



**GOA**  
FOUNDATION

G-8, St Britto's Apartments, Feira Alta, Mapusa 403507 Goa, INDIA

Tel: +91-(0)832-2256479; 2263305 (also fax)

E-mail: goafoundation@gmail.com Website: www.goafoundation.org

5 November, 2018

Mr Bert Kroese  
Current Chair,  
UN Committee of Experts on Environmental-Economic Accounting (UNCEEA)  
Deputy Director General Statistics,  
Netherlands Postbus 24500,  
2490 HA Den Haag  
Email: ah.kroese@cbs.nl

**Subj: The existing government system of accounting is undermining the prospect of a sustainable planet**

Dear Mr Kroese,

The 2017 U.S. tax bill<sup>1</sup> opens the wetlands of the Arctic National Wildlife Refuge for oil drilling.<sup>2</sup> The U.S. federal government estimates it will receive \$1 billion in revenues over the next 10 years.<sup>3</sup> The Alaska government will receive an equal amount of revenues, helping to bridge its yawning deficit. The Alaska Native Corporations would also benefit from their holdings of land within the Refuge.

The oil deposits in the Refuge are valuable assets held by the State under a public trust on behalf of the people. The oil, the Refuge, and the way of life it sustains are a shared inheritance, a common birthright.

If the Refuge is opened up to oil extraction, the oil will be consumed or sold. The owners receive compensation, in this case an estimated \$1 billion for the federal government. This \$1 billion isn't revenue or a tax. It is just the consideration received in exchange for the oil – an asset. The government is converting mineral wealth into financial wealth by selling oil. Since the \$1 billion is treated by the government as revenue, it is likely to be consumed.

May we suggest that continuing with such practices is an avoidable antediluvian practice. The nation would be poorer after the same. It will have ruined its wetland, endangered the

<sup>1</sup> <https://www.vox.com/2017/11/9/16620290/senate-republican-tax-plan-orrin-hatch-mitch-mcconnell>

<sup>2</sup> <http://www.audubon.org/news/report-arctic-refuge-facing-its-biggest-threat-yet>

<sup>3</sup> [https://www.audubon.org/sites/default/files/arctic\\_refuge\\_scroll\\_final.pdf](https://www.audubon.org/sites/default/files/arctic_refuge_scroll_final.pdf)

Porcupine caribou herd as well as the way of life of the Gwich'in indigenous people. This is no different from the biblical tale of the prodigal son, frittering away his inheritance.

*Government accounting worldwide wrongly treats royalty and other minerals receipts (where the government owns the mineral) as “revenue”. The global standards, the UN’s System of National Accounts 2008 (“SNA”) and the IMF’s Government Finance Statistics Manual 2014 (“GFS”) all codify this practice. The UN System of Environmental-Economic Accounting 2012 (“SEEA”) follows the SNA in this.*

Politicians are enamoured of selling off national assets like oil and minerals. It gives them “revenue” – easy money – without having to raise taxes – always unpopular. The politicians choose how to spend the money, and whether to save anything (most often, without any consultation with the people they allegedly serve or without consideration of future generations). The current tax bill cuts tax rates. In other countries, the proceeds may be used by leaders to buy arms to stay in power, or to buy support through contracts to cronies. Selling the crown jewels to consume the proceeds becomes a national project.

The consequences aren’t pretty. The Refuge is being opened up to drilling because of the “revenue” that will accrue to the federal government, the Alaska government and the indigenous people of the area. How would ordinary citizens view this project to consume the family farm? If they realize that they are selling their birthright for a mess of pottage, would things change? What happens if all nations were to follow the U.S. example?

## **Who we are?**

The Goa Foundation is a registered non-governmental organization (NGO) in India with a long history of work on the environmental issues involved in mining. The Foundation also works on the conservation of Goa’s beaches, forests, mountains and agricultural fields. We believe that intergenerational equity must be at the heart of civilization in order for it to be sustainable, and have initiated [The Future We Need](#) movement.<sup>4</sup>

Through this aide-memoire we seek to highlight how the present reporting by governments and the national management of mineral wealth creates powerful incentives for politicians and the populace to rapidly extract minerals and consume the proceeds. This is unsustainable and endangers civilization.

## **Background**

In most sovereign nations, sub-soil minerals are owned by the state. The minerals are a part of the “commons” – assets owned ultimately by the citizens. Mining is effectively the sale of the minerals. Ideally, the entire value of the minerals would be realized and the proceeds would be invested in non-wasting assets for the benefit of present and future generations. Capital maintenance ensures sustainability.

The problem we face is that the IMF GFSM 2014, UN SNA 2008, UN SEEA 2012 & International Public Sector Accounting Standards Board (“IPSASB”) standards for

---

<sup>4</sup> <https://medium.com/@thefutureweneed/what-is-the-future-we-need-8ae3de8d55a3>

government & national accounting, statistics and disclosure all treat proceeds from mining as “revenue” rather than “capital receipts on account of the sale of a non-renewable natural resource asset.” We believe this error is a significant contributor to both the Resource Curse as well as to the current crisis of sustainability of civilization.

We have pointed out this anomaly in the treatment of mineral receipts in a note titled “[Mitigating the Resource Curse](#)” and a subsequent “[Response to FAQs](#)”, both of which have been sent to IMF, UNSD, IPSASB, WB, INTOSAI and others.

Earlier this year, we [wrote to](#) & met with the IMF in connection with this issue, and we are now writing to you on their recommendation. We have also provided comments on IPSASB’s proposed Work Plan 2019-2023, which proposes new standards for natural resources and discount rates.

### **How the SEEA deals with this issue**

Our earlier notes have been focused on the resource curse implications of amending the GFS and SNA. We argue that the government financials must treat the proceeds of mining as capital – not revenue – in order to impact how politicians and people view minerals. This is a known problem in both the SNA and the GFS (which aligns with the SNA) and is part of the research agenda of both standards. The standards permit deducting depletion, but it is not mandatory. Further, by treating depletion as other changes in the volume of assets, it destroys the link between the revenue and the depletion, violating the matching principle in accounting. The SEEA Central Framework (“SEEA-CF”) has commented on this.

We were surprised to find that the SEEA carries forward the practice of treating proceeds from mining as “revenue”. It is true that in the SEEA, depletion is deducted from revenue in computing income, unlike the SNA. However, this still doesn’t address significant issues.

### ***Ideal impact of extraction on net worth***

An important accounting metric for evaluating the performance of government entities is revenues minus expenses – the Net Operating Balance (NOB). In the private sector, this would be the profit. An entity running a negative NOB is not in a position to sustain its operations in the long term. At some point, it would have consumed its capital, creditors would stop lending, resulting in a crisis.

A basic goal of the government is to at least maintain net worth. If net worth declines, it is unsustainable. In addition, net worth should increase at the discount rate in order to sustain growth. Some definitions<sup>5</sup> first:

1. “**Resource Rent** (2012 SEE-CFA) – *the net operating surplus earned from extracting a natural asset can be decomposed into: a return on produced capital; and the resource rent.*” Resource Rent (“RRent”) is the in-situ value of the mineral, and can be calculated as sale value minus extraction costs (which includes a normal

---

<sup>5</sup> Adapted from “[Recording environmental assets in the national accounts](#)”, 2014, Obst & Vardon

profit for the extractor).

2. **“Rent on Natural Assets (2008 SNA)** – is commonly described as royalties and is typically the return to the General Government sector in exchange for allowing exploitation of certain natural resources.” Rent on Natural Assets (“RentNA”) is the compensation that the government receives for the mineral whose value is the Resource Rent (“RRent”).
3. **“Depletion (2012 SEEA-CF)** is equal to the change in the value of the natural resource that is due to physical depletion.”
4. **“Return on Natural Assets (2012 SEEA-CF)** – composed of the difference between depletion of natural assets and resource rent.” Return on Natural Assets (“ReturnNA”) is explained further below.

In addition, we define:

5. **“Loss”** is the difference between the RRent and the RentNA, the difference between the in-situ value of the mineral and the amounts received by the owner in exchange for the mineral extracted.
6. **“Loss Rate”** is Loss divided by RRent, measuring what proportion of the mineral wealth has been lost while extracting it.

### ***Conventional analysis***

In the SEEA-CF, depletion is defined as the reduction in the asset value purely due to extraction and is deducted from “income” (RentNA) to arrive at depletion adjusted income.

$$\text{SEEA net income} = \text{Change in net worth} = \text{RentNA} - \text{Depletion}$$

If RentNA is greater than or equal to Depletion, net worth is at least maintained.

### ***Thorough analysis***

A deeper analysis reveals that extraction has two impacts on net worth which should be separated. First, the mineral extracted is worth RRent, and is exchanged for RentNA. If RentNA is lower than RRent, there is a loss, which is a reduction in net worth.

Second, due to the extraction, the remaining streams of Resource Rent are one accounting period closer to being extracted. When valued using NPV at a discount rate, the end of period value of these flows will increase from the beginning of period value by the discount rate, resulting in an increase in net worth. We can state

$$\text{ReturnNA} = \text{discount rate} \times \text{NPV of future Resource Rent flows (other than the current period) at beginning of period}$$

Therefore,

$$\text{Change in net worth} = \text{ReturnNA} - \text{Loss}$$

$$\text{Change in net worth} = \text{ReturnNA} - (\text{RRent} - \text{RentNA})$$

If the government captures the entire value of the mineral ( $\text{Loss} = 0$  of  $\text{RRent} = \text{RentNA}$ ), the net worth increases to the extent of  $\text{ReturnNA}$ .

Unfortunately, the Loss and Loss Rate metrics are completely hidden in the SEEA-CF methodology. Our case studies below highlight the importance of measuring the Loss. The implicit goal that the government net worth should increase to the extent of  $\text{ReturnNA}$  should also be made explicit.

### ***Partitioning the asset value***

As the SEEA points out, “5.130. *In practice, in many cases governments may give the access rights direct to extractors for free or do so at a price that is less than the true market value.*” In other words, governments often incur a Loss. This is in effect underpricing the minerals, encouraging extraction and concentrating wealth. Good governance would demand an explicit target of Zero Loss, an estimate of the Loss ex-ante (before contracting) and measurement of the realized Loss during extraction.

The SEEA says “5.217. *Depending on the nature of the arrangements, often both the extractor and the government will have substantial assets in the form of expected future incomes from the extraction of the resources.*” The in-situ value of the mineral would need to be divided between the extractor and the government. The asset value shown by the extractor is what has been handed over free or at a price lower than the market value by the government, and the capital value of the loss can be derived.

### ***Saving “revenue”***

There is an additional problem. Sustainability also requires saving all the proceeds from mining in new non-wasting assets in order to ensure capital maintenance. This is a different requirement from all other “revenue”, which as a rule may be consumed. IMF’s analysis shows that on average only around 35% of the proceeds from mining is saved. Countries are selling off their wealth cheap, and consuming most of the trifles they are receiving, becoming poorer. This is unsustainable.

We believe that if a society understands minerals as a shared inheritance – where the goal is to maintain the capital for the benefit of future generations, and consequently treat the proceeds from mining as capital flows – most of the proceeds would be saved. The radical conflict with the present accounting standards prevents a successful reframing.

### ***Discounting incentivizes extraction***

From an ethical standpoint, we support a zero discount rate. Future generations have no less value than the present. As a practical matter as well, few perceive the goal of government to increase net worth at the discount rate. Adopting a zero discount rate would imply  $\text{ReturnNA}$  would become zero,  $\text{depletion} = \text{RRent}$  and  $\text{net income} = \text{Loss}$ . This brings a clear focus on the management of the minerals.

If minerals are valued based on a stream of discounted resource rents, then more rapid extraction increases ReturnNA.<sup>6</sup> The higher the discount rate, the higher is ReturnNA and the pressure to extract is higher. A deeper analysis would focus on lowering at least the country risk component of the discount rate, as it has a very significant impact on the recorded mineral value. This would demand an improvement in institutions – and for countries with large deposits, may be preferable to immediate extraction.

### ***Targeting GDP incentivizes extraction, lowers scrutiny***

Growth in Gross Domestic Product (“GDP”) is a key metric that politicians and the people track. There are two issues created by the present GDP. First, as explained above and in our notes above, the GDP as currently defined in the SNA is boosted by selling mineral wealth. This encourages fire sales of mineral wealth. This issue would be addressed by treating the value of the mineral sold (resource rent) as capital, not a part of GDP.

Second, where the extractors are foreign entities, losses (or rent capture) by the extractor increases the domestic product, but the nation grows poorer. This is an important issue in many resource rich nations. Net National Income (“NNI”) is a preferable target metric.

### **Case Studies**

We will now look at two case studies to see the enormous practical impact.

#### ***Goa’s catastrophe***

We have studied iron ore mining in Goa. Our estimates are based on the audited financial statements of the largest miner. Over an 8 year period (2004–2012), we estimated the Loss exceeded [95% of the Resource Rent](#) (sale price minus all expenses and a generous profit). In other words, for iron ore worth 100 (after all extraction costs), the government of Goa – as nominal owner – received less than 5.

The bulk of the value (60%) was captured by miners, while a considerable part was captured by the national government (35%). This is simply a transfer of wealth from the commons to some private individuals, and is astonishing for its scale – an average of 22.8% of GDP was redistributed upwards each year.

#### **Two large errors**

In absolute terms, minerals worth Rs. 516.55 billion (RRent) were exported, and the state of Goa received merely Rs. 23.87 billion (RentNA). It recognised the receipt as “revenue”, and simultaneously ignored the reduction of the asset of Rs. 516.55 billion (or a net loss of Rs. 492.68 billion.)

Incorrectly treating the mineral receipts as “revenue” creates an incentive for more extraction: more mining = more revenue (Rs. 23.87 billion). If we simply treated this as a capital receipt, incentives for extraction reduce – more mining doesn’t impact income. However, if the loss in asset value is also recognised as an expense, then mining on poor

---

<sup>6</sup> See Table 6.5 of the 2015 draft SEEA Energy Manual

terms is less likely: more mining = larger losses (Rs. 492.68 billion).

### Impact on Goa's public finances

Mineral receipts were reported at merely 8% of government revenues, and 1.3% of GDP by the State of Goa. This hides a catastrophe. The table below illustrates how Goa's public finances would change with appropriate accounting for mining.

Amounts in Rs. Billion / % of GDP			
As Reported		In Reality	
		Opening capital: mineral: RRent	516.55
		Mineral sold: RRent	-516.55
		Capital receipt: RentoNA	+23.87
<b>Revenue from mining</b> (increase in net worth)	<b>23.87</b>	<b>Change in net worth : Loss</b>	<b>-492.68</b>
		Closing capital: cash: RentoNA	23.87
<b>Reported Revenue</b>	274.02	<b>Actual revenue</b>	<b>250.15</b>
		Reported revenue	274.02
		Less: mineral receipts: RentoNA	-23.87
<b>Reported Expenditure</b>	320.08	<b>Actual expenditure</b>	<b>812.76</b>
		Reported expenditure	320.08
		Add: Loss from mining	492.68
<b>NOB (Net Operating Balance)</b>	<b>46.06</b>	<b>Actual NOB</b>	<b>562.51</b>
Goa GDP	1,872.97	True GDP *	1,356.42
		Mineral sold: RRent	38.08%
		Capital receipt: cash: RentoNA	1.76%
<b>Revenue from mining</b>	<b>1.27%</b>	<b>Change in net worth : Loss</b>	<b>36.32%</b>
NOB	-2.46%	Actual NOB (% true GDP)	-41.47%
Non-mineral NOB	<b>69.93</b>		
<b>Non-mineral NOB</b>	<b>-3.73%</b>		

Governments usually target a balanced NOB or a small deficit (not an increase in net worth at the discount rate). Consider three versions of NOB:

1. The reported NOB in Goa was -2.46% of GDP, already a little high. In the present accounting framework, **increasing mining would increase revenues**, improving the NOB and implying an improvement in government net worth.
2. Excluding mineral receipts from government revenues, we find Goa's non-mineral NOB was -3.73% of GDP. This is already unsustainable. **Increasing or reducing mining has no impact on the non-mineral NOB.**
3. However, accounting for the losses in capital as expenses and correcting the GDP figure as well, the true NOB was an astonishing -41.47% of true GDP. It is unlikely that any democracy has reported such large consumption of capital in normal times. **Additional mining worsens the true NOB and government net worth.**

Note that we have not estimated ReturnNA. If we incorporate ReturnNA, then the true

NOB would look better. However, this would obscure the Loss, which is of much greater public concern.

### *Australia's Looting Machine*

The table below is taken from "[Recording environmental assets in the national accounts](#)," which in turn is taken from a [2012 report](#) by the Australian Bureau of Statistics. These studies provide estimates for RRent as well as RentNA for the decade 2000-2010. **The Loss Rate for Australia is 82%!**

#### **Australia's management of mineral & energy resources 2000-2010**

Year	Depletion of mineral, energy, and soil resources (Depletion)	Mineral and energy resources			GF additions		
		Resource Rent (RRent)	Return on natural resources (ReturnNA)	Rent payments to government (RentNA)	Losses	Loss Rate	Change in net worth
A	B	C	D	E	C-E=F	F/C=G	E-B=H
2000-1	2.9	15.8	13.2	2.7	13.1	83%	-0.2
2001-2	3.4	16.8	13.8	2.7	14.1	84%	-0.7
2002-3	3.9	18.3	14.7	2.8	15.5	85%	-1.1
2003-4	4.4	20.2	16.1	2.6	17.6	87%	-1.8
2004-5	4.3	22.0	18.0	3.6	18.4	84%	-0.7
2005-6	4.7	25.4	21.1	4.8	20.6	81%	0.1
2006-7	4.8	28.8	24.4	5.2	23.6	82%	0.4
2007-8	5.3	35.2	30.2	5.8	29.4	84%	0.5
2008-9	7.4	39.6	32.5	9.5	30.1	76%	2.1
2009-10	6.0	44.1	38.4	7.7	36.4	83%	1.7
<b>Total</b>	<b>47.1</b>	<b>266.2</b>	<b>222.4</b>	<b>47.4</b>	<b>218.8</b>	<b>82%</b>	<b>0.3</b>
<b>% of RR</b>	<b>18%</b>	<b>100%</b>	<b>84%</b>	<b>18%</b>	<b>82%</b>		<b>0%</b>

Source: "[Recording environmental assets in the national accounts](#)," Carl Obst & Michael Vardon, 2014

Sourced in turn from: 4628.0.55.001 – "[Completing the Picture – Environmental Accounting in Practice](#)", Australian Bureau of Statistics, May 2012

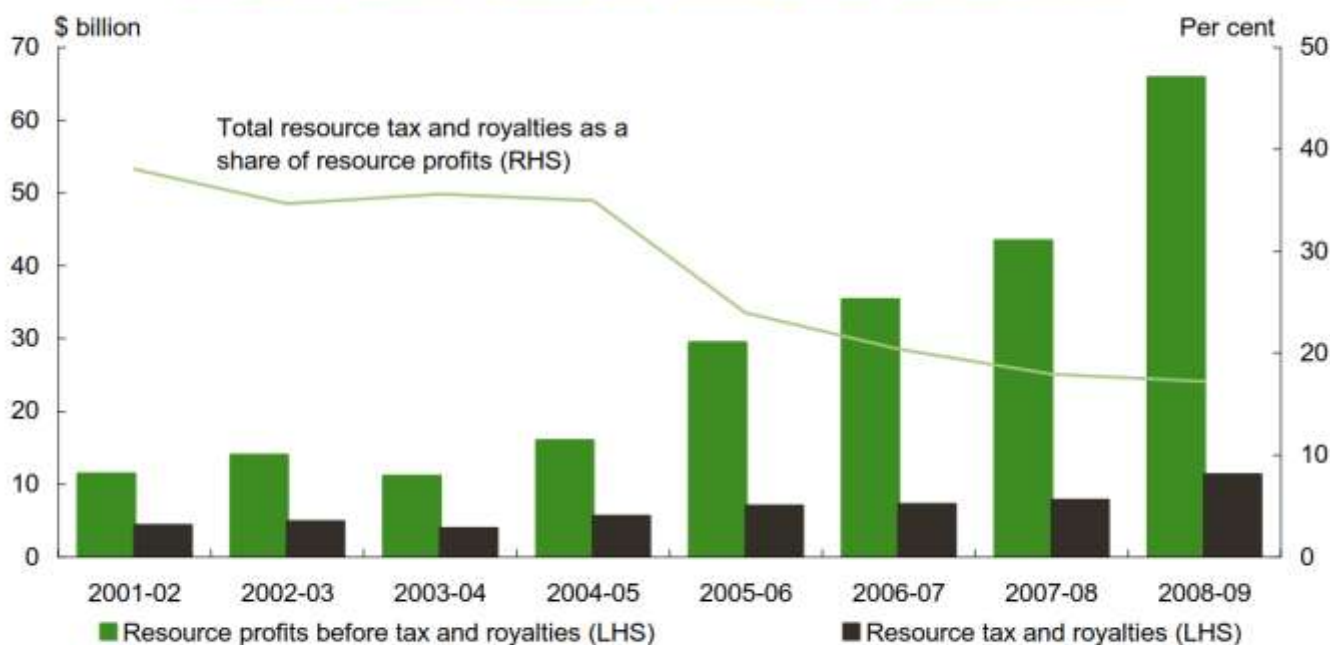
Coincidentally, the amount of the loss (AUD 218.8 bn, 82% of RRent) is quite close to the ReturnNA (AUD 222.4 bn, 84% of RR). This results in the net income of the government, or RentNA minus depletion, being close to zero! So from the perspective of the change in net worth, it is effectively zero. A conventional view of performance would be a passing grade. In reality, net worth should have increased to the extent of the ReturnNA.

Since the Australian population in those years was around 21 million, the loss is effectively a hidden per head tax of AUD 10,000 per man, woman and child, redistributed to the extractors (and their government cronies). Converted into USD at current exchange rates, this is hidden tax of \$7,000 per head, \$28,000 for a family of 4.



This result is corroborated by Chart 6.1 from Australia's Future Tax System, 2009. As can be seen, resource profits before tax and royalties are also adjusted for an allowance for corporate capital, in essence measuring Resource Rent. Total resource tax and royalties as a share of RRent declined from 38% in 2001-02 to 18% in 2008-09. In other words, the Loss rate increases from 62% to 82%.

**Chart 6.1: Existing taxes are inefficient and unresponsive<sup>(a)</sup>**



(a) Resource profits before tax and royalties are measured using income less an allowance for corporate capital. Source: Treasury estimates.

In this scenario, it is astonishing, yet not surprising, that Australia pursues further expansion of its mining, famously the proposed Carmichael coal mine by Adani. Some of the coal is intended to pollute Goa (from where this aide-memoire originates)! Government revenue and GDP increase! Even under the SEEA, politicians can rightfully claim that government and national net worth is held steady, after all!

Concealed is the fire sale of minerals, the grant of mineral wealth to a few while impoverishing the commons. The result is tremendous pressure to extract more and more, at lower and lower prices. Also unsustainable.

### What do we seek?

The current revenue accounting of mineral receipts is incentivising the unsustainable mining and consumption of mineral wealth across the world. This is unsustainable.

We respectfully request the following from the UNCEEA:

1. Amend the SEEA to treat mining as the sale of mineral wealth, and the proceeds from the sale as capital receipts. Add Loss and Loss Rate as metrics and explicitly include expense Losses in the national accounts.
2. Consider the use of a zero discount rate for valuing natural resources.

3. Advocate with the UN SNA ISWGNA and Advisory Expert Group to make similar changes under their existing Research Agenda for the UN SNA. Similar efforts would be needed for the IMF GFSAC.
4. Advocate a global change to Net National Income from GDP.
5. Consider developing Government Environmental-Finance Statistics.

## **Conclusion**

We feel it is necessary to petition the UNCEEA to urgently intervene to correct this error in the accounting, statistical and disclosure standards for minerals. This is possibly the single largest issue facing resource-rich states and nations.

This is more than an accounting issue. Properly speaking, it is an ethical and moral issue. It is deeply linked to whether we can as human beings change our current mindset for a better and more just way of handling these assets. It is also directly connected to the persistent extreme poverty and growing inequality the world has experienced in the past half century.

The clock is running for the sustainability of civilization. If every nation continues to be incentivized to extract their minerals before other nations, then we will inevitably consume the planet. The waste we create – carbon, plastic, fertilizer and pesticide run-offs – is poisoning the planet. We must stop this immediately.

We therefore urgently request the UNCEEA to amend the SEEA, and advocate for the broader changes we suggest.

We hope that your office will acknowledge the receipt of this communication.

Yours faithfully,



(Dr. Claude Alvares)  
Director

- Encl:
1. [Letter dated 12-Jan-2018 to Ms. Christine Lagarde, MD, IMF](#)
  2. [Mitigating the Resource Curse by improving Government Accounting](#)
  3. [Response to FAQs](#)