrew (2014) *All That Glitters is Not Gold: Will Expectations be Dashed in Canada's North?* Natural Resource Governance Institute, 30 June 2014. Online: <http://www.resourcegovernance.org/news/blog/all-glitters-not-gold-will-expectations-be-dashed-canadas-north>

Table 3. Revenue sharing options linked to objectives

Objective	Share options	Indicator options
Benefit equalization/ decentralized accountability/ build local capacity	<ul style="list-style-type: none"> • Equal share to all regions • ___% to each citizen 	<ul style="list-style-type: none"> • Population index • Poverty index • Education index • Health index • Wage index • Transportation index
Reduce regional income inequalities	<ul style="list-style-type: none"> • Equal share to all regions 	<ul style="list-style-type: none"> • Inverse revenue generation capacity index (e.g., local GDP share of national GDP) • Poverty index
Compensation to producing regions	<ul style="list-style-type: none"> • ___% to directly affected regions • ___% to indirectly affected regions • ___% to affected communities / citizens / landowners 	<ul style="list-style-type: none"> • Environmental damage index • Job loss index
Conflict prevention	<ul style="list-style-type: none"> • ___% to producing regions • ___% to non-producing regions • ___% to special interest groups 	<ul style="list-style-type: none"> • “Fair” formula with broad-based and public consultation

For illustrative purposes, we modelled a set of indicator-based revenue sharing formulas based on 2014 *Myanmar Population and Housing Census* data. Assuming a given vertical allocation to all states or regions, we compared the current system of *ad hoc* horizontal allocation to four indicator-based formulas:

- 1 A population-based formula
- 2 A pure needs-based formula using an average of three indicators weighted equally: literacy rates, percentage of households without electricity for lighting, and percentage of individuals without access to “improved” drinking water
- 3 A needs-based formula stressing access to education and educational opportunities using access to internet at home and literacy as proxies, weighted equally
- 4 A weighted formula: population (40 percent), literacy (20 percent), electricity (20 percent), water (20 percent)

As table 4 shows, an allocation based on either population or development needs would suggest a significantly higher proportion of fiscal transfers to Ayeyarwady, Bago, Mandalay and Yangon. The development needs approach would also suggest a higher proportion of transfers to Shan state. The analysis also suggests a smaller relative share to Chin, Kachin, Kayah and Tanintharyi.

Our analysis must be caveated in at least three ways. First, we emphasize that these formulas are not meant as recommendations. They are only illustrative of the consequences of different formulas on horizontal revenue allocation.

Second, none of the formulas include oil, gas or mineral production or revenue figures, nor environmental or livelihood indicators that could be used in an extractive-based revenue sharing formula. This is due to the lack of available data, notwithstanding the release of Myanmar's first EITI report. Unfortunately, project-by-project payments or production data was excluded from the report, prohibiting the information from being used for this purpose. Were the information available, several of the models could have incorporated state-level production or resource revenue indicators. If we had been able to develop formulas incorporating mining production or revenues, Kachin, Sagaing, Shan and Mandalay, for instance, might have received a higher share of revenues compared to our models in Table 4. If onshore oil production or revenues were to be included, Bago and Magway, for example, might have received a higher share.

Third, we only model *horizontal* allocation. The figures say nothing about the vertical allocation of resource revenues (the split between the national government and all subnational governments); they refer strictly to the respective allocation to different states and regions given a specific pool of funds for all subnational governments. The pool itself can be enlarged either by reallocating revenues from the national government to subnational governments or by growing the pool for all by generating more resource revenues. Beyond the scope of this paper, we refer to the literature on fiscal regimes, revenue collection and state-owned company reform, including NRG1's report *Gilded Gatekeepers: Myanmar's State-Owned Oil, Gas and Mining Enterprises*.

Table 4. Current fiscal transfers per subnational government and indicator-based allocation models

State / region / territory	Current allocation (percentage of total fiscal transfers) (FY 2015/16)	Model 1: Population-based allocation (percentage of total)	Model 2: Education, electricity and water needs-based allocation (percentage of total)	Model 3: Education needs-based allocation (percentage of total)	Model 4: Weighted allocation (percentage of total)
Ayeyarwady	6.5	12.0	13.8	9.7	13.1
Bago	7.1	9.5	7.6	7.3	8.4
Chin	7.0	0.9	1.3	1.4	1.1
Kachin	8.4	3.3	2.8	2.9	3.0
Kayah	2.8	0.6	0.7	0.7	0.6
Kayin	4.0	3.1	4.6	5.2	4.0
Magway	7.9	7.6	6.6	6.6	7.0
Mandalay	6.8	12.0	7.6	9.3	9.4
Mon	4.0	4.0	4.2	4.5	4.1
Naypyitaw	-	2.3	1.3	1.7	1.7
Rakhine	7.7	6.2	9.6	7.6	8.3
Sagaing	9.8	10.3	7.9	8.3	8.9
Shan	11.9	11.3	21.2	24.1	17.4
Tanintharyi	8.1	2.7	2.9	2.3	2.8
Yangon	8.0	14.3	7.1	8.4	10.0

Data: Myanmar Union Budget 2015/16; Myanmar 2014 Population and Housing Census

Notes: As a union territory, Naypyitaw does not receive fiscal transfers via the same mechanism as other states and regions, but is included here for the purpose of comparison. Model 2 uses an equally-weighted average of three census indicators, namely literacy rates (in any language), percentage of households whose main source of energy for lighting is electricity and percentage of households with access to "improved" water sources. "Improved water" is defined as piped tap water, tube well, borehole, protected well or spring, or bottled or purified water. Model 3 uses an equally weighted average of the literacy rates and percentage of households with internet access at home. Model 4 uses a weighted average of indicators: population (40 percent), literacy (20 percent), electricity at home (20 percent) and water (20 percent).

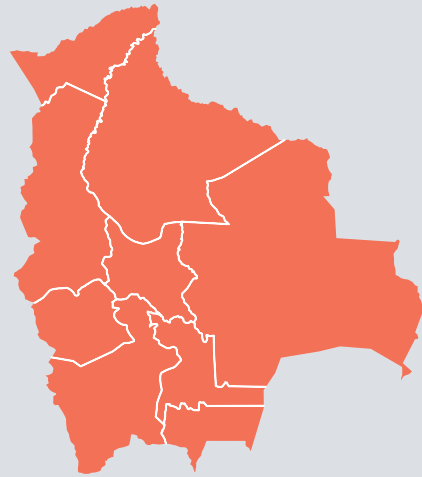
Box 4. Bolivia revenue sharing case study

Natural gas and oil revenues represent some of the largest sources of income for Bolivia's economy. In 2014, the oil and gas sector represented 8.7 percent of GDP and 55 percent of total exports. The sector has contributed to more than one third of the Treasury's income in recent years. Bolivia is also a major producer of silver.

Bolivia is divided into nine departments, 112 provinces and 339 municipalities. Departments and municipalities raise very little own-source revenue and most of their revenue consists of inter-governmental transfers to finance expenditures.

Departments are responsible for large infrastructure projects.

Municipalities are responsible for infrastructure maintenance as well as many health, education, police, culture, sports and tourism services, for instance.



Oil and gas revenues are transferred to subnational entities via two channels: A general intergovernmental transfer system and a derivation-based system. According to the general transfer system, municipalities are meant to receive 20 percent of general tax-based intergovernmental transfers to fulfil their mandates. This is called "fiscal cooperation". An additional source of revenue for municipalities (the "HIPC transfers") is allocated based on poverty rates. Indigenous territories are also legally recognized and receive a small share of revenues.

The derivation-based system differs by revenue stream (e.g., royalties, profits tax). Royalties constitute the main source of oil and gas income for the four producing departments (Santa Cruz, Tarija, Cochabamba, and Chuquisaca). An 11 percent royalty is levied on all oil and gas production, distributed to departments by volume of production. Since Tarija's three fields contribute nearly 70 percent of Bolivia's national production of hydrocarbons, it has received 60 percent of total royalty payments since 2006. An additional compensation royalty of one percent is shared among the two poorest departments Beni and Pando, two-thirds to Beni and one-third to Pando.

There is very little information available about the sharing of royalty revenue within each department. The only departments offering some information on this are Tarija and Santa Cruz. Tarija allocates 45 percent of its revenue from royalty payments to the province of Gran Chaco, and Santa Cruz allocates its royalty revenue according to the 50/40/10 formula: 50 percent for producing provinces, 40 percent for non-producing provinces and 10 percent for indigenous villages.

The Direct Tax on Hydrocarbons (IDH), a large profits tax introduced in 2005, is also distributed to departments by derivation. According to the law, each producing department is meant to receive four percent of the IDH and each non-producing department receives two percent. Within each department, departments retain one percent, municipalities are allocated 2.7 percent and universities 0.3 percent. There is no specific percentage of either royalties or IDH that needs to be spent on any specific expenditure item or project.

In October 2007, President Evo Morales changed the internal distribution of IDH revenue inside departments: the share accruing to municipal governments would increase from 34 percent to 67 percent, while transfers made to departments would diminish from 57 percent to 24 percent. This change was part of the country's fiscal decentralization process. Municipalities today receive more than one third of their revenue from the IDH. In 2012, 47 percent of total revenue received by municipalities came from the IDH. The rest largely came from their participation in revenue received from the application of the general fiscal regime (fiscal co-participation), most of which does not necessarily come from the oil and gas sector.

The revenue from the IDH also allows the government to finance a universal old-age pension scheme, *Renta Dignidad* (formerly known as Bonosol) as well as other conditional cash transfers programs, such as the *Bono Juancito Pinto*.⁷⁰ While the distribution of revenue from the IDH has been modified several times by the current President, the 11 percent royalty has been unaltered since its creation, and it constitutes a critical source of income for Bolivia's four producing departments. Bolivia's 2009 Constitution turned this royalty into a legal right, making it even more difficult to change.

The national government discloses a large amount of disaggregated information on oil, gas and mineral revenues and fiscal transfers. This allows local governments to verify they are receiving their entitlements. For example, the Ministry of Finance releases all data on transfers made to departments, municipalities and universities, as well as on cash transfers made to private beneficiaries (*Renta Dignidad* and *Bono Juancito Pinto*). The report provides the beneficiaries for each transfer and the amount. Intergovernmental transfers made to departments, municipalities, and universities—including IDH transfers but not royalties—are available in the Ministry of Economy and Finance webpage.⁷¹

The Analysis Unit of Social and Economic Policy, an executive branch research unit, also offers disaggregated information on revenues transfer to and between departments, provinces and municipalities, including royalties.⁷² Additionally, a breakdown by type of revenue is available for each municipality: revenue from fiscal co-participation, HIPC flows, as well as IDH transfers. The information is presented in a clear and understandable way.

Finally, the website of the Ministry of Hydrocarbons and Energy contains a Royalty Information System, which shows information about the hydrocarbon production by department, field and company, as well as the value of the produced hydrocarbons and the amounts in dollars received by every departmental government. The data is available on a monthly basis.⁷³

70 The *Bono Juancito Pinto* is a cash transfer in Bolivia whose beneficiaries are children going to public schools. It was established in 2006 with the aim of reducing dropout rates. It is paid through two installments, one at the beginning of the academic year and one at the end of it, each of USD 14.50 per student.

71 See reports: http://www.economiayfinanzas.gob.bo/?opcion=com_contenido&ver=contenido&id=2885&id_item=646&seccion=269&categoria=1523 and <http://www.economiayfinanzas.gob.bo/viceministerio-de-presupuesto-y-contabilidad-fiscal.html>

72 See report: http://www.udape.gob.bo/portales_html/dossierweb2012/doss0308.htm.

73 See data: <http://www2.hidrocarburos.gob.bo/index.php/viceministerios/97-viceministerio-de-exploracion-y-explotacion-de-hidrocarburos/liquidaci%C3%B3n-de-regalias-y-participaci%C3%B3n-al-tgn.html>

DECIDING ON RECIPIENTS

As we have seen, resource revenues can be transferred to state or regional bodies, to municipalities, affected communities, traditional authorities, landowners or even residents directly. Which option is chosen ought to be a function of the objectives of the revenue sharing regime.

At the same time, Myanmar's administrative divisions are well established. The most natural transfer might be to the state or regional level.

However there is an existing precedent for transferring revenues to the district, township, village tract or even village levels. For instance, some Constituency Development Funds (CDFs) are transferred directly to the Township Development Implementation Body (TDIB) and village tracts receive annual payments of USD 27,000 under the World Bank-Myanmar Government National Community Driven Development (NCDD) project.⁷⁴ All options ought to be considered.



Young children of freelance miners gaze out at Myanmar's expansive Letpadaung copper mine. Photo by Lauren DeCicca for NRGi

74 Nixon, Hamish, and Cindy Joelene (2014) *Fiscal Decentralization in Myanmar: Towards a Roadmap for Reform*. MDRI and The Asia Foundation. Discussion Paper No. 5.

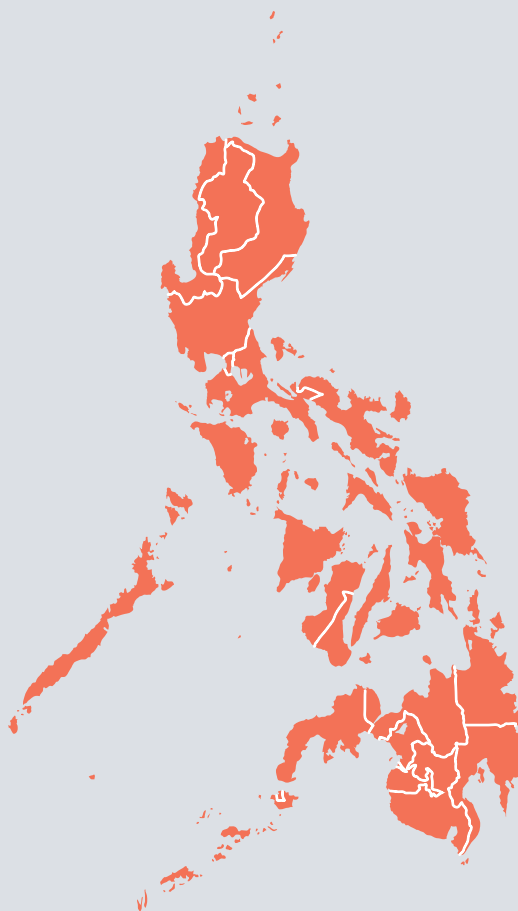
Box 5. Philippines revenue sharing case study

Natural resource activities in the Philippines represent a growing share of the economy. The archipelago boasts sizeable reserves of nickel, gold, silver, copper, zinc and chromite, and currently produces modest quantities of oil and natural gas. Between 2003 and 2013, the official share of minerals in total exports increased from approximately 2 percent to more than 6 percent, though government statistics do not account for severe underreporting of production and extensive illegal mining. The Philippines became a candidate country to the Extractive Industries Transparency Initiative (EITI) in May 2013.

Subnational governments at the township, municipal, and provincial level play an important role in service delivery and local economic development. The smallest administrative units, which number in the tens of thousands, are known as barangays. Cities and municipalities are constituted of multiple barangays. While most city and municipal governments fall under the jurisdiction of the Philippines' 81 provincial governments, 38 highly urbanized cities are administered independently.

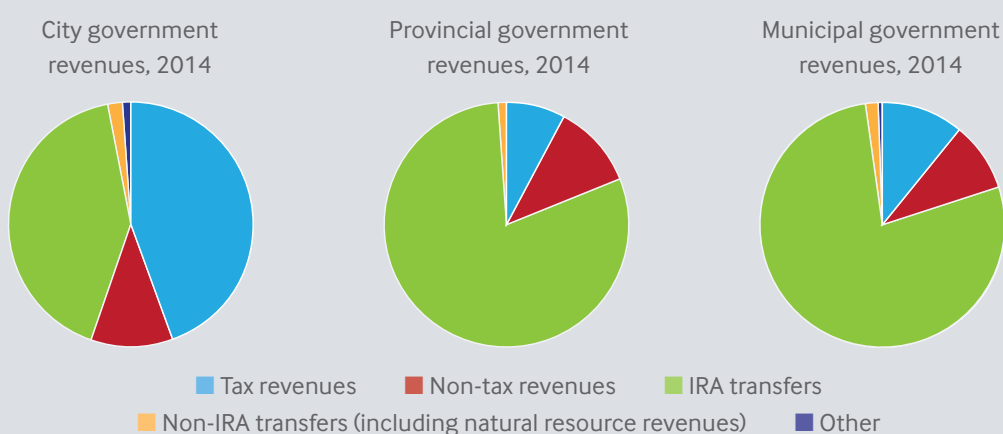
The Philippines undertook significant decentralization in 1991 with the enactment of the Local Government Code (LGC), which devolved responsibility for administering local infrastructure and public works, health and hospital services, telecommunications, social welfare and housing, and tourism to subnational governments. The LGC also vests local governments with limited regulatory powers, including authority to issue licenses for small-scale mining, reclassify agricultural lands, apply environmental laws and enforce the national building code.

Expanded operations under this broader mandate are funded largely through transfers from the central government, which accounted for approximately 12 percent of the 2015 national budget. In 2014, payments from the central government accounted for 65 percent of local government units' combined operating income, with local tax and non-tax revenues representing 35 percent of total subnational revenues. Dependence on central government transfers ("IRA and non-IRA transfers" in the chart on the next page) was highest among provincial and municipal governments, averaging nearly 80 percent.



Box 5. (continued)

Source of city, provincial and municipal government revenues, 2014



Source: Bureau of Local Government Finance

The 1987 Constitution stipulates that “local governments shall be entitled to an equitable share in the proceeds [...] the national wealth within their respective areas.” The LGC stipulates that subnational governments are entitled to 40 percent of gross mining taxes, royalties, forestry and fishery charges from the preceding fiscal year. If resource extraction is undertaken by a government agency or state-controlled corporation, local government units’ share of extractive revenues is determined by the central government as the greater of: (a) 1 percent sales from the preceding calendar year; or (b) 40 percent of total collections from mining taxes, royalties, forestry and fishery charges, and fees levied in their jurisdiction.

The allocation of resource revenues between province, municipality, city and barangay governments varies depending on location. If natural resources are situated in an independent city, then the city government will receive 65 percent of revenues and the barangay(s) will receive 35 percent of revenues, as illustrated in Figure 2. In the case of resources situated in component cities or municipalities, the provincial government will receive 20 percent of revenues while the municipal government and barangay are apportioned 45 and 35 percent of revenues, respectively. If a natural resources deposit crosses jurisdictional lines, the shares of each jurisdiction are determined based on population (weighted 70 percent) and land area (weighted 30 percent).

Distribution of natural resource revenues among LGUs

	Natural resources extracted in independent city	Natural resources extracted in province
Provincial government		20 %
City government	65%	
Municipal government		45%
Barangay government	35%	35%

Source: Local Government Code (1991)

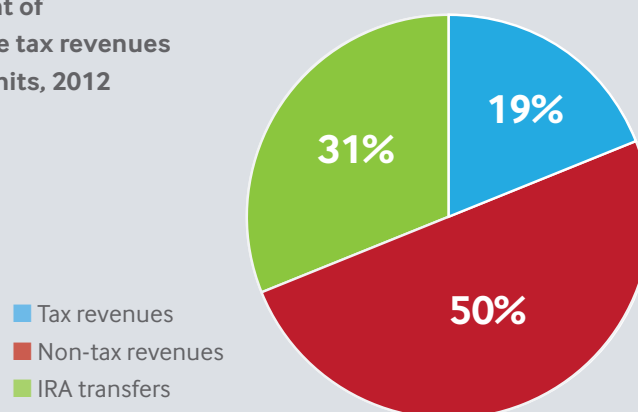
Where mining operations occur within the ancestral lands of indigenous peoples, the Philippine Mining Act obliges the operator to pay royalties equal to at least one percent of total to indigenous groups. Under the Indigenous Peoples' Rights Act, any mining activities in ancestral lands can only be undertaken with free and prior informed consent (FPIC) of the local indigenous peoples, providing some indigenous groups with an opportunity to negotiate higher revenue shares. In practice, few groups collect their entitlements or negotiate higher shares.

The LGC stipulates that "national wealth revenues" must be utilized by subnational governments to finance local development and livelihood projects in consultation with local development councils and elected representatives. At least 80 percent of local government revenues received from hydropower and geothermal projects, for example, are earmarked for projects aimed at lowering electricity costs.

However, the contribution of natural resource wealth to subnational governments' budgets is usually slight, even in many jurisdictions with significant natural resource wealth. Natural resource transfers are most significant for a small number of municipalities like Claver and Tagana-an, where they account for between 30 and 40 percent of total revenues. But in Surigao Norte—the province where Claver and Tagana-an are located and one that usually receives the most revenues from mining taxes and royalties—subnational natural resource transfers only represented around 8 percent of total operating income in 2014. Subnational governments also receive some revenues directly from local extractive industries, including business and property taxes as well as registration and permitting fees.

Information on natural resource revenue transfers are published by the Philippines Department of Budget and Management (DBM). Data on subnational revenues and expenditures are also available via the Bureau of Local Government Finance (BLGF), though natural resource revenues are not disaggregated in these estimates. In addition to DBM, the calculation and distribution of extractive revenues to local government units involved coordination between multiple national government agencies. This process has routinely prevented the timely disbursement of shares (for example, Figure 3 illustrates delays in excise tax shares). As a result, subnational governments units are often forced to estimate this income during the budgeting period.

**Delays in disbursement of
natural resource excise tax revenues
to local government units, 2012**



Source: Extractive Industries Transparency Initiative Scoping Study on Local Revenue Streams and Subnational Implementation

STABILIZING RESOURCE REVENUE TRANSFERS

Derivation-based transfers, as previously mentioned, are usually extremely ‘pro-cyclical’. Under these systems, when resource revenues increase, resource-rich regions receive more revenues. Since economic activity is strongly correlated with resource revenues in resource-rich regions, government spending increases just as the local economy booms. The problem is that when spending increases too quickly, a bureaucracy will likely find it difficult to adjust, which can lead to poorly conceived, designed and executed projects. In these situations, there is a tendency for the government to spend on conspicuous infrastructure projects like fountains and expensive government buildings (e.g., Kazakhstan’s new presidential palace; Ite’s new municipal building in Peru). When revenues decline unexpectedly, the usual consequence is an increase in public debt or expenditure cuts. Roads are left half-finished and buildings go unmaintained.

How difficult the adjustment will be depends on the so-called “absorptive capacity” of the government and the economy. Absorptive capacity is a government’s ability to transform financial resources into concrete infrastructure and social services efficiently. It also encompasses the ability of the domestic private sector to provide the goods and services contracted by the government. Absorptive capacity depends on the domestic supply of qualified labor, speed at which people can be trained, ease of access to inputs, ease of

access to credit for businesses, and the presence of management systems and institutions that can cope with an increase in spending.

If there is adequate supply of capital (financing and equipment) and local labor to meet the demand generated by an inflow of resource revenues into the local economy, then local businesses will thrive and employment will increase. On the other hand, if local businesses cannot absorb these revenue inflows, for instance because there is not enough skilled labor, then the inflow of money into the local economy may cause a sudden influx of foreign workers or contractors. It can also lead to super-profits for existing construction companies as they raise their prices, generating local inflation rather than more infrastructure.

The problem can be worse and spread to the private sector when government spending declines after a sudden drop in oil or mining revenues. When businesses grow and proliferate when government expenditures are high, they become particularly vulnerable to government spending cuts, since the government is often the main source of large contracts in resource-rich regions. In this way, government expenditure volatility can lead to bankruptcies in the wider economy.⁷⁵

There are at least four possible ways to address this challenge.

First, subnational governments can be allowed to save resource revenue windfalls for when revenues decline unexpectedly, for example in a natural resource fund. This way they can smooth spending rather than succumb to boom-bust

75 Bauer, Andrew (2013) *Subnational Oil, Gas and Mineral Revenue Management*. Revenue Watch Institute. Online: http://www.resourcegovernance.org/sites/default/files/RWI_Sub_Oil_Gas_Mgmt_EN_rev1.pdf

cycles. However subnational governments may have trouble managing these savings; local natural resource funds are often used as channels for patronage and corruption. Several North American states, provinces and territories have created such funds (e.g., Alberta, Northwest Territories, Wyoming) and the oil-rich Indonesian regency of Bojonegoro is currently establishing one.⁷⁶

Second, subnational governments can borrow when revenues decline and pay down that debt when there is a large resource revenue windfall. While this option circumvents the governance challenges associated with natural resource funds, they pose their own challenges. Most important is a tendency to over-borrow and eventually default, particularly where the national government provides an implicit guarantee on subnational debt. Chile, Colombia, Indonesia, Mexico and Russia all bailed out local governments between 1982 and 2000. However, other national governments, like those in Bolivia, Nigeria and Peru, have either made policy decisions or have legal frameworks in place that have allowed subnational government defaults to happen. Subnational debt crises in these countries have often led to a severe contraction of local services, cuts in wages and social conflict. For these reasons, many countries prevent subnational governments from borrowing.⁷⁷

Third, the Union government could smooth transfers on behalf of subnational governments. For example, the government could establish a subnational transfer fund and make allocations not on an annual basis but based on a seven- to eleven-year moving average of resource revenues. The U.S.

state of Alaska employs such a fund (the Alaska Permanent Fund) to smooth resource revenue transfers to households. While this model may be attractive in theory, it may be politically unfeasible. Subnational governments often seek control over their own resource revenue management and could be opposed to complex management by the central government, even if it's in the public interest.

Four, rather than a derivation-based formula, an indicator-based formula could be used, one that is designed to be "counter-cyclical." For example, resource revenues can be distributed based on fiscal gap or unemployment indicators.

Whichever option might be chosen, any revenue sharing system ought to consider its implications on subnational expenditure volatility.

EARMARKING RESOURCE REVENUES

Certain countries earmark resource revenue transfers to certain expenditure items. In Bolivia, Brazil, Colombia, Papua New Guinea and Peru, the law or the central government require earmarking resource revenue transfers to specific investment projects, limiting subnational government discretion in planning how such revenues might be spent. These earmarks can either be to agencies or by sector.

In Indonesia, 0.5 percent of resource revenues must be allocated to education by the provinces and regencies. In Bolivia, 70 percent of transfers to regions and municipalities must be spent on health insurance and productive investments. The

76 Natural Resource Governance Institute-Columbia Center on Sustainable Investment (2014) "Natural Resource Fund Governance: The Essentials" in *Managing the public trust: How to make natural resource funds work for citizens*. Online: http://www.resourcegovernance.org/sites/default/files/NRF_Complete_Report_EN.pdf

77 Bauer, Andrew (2013) *Subnational Oil, Gas and Mineral Revenue Management*. Revenue Watch Institute. Online: http://www.resourcegovernance.org/sites/default/files/RWI_Sub_Oil_Gas_Mgmt_EN_rev1.pdf

remaining 30 percent must be spent on pensions. In Papua New Guinea, communal landowners must save 30 percent of their resource revenue share for future generations, spend 30 percent on local health, education and social development programs, and can retain the remainder in cash.⁷⁸

Conditional grants can be helpful in guaranteeing financing for chronically underfunded expenditure items, like environmental protection or education. They can also be politically useful in messaging a government's commitment to development and in demonstrating benefits from resource extraction. On the other hand, they can undermine budgetary autonomy and flexibility without guaranteeing improved results. They may also be ineffective, as resource revenues are fungible and therefore interchangeable with non-resource revenues. Governments can simply shift revenues around to make it seem like resource revenues are being spent on a given expenditure item.⁷⁹

What's more, resource revenues are not an ideal source of earmarked funds since they are volatile and unpredictable. Earmarking resource revenues for a local education program, for example, could force a government to cancel planned scholarships if commodity prices drop unexpectedly, harming students' future prospects.

One alternative to earmarking might be performance-based grants, whereby transfers from the central government are only made if certain local targets are met, like a school attendance target. However this would undermine any derivation principle and subnational fiscal independence.

TRANSPARENCY AND OVERSIGHT MECHANISMS

Transparency

A resource revenue sharing regime can only help to build trust between levels of government if revenues and flows are verifiable. What information is necessary to verify that the correct amounts are being transferred depends on the revenue sharing formula.

In general, derivation-based formulas require at the least project-by-project stream-by-stream payments information, in addition to the formula itself. For instance, the formula might require information on royalties, fees and bonuses paid on a specific mine or oil field. It may therefore be important to include this level of disaggregation in Myanmar's future EITI reporting and in the Auditor-General's report on SEEs to the Pyithu Hluttaw's Public Accounts Committee. However, if subnational governments wish to verify that companies are in fact paying the required amount on the projects in their territory, they may also need information on costs, profits, price assumptions, volume of production, quality of ore/oil, and even contracts. Given the complexity inherent in resource contracts and tax regimes, subnational governments may wish to consider hiring independent auditors to verify any fiscal entitlements.

Indicator-based formulas necessitate a much higher degree of data transparency. What information ought to be made public is clearly dependent on the formula. However, in general, the basis for making any assessment and the

78 Morgandi, Matteo (2008) *Extractive Industries Revenues Distribution at the Sub-National Level*. Revenue Watch Institute. Online: <http://www.resourcegovernance.org/publications/extractive-industries-revenues-distribution-subnational-level>.

79 Shah, Anwar (2007) "A Practitioner's Guide to Intergovernmental Fiscal Transfers" in *Intergovernmental Fiscal Transfers: Principles and Practice* (eds. Robin Boadway and Anwar Shah). World Bank: Washington DC.

Revenue transparency at the subnational level has already proven effective in Peru, where public disclosures have led to improved public spending.

underlying calculations should be publicly disclosed. The Australian Commonwealth Grants Commission, for example, makes its assessment criteria available on its website along with detailed annual calculations per region.⁸⁰

Under the newly adopted 2013 standard, Extractive Industries Transparency Initiative (EITI) reports may include much of the required data.⁸¹ For example, Ghana's latest EITI report discloses the revenue sharing formula, discrepancies between the amount calculated and transferred by central government to subnational authorities, and amounts received by subnational authorities. The report also discloses direct payments made by companies to subnational government and amounts received by subnational governments. The new EITI standard requires countries to disclose the amount of resource revenues transferred to subnational governments. This includes the formula used and certain resource rents collected directly by subnational governments. However it does not require that these figures be compared to what subnational governments *should* be receiving under any transfer formula.

Bolivia provides a good model of resource revenue transparency. The Ministry of Finance releases all data on transfers made to departments, municipalities and universities, as well as on cash transfers made to private beneficiaries (*Renta Dignidad* and *Bono Juancito Pinto*). The report

provides the beneficiaries for each transfer and the amount. Intergovernmental transfers made to departments, municipalities, and universities—including IDH transfers but not royalties—are available in the Ministry of Economy and Finance webpage.⁸²

The Analysis Unit of Social and Economic Policy, an executive branch research unit, also offers disaggregated information on revenues transfer to and between departments, provinces and municipalities, including royalties.⁸³ Additionally, a breakdown by revenue stream is available for each municipality. The information is presented in a clear and understandable way.

Finally, the website of the Ministry of Hydrocarbons and Energy contains a Royalty Information System, which shows information about the hydrocarbon production by department, field and company, as well as the value of the produced hydrocarbons and the amounts in dollars received by every departmental government. The data is available on a monthly basis.⁸⁴

Revenue transparency at the subnational level has already proven effective in Peru, where public disclosures have led to improved public spending. As a result of the availability of project-level data, some regions managed to forecast what they are owed in resource revenue transfers and use the data to improve their strategic planning. Revenue transparency also encouraged producing and

80 "Commonwealth Grants Commission," Australian Government, accessed January 21, 2016, <https://www.cgc.gov.au/>

81 For more information on the new EITI standard, please see <http://www.resourcegovernance.org/eitiguide/> or <https://eiti.org/document/standard>.

82 See reports: http://www.economiayfinanzas.gob.bo/?opcion=com_contenido&ver=contenido&id=2885&id_item=646&seccion=269&categoria=1523 and <http://www.economiayfinanzas.gob.bo/viceministerio-de-presupuesto-y-contabilidad-fiscal.html>

83 See report: http://www.udape.gob.bo/portales_html/dossierweb2012/doss0308.htm.

84 See data: <http://www2.hidrocarburos.gob.bo/index.php/viceministerios/97-viceministerio-de-exploracion-y-explotacion-de-hidrocarburos/liquidaci%C3%B3n-de-regalias-y-participaci%C3%B3n-al-tgn.html>

non-producing subnational governments to debate policy options for sharing revenue. Together, they formulated a proposal to create a more transparent, rules-based revenue transfer system that informed congressional debates on reforming revenue sharing laws.⁸⁵

Oversight

The capacity and incentives of actors to monitor their revenue sharing systems is often inadequate. This is particularly the case for actors further down the government hierarchy, specifically municipalities and indigenous groups who are entitled to a share of resource revenues. The distribution of revenues through a chain of beneficiaries—such as regional governments paying municipal governments out of private accounts rather than through designated accounts—also seems to hinder monitoring. The same problem may be faced by local governments or private beneficiaries when regional branches of central revenue agencies are in charge of local payments.⁸⁶ As a result, revenues often go uncollected, as in the case of most indigenous groups in the Philippines, traditional authorities in Ghana, or municipalities in Nigeria.

In response, in some countries, special bodies—either administered by the central government or intergovernmentally—have been established to review or create the revenue sharing formula, monitor compliance or solve disputes between levels of government. In Canada the system is relatively informal. National and provincial ministers and officials meet regularly to monitor and review the fiscal equalization program. They

also conduct intensive reviews every five years. Similarly, in Indonesia, the Regional Autonomy Advisory Board—chaired by the minister of home affairs, co-chaired by the minister of finance, and with regional and local representation—advises the president on all aspects of local government organization and finance issues. In Nigeria, the Revenue Mobilization, Allocation and Fiscal Commission—chaired by the minister of finance and that includes finance commissioners from each state—monitors disbursements to the states and reviews the subnational allocation formula.

Other countries have established more formal independent agencies. Australia's independent Commonwealth Grants Commission calculates how the revenues raised from the Goods and Services Tax (GST) should be distributed to the states and territories to achieve horizontal fiscal equalization. It submits its recommendations to all finance ministers for review and implementation. In India, every five years the Finance Commissions are constituted to make recommendations to the president on subnational transfers and how to improve revenue generation at the local level. Under the Indian constitution, the report must be presented to both houses of parliament and the government must respond to each recommendation.⁸⁷

While the more data-driven formal independent agencies can help support government decision-making on intergovernmental transfers, they are no substitute for a venue where politicians or technocrats from the regions can discuss revenue sharing with national authorities. These forums are also particularly useful for discussing any

85 Jungbluth, Werner (2012) *Spending Wisely: Helping Peruvians Manage Resource Wealth*. Revenue Watch Institute. Online: <http://www.resourcegovernance.org/publications/spending-wisely-helping-peruvians-manage-resource-wealth>

86 Morgandi, Matteo (2008) *Extractive Industries Revenues Distribution at the Sub-National Level*. Revenue Watch Institute. Online: <http://www.resourcegovernance.org/publications/extractive-industries-revenues-distribution-subnational-level>.

87 Shah, Anwar (2007) "Institutional Arrangements for Intergovernmental Fiscal Transfers and a Framework for Evaluation" in *Intergovernmental Fiscal Transfers: Principles and Practice* (eds. Robin Boadway and Anwar Shah), Washington DC: World Bank.

potential modifications of the intergovernmental transfer system. Should Myanmar establish a resource revenue sharing scheme, it may be worth considering establishing such a body, along with a secretariat that could make resource revenue flows publicly available online at a minimum. Making these flows publicly available could also be done through the EITI reporting.

NEGOTIATION PROCESS AND VENUE FOR IMPLEMENTATION

One way of ensuring that any revenue sharing legislation is clear, stable over time, promotes spending efficiency and achieves its objectives is to obtain consensus among all key stakeholders. As a vital first step, it is important that the parties have conceptual clarity of the different issues, especially the difference between ownership issues, regulatory-authority control issues, and issues relating to the treatment of natural resource revenues.⁸⁸

Haysom and Kane (2009) outline a few major considerations in negotiating a revenue sharing formula, including:

- 1 **Transforming a political debate into a technical discussion.** Discussions around natural resource wealth distribution are often emotionally charged and highly political. Focusing on technical issues such as common objectives, formula indicators and stabilization mechanisms can help transform an emotional debate into a rational discussion on the merits of different policy options. It can also help manage expectations of what revenue sharing

can accomplish. Bringing in technical experts can help stakeholders better understand the trade-offs between different policy options and draw them together around a common cause.

- 2 **Sharing knowledge.** In most negotiations, parties are generally unequally informed on how revenue sharing systems work. Equalizing the knowledge base will not only help smooth the negotiations, but will also prevent a situation where one party feels tricked after the agreement is signed.
- 3 **Identifying stakeholders.** The principal protagonists in a resource wealth conflict—in Myanmar's case the central government and state and regional leaders—may wish to include representatives of all groups affected by a resource revenue regime, otherwise these groups may undermine any agreement. Key stakeholders may include parliamentary leaders, representatives from ethnic armed groups, local community representative, civil society and religious leaders. Oil, gas and mining companies, international bodies (e.g., ASEAN, IMF, UN, World Bank) and experts could also be invited as advisors or observers. These groups can be involved in any stage of a multi-stage process as long as their views are reflected in the final outcome.

The venue for a final agreement is equally important. Most revenue sharing rules, and sometimes even the formulas themselves, are codified in law. In rare instances, revenue allocation mechanisms are referenced in national constitutions (e.g., Brazil, Canada, Iraq, Nigeria, South Sudan, United Arab Emirates, Venezuela).

88 Haysom, Nicholas and Sean Kane. (2009) *Negotiating natural resources for peace: Ownership, control and wealth-sharing*. Center for Humanitarian Dialogue.

In even rarer cases, the actual formula is detailed in the constitution (e.g., Bolivia, Nigeria, South Sudan). Constitutions generally have supremacy over other laws and are therefore designed to be difficult to amend in the future (e.g., requiring a public referendum or a super-majority of legislators). While the constitutional route signifies a credible commitment by the central government to sharing revenues, it may require a significant amount of time and consensus-building to reach a stable and sufficiently detailed compromise.⁸⁹ Therefore, in most cases, the revenue allocation

objectives, principles and formula (or at least method of determining the formula) are introduced through legislation.

In Myanmar, the ongoing Union Peace Dialogue could be one forum for discussion of how any revenue sharing system could be administered. This discussion would not be a substitute for a formal parliamentary discussion, in addition to broader discourse through the media, but could support government efforts toward further decentralization and peace building.



A freelance copper miner spreads gravel in his family's filtration site in Sagaing region. Photo by Lauren DeCicca for NRGi

89 Shafaie, Amir, Andrew Bauer and Patrick Heller (2015) *Natural Resource Governance in the New Libya: Key Considerations for the Libyan Constitution and Beyond*. Natural Resource Governance Institute.

Conclusion

As Myanmar makes its first transition to majority civilian rule in 53 years, calls for greater fiscal decentralization and even the creation of a truly federal system will continue to grow. Given subnational actors' demands for greater autonomy over their natural resource wealth and NLD commitments to distribute natural resource profits fairly across the country, resource revenue sharing will undoubtedly form a key component of this decentralization discussion.

However, as we have seen in other countries, these systems come with considerable risks. In the most extreme cases, such as Peru, they can actually exacerbate conflict, encouraging local leaders to use violence to extract additional transfers from the central government or gain jurisdiction over mine sites. While Peru's experience is atypical, natural resource revenue sharing often leads to money being wasted, local inflation, boom-bust cycles and poor public investment decisions at the local level.

Equally common are cases where natural resource revenue sharing does not achieve its intended purpose, whether to compensate affected communities for the damage caused by extraction, develop poorer resource-rich regions, or help bring peace. Unmet expectations can be just as damaging to national unity as outright failure.

Myanmar is particularly susceptible to this risk as overall resource revenues officially recorded in the budget remain small—due to smuggling, underreporting, weak tax collection, and revenue retention by state-owned economic enterprises, among other factors. This means that any resource revenue sharing agreement would only generate marginal benefits for subnational authorities unless serious efforts were put into capturing a greater share of resource rents. Furthermore, resource revenue sharing—or for that matter any revenue sharing or fiscal decentralization system—is unlikely to achieve its objectives without adequate consultation, conceptual clarity and consensus from subnational leaders and other relevant stakeholders, such as ethnic armed groups.

This report has endeavored to highlight steps Myanmar policymakers may wish to take to successfully implement a resource revenue sharing system. The eight considerations and policy options found here can help the new leadership fulfill its commitment to decentralize natural resource revenues while improving the quality of public spending and strengthening the peace process. Our hope is that these international experiences and lessons will assist Myanmar in establishing a system that works well for all its citizens.

Key questions for consideration by policymakers

- What would be the objectives of any resource revenue sharing regime in Myanmar?
- Which regions, states, self-administered zones or divisions, or territories would be most affected by any resource revenues sharing regime?
- How could any resource revenue sharing regime be aligned with the current fiscal decentralization and deconcentration processes?
- If a resource revenue sharing system is established:
 - How would vertical distribution be determined?
 - Which revenue streams would be shared?
 - Would Myanmar employ a derivation-based formula or an indicator-based formula? If an indicator-based formula, what might some of the indicators be?
 - To which level of government would revenues flow?
 - Would revenues be transferred to non-state actors, such as traditional authorities?
 - How could the regime help subnational governments smooth year-to-year budget volatility and longer-term boom-bust cycles?
 - Should resource revenue transfers be earmarked for specific expenditure items?
 - What transparency and oversight mechanisms to verify accurate resource revenue transfers may be appropriate in Myanmar?
 - What would be the venue for implementation?
 - How could key stakeholders negotiate a stable, long-term formula?

Bibliography

- Adam Smith International (ASI) – Myanmar Development Resources Institute (MDRI) (2015) *Institutional and Regulatory Assessment of the Extractive Industries in Myanmar*.
- Arellano-Yanguas, Javier, and A. Mejía-Acosta (2014) “Distributing the Wealth from the Earth”, *IDS Bulletin*, 45(5): 58-68. Online: <http://onlinelibrary.wiley.com/doi/10.1111/1759-5436.12104/abstract>.
- Bahl, Roy (2004). *Revenue Sharing in Petroleum States*. Petroleum Revenue Management Workshop Proceedings (p. 162). Washington: ESMAP.
- Bauer, Andrew (2013) *Subnational Oil, Gas and Mineral Revenue Management*. Revenue Watch Institute. Online: http://www.resourcegovernance.org/sites/default/files/RWI_Sub_Oil_Gas_Mgmt_EN_rev1.pdf
- Brosio, Giorgio (2003) “Oil Revenue and Fiscal Federalism” in *Fiscal Policy Formulation and Implementation in Oil-Producing Countries* (eds. J.M. Davis, R. Ossowski and A. Fedelino). IMF: Washington DC.
- Brosio, Giorgio (2006) “The Assignment of Revenue from Natural Resources” in *Handbook of Fiscal Federalism* (eds. Ehtisham Ahmed and Giorgio Brosio), Cheltenham: Edward Elgar Publishing.
- ESMAP (2005) *Comparative Study on the Distribution of Oil Rents in Bolivia, Colombia, Ecuador, and Peru*. Washington, DC, ESMAP (Joint UNDP/World Bank Energy Sector Management Assistance Programme: 142).
- Haysom, Nicholas and Sean Kane (2009) *Negotiating natural resources for peace: Ownership, control and wealth-sharing*. Center for Humanitarian Dialogue. October 2009.
- Lynn, Thet Aung, and Mari Oye (2014) *Natural Resources and Subnational Governments in Myanmar: Key Considerations for Wealth Sharing*. IGC-MDRI-The Asia Foundation. Discussion Paper No. 4.
- Morgandi, Matteo (2008) *Extractive Industries Revenues Distribution at the Sub-National Level*. Revenue Watch Institute. Online: <http://www.resourcegovernance.org/publications/extractive-industries-revenues-distribution-subnational-level>.
- Myanmar Extractive Industries Transparency Initiative (2015) *EITI Report for the Period April 2013-March 2014: Oil, Gas and Mineral Sectors*. December 2015.
- Natural Resource Governance Institute-Columbia Center on Sustainable Investment (2014) “Natural Resource Fund Governance: The Essentials” in *Managing the public trust: How to make natural resource funds work for citizens*. Online: http://www.resourcegovernance.org/sites/default/files/NRF_Complete_Report_EN.pdf
- Nixon, Hamish, and Cindy Joelene (2014) *Fiscal Decentralization in Myanmar: Towards a Roadmap for Reform*. MDRI and The Asia Foundation. Discussion Paper No. 5.
- Nixon, Hamish et al. (2013) *State and Region Governments in Myanmar*. MDRI and The Asia Foundation.
- Qiao, Baoyun and Anwar Shah (2008) *Natural Resource Revenue Sharing: Principles and Practices*. Working Paper.
- Shah, Anwar (2007) “A Practitioner’s Guide to Intergovernmental Fiscal Transfers” in *Intergovernmental Fiscal Transfers: Principles and Practice* (eds. Robin Boadway and Anwar Shah). World Bank: Washington DC.
- Venugopal, Varsha (2014) *Assessing Mineral Licensing in a Decentralized Context: The Case of Indonesia*. Natural Resource Governance Institute. Online: <http://www.resourcegovernance.org/publications/assessing-mineral-licensing-decentralized-context-case-indonesia>.
- Viale, Claudia and Edgardo Cruzado (2012) *Distribution of Revenue from the Extractive Industries to Sub-national Governments in Latin America*. Revenue Watch Institute.
- Vinuela, Lorena et al. (2014) *Intergovernmental Fiscal Management in Natural Resource-Rich Settings*. World Bank Report No. 91343-GLB. Online: <http://documents.worldbank.org/curated/en/2014/01/20302404/intergovernmental-fiscal-management-natural-resource-rich-settings>.
- Wilson, Leonard S. (2007) “Macro Formulas for Equalization” in *Intergovernmental Fiscal Transfers: Principles and Practice* (eds. Robin Boadway and Anwar Shah). World Bank: Washington DC.
- World Bank (2015) *Myanmar Public Expenditure Review 2015*. World Bank Group, September 2015.

AUTHORS

Andrew Bauer is senior economic analyst at the Natural Resource Governance Institute.

Paul Shortell is a visiting fellow at Natural Resource Governance Institute and a Luce Scholar.

Lorenzo Delesgues is a professor at Sciences Po Paris teaching accountability and transparency in post-conflict environments.

ACKNOWLEDGEMENTS

The authors wish to thank Douglas Addison (World Bank), Maw Htun Aung (NRGI), Rob Boothe (World Bank), Edith Bowles (World Bank), Patrick Heller (NRGI), Ko Ko Lwin (NRGI), Soe Nandar Linn (MDRI / World Bank), Vidar Oveson (NORAD), Habib Rab (World Bank), Matthieu Salomon (NRGI), Joost Sneller (IDEA) and Varsha Venugopal (NRGI).

*This report was made possible by support from
the UK Department for International Development
and the Australian Department of Foreign Affairs and Trade.*



Department
for International
Development



DFAT

The Natural Resource Governance Institute (NRGI) helps people to realize the benefits of their countries' endowments of oil, gas and minerals. We do this through technical advice, advocacy, applied research, policy analysis, and capacity development. We work with innovative agents of change within government ministries, civil society, the media, legislatures, the private sector, and international institutions to promote accountable and effective governance in the extractive industries.

www.resourcegovernance.org