2nd Draft of the templates of Asset Accounts on Mineral and Energy Resources

1. Background: A Concept Paper on Natural Resource Accounting in India was prepared by GASAB Secretariat and released by Hon'ble Minister of State for Ministry of Environment, Forest & Climate Change in July 2020. The Concept Paper, envisages to take forward natural resource accounting in India as per the latest framework of the United Nations, i.e. System of Environmental and Economic Accounting - Central Framework (SEEA - CF) which prescribes a four stage implementation plan as mentioned below:

(a) Asset Accounts for individual environmental assets in physical and monetary terms showing the stock of environmental assets at the beginning and the end of each accounting period and the changes in the stock;

(b) Supply and use tables in physical and monetary terms showing flows of natural inputs, products and residuals;

(c) A sequence of economic accounts highlighting depletion - adjusted economic aggregates; and

(d) Functional accounts recording transactions and other information about economic activities undertaken for environmental purposes.

The Report on Green National Accounts in India by Professor Sir Partha Dasgupta has endorsed these four stages of implementation process.

Accordingly, the Paper, envisaged short, medium and long term goals in consonance with the four stage strategy suggested by SEEA Framework, as mentioned below:

Short term goals	Mid-term goals	Long term goals		
• Preparation of Asset Accounts on mineral and energy resources in States	• Preparation of National Asset Accounts on mineral and energy resources	 Preparation of the accounts highlighting adjusted of the accounts depletion economic 		
• Initiation and preparation of disclosure statement on revenues and expenditure related to NRA	• Preparation of Asset Accounts in respect of other three resources namely water, land and forest resources in the States	 aggregates; and Preparation of functional accounts recording transactions and other information about economic activities 		

age.

|--|

(2019-20 to 2021-22)	• Preparation of supply and use tables in physical and monetary terms showing flow of natural resource inputs, products and residuals	undertaken for environmental purposes. (2025 - 26 onwards)
	(2022-23 to 2024-25)	

Electronic copy of the Paper is available in the website of GASAB (http://gasab.gov.in/gasab/pdf/NR-Accounting-final.pdf).

2. Formation of NRA Cell Consultative Committee: In order to steer the implementation process as envisaged in the Concept Paper, an NRA Consultative Committee has been constituted in GASAB Secretariat in August 2020 with members from the key stakeholders and environmental experts. A statement showing the latest list of members is at Annexure – A.

3. *NRA Cells in the States:* In addition to the Consultative Committee of NRA Cell constituted in GASAB headquarters, NRA Cells have also been formed in the States. The NRA Cells in the States will enable co-ordination between the Accountants General Offices in the States with the local State Governments and steer the project towards preparation of Asset Accounts for each of the resources as envisaged in the Concept Paper.

4. Progress made on Short term Goals (2019-20 to 2021-22): GASAB Secretariat has been following up the Action plans envisioned in the Concept Paper and the progress made on preparation of Asset Accounts on Mineral & Energy Resources to be rolled out in the States is as follows:

The Concept Paper envisaged Action Plan No. 1 under short term goals was to commence with the preparation of Asset Accounts on Mineral & Energy Resources, most of which fall under the highly important non-renewable resources in the States. In order to test the draft templates of Asset Accounts on Mineral & Energy Resources included at Tables 9 and 10 of Chapter XI of the Paper, pilot studies were initiated (July 2020) in five States (Andhra Pradesh, Goa, Meghalaya, Rajasthan and Uttar Pradesh). The State Accountants General were advised to conduct the pilot study in collaboration with the concerned State Government (Geology & Mines Departments).

Of the above five States, Goa, Meghalaya and Rajasthan have successfully completed the pilot studies (March 2021) based on the templates and guidelines as provided under Chapter XI of the Concept Paper. The pilot studies were vetted and validated by the concerned Departments of Geology & Mining in the States and also the Audit Office. As a good initiative, Andhra Pradesh Government has modified the *e-permit* system to enable capturing data required for the Asset Accounts, henceforth.

The State Principal Accountants General/Accountants General have also been advised to impress upon the State Governments the importance of Asset Accounts for the States as repository of vital information on their resource bases and future streams of revenue. For the country, the implementation of Asset Accounts on mineral and energy resources would enable India to enter the group of elite countries which generate annual Asset Accounts on natural resources, both in physical and monetary terms - Nationally and State-wise.

As per the action plans suggested in the Concept Paper under the short term goals, the formats of Asset Accounts on Mineral & Energy Resources are to be rolled out for implementation across the States from the year 2021-22 for the accounting year 2020-21.

5. *First draft circulated among the NRA Consultative Committee:* After successful completion of the pilot studies in two States, the draft templates were circulated to the members of the Consultative Committee electronically for suggestions/comments on further improving the templates. Number of comments/suggestions have since been received. A statement showing the comments and action taken thereon is at **Annexure B**. While the comments/suggestions from the remaining stakeholder members (also shown in the statement) are awaited, based on the comments of the Consultative Committee members received as on date and also the experience gained in the piloting States, the second draft of the templates for Asset Accounts on Mineral & Energy Resources has been generated as below:

Table 1

Basic asset account on Mineral & Energy Resources

Opening stock of environmental asset
Growth in stock
Discoveries of new stock
Upward reappraisals
Reclassifications
Total addition of stock
Reduction of stock
Extractions
Normal loss of stock
Catastrophic losses
Downward reappraisals
Reclassification
Total reduction in stock
Revaluation of the stock*
Closing stock of environmental assets
* Only applicable for accept accounts in monotony torms

* Only applicable for asset accounts in monetary terms.

Table 2

Asset Accounts on physical flows and monetary accounts of mineral and energy resources along with sustainability of resources

Classification	Sub- classification (illustrative only and may vary from State to State	Opening stock of proved reserves	Addition to stock* (in	Extracted Govt Sector**	Private Sector	Other extract ions***	Total extracti on be)	Closing stock of proved reserves	Sustainab ility of resources in years****
	and Union)								
Major Minerals	Iron Ore								
	Manganese								
	Limestone								
	Copper								
	Bauxite								
Fossil fuel	Coal								
	Petroleum								
	Natural Gas								
Minor minerals	Barites								
	Granite								
	Marble								
	Calcite								
	Fireclay								
	Gypsum								
	Mica								
	sandstone								
	Sand, stone, boulder,								
	shingle ****								
Other resources, if any	Not listed above and State specific								

* - to include - Growth in Stock, discoveries of new stock, reclassifications etc

** - Extractions for Government sector may be further classified into extractions for State Government Departments, Central PSEs/State PSUs, Central and State Autonomous Bodies, Municipal bodies and other local authorities

*** - to include - extractions other than those for **Government** and **Private** Sector such as untaxed extractions (if any) allowed by Government, normal reduction in stock, catastrophic losses, downward reappraisals, cases of illegal mining detected, reclassifications etc

**** - Considering the yearly extraction during the current year

***** - In certain cases, sand, stone, boulders are extracted from riverine areas and thus these could be listed as renewable resources. However, as these are managed under the Minor Mineral Concession Rules and governed by the Geology & Mining Departments in the States, these resources may also be covered here.

Table 3

Subsidiary Asset Accounts linking detailed physical flows in respect of mineral and energy resources with the valuation of resources.

Particulars	Classification	Physical	Val	uation of res	ources
	of minerals (illustrative only and may vary)	unit (in tonnes/ cum) extracted showing Govt, Private and other sector	Revenue involved (in crore) showing Govt, Private and other sector	Total revenue implicatio ns	Average Market value (as ascertained from the IBM or State Statistical Department) %
Opening	Coal			(a)	(b)
<i>stock/availability</i>	Petroleum				
of resources at the beginning of the	Natural Gas Iron Ore				
year	Sand				
	Stone				
Additions during	Coal				
the year:	Petroleum				
Growth in Stock	Natural Gas				
Discoveries of new	Iron Ore				
stock	Sand				
Reclassifications	Stone				
Total Addition :					
Reductions	Coal			(c)	(d)
during the year:	Petroleum				
Extractions as	Natural Gas				
reported by the	Iron Ore				
State Government	Sand				
Department of Geology & Mining	Stone				

(on recovery of royalty, cess, fees, NPV etc) #					
Revenue related to e included in Statemen of Union Finance	nt 14 of State Fi	nance Account	s/Statement 8		(e)
Other extractions, not taxed (<mark>if any</mark>)					
Normal reduction in stock					
Catastrophic losses including natural and manmade disasters					
Downward reappraisals Reclassifications					
Reduction due to illegal mining activities \$					
Total reduction :				(f)	(g)
Closing stock	Coal			(h)	(i)
	Petroleum			(Will show	
	Natural Gas Iron Ore			future revenue	
	Sand			streams for	
	Stone			the Govt)	
Notas (Ca	D				

Notes (General):

The information on extraction of minerals for Government, Private and others may include data on actual extraction of resources during the year and not those used during the period

States may amend the format of the Asset Accounts to suit their need/availability of data; however, the overall framework and the information to be gathered may be kept intact in keeping with the flexibility allowed by SEEA - CF.

¹ Petroleum, non-ferrous mining and metallurgical industries, coal and lignite

• **Opening Stock of resources :** The SEEA (CF) envisages that, ideally, estimates of the opening and closing stocks of an asset should be compiled with information pertaining to the reference dates of the accounting period. However, if information in respect of those dates is not directly available, relevant information may need to be time-adjusted. From time to time, new information will emerge that leads to a change in the assumptions underlying a set of estimates. When additional information is being incorporated, it is important that the estimates continue to reflect the quantities and values that could reasonably be expected at the reference dates. For the opening stock, only proved reserves should be considered.

• **Additions** : Additions in stock includes mainly discoveries in new stock, reclassifications, opening up of new blocks to add with proved reserves, reappraisals etc. Of these, opening up of new blocks may occur in some years; otherwise, additions will more of less remain 'nil'.

• **Reductions :** The SEEA (CF) prescribes reduction in stock to be enumerated under five distinct categories, i.e. extractions, normal reductions in stock, catastrophic losses, downward reappraisals, and reclassifications. Of these, reduction on account of extraction of resources would be regular phenomenon while other causes of reduction may occur once in a while.

In order to analyse the extraction figures reported by the Department of Geology & Mines of respective State Governments, cross verification of data may be carried out with those available with the IBM (directly by the miners) or any other such agencies. The difference of figures may be brought out separately to flag possible cases of under reporting/non-detection by the State Government Departments and necessity of reconciliations in the revenue interests of the State.

• **Closing stock**: The resultant value of opening stock, plus the additions, reduced by the reductions would lead to closing stock of resources. However, non-ascertainability of opening stock would result in non-determination of the closing stock. Similar to opening stock, appropriate explanation would have to be inserted against reasons hindering calculation of closing stock.

Notes (Specific references):

(a) Rate of royalty in respect of each of the resources multiplied by opening balance of physical units to appear here. Sub-tables may be prepared as required to work out the figures in respect of each of the resources.

(b) Average market price as available in the website of IBM in respect of each of the resources multiplied by the opening balance of physical units to appear here. Subtables may be prepared as required to work out the figures in respect of each of the resources. (c) Total of column 4 in respect of extraction of resources to appear here.

(d) Average market price as available in the website of IBM in respect of each of the resources multiplied by the resources extracted during the year to appear here.

(e) - Revenues earned by the entities by way of royalties, taxes and duties as reported through the Finance Accounts may be incorporated here. As the Indian accounts are maintained on cash basis, actual amount of revenue received during the year may only be incorporated here. This will be same as (c) as it depicts the total revenues realised by the entity on exploitation of resources.

(f) and (g) - may be same as (c) and (d).

(h) Rate of royalty in respect of each of the resources multiplied by closing balance of physical units to appear here. Sub-tables may be prepared as required to work out the figures in respect of each of the resources.

(i) Average market price as available in the website of IBM/ available with the States/Union in respect of each of the resources multiplied by the closing balance of physical units to appear here. Sub-tables may be prepared as required to work out the figures in respect of each of the resources.

- please refer to preceding table - extraction of resources may be shown separately for Government, Private Sector and Others.

% - The IBM compiles and releases average market value of minerals on monthly basis. Besides, the Statistical Departments in the States maintain the market prices of minor minerals (sand, stone, boulders etc). The average of these prices could be used to fill up these columns. Sub-tables may be prepared as required to work out the figures in respect of each of the resources.

\$ - Information may be gathered from all possible sources including those detected by the administrative Departments like Mining, Police, Environment & Forests and also from other sources like NHAI, PWD, Inspection Reports of Accountant General (Audit) etc – examined and incorporated in this row with suitable notes.

There is a system of generating flags pointing towards illegal mining in the States by the IBM in collaboration with National Remote Sensing Center. These flags may be followed up to ascertain follow up done by the State Governments and volume of illegal mining detected – for incorporation in this row.

Also, NRA Cell may carry out independent joint verification to ascertain loss of natural resources due to illegal mining following up the flags of IBM which have not been attended to by the State Governments. The results may be appropriate disclosed here with necessary notes. If necessary, the National Remote Sensing Center, Hyderabad may be collaborated to assess the extent of illegal mining and results thereof included in this table. Notes to that extent may be included.

While working on the illegal mining aspects, sub-judice cases may be given special attention and appropriate disclosures regarding the same made in the accounts. In such cases, working out the revenues may be avoided till final verdict of the court cases.

• Physical unit may be reckoned as per the usual practice, like standard cubic meter for natural gas, tonnes for metallic and non-metallic minerals, cubic feet for timber, cubic meter for minor minerals and so on.

Working out the Opening Balances

The IBM and the EnviStats 2018 has provided the stock of minerals (metallic, nonmetallic and fuel minerals) as of 1 April 2015/2020, this could be held as the base. The Department of Geology and Mining in the States maintain the data on extraction of resources, month wise. These data can be collected for the years till the accounting year to arrive at the opening balance. In case of non-availability or difficulty in availability of data on extraction of minerals from the State Government Department, monthly production data of minerals available in the website of the IBM could be used to reduce the volume of minerals that have been excavated during the intervening period to arrive at the opening stock of the desired periodicity of the Asset Accounts.

For example, if the desired periodicity of the Asset Account is for 2020-21, the opening stock of minerals as of 1 April 2015 could be deducted by the corresponding monthly extraction/production figures for the years 2015-16 to 2019-20 to roughly arrive at the opening stock of minerals as of 1 April 2020.

Name of minerals	Opening stock as on 1		duction (con rals as availa	-	✓ 1		Closing stock as on 31
	April 2015	2015-16	2016-17	2017-18	2018-19	2019-20	March 2018 or opening stock of 1 April 2018

Methodology of working out the opening balance with available information

Minerals economically important for each States may be included in the Asset Accounts	Stock of minerals as of 1 April 2015 available in the website of IBM and also replicated in EnviStats 2018 by MoSPI may be used	Monthly production of minerals is available online at the website of IBM (www.ibm.gov.in - divisions - mining and mineral statistics - monthly statistics of mineral production)	Resultant balance of deduction of annual productions of three years from the opening balance
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In any case, appropriate disclosure on the methodology adopted for arriving at the opening balance of minerals may be incorporated as notes to the accounts.

Problems/Constraints faced by the pilot states

- System of continuous data collection for regular flow of information yet to be developed in the State
- Timely receipt of information from the State Government Departments
- Information on cases of illegal extraction of resources

Annexure – A

List of Consultative Committee members

Sl. No.	Name of Office/Organization	Name of Officer's Nominated	Contact details, Add./Email/Phone	Remarks
1.	Government Account Wing in headquarters	Sh. Ravikiran A. Ubale Director (Govt. Accounts)	ubalera@cag.gov.in	Response on first draft of template awaited
2.	Commercial Wings in headquarters	Ms. Kavita Prasad DG/CommlI	prasadk@cag.gov.in	
3.	International Centre for Environment Audit and Sustainable Development (iCED), Jaipur	Sh. Pushkar Kumar Director (Training & Research)	kumarp2@cag.gov.in 2772012(0) 9805501717(M) FAX - 2772011,2772030	
4.	Ministry of Statistics and Programme Implementation (MoSPI)	Ms. P. Bhanumati DDG(SSD)	26171146 (0) 9868213559 (M) ddg2.ssdiv@mospi.gov.in	
5.	Ministry of Mines (MoMines)	Dr. P.K. Jain, Chief Mineral Economist Indian Bureau of Mines	cme@ibm.gov.in 09405904410	Response on first draft of template awaited
		Sh. Arputhaswamy S Director M/o Mines	arputhaswamy.s@gov.in 8056111130	
6.	Ministry of Environment, Forest and Climate Change (MoEFCC)	Ms. Anshu Singh, DDG(Stats)	anshu.s@nic.in	
7.	Department of Land Resources	Sh. Niraj Kumar, Deputy Secretary,	Department of Land Resources, R. No. 109, 1 st Floor NBO Building, G-Wing, Nirman Bhawan, New Delhi -110011	

			DL 220(2(00/000175((02	
			Ph:23062698/9891756683	
			niraj.kumar72@nic.in	
8.	Ministry of Jal Shakti	Shri Sunil	Central Water Commission,	
		Kumar,	5th floor (S), Sewa Bhawan,	
		Director (BP-1),	R.K. Puram, New Delhi-	
			110066.	
			Telephone: 011-26100802	
			e-mail: bpdte@nic.in	
9.	Ministry of Corporate Affairs	Nomination await	ed	
10.	Institute of Chartered	CA. (Dr.) Sanjeev	sanjeev.singhal@srb.in	Response
	Accountants of India	Kumar Singhal,	, , , , , , , , , , , , , , , , , , , ,	on first
	(ICAI)	FCA, New Delhi		draft of
	()	,		template
				awaited
11.	Controller General of	Nomination await	ted	
	Accounts (CGA)			
12.	Ministry of Finance (MoF)	Nomination await	-	
13.	Expert in	Sh. Mukul	sanwals@gmail.com	
	Environmental	Sanwal,		
	Accounting	IAS (Retd.),		
		1971		
	Five State Government	s (from East, West,	, North, South and North East) A	lsG
	(Audit/A&E)			
14.	AG (A&E), Meghalaya	Nominations awai	ited	
15.	AG (Audit),Meghalaya	Shri. Subbaiah,	9448707986	
		DAG (AMG-II)	subbaih.1@cag.gov.in	
16.	State Government,	Sh. Shantanu	9435813045	Response
	Meghalaya	Sharma,	shantanu.sharma91@ias.nic.in	on first
		Joint Seretary,	shantanu.ssharma@gmail.com	draft of
		Govt. of		template
		Meghalaya		awaited
		Finance (Bud.		
		Deptt.)		
17.	AG (A&E), Jharkhand	Sh. Bharat	Email – NA	
		Chandra Behera,	2411043(0)	
		Deputy	9437426834(M)	
		Accountant	FAX – 2411745	
		General	beherabc@cag.gov.in	
18.	AG (Audit), Jharkhand	PAG (Audit)	kumarsenjeev@cag.gov.in	Response
10.	no (nuart), jiai kilaliu	Sh. Sanjeev	2410050(0)	on first
		Kumar,	9724805514(M)	draft of
		Sr. DAG	FAX - 2412517,2413701	
		SI. DAG	rax - 2412317,2413/01	template

				awaited
19.	State Government, Jharkhand	Nominations awa	ited	
20.	AG (A&E), Uttarakhand	Sh. R. S. Negi Sr. Accounts officer	(M) 9412989776 Negirs.utk.ae@cag.gov.in	
21.	PAG (Audit), Uttarakhand	Sh. Yogesh Agrawal, DAG (AMG-II) Sh. Ravindra Kumar, Sr. Audit Officer (FINAT)	(M) 9235772484 agarwaly@cag.gov.in (M) 9410360321 kumarr.utk.sca@cag.gov.in	
22.	State Government, Uttarakhand	Sh. S L Pattrick, Additional Director Mines and Geology Department	8192802321 slpatrick54@gmail.com	Response on first draft of template awaited
23.	AG (A&E), Gujarat	Sh. Saji Thomas, Sr. DAG/FAV	2441110(0) 9898006047(M) FAX – 2456238 thomass@cag.gov.in	
24.	AG (Audit), Gujarat	Ms. Anita Singh, Sr. DAG Sh. P. B. Chougule Sr. A.O.	 (M) 9320929066 singhar@cag.gov.in (M) 9426561173 Chougulepb.guj.sca@cag.gov.in 	
25.	State Government, Gujarat	Vide This Letter No. NRA Cell/GASAB/ow- 11 dated 13.11.2020 AG(A&E) Gujarat request State Govt. to nominate representative		Response on first draft of template awaited
26.	AG (A&E), Karnataka	Smt. Yashoda, Sr. Dy. AG (Accounts & VLC) Smt. M. Girija	yashoda@cag.gov.in 22640220(0) 22268964(0) 9448569518(M) FAX - 22264691 girijakm.kar.ae@cag.gov.in	

		Kumari,	
		Sr. Account	
		Officer TM	
27.	PAG (Audit)-I,	Miss Monali	monaliphadtare@cag.gov.in
	Karnataka	Phadtare,	22262417(0)
		DAG (AMG-III)	9769506364(M)
			FAX - 22380014
28.	State Government,	Nomination awaited	
	Karnataka		

Sl.	Comments/Suggestion received on draft formats of Asset Accounts on Mineral & Energy Resources (NRA) as on 13.07.2021Name of Office/OrganizationComments/SuggestionsRemarks		
No.			
1.	DG, Commercial, CAG of India	(i) The template requires extraction of resources to be shown separately for Government, Private Sector and Others. In this regard Government may be bifurcated into Central and State Government with further bifurcation into CPSEs/ State PSUs, Central and State Autonomous bodies, Municipal and local authorities etc.	(i) Agreed. Necessary modifications included in the draft Asset Accounts.
		(ii)We need to define what the term Others include. For example, does it include Public Private Partnerships?	(ii) Since incorporated, please.
		(iii)We need to take into consideration the fact that there are certain materials like atomic materials which are exclusively under the domain of Central Government as per the provisions of Mines and Minerals (Development & Regulations) Act 1957. As such, the natural resources required for production of such materials are regulated by Central Government.	(iii) As per the action plan envisaged in the Concept Paper, we are now on goal 1 – Asset Accounts on Mineral and Energy Resources for States. The national Asset Accounts is planned in the next stage, i.e. from 2022-23 onwards, please
		(iv) Extraction of natural resources is always bound by rules and regulations in force. We need to look into the issues pending in courts and violation of Central and State Pollution Control Boards directives regarding illegal extraction/extraction not as per norms prescribed.	(iv) This aspect is incorporated in the notes under Asset Accounts, please.
2.	Ms. P. Bhanumati, DDG(SSD) Ministry of Statistics and	1. In respect of Methodology 2 of the Concept paper prescribed for compiling opening stocks as on April	1. At the initial stage, collection of data from the State on extraction of minerals was

<u>Annexure – B</u> <u>Comments/Suggestion received on draft formats of Asset Accounts on Mineral & Energy Resources (NRA) as on 13.07.2021</u>

adjus Natio prod estim be a adjus durir sugg proco stock	019, this method uses production figures to st the stock of reserves as given in the IBM onal Mineral Inventory — Though the luction figures could be used as a basis for nating the amount of ore extracted, it may not ppropriate to take just the production since stments may need to be made for the wastages ng the mineral extraction process. It is ested that IBM be contacted for advice on the edure to be adopted for estimating the opening x for each year.	cumbersome and due to COVID restrictions, it was thought of collecting the production figures from the IBM which was readily available. More so as it was a pilot project. However, the actual Asset Accounts for the year required collection of information on actual extraction from the States. This aspect has been incorporated more emphatically in the draft Asset Accounts now, please.
Natio prod estim be a adjus durir sugg proce stock	onal Mineral Inventory — Though the fuction figures could be used as a basis for nating the amount of ore extracted, it may not ppropriate to take just the production since stments may need to be made for the wastages ng the mineral extraction process. It is ested that IBM be contacted for advice on the edure to be adopted for estimating the opening	figures from the IBM which was readily available. More so as it was a pilot project. However, the actual Asset Accounts for the year required collection of information on actual extraction from the States. This aspect has been incorporated more emphatically in the draft Asset Accounts now,
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sugg proce stock	ested that IBM be contacted for advice on the edure to be adopted for estimating the opening	emphatically in the draft Asset Accounts now,
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extra priva	able 9 of the Concept paper intends to show the action of minerals by Government sector and ate sector entities and not really the amount	2. A separate note has been inserted to clarify this, please.
durir Dete	by these sector. This may need to be clarified ng collection of information from other States. cted 'illegal mining' could be considered for usion in private sector.	
taker extra	action undertaken in a previous year alongside	3. In view of this foreseen problem, an effort has been made to link the revenues reported through the Finance Accounts to map the
differ trans rathe	rences may occur due to the recording of saction in government accounts on cash basis er than on accrual basis. If the intention is to	revenues as well as the physical extractions. However, little bit of overlap cannot be ruled. Our endeavour is to capture the overall
-	uction and royalties in a State, such rgences in recording two entries of the same	picture of extraction vis-à-vis the stock and the closing balance of resources (as close as possible to the real reserves) with an eye towards their sustainability and prevent overuse.
	taken extra the differ trans rathe prov prod diver	taken not to show the royalties pertaining to an extraction undertaken in a previous year alongside the extraction during the current period. Such differences may occur due to the recording of transaction in government accounts on cash basis rather than on accrual basis. If the intention is to provide an analysis of the mismatch between production and royalties in a State, such divergences in recording two entries of the same table may not be able lead to any valid conclusion.

		For a better view of the learnings from the pilot studies, it may be worthwhile to have the agencies present the pilots, highlighting the challenges faced. This may be useful to understand whether the templates or the instruction set need to be amended/revised before they are circulated to other States for replication.	Recently, a national workshop on NRA was organized in the International Center for Environmental Audit and Sustainable Development (iCED), Jaipur – an international training institute under CAG. We had representative from the IBM, GASAB, NRSC and also Principal Accountant General, Rajasthan who presented the case study on preparation of Asset Accounts on Mineral & Energy Resources. Recorded sessions are enclosed for kind reference.
3.	Expert in Environmental Accounting Sh. Mukul Sanwal, IAS (Retd.), 1971 sanwals@gmail.com	The table in Annexure A (page 8) captures the items comprehensively. Apart from use of coal for electricity, the other main uses are steel, cement and construction material. (that is also the case world over). You have these in the table on page 8. The table, that construction material is much more in volume than fossil fuel and generates substantial revenue. You could bring this out in the conclusion. It links with infrastructure development and urbanization. I have one suggestion sand, which is mainly in the river beds, is replenished each year during the monsoon. Is this in the official data you have from the departments? In this sense, sand will be a renewable resource, a situation that is unique to us because of the heavy rains in a short period during the monsoon. Please look into this.	We are grateful for the comment. Agreed, please. This aspect has now been included in the draft Asset Accounts please. As sand is part of resources managed by the Department of Geology & Mines in the States coupled with the fact that sand is a product of erosion of stones/boulders which is finite in nature, this is included as a part of the Asset Accounts on Mineral & Energy Resources,

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Regarding the methodology, the policy issue is availability of data and appropriateness.	please. Agreed, please. The three pilot States have succeeded in collecting information from the sources earmarked in the Concept Paper which can be replicated by other States, please.	
Some element of rigour is certainly needed for the major natural resources - coal, iron ore, raw material for cement and construction/building material. Here royalties could be supplemented in a box with data from power plants, steel mills, cement plants and urban construction (that is, from a different agency). Industry federation data could also be used. NITI may also have some data. This will serve to flag a possible issue for further refinement and review and reconciliation of data kept by the different agencies, which is also the role of the CAG. So, use what is available and do analysis to highlight any issues for the future.	Aspect of cross verification of information of Directorate of Geology and Mining in the States with possible resource centers like the IBM and other Ministries/agencies have been incorporated in the draft Asset Accounts, now, with the aim to highlight any case of variation in data sets pointing towards need for reconciliation.	
The agencies who have conducted pilot studies, in addition to highlighting the challenges, could also be requested to suggest specific changes in the template and instructions, which would then be reviewed in the Office of the CAG. This will make your task easier.	We have issued specific instructions to the field Offices to coordinate with the State Governments to suggest changes in the format. And flexibility in the reporting format has been embedded in all correspondences with the States allowing them full liberty to remodel the formats as per their needs and availability of data while keeping the main framework and information requirements	

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