

GUIDELINES/STANDARD OPERATING PROCEDURES FOR ASSET ACCOUNTS ON MINERAL AND NON-RENEWABLE ENERGY RESOURCES IN STATES



An initiative of
**Government Accounting Standards
Advisory Board, CAG of India**

1 Preparation of Asset Accounts on Mineral and Non-Renewable Energy Resources – a recap

The templates of Asset Accounts on Mineral and Non-Renewable Energy Resources have been circulated through a book in October 2021. There are three tables, namely Basic asset account on Mineral & Non-Renewable Energy Resources (Table 1), Asset Accounts on Mineral & Non-Renewable Energy Resources along with sustainability of resources (Table 2), Subsidiary Asset Accounts linking detailed physical flows in respect of Mineral & Non-Renewable Energy Resources with the valuation of resources (Table 3).

1.1 The basic Asset Accounts as in Table 1 intends to capture the following details:

- Opening stock of the Asset
- Growth, discovery in stock
- Upward reappraisals/reclassifications
- Total addition of stock
- Reductions on extractions, normal losses, catastrophic losses
- Downward reappraisal, reclassification
- Revaluation of stock

1.2 The table 2 intends to capture the following in respect of distinct classes of resources namely major minerals, fossil fuels, minor minerals and others:

- Classification and sub-classification of resources
- Opening stock, additions, reductions (Government sector, Private sector and other extractions), total extractions, closing stock
- Sustainability of resources in years

1.3 The table 3 or the subsidiary asset accounts intends to capture the physical flow in volume, revenue receivable and average market value. The table also intends to capture the production loss, exports, reduction due to mining activities not approved by the departments.

1.4 Guidelines for preparation of the Asset Accounts for 2020-21 and opening balances

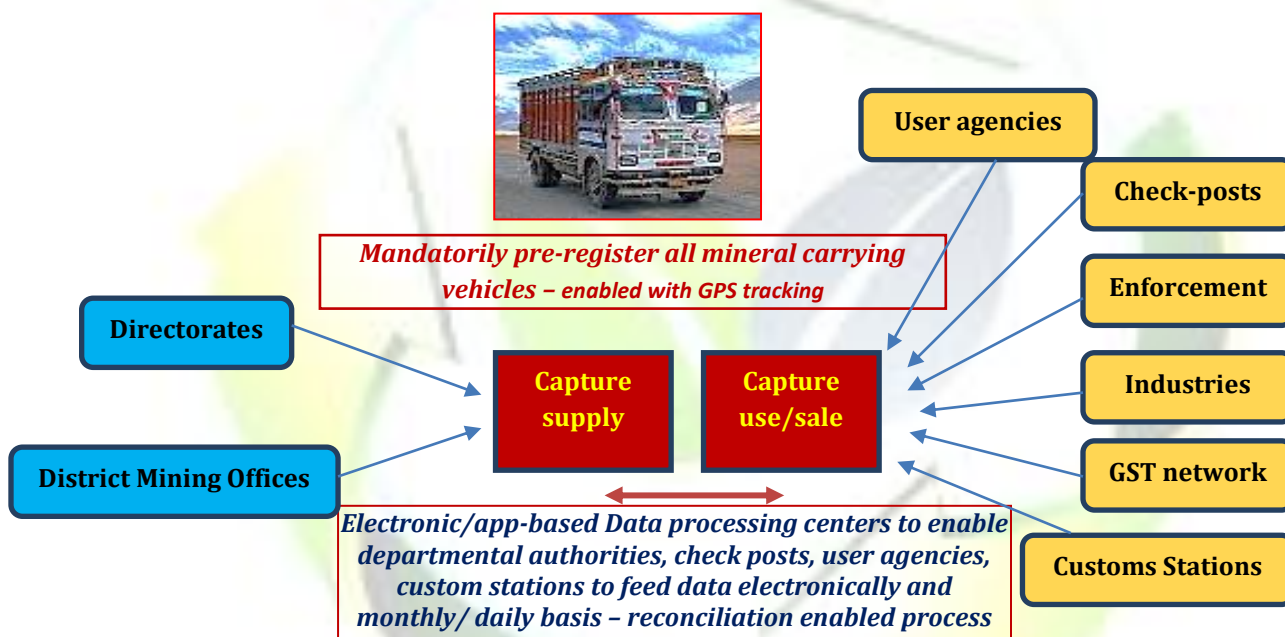
Chapter VI of the book on templates provides detailed guidelines on preparation of the tables 1 to 3 like the data to be captured, data sources, necessary checks and the need for proper disclosure on methodologies adopted in preparing the tables.

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Also, in view of the probability that the State Governments may not readily have the stock position of each of the resources, a methodology for working out the opening balances was designed using the national mineral inventory of Indian Bureau of Mines and the actual extractions recorded by the Departments over the years. These are discussed in Para 6.3 of Chapter VI.

2 Continuing the process

Chapter VII of the book discusses the need for automating the systems and processes for capturing the supply of resources allowed by the administrating departments and also the use/sale of resources as per the following diagram.



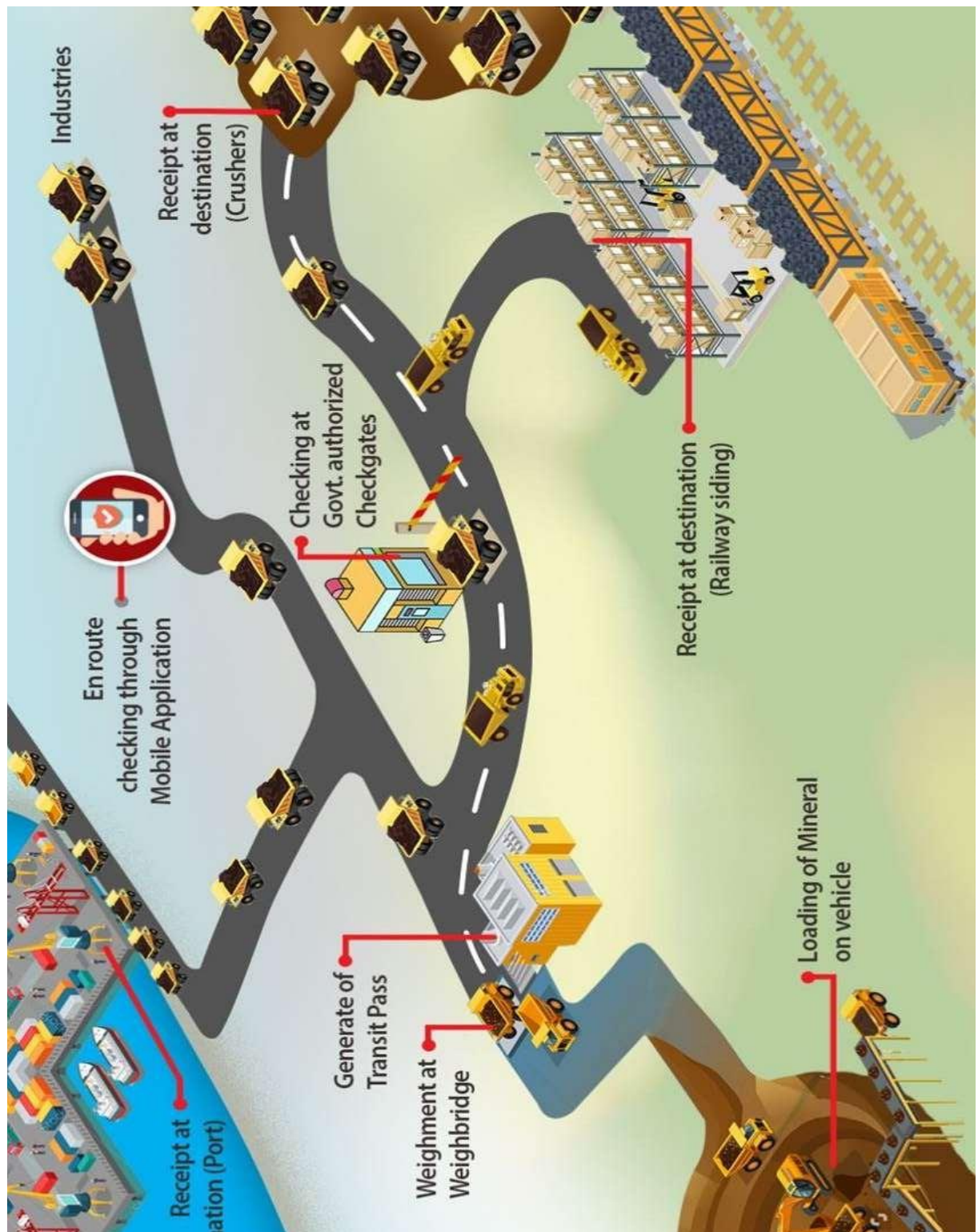
2.1 Automating the system of inputs on supply of resources

Of the two aspects of automation envisaged in the book on templates, i.e. capturing the supply and the usage/sales of resources, this document aims at discussing the suggested processes or standard operating procedures (SOP) to automate the systems to capture physical flows of resources permitted by the Departments concerned.

2.2 Flow chart of system of mining

The operational structure of the mining mostly followed in the country is depicted through the following diagram.

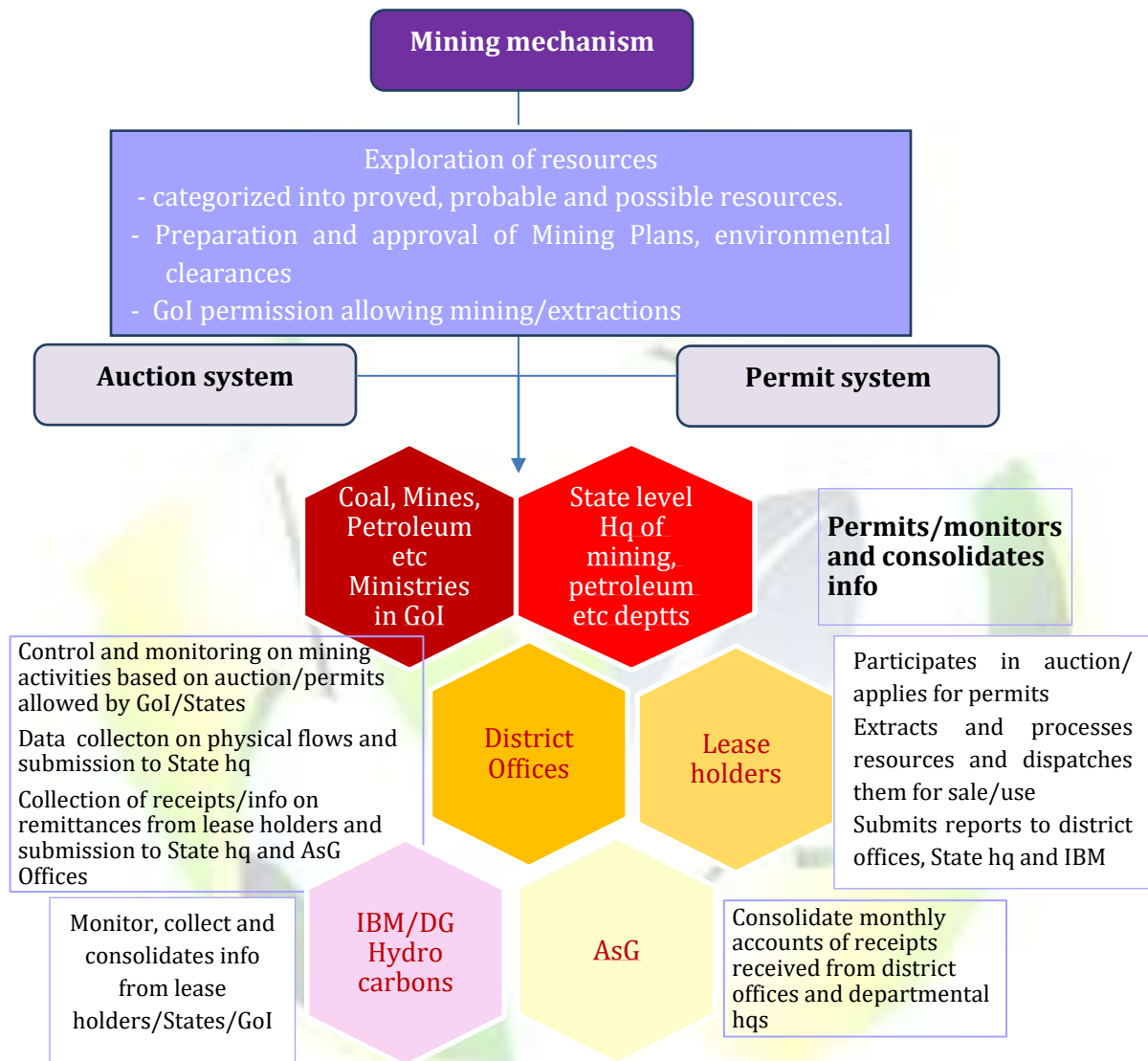
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(Source: i3MS presentation of Government of Odisha)

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Based on the above processes, the mining mechanism commencing from exploration of resources till their final



Thus, the process and responsibility centers are discussed in detail in the succeeding paragraphs.

2.3 The processes:

Exploration of resources: The ministries in the Government of India with the help of their agencies and the State Governments carries out exploration of mineral and non-renewable energy resources and categorises them in three distinct categories, namely proved, probable and possible reserves. Reserves which are proved to be 90 *per cent* or above likelihood of commercial extraction are categorized as proved reserves. Proved

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reserves are established using geological and engineering data gathered through seismic testing and exploratory drilling. Reserves having 50 *per cent* likelihood of extraction are classified as probable reserves while those having 10 *per cent* or less likelihood as possible resources.

Other resources like riverine resources involve scientific and well defined system of estimation of accumulation during a period based on which mining plans are prepared and extractions are planned over the plan period.

Auction system and permit system: Depending upon the feasibility and other factors, resources are placed for exploitation through auction or permit system. In auction, a reserve price is set up based on the historic value and other ancillary and inter-related factors. Generally, the highest bid equal or more than the reserve price is accepted or settlement of the mines. In permit system, State Governments are empowered to allow extraction of resources on permit basis on prior collection of royalties, rents and other revenues.

Production of resources: The raw or crude resources exploited are processed by the lease holders themselves or through outsourced agencies and dispatched from the mine area as finished products for own consumption or sale.

Revenue realisations: The Mines and Minerals (Development and Regulation) Act, 1957 as amended from time to time prescribes that no mineral shall be transported except prior payment of royalty and other dues of the Government. Accordingly, royalties, *ad-valorem* prices and other Government dues are prepaid based on the resources permitted/auctioned for extraction.

As per the systems in place, lease holders are required to prepay the dues before permits for exploitation and dispatch are issued. Each such permit should be accompanied by a proof of payment of advance revenue.

2.4 Responsibility centers:

Ministries in GoI/State Government Departments: The concerned ministries, their agencies namely Indian Bureau of Mines, Directorate of Hydrocarbons etc, the State Government Departments like the Geology and Mining, Petroleum, Environment & Forests (in some States) are entrusted with control and monitoring of the mining and other allied activities in the country.

District mining and other departmental offices: Exercises powers under the concerned State Government departments to ensure control and monitoring of the

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mining activities, production of finished products, proper remittances of Government dues, movement of resources based on valid permits and submits consolidated reports/returns on physical flows to their concerned State departments. The district offices are also responsible for submitting monthly accounts on revenues collected during the month to the Accountants General Offices and their State authorities.

Accountants General Offices in States: The Accountants General Offices compile the revenues of the State under mining and allied activities under various pre-defined heads of account like mining and metallurgical industries, coal and lignite, petroleum etc and the Finance Accounts of the States are generated. Revenues received under mining and allied activities are non-tax receipts of the State Governments.

2.5 Risks involved

Due to human resource crunch, it is not possible for the State Governments to man each and every mine area and track the movement of minerals across and out of the State. This has resulted in a scenario where the extractions and the productions in the lease area are at times left to the discretion of the lease holders without any checks and balances. Thus, despite the best effort, a percentage of extractions throughout the country are outside the ambit of departmental monitoring.

Physical flows: The reports generated on extractions/productions and presented by the State Governments and also the Central Government are essentially those which to the best of the abilities and knowledge of the authorities have been allowed to be mined or voluntarily disclosed by the lessees. Hence, there is a risk that not all the extractions/productions are correctly depicted in the reports/returns which calls for reconciliation with the records of district mining offices.

Royalty and other dues calculation: Royalties and other levies vary between grades of same kind of resources and again there could be revision of rates coupled with cases of ad-valorem levies requiring continuous watch. In view of the scenario stated above where it is not possible by the State Government departments with their existing staff to man all mines area, there could be instances of short recovery of dues.

In view of the above, Chapter VII of the book on templates have gone a step further designing a system for capturing the usage and sales of resources from a number of sources like the consuming industries, domestic and international check posts, enforcement departments and so on for enabling the State Government departments to activate more stringent control and monitoring of mining activities for better resource

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management and optimizing revenue realisations. Guidelines on this initiative will be circulated shortly.

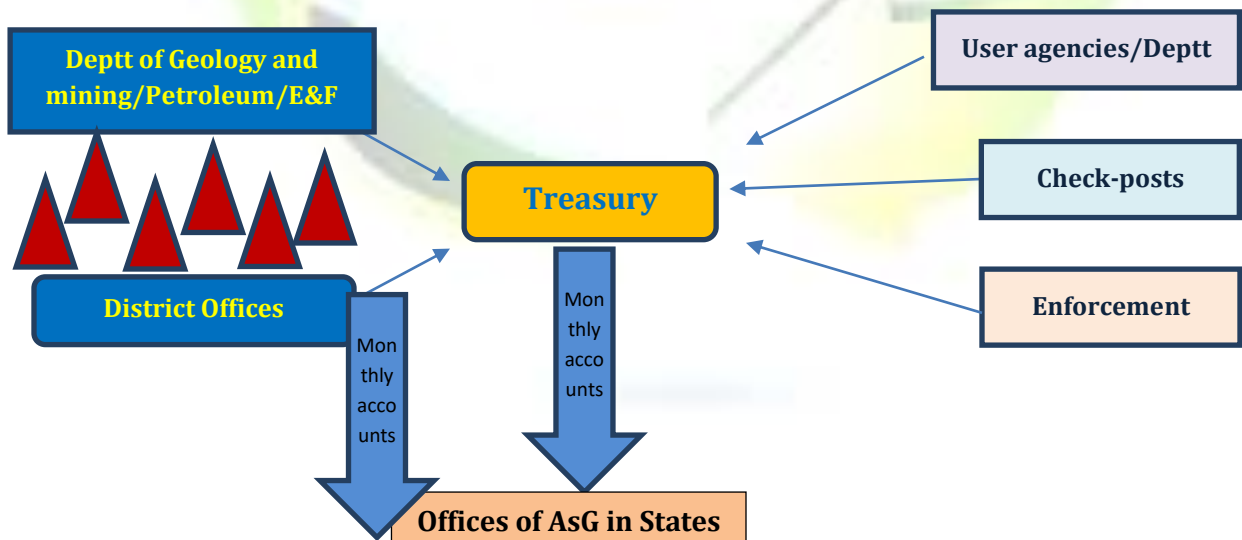
This document is intended to suggest the guidelines for the automating the system of capturing the physical flows of resources at the source, i.e. the district mining/petroleum/forest office levels and continuously building up the Asset Accounts at the directorates as well as the Accountants General Offices.

3 Capturing the physical flows

In view of the fact that Asset Accounting process for Mineral and Non-Renewable Energy Resources is to be a continuous process now onwards, a need is felt for instituting systems and processes for regularly capturing the data on physical flows of resources while other inputs like addition in stock, average revenues, market prices, extractions not approved by the departments and subsequently detected by various agencies could be collected from different sources while finalizing the Asset Accounts.

3.1 The revenue realisation and reporting mechanism

As discussed under para 'revenue realisations' under Para 2.2, there is a seamless system of reporting the receipts remitted to the State Government under different heads of mining and allied activities to the Accountants General Offices which compiles them into the total receipts of the States. The system are depicted through the block diagram below.



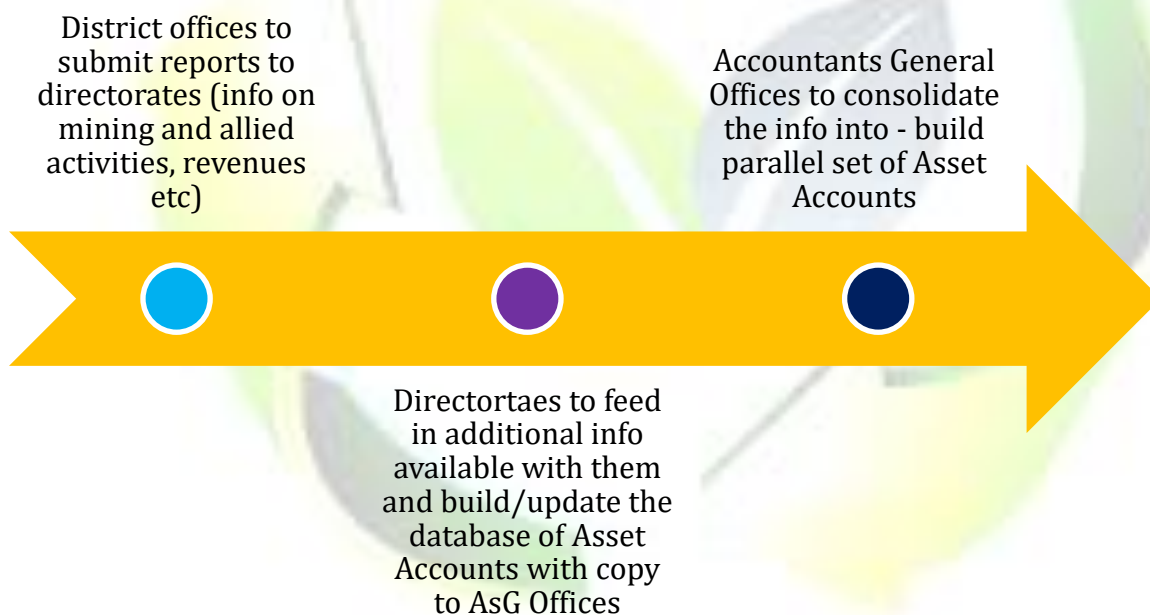
In view of the above, capturing the physical volume of Mineral & Non-Renewable Energy Resources besides the revenues in their reporting framework of district

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offices/Directorate of Geology and Mining/Petroleum/Environment and Forests is possible.

3.2 Automating the systems of inputs

The pilot studies conducted in different States and the experience gained in the States while preparing the Asset Accounts for the year 2020-21 – currently underway, points towards the necessity of laying down a definite workflow automation process to continuously capture and generate data from the ground zero, i.e. the districts eliminating time consumed in data collection and consolidation processes in future. The directorates can add further information which are available at their end thus making the data sets more robust and inclusive. Block diagram shows the envisaged processes.



The teams working on preparing the Asset Accounts can work on more effective validation mechanisms and value addition to the processes for bringing out more trustworthy and informative data sets. These are discussed in the succeeding paragraphs.

3.3 Information flow from districts

As the district mining/petroleum/forest Officers are the most important layers of control and monitoring on resource extractions, data compilers and generators, the

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following information, resource-wise and mine-wise, may be compiled by the district offices and channelized monthly to the directorates:

- Name of resource/mine – showing separately major minerals, fossil fuels, minor minerals and other resources (as the case may be)
- GPS co-ordinates of the mine area
- Proved reserve as on 1-4-2022
- Name of lease holder/periodicity of lease
- Quantity allowed for extraction (gross)
- Qty extracted till previous month (with detailed sub-classification of minerals)
- OB of extracted resources/finished products for the current month (with detailed sub-classification of minerals)
- Quantity extracted during the month (with detailed sub-classification of minerals)
- Quantity dispatched during the month – showing separately Government sector, Private sector, others usage, exports
- Revenue remitted on account of resource extraction/dispatch
- Variations/percentage variations
- Closing stock of extracted resources/finished products (with detailed sub-classification of minerals)
- Comments (if any) including detailed information on detection of illegal mining in the area
- Certification
 - ✓ That all resources/mining areas including dormant mines are covered in the report
 - ✓ Data has been verified with the records of the district office
 - ✓ Data is reconciled with that of the lease holder's records
 - ✓ Resources have been extracted/dispatched after prior payment of requisite royalties and other Government dues
 - ✓ The receipts mentioned in this report tallies with that reported through the monthly accounts

States which have electronic system of data processing can make suitable amends for embedding the above processes into the systems including the AsG Offices as beneficiaries of data. States which have manual system of data processing can introduce suitable reports/returns on the above data flow. These data may be compiled by the fortnight after every month.

3.4 Additional inputs from the directorates

Upon receipt of the information from the districts, the directorates may add information like additions, new discoveries, upward and downward reappraisals, reclassifications (if any), information on illegal mining. The directorates may consolidate the information, district-wise, into a State-wise data base and share with the Accountants General Offices for building up parallel database, monthly. The NRA Cell can work on these data-sets, carry out necessary validations, cross-verifications etc for finalizing the Asset Accounts for the year.

3.5 Authentication of data flow

As the data-sets submitted from the district offices and the directorates would form the basic Asset Accounts, it is imperative that the data would have to be authentic. Besides the certifications that are mandated above, the following may also form part of the data-sets:

- **Copies of the monthly accounts showing total receipts during the month;**
- **Supporting proof of information/figures as provided in the monthly report/returns (as under Para 3.3 above).**

Provided that for certain basic information like name of mine/resources, name of lease holder, proved reserves etc, supporting document may be furnished only once, for each year.

3.6 Validations

The annual Asset Accounts, once finalised, can take the same route of dual stage validation by the State Government Departments and the audit office before being published, physically and electronically.



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Continued validations and hand holding: Though validations have been envisaged annually by the audit offices after the first level of State Government Department level validation, continuous validations and hand holding is envisioned by the audit offices as below:

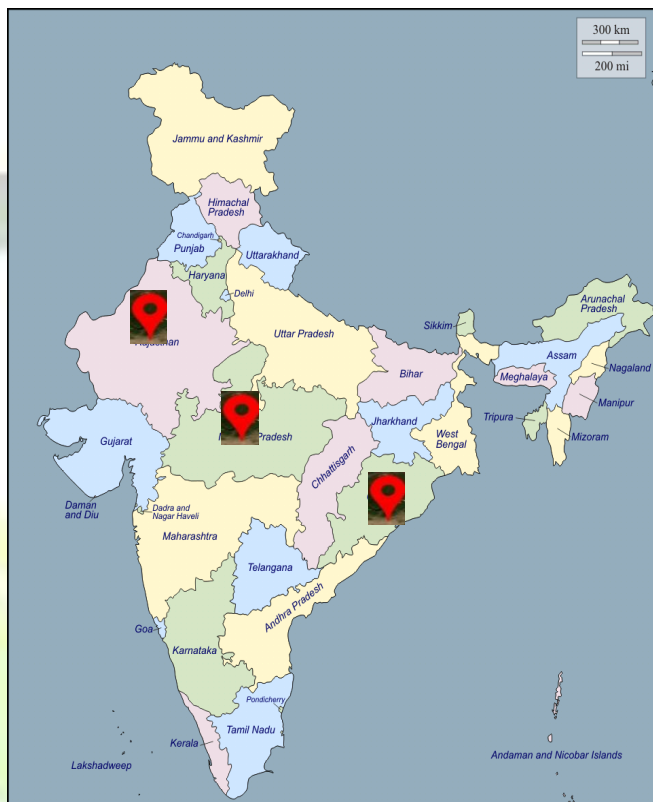
- During regular annual audits of district offices and directorates, audit may examine the system of data processing for the monthly reports/returns, correctness of the reports/returns vis-à-vis the documents/data available in these Offices;
- The system of corroborating the monthly reports/returns with supporting documents/information and verifications in regular audit would reduce the burden of annual validation. Thus, annual validation by audit offices is envisaged as a sample check of the districts selected through sampling methodology.
- Validations by the State Government Departments would essentially hinge upon the records available with them, both digitally and physically.
- A checklist could be used to ensure that the reports/returns are correct with the following inputs (illustrative and not exhaustive):
 - That all economically and socially important minerals and non-renewable energy resources as agreed by the NRA Cell to form the Account has been covered,
 - That all the mine areas under the district, whether active or dormant, have been included,
 - That the total extractions allowed shown in the reports/returns tallies with the records available in the districts/directorates,
 - That total extractions carried out during the period and those dispatched are corroborated with records/documents, photocopies of which are supplied along with the monthly reports/returns,
 - An assurance from the lease holders that the figures mentioned in the extraction and dispatch figures are true and fair picture of the actual figures and that no excess extraction and dispatch has taken place to the best of their knowledge,
 - That the closing stock of extracted resources and the finished products are actually those available at the mine/production site.

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4 GPS enabled district-wise mining map

The GPS co-ordinates of the mines areas, resource wise, could be collected well before the commencement of the year 2022-23. This will enable creation of resource-wise maps by each States with mine indicators as per their GPS co-ordinates. Requisite mapping could be enabled navigating the readers to the latest Asset Accounts providing information on total stock of resources in the district, annual extraction, revenue realised and other details captured through our Asset Accounting processes in the districts and compiled State-wise.

These maps could be consolidated at the national level providing precise data on availability of resources across the country along with their pace of extractions, revenue generations, market values, available stock of resources. Gradually, other data sets like that of Indian Bureau of Mines, Directorate of Hydrocarbons etc could be possible to be mapped into these GPS enabled mapping system for resources – pan India.



Representative image
