

Kerala Scientific Mining Policy, 2015

The 10th Board Meeting of State Planning Board decided to constitute an Expert Committee to study and recommend a suitable policy for scientific mining of quarries and related issues in the State. Accordingly State Planning Board has constituted an Expert



Committee under the Chairmanship of Dr. Thrivikramji.K.P, involving experts from the domain and Kerala State Council for Science, Technology and Environment.

On the basis of the work of the Expert Committee, a draft

“Kerala Scientific Mining Policy, 2015” for the State has been prepared. The draft report submitted to Government recommending further action.



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(DRAFT)

Kerala Scientific Mining Policy, 2015

PREAMBLE

The National Mineral Policy, 2008, declared by the Government of India (GoI) replaces the National Mineral Policy, 1993. The new policy allows for large presence and participation by the private sector in the mining sector in order to augment the contribution of mining sector to the National Gross Domestic Product (GDP) and more employment for the skilled and semi-skilled or unskilled people in the employable age group and secure supply of minable minerals and rocks for the mills, smelters and factories.

The quantum leap in the mineral production under the new policy will also guarantee steady supply of finished products like steel of all specifications, cement, and rocks (for the aggregate producing mills). India is also a world leader (with a place among the top ten nations) in respect of certain natural minerals like Muscovite mica, iron ore, manganese ore, coal and lignite.

Box.1. National Mineral Policy, 2008

New Mineral Policy envisions raising the contribution of mining sector to GDP by augmenting investment in mining sector through private participation

Undoubtedly, even though the mining of minerals and rocks (whether strip mining or subsurface mining) are an essential input in the economic activity of nations, it is not without environmental and social consequences. Quarrying/mining operations create large scars on the land surface transforming the natural topography, soil cover and micro and macro flora and fauna. However, the National Mineral Policy, 2008 adequately addresses such issues in relation to the environment and societal impacts.

BASIC FEATURES

In Kerala, the extracted earth materials –minerals and rocks - have been coming from quarries, mine pits, beach washings and also from the river channels. There are no other large endowments of other industrial /metallic minerals in the State. Historically, gold was panned from the stream sand and gravel in Nilambur valley, Phlogopite mica from Vattiyurkavu, Graphite from Vellanad and Cat's eye variety of chrysoberyl from the river alluvium of Neyyar and Vamanpuram Ar.

The extractive industry of Kerala [Mining and Quarrying (M&Q)] supplies primarily raw rock or manufactured aggregates rock-rubble to maintain the existing infrastructure and /or making new ones in the state specifically in the sectors of roads, multilane highways, railroads, dams for drinking water supply, homes, schools, colleges, hospitals, seawalls, groynes, breakwaters for ports, new airports and seaports and such other installations. The world renowned black sand placers of Chavara are known for its Ilmenite.

FUNDAMENTAL ISSUES

Basic issues in the Mining and Quarrying (M&Q) sector is the reluctance of the operators to follow the newer stipulations by the Indian Bureau of Mines (IBM) regarding regulations in opening of new M&Q operations, ensuring environmental and social guarantees and implementing an exit policy.

This mindset on the part of the industry and the growing environmental awareness and deep concern of the common public about the perceived harm to the environment inflicted by the M&Q operations have led to a stand-off leading to delay in supply of M&Q products to the needy clients/sectors.

VISION

The scientific mining policy of the State is premised on the duty of the State to ensure free and fair supply of minerals, rocks and value added products (like coarse and fine aggregates) to meet the internal needs (in the manufacturing and infrastructure sectors both for upkeep and creating new ones) and external demands ensuring environmental and social guarantees. The Government should pursue this policy with due diligence to the environmental health of the mining/quarrying landscape/land parcels as well as that of the land area in the downstream. The new Scientific Mining Policy (SMP) appropriate for the state to ensure significant growth in the Gross State Domestic Product (GSDP) is presented in the following pages. The policy aims at a growth of 5% in GSDP on account of mining activity.

Box.2 Policy proposal

The new Scientific Mining Policy of the State envisage to ensure significant growth in the share of mining sector to Gross State Domestic Product (GSDP)
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OBJECTIVES

In India, excluding petroleum and natural gas, other mineral resources of the country are jointly managed by the Union Government and State Governments, whose framework is stipulated specifically in the Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act). The Union Government

also framed the Mineral Concession Rule, 1960 for regulating the reconnaissance permits, prospecting licenses and mining leases in respect of all minerals other than atomic minerals and minor minerals. With an eye on the conservation and systematic development of mineral resources of the country, Central Government has framed the Mineral Conservation and Development Rules, 1988 (MCDR) primarily with the intent of ensuring national needs and demands as well as a sharp focus on environmental health. Keeping in mind the national policy 2008, States framed rules governing the extraction of minor minerals.

The State of Kerala, as a matter of policy (but within the regulatory umbrella of the EIA and SIA) should allow exploration and scientific extraction of minerals, rocks and ores for consumption and value addition within the State and meeting external demands.

Box.3. Policy Prescription

Kerala's Scientific Mining Policy (SMP) should address environmental concerns of the public at large on the one hand and ensure the supply of extracted earth materials of the required volume and quality to the clients, without long lead-time on the other, in line with the new stipulations of the Indian Bureau of Mines.

The new Scientific Mining Policy is like a three legged stool. Leg one is uninterrupted supply of extracted natural materials like mineral, rock and value added products – the essential inputs in mineral based industries and in keeping and making modern infra-structure. The second leg is minimising the environmental damage, while the third one is minimising the social impact of M&Q operations.

Box.4. Policy prescription

- ❖ Rules framed under new SMP shall ensure supply of earth extracted material to the various user sectors with utmost care, minimising environmental and social impacts and a scientific exit policy at the closure of operations stipulated by the Indian Bureau of Mines
- ❖ The reserve base of the State will be augmented through state-of-the-art techniques and optimal - zero waste practices in all mining activities and the contribution of the mineral sector to the State GDP will be maximised through value addition.

STRATEGIES

a. Resource Mapping and Delineation

The State should encourage a fast track mapping (at scales of 1:25,000 or 1:12,500) of mineral/rock resources by Mining and Geology Department as the nodal agency, and in cooperation with the Geological Survey of India (Kerala unit) and such other competent agencies to assess the State's potential of utilizable mineral/rock resources for industry, new infrastructure creation and upkeep of the ones already in place (e.g., roads, rail tracks, breakwaters, seawalls etc.)

Box.5. Policy prescription

- ❖ Mining & Geology Department, Kerala State & the Geological Survey of India, Kerala Unit should jointly delineate and map mineral bearing areas at a scale of 1:25,000 or 1:12,500
- ❖ Inventory of resources and reserves, mining tenement registry and mineral atlas should be prepared and made available in public domain

Further, Government may notify such proven mineral/rock bearing areas and parcels of land suitable potential sites for “Super mines/quarries” in parts of the State.

b. Technology Adoption

Generally speaking, with the exception of a very few operators, most of the M&Q activities in the State continue to follow human intensive and classical methods. When the country is undergoing modernisation of the day to day operations and governance, the M&Q sector administration in the State of Kerala cannot stay insulated from the structural and procedural reforms in M&Q sector such as keeping an inventory of production of rock and minerals on a quarterly / annual basis.

Therefore, the e-Governance policy promoted by the State should be expeditiously extended and implemented in the Directorate of Mining and Geology, Govt. of Kerala (DM&G of GOK) in order to inject efficiency of governance to provide public access to the potentially extractable resources, and eliminate delays in delivery of service to the public. Therefore,

A. The DM&G of GOK should design, implement and maintain a GIS based geodatabase with data, charts and thematic maps of all the extractable mineral/ rock resources, and operating and abandoned mines and quarries. All quarriable and

minable resources of the State in a geodatabase should be published in the website in the public domain (of the DM&G of GOK).

Box.6. Policy prescription

- ❖ Department of Mining & Geology should create, update and maintain a GIS based Geo database of all the operating mines and quarries and abandoned ones in the State
- ❖ Along with this, data on quarterly or half yearly production, probable date of closure of operations at each site, the designed plans for their rehabilitation or reuse will also be published
- ❖ Periodical Digital photogrammetric monitoring of mines and quarries to monitor the exact off-take of extracted material from each site, the volume of waste /overburden, to inventory the traded volumes and collect the revenue due to the State

B. Digital photogrammetric mapping of operating mines/quarries shall be implemented and monitored periodically to assess reliably the quantum of extracted material in order to plug or eliminate revenue loss to the State.

C. High Resolution Remote Sensing Satellite images should be appropriately used in conjunction with topographic maps to expedite and speed up mapping and updating of rock/mineral resources of the State.

Technology upgradation is at the centre of attention of the Government in every sector now a days. In order to improve the competitive edge of the mining industry, therefore, emphasis should be laid on mechanisation, computerisation and automation of the existing and new mining units. State of the art technologies should be adopted in all activities relating to mining. Existing facilities of operational mines and mining industries should be consistently reviewed and upgraded from time to time. Research and development should be oriented to ensure maximum economic recovery of the associated minerals and valuable metals and ensure zero waste mining. Value addition in possible extends should be ensured for all minerals, especially those transferred across the State borders.

Box.7. Policy prescription

- ❖ Systematic exploration and prospecting has to be maximised in geologically conducive mineral bearing areas using state-of-the-art techniques in a time bound manner
- ❖ Emphasis on mechanisation, computerisation and automation of the existing and new mining units

c. Environmental Responsibility

Mining and quarrying must not cause undue damage to the landscape, soil, ecosystem and finally the ecological balance. However, population growth and the subsequent growth in demands for food grains, consumer articles, housing, social and transport infrastructures has necessitated exploring surface crust of solid earth for extractable materials for creating, augmenting, supplying and fulfilling such material needs.

Box.8. Policy Prescription

Designing of special mining techniques, mining equipment and machineries that reduce environmental impacts related to the small scale mining activities of the State will be supported.

The M&Q business feeding the needs of consumers, with or without value addition, certainly affects the topmost part of the crust of the solid earth, but to variable depths. In order to be environmentally responsible, the extractive-industry-sector needs to implement the policies proposed by the Indian Bureau of Mines and the stipulations of the DM&G of GOK. Our society and the administration have bestowed equally serious checks and controls (such as EIA & SIA) to ensure minimum or slight damage during the M&Q operations.

The EIA of the new projects are mandated only to secure the health of the ecosystem in and around the operations and to reduce or eliminate loss/damage to the environment. The implementation of recommendations of EIA study will guarantee responsible M&Q operations. Equally important should be the compliance of the operator with respect to the SIA recommendations.

d. Regulatory frame work

Existing Rules governing the M&Q operations are largely based on the stipulations of the GOI framed by the Indian Bureau of Mines (IBM). In fact, these rules undergo amendments and modifications to accommodate the new national policies. In respect of minor minerals also, the primary prescriptions are by the IBM.

The lease and permit stipulations and several tiers of clearance (for e.g., local body or panchayath, DM&G, Department of Environment and Climate Change, State Pollution Control Board etc) as practiced today in Kerala are again based fully or partly on the IBM guidelines.

The authority to dispense with permissions or withhold permissions vested in the Panchayaths is not congenial to the growth of the existing industry or new

investments. Therefore, when it comes to issues like M&Q operations, the final decisions should be made at the District level by an expert committee presided over by the District Collector. Currently at least 10 or more Government agencies need to grant approval of one or other sort before the mine or quarry is opened in the State.

Box.9. Policy Prescription

- ❖ New SMP shall require an EIA and SIA clearance of mining /quarrying proposals prior to issuance of permit/lease, an essential input in downstream decision support.
- ❖ Single window clearance of mining/quarrying proposals by a committee chaired by District Collector and officials of line departments and respective LSG Presidents. Such a framework as part of modern governance is essential for faster decisions on the proposals.
- ❖ There should also be a review mechanism or a State level appellate authority to redress the decisions at the district level.

In order to attract more operators and to scale up production, the Government should put in place a single window clearing system in respect of new operations in the M&Q sector at the district level, instead of clearance at the level of grama panchayaths. There should also be a review mechanism or a State level appellate authority to dispose off representations against decisions at the District level.

e. Departmental Processes and Practices

Current responsibilities, processes and practices bestowed in or followed by the DM&G is disproportionate to the existing professional/technical manpower at its disposal and hence leads to delays and postponements of immediate action and resolve on the issues before them. In other words, DM&G of the State is overburdened with a variety of tasks like proper monitoring of mining /quarrying activities, regulating the issuance of permits/leases, estimating the reserves of minable/quarryable resources, maintaining a “near real time inventory” as well as plugging the revenue leaks in the mining/quarrying sector.

Box.10. Policy prescription

In the backdrop of new SMP, for effective implementation of regulations, monitoring of extraction & fast track exploration, the department of Mining & Geology needs to be reorganised with adequate professional manpower. The Department should draw up a proposal for reorganisation with professional expertise from domains like mining engineering, geology, geo-physics, geo-chemistry, geo-instrumentation and environmental engineering.

The Government should therefore suitably expand the professional/technical workforce of the DM&G to oversee the operations, expedite processing of the applications for permits by scrutinizing EIA document (and if need be after field verification/studies), and compliance with the mandated regulatory framework, etc.

f. Human Resource Development

Human Resource Development is elementary to the implementation of any state of the art technology and adoption of optimal mining practices in the State. One of the key challenges in the sector is the shortage of quality human capital, especially in the areas of rock mechanics, ground control, mine design engineering, equipment development and maintenance, energy conservation, environmental protection, safety of operations and human engineering.

Box.11. Policy prescription

Educational institutions will be geared up to supply manpower based on a comprehensive review of the sector's manpower requirements across the nation, especially in the areas of rock mechanics, ground control, mine design engineering, equipment development and maintenance, energy conservation, environmental protection, safety of operations and human engineering.

There is also deficiency in supply of qualified trained workers like blasters, mine mates, foreman, surveyors and persons of various other capacities in the State. The Government therefore should encourage educational institutions and training centres to take up graduation and training courses in these and other areas of mining, based on a comprehensive review of the man power requirements of the sector.

g. Research & Development

The EFG based numerical designation of mineral/rock resources takes into account economic and social aspects in the E axis, while in the F axis is embedded the environmental questions. The G axis is set apart for geological feasibility. Therefore knowledge of UNFC-2009 based numerical EFG classification of minable and quarriable resources of the State, should be reckoned, along with EIA and SIA while granting permission or otherwise for mining/quarrying of extractable earth resource. This new scheme of classification of mineral/rock resources is perhaps a leap forward in respect of scientific and economic profiling of the deposit and is very useful for the extractive industry.

Box.12. Policy prescription

Research and development thrust should be directed specially in the areas of technological upgradation and infrastructural development, establishing appropriate educational and training facilities for human resources development, environmental sustainability, energy conservation and safety and security concerns.

h. Socio –Economic Factors

M&Q are certainly industries that contribute to the GSDP and therefore the State should promote such industries. Nevertheless, this industry will be effectively brought under the scanner to decipher the environmental and social impact. The Government should require all new applicants seeking lease/permit to successfully pass/clear what is known as SIA (Social Impact Assessment). In other words, a SIA and EIA compliance shall be mandatory.

i. Labour – Industry Relation

In Kerala the labour-industry relations have been occasionally volatile. Truly there is a huge demand for transparency in this sector. With the advent of “*aadhar*” now it is easier to transfer financial benefits like wages, bonus, sick pay etc., to *aadhar* linked employee bank accounts. Labour laws and community health benefit provision will be enforced effectively in the M&Q sectors.

j. Import- Export

Today’s globalised economy has put in place a new regime of very few restrictions on trade across the national borders. It is more so between the state borders with the implementation of the new GST regime from 1-4-16. Therefore the Government may not impose restrictions in the interstate trade of raw or value added products of M&Q origin. Further, the State may not go against national policy/ies on trade of

minerals and rocks, with preference for value added products to those transferred across the State borders.

k. Procedures and practices of Agencies

Current practice of decision making on the permit/lease applications or issuing stop-work-memos, at the State level and approval by the concerned Panchayath is cumbersome and time consuming from the point of view of investor.

For achieving the higher growth of GSDP, current practices and procedures followed by the agencies involved need review and scrutiny. The rules framed decades ago will not serve any useful purpose in the current environment and might be unattractive to the prospective investor.

Box.13. Policy prescription

A Task Force should review various existing rules to identify and remove the redundant ones in order to streamline procedures, monitoring, and governance in the M&Q sector in line with scientific mining policy

The Government should therefore appoint a committee to identify the anachronistic /redundant rules and if required remove them from the statute books and from rules/guidelines/regulations.

l. Rehabilitation and Mine Closure Policy

The Indian Bureau of Mines, from time to time has stipulated rules, regulations and conventions governing the M&Q initiation, operation and exit processes. The environmental and ecological restoration of abandoned M&Q is among the responsibilities of operator/company.

Box.14. Policy prescription

- ❖ Exit policy of Mining and Quarrying prescribed by Indian Bureau of Mines should strictly be enforced.
- ❖ Recovery/reclamation of the quarried/mined land should be made mandatory and be declared as the responsibility of the mine owner/operator, failing which penalty may be imposed.

Further, the relevant recommendations by the scientific committee based on the GO (MS) No. 57/2011/ID dated 25-02-2011 on Reuse of Abandoned Quarries and Mine Pits, 2011 should be invoked as and when required. The recovery and reclamation of the quarried/mined land should be made mandatory and be declared as the

responsibility of the mining company. The mining policy fixes the responsibility of reclamation of mined areas on mine owners failing which suitable penalties should be imposed on the mine owners.

m. Co- ordination/Integration / Interfacing of Departments/Agencies

A mining lease/permit issuance currently needs clearing by the Gram Panchayath, revenue department, M&GD, Directorate of Environment and Climate Change, State Pollution Control Board etc.

This is a sequential process causing much delay in finalising decisions and hence unwarranted delay in supply of the earth materials to the consumer. Therefore the Government should modify this process suitably, by introducing a single window clearance system at the District level. A committee with the District collector in the chair and with members of the line departments and President/s of the respective LSG's should be in charge of passing orders seeking lease/permit.

There should also be a state level appellate authority to re-examine decisions at the District and redress grievances, if any of the applicant. The Appellate Authority should be chaired by the Industries Secretary, and heads of the line departments and the chair person/s of LSG/s.

Implementation Mechanism

To carry out the measures outlined above, it is recommended that Government may constitute a High Power Committee which will lay down a strict time frame and monitor progress of implementation every month.

SUMMARY

The new SMP of Kerala detailed in the foregoing paragraphs is analogous to a three legged stool. The first leg of SMP addresses the State's need for extractable natural earth materials, such as minerals, rocks and coarse and fine aggregates manufactured from rocks.

The second leg of the SMP is policy of the State Government to exercise due diligence in respect of environmental factors viz., water, air, soil and ecosystem (WASE) and to minimise or eliminate damage to WASE. The third leg of SMP highlights the Social Impact Assessment or SIA.

Within its framework, the SMP should facilitate coordinated efforts by the DM&G and GSI to map the distribution of extractable earth material in various parts of the State and keeping a GIS Geo database accessible to the public. Application of

modern technologies in respect of mineral and rock resources of the State should ensure transparency and facilitate faster decision making.

Equally important is the Digital Photogrammetric Monitoring of operating mines and quarries to precisely assess and estimate the off take of the extracted material and hence immensely ensure plugging of revenue/royalty loss to the State.

Alternatively, a new process of plugging revenue loss by taxing the end-user, as proposed and recommended in the Abandoned Quarry Reuse Report can be very efficient and transparent. This process is now in practice in the States of Odisha and Gujarat.

Also included in the SMP are modernisation of the systems and processes in the issuance of leases/permits, closure plan adoption of new technologies, as well as creation of HR or technical manpower in mining engineering and Applied Geophysics.

A single window clearance of lease/permit at District level, by a committee headed by the District Collector and other line departments, for opening new M&Q is considered extremely imperative in the fast track development programs in the State.

There should be a State Level Appellate Authority (as detailed earlier) to review the decisions resolved at the District level.

There should also be a High Power Committee constituted by Government to ensure implementation of the measures outlined in a given timeframe.

Conclusion

Mining and quarrying is inevitable although it has negative impact on the environment even after the closure of the mines. The government is therefore diligent in adopting regulations to moderate these negative impacts of mining operations. Modern techniques and practices have a large extend take care these concerns of environment and economy. The scientific mining policy of the State is a step ahead in this direction and the success of which requires fine tuning present rules and regulations at par with the new policy and gaining wide conscience of citizens of the State.

Sd/-
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