PUBLIC HEARING SUMMARY OF DRAFT EIA / EMP REPORT

FOR

ROUGHSTONE AND GRAVEL QUARRY

A. Project Proponent Details		
Name	Thiru C.Shanmugam	
Address	Merku Theru, Karachery, Periyakuyilai (PO), Kinathukadavu Taluk, Coimbatore District, Tamil Nadu- 641201	
B. Location Deta	nils	
Extent	1.41.0 Ha	
Survey No.	144/2A2(P) and 144/3A(P)	
Location	Arasampalayam Village, Kinathukadavu Taluk, Coimbatore District, Tamil Nadu	
C. Production D	etails	
Production	Roughstone – 51831m3, Gravel – 11992m3	
Depth	34m	
Lease Period	5 years	
D. EIA/EMP details		
ToR reference	TO25B0108TN5553727N dated 15.07.2025	
Baseline Monitoring	Summer Season (March – May 2025)	

CONSULTANT

CREATIVE ENGINEERS & CONSULTANTS

NABET ACCREDITED CONSULTANCY, NABL ACCREDITED TESTING LAB

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S.No 1(a)
Category B1

OCTOBER-2025

SUMMARY

1.1 INTRODUCTION:

Thiru C.Shanmugam proposes to operate a Rough Stone and Gravel Quarry over an area of 1.41 Ha in Arasampalayam Village, Kinathukadavu Taluk, Coimbatore District, and Tamil Nadu and has initiated action towards obtaining environmental clearance.

Proposed Production for the five years lease period is 51,831m3 of Roughstone and 11992m3 of Gravel for a period of 5 years upto a depth of 34m. The entire lease area is a patta land which is in applicants possession.

Although the individual lease area of this project is less than 5 Ha, the other existing and proposed quarries within the 500m radius cluster along with this subject project works out to >5 Ha. Hence, this proposal is considered under Category – B1 and as per MoEF & CC notification necessitates preparation of EIA/EMP report and public hearing

This EIA/EMP report is prepared based on standard and additional Terms of Reference issued by SEIAA, Tamil Nadu and is in conformance of the generic structure prescribed by MOEF&CC in their notification of September 2006 and the approved mining plan. Salient details of the EIA/EMP report prepared for Thiru C.Shanmugam project is provided below:

Table 1: Salient Details of the Project

Details	Particulars		
A. Statutory Clearance	es		
Precise Area Communication	 Issued vide Rc.No.690/Kanimam/2023 dated 18.02.2025 Based on the conditions of Precise Area Communication letter, safety distance has been left . 		
Mining Plan Approval	Rc.No.690/Kanimam/2023 dated 25.02.2025		
Details of Quarries within 500m radius	Obtained from Assistant Director, Dep. of Geology & Mining vide Rc.No.690/Kanimam/2023 dated 25.02.2025		
B. Site Details			
Location	Arasampalayam Village, Kinathukadavu Taluk, Coimbatore District, Tamil Nadu		
Survey No.	144/2A2(P) and 144/3A(P)		
Coordinates	Latitude : 10°52'12.74" N to 10°52'18.41" N Longitude : 77°02'33.30" E to 77°02'37.28" E		

Mining Lease Area	1.41Ha	
Type of Land	Consent Registered patta land	
Accessibility	The lease area can be approached through Pollachi road on the Western side at a distance of 3.5Km which joins NH-83 at a distance of 3.5 Km.	
Topography & Drainage	The lease applied area is mostly minedout area and the remaining is plain barren area covered by Gravel formation.	
Nearest Village	Karachery -1.8km - SE	
Nearest Town	Chettipalayam - 4.0km (W)	
Nearest Highway	NH-83 (Ottakkalmandapam – Kinathukadavu)– 3.5Km – W,	
Nearest Railway Station	Kinathukadavu - 5.0km, SW	
C. Environmental Setting of the Study Area		
Nearest Water Bodies	Kodavadi River – 7.5km – (S)	
Nearest Water Boules	Varattar River – 8.9km – (W)	
Nearest Reserve Forests	Nil within 10km radius	
Notified Archaeologically important places, Monuments	Nil within 10km radius	
Environmental sensitive areas, Protected areas as per Wildlife Protection Act, 1972*	Nil within 10km radius	

2.1 Technical Description:

A. Technical Description					
Geological Reserves	254558 Cu.m. Rou	254558 Cu.m. Roughstone & 21712 cu.m Gravel			
Mineable Reserves	58821 Cu.m. Roug	hstone & 11992 cu.m Gra	ivel		
Previous Mining	Proponent carried out mining operations from Prior to year 2010. •During 09.12.2016 – 08.12.2021 period, Environmental Clearance was obtained from SEIAA, Tamil Nadu • Existing pit dimention is as follows. Length (m) Width (m) Depth (m) 97 65 27				
Mining Method	Open cast mechanized mining method with drilling, blasting, excavation, loading and transportation of Rough stone to needy buyers.				
	Year	ROUGHSTONE (m3)	GRAVEL(m3)		
Production	<u> </u>	11285	11316		
	l II	11745	676		



	III	11846	-
	IV	11875	-
	V	5080	-
	Total	51831	11992
Waste Generation and Management	There is no waste generation anticipated in this quarry operation since the entire excavated material will be utilized. The Gravel will be loaded into tipper and marketed to needy customers on payment of necessary Fees to Government. The excavated roughstone will be loaded into tipper to the needy buyers for producing crusher aggregates, M Sand		
Ultimate Depth	34 m		
B. Project Requirements			
Manpower	Direct – 20, indirect – 50 No's		
Water requirement &	Requirement - 9KLD, Initially will be procured from outside agency and		
Source	later rain water collected in the mine sump will be used.		
Power Requirement	All the equipment will be diesel operated. No electricity is needed for mining operation. The minimum power requirement for office, etc will be met from state grid.		
Site services	Mine office, first aid room, rest shelters, toilets etc. will be provided as semi-permanent structures.		
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Figure 1: Location Map



GEOLOGICAL & SURFACE PLAN 250mN 2.5 FEB 2825 200mN PLATE No.III LEASE PLAN TOPO SHEET NO. : $58\,\mathrm{F/O}$ 1 LUTHUDE : 10° 52' 12.74"N to 10° 52' 18.41"N LONGITUDE : 77° 02' 33.30"E to 77° 02' 37.28"E LEASE BOUNDARY 150mN APPROACH ROAD MINING AREA SAFETY ZONE S.F.No.144/2A2(P) BOUNDARY PILLAR S.F.No.144/2A2(P) LOCATION EXTENT 14.100 HECTARES
SEND 144/2A2P) R 144/3A/P)
VILLAGE ARASAMPALAYAM
TALUK KINATHURADAYU
DESTRICT COMBATORE
STATE 1 TAMIMADU
APPLICANT BOUNDARY CO-ORDINATES 100mN APPLICANT
THIRU.C.SHANMUGAM,
S/o.CHINNARANGASAMY GOUNDER,
MERKUTHOTTAM, KARACHERY,
PERIYAKUYILAI POST,
KINATHUKADAVU TALUK,
COIMBATORE DISTRICT-642 201. S.F.No.144/3A(P) DATE OF SURVEY: 19.02.2025 PREPARED BY: I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE S.F.No.144/3B1 A. Amimo SHE A ALUMUTHU (RQP/DMG/HYD/85/2002) a lines

Figure 2: Lease Plan

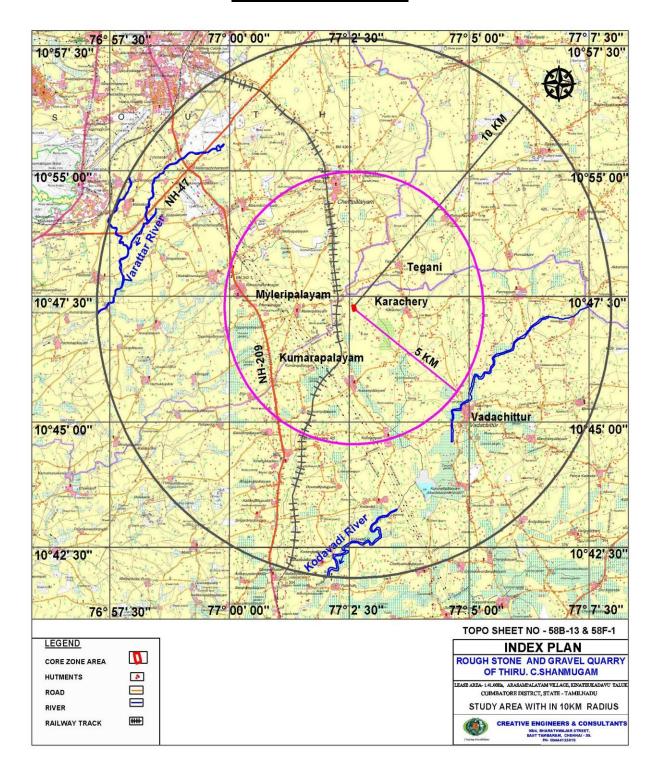


Figure 3: Study Area Map

3.1 EXISTING ENVIRONMENTAL SCENARIO:

The studies and data collection have been carried out systematically and meticulously as per relevant IS codes, CPCB and MoEF&CC guidelines and as per approved ToR during **Summer Season (March 2025 – May 2025)** by **Enviro Solutions & Labs, Coimbatore**. For the purpose of this study, the area has been divided into two zones, namely, core and buffer zones. Core zone is considered as the total lease area, while buffer zone encompasses an area of 10 km radius distance from the periphery of core zone.

The proposed Rough stone and gravel quarry is located in in Arasampalayam Village, Kinathukadavu Taluk, Coimbatore District. Based on 2011 census data, in the 10km radius there are 36 Rural Villages 7 Urban areas from Three Taluks namely Coimbatore South, Sulur, Pollachi of Coimbatore District. The demographic profile of the study area is given below:

Table 2: Social, Economic And Demographic Profile of the Study Area

Details	Population	Percentage	
A. Gender-wise distribution			
Male Population	174613	50.09	
Female Population	173985	49.91	
Total	348598	100	
B. Caste-wise population distribution			
Scheduled Caste	56402	16.18	
Scheduled Tribes	1942	0.56	
Others	290254	83.26	
Total	348598	100	
C. Literacy Levels			
Total Literate Population	260402	74.70	
Others	88196	25.30	
Total	348598	100	
D. Occupational structure			
Main workers	142221	40.80	
Marginal workers	16772	4.80	
Total Workers	158993	45.60	
Total Non-workers	189605	54.40	
Total	348598	100	

Further developments in this area with respect to these various facilities has occurred over the years.

Numerous ware houses, other industries like glass, textile mills, foundries, engineering units, Industrial Park B (Kallapalayam), etc serve as the main occupation for the young workforce. Industrialisation in harmony with locals are observed.

3.2 EXISTING ENVIRONMENTAL QUALITY:

Table 3: Baseline Data

B) AMBIENT AIR QUALITY	Monitoring Location – 6 locations			
PARAMETER	PARAMETER RESULT (µg/m3)		*! IMIT (a/m2)	
Location	Core Zone Buffer Zone		*LIMIT (µg/m3)	
Particulate Matter (Size <10 μm)	46.0 - 55.0	47.0 - 63.0	100	
Particulate Matter (Size <2.5 µm)	16.0 - 24.0	17.0– 27.0	60	
Sulphur Dioxide (as SO ₂)	7.0 - 11.0	5.0- 12.0	80	
Nitrogen Dioxide (as NO ₂)	13.0 -23.0	10.0 – 23.0	80	

Conclusion: The existing Ambient Air Quality levels for PM10, PM2.5, SO2 and NO2, are within the NAAQ standards prescribed CPCB limits of 100 μ g/m3, 60 μ g/m3, 80 μ g/m3 & 80 μ g/m3. The CO values in all the locations were found to be below detectable limit. Silica values in the study area are found to be below detectable limit. (Detection limit – 0.05 mg/m3)

C) WATER QUALITY	Monitoring Location – 6 locations	
PARAMETER	Result	*LIMIT (µg/m3)
pH at 25 °C	7.33 – 8.02	6.5-8.5
Total Dissolved Solids, mg/L	415 – 789	2000
Chloride as CI-, mg/L	38.7 – 168	1000
Total Hardness (as CaCO3), mg/L	128 – 269	600
Total Alkalinity (as CaCO3), mg/L	212– 265	600
Sulphates as SO42-, mg/L	12.8 – 55.3	400
Iron as Fe, mg/L	BDL	0.3
Nitrate as NO3, mg/L	4.1 – 6.63	45
Fluoride as F, mg/L	BDL – 0.2	1.5

Conclusion: The water quality of ground water is found to be within the prescribed Permissible limits of IS: 10500 Norms in the absence of an alternative source as per Drinking Water Specifications.

D) NOISE LEVE	ELS	Monitoring Location – 6 locations	
PARAMETER	RESULT dB(A)		*LIMIT (µg/m3)
PARAMETER	Day Equivalent	Night Equivalent	LIMIT (µg/III3)
Core Zone	49.3	41.4	90
Buffer Zone	46.0-50.3	38.1-42.5	Day Equivalent - 55dB(A),



		Night Equivalent - 45dB(A)
*Permissible noise for industrial workers as with the MoEF&CC Norms, the monitored		
E) SOIL QUALITY	Monitoring Location	- 6 locations
PARAMETER	Core Zone	Buffer Zone
рН	6.75	6.54 – 6.86
Electrical Conductivity (µmho/cm)	0.096	0.073 – 0.106
Organic matter (%)	1.21	0.59 -1.49
Total Nitrogen (mg/kg)	202	136 - 278
Phosphorus (mg/kg)	33.5	21.9 – 50.2
Sodium (mg/kg)	1.91	1.58 – 2.67
Potassium (mg/kg)	331	235 – 403

3.3 LAND ENVIRONMENT:

Soil is of Sandy type.

Land use pattern study carried out through remote sensing satellite data around the 10km buffer zone shows that 49.40% of the buffer area is classified under fallow land, 32.69% of Agriculture/ Plantation land, 2.19% constitutes land with scrub, 3.32% constitutes land without scrub and the balance falls under other land use categories

3.4 BIOLOGICAL ENVIRONMENT:

Flora: The proposed lease area is a non forest, private land. Major part of the lease area is already mined and exposed with rock. The remaining area contains plantation carried out in the lease periphery and barren patch on the south side. Dominated species in the buffer zone are Acacia auriculiformis, Azadirachta indica, , Borassus flabellifer, Acacia nilotica, Leucaena leucocephala, Prosopis juliflora, Acacia leucophloea, Cocus nucifera, Albizia lebbeck, etc.

Fauna: There is no Wild Life Sanctuary or National Park within the study area of 10 km. Domesticated animals are commonly found. No wild mammalian species was directly sighted during the field survey.

3.5 HYDROLOGICAL STUDY:

Study area is dominated with hard Charnockite rock formation. There are no streams, canals or water bodies within the lease area. The drainage pattern of the area is dendritic – sub dendritic. Drainage pattern is the pattern formed by the streams, rivers, and lakes in a particular drainage basin.



In the study area, the shallow aquifer is developed through dug wells and deeper aquifer through tube wells. Study of the area shows that the sub-surface formations reveal low to medium recharge potentials. Subsequently hard and massive formations of rock are found.

4.1 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Since the annual production is less, only 1 excavator, 2 tippers will be engaged and as such no adverse impact on the surrounding environ is envisaged. The identified impacts due to this mine during mining and associated activities have been studied in relation to various environmental components like Air, water, noise, vibration, land, transport etc.

4.1.1 AIR ENVIRONMENT:

The principal sources of air pollution in general due to mining and allied activities will be Excavation, Drilling, Movement of HEMM such as Excavators, tippers etc., Loading and unloading operation and transportation. In case of this mine, since the production from this lease is less, the number of equipment to be used, magnitude of operation & consequent impact on the environment will be less. Besides, the following measures will be adopted to control impact on the air quality due to mining operations in the lease area

- Regular wetting of transport road using mobile water tanker.
- Wet drilling / Covering of drill holes with wet clothes
- ➤ Use of controlled blasting techniques with Nonel to keep the dust generation within the prescribed limits.
- Proper maintenance of roads.
- Avoiding overloading of tippers
- > Transportation of material by tarpaulin covered trucks
- Proper maintenance of HEMM to minimize gaseous emission
- Setting up of tyre washing facility in the lease area exit.
- Vehicular emission tests with digital smoke meter.
- > Provision of green netting around the lease periphery on all sides.
- > Development of green belt/ plantation in various areas within the mine lease area etc.



By adoption of all these measures, no adverse impact on air quality is envisaged due to this proposed opencast mining operation.

The impact on air quality due to the proposed project operations is estimated using AERMOD dispersion models show that the resultant added concentrations with baseline figures even at worst scenario, the values of ambient air quality with respect to PM10 are in the range of 58.0 μ g/m3 to 64.0 μ g/m3 and with respect to PM2.5 are in the range of 24.0 μ g/m3 to 28.0 μ g/m3 which are within the statutory limits in each case.

For preservation of environment in this mine strict enforcement of management schemes will be undertaken for taking corrective actions, as needed. By adopting the effective implementation of all the mitigative measures, no adverse impact on Air quality due to the mining operation in this lease area is expected.

4.1.2 WATER ENVIRONMENT:

The total water requirement for this project will be 9.0 KLD comprising 1.0 KLD for drinking water and domestic use, 6.0 KLD for dust suppression and 2.0 KLD for greenbelt. The water will be sourced initially from outside agencies. Later the rainwater collected in the mine pit sump will be used for this purpose.

The domestic effluent to be generated from the project will be collected in septic tank with soak pits arrangements. There are no streams or water bodies in and around the lease area. This being a mining project there will not be any process effluent. Towards surface runoff management, garland drain of 500m length will be constructed around the quarry and will be connected to a settling pond with silt traps. The supernatant clear water from the settling pond will be flow to the downstream users.

Study of the area shows that the sub-surface formations are compact with less intergranular porosity and fractures leading to less permeability and transmissivity values and as such the ground water level in this area is deep from surface. Subsequently hard and massive formations of rock are found. Based on the available information and the geophysical investigations it is observed that the study area is of poor to moderate groundwater potential up to 50m to 55m. Besides, the mining area consists of hard compact rock, no major water seepage within the mine is expected. The ultimate pit depth of mining is 34m. The ground water table in this area is below this level. Hence, ground water intersection in not envisaged and ground water will not be affected

appreciably due to the quarrying operation. There is no water seepage noticed in to the already quarried deeper pits situated nearby the proposed quarry area. Hence, the quarrying rough stone up to the proposed depth may not have any adverse impact in the area over ground water conditions.

As mentioned earlier, the rainfall will be collected in the mine floor sump and advantageously used. Excess water if any in the sump will be pumped to settling pond for downstream users.

4.1.3 NOISE ENVIRONMENT:

During mining operation there will be noise generation due to working of excavators, movement of vehicles, etc. However, it will be felt near the active working area only and at away from its source it will get reduced. There will also be attenuation due to vegetation, green netting to be erected by the proponent all around the lease and as such there will not be any adverse noise propagation outside the lease boundary Due to natural attenuation effects, by proper green belt development, design / maintenance of machines, etc., the impact on noise levels will be negligible and are expected to be well within the prescribed limits.

4.1.4 VIBRATION:

Since the production from this lease is very low, the no of holes and the quantum of explosives to be used for blasting will be negligible.

In the proposed mine workings, blasting & vibration effects will be controlled by adopting following measures.

- Carrying out controlled blasting using Nonel.
- Optimum design for burden and spacing.
- Reducing explosive charge per delay to minimum.
- > The peak particle velocity (PPV) of ground vibration will be kept very low through optimally controlled blasting techniques, after necessary field trials.
- Muffled blasting, as needed to stop fly rocks propagation.
- Blasting will be done during midday time.
- Proper care and supervision during blasting by a competent and experienced person to be carried out.



Blasting at different times across leases in the cluster.

By adoption of above measures, it will be ensured that ground vibrational levels due to blasting will be maintained within the prescribed DGMS conditions of 10 mm/s for the domestic houses/structures.

4.1.5 IMPACT ON LAND ENVIRONMENT:

Entire lease area is in proponents possession. The proponent has operated this lease in the previous lease periods also. Presently, 0.6658Ha of the lease area is quarried out. At the end of the period, In the post mining stage, the mine pit area of 0.98.26 Ha will be left as a water body. Plantation will be carried out over 0.40.64 Ha and 0.021Ha will be left as road and infrastructure. Overall about 750 trees will be planted in and around the lease area during the plan period. Entire mined out area will be properly fenced to prevent inadvertent entry of men and animals. In the post mining stage the rainwater harvested in the mined-out void shall be utilized.

4.1.6 BIOLOGICAL ENVIRONMENT:

Part of the lease area is already mined out during the previous lease periods and plantation carried out by the lessee is only present. Since the mining operation in this lease will be of small scale the impact on surrounding environ is expected to be insignificant. Additionally, necessary mitigative measures like dust suppression, proper maintenance of equipment's, greenbelt and plantation etc., will be carried out to prevent dust generation & any further impact on the vegetation. In the safety zone within the lease area and in the nearby areas including mineral transport road plantation of local trees will be carried out about 750 trees will be planted in and around the lease area.

4.1.7 SOCIO ECONOMIC ENVIRONMENT:

The entire lease area is private patta land. There are no habitations or hutments in the core zone area and no rehabilitation or resettlement problems will arise here. The mining operations in the proposed mine will provide the following socio-economic benefits:

- > Direct Employment for about 20 persons.
- > Besides through allied opportunities in logistics, trading, repairing works etc. good employment potential will arise in this area, which will provide raising income levels and



standards of living in the area through various service-related activities connected with the project operations.

- Benefit to State and central exchequer by way of royalty, taxes.
- Improvement in infrastructural facilities, providing education aids etc. in nearby schools
- Betterment of drinking water facilities.

From above details, it is clear that the project operations will have highly beneficial positive impact in the area. Towards the socio economic development of the surrounding area, the proponent has earmarked an amount of Rs.2.5 Lakhs under Corporate Environmental Responsibility. The activities identified under CER will be implemented in a phased manner. In consultation with the locals based on the need & priority it will be implemented.

4.1.8 IMPACT ON LOCAL LOGISTICAL SYSTEM DUE TO PROJECT:

The material mined out from this lease area will be directly transported to the buyers During the project operations, since the production is less, there will be less additional truck traffic. The transport route will be properly maintained to absorb this traffic due to this project. The following mitigative measures are suggested for mitigation of adverse impacts on the logistical aspect of the project:

- ❖ Water sprinkling on material in the transport vehicles before transporting, so that no dust nuisance during transport will arise.
- Plantation on either side of the transport road in consultation with the concerned department.
- Proper maintenance of transport roads and transport vehicles.
- Avoiding overloading of material
- Covering of loaded vehicles with tarpaulins sheet
- Limiting of speed
- Provision of tyre washing facility at the mine outlet

5.0 WASTE MANAGEMENT:

There is no process effluent generation from this mine. Hence no liquid waste is generated. Single use plastics/ use and throwaway plastics will be banned in the site as directed by the Tamil Nadu



Government vide GO(Ms)No.84 regarding ban on use of plastic products. The employees will be encouraged to use compostable material or reusable material.

6.0 ENVIRONMENTAL MONITORING PROGRAME:

Regular, systematic and sustained programme schedules for implementation and monitoring of various control measures are devised with clear cut guidelines of various concerned plans for keeping a continuous surveillance on the various environmental quality parameters in the area. The Mines Manager in the mine project site will be directly responsible for various environmental activities in the mine and will undertake effective monitoring and implementation of various environmental control measures promptly and effectively and to oversee various environmental management schemes for air quality control, water quality status, noise level control, plantation programme, social development schemes, etc in the mine. Towards implementation of environmental control measures, Rs. 19.01 Lakhs is allocated under capital cost. Besides, Rs. 12.63 Lakhs per annum will be spent under recurring cost.

7.0 CONCLUSION:

Since the production from this lease is relatively low, the requirement for equipment and the scale of mining operations will be minimal and consequently, the anticipated environmental impacts are expected to be negligible. As such no adverse impact on environment is expected. Systematic mining and ensuring adoption of various mitigative measures given in the report will ensure that the future environmental quality in the area will be maintained within statutory limits. The environmental management strategy as explained above will prove that industrial growth, if properly planned with all environmental concerns and appropriate remedial measures can benefit this region in the fields of potential employment opportunities, improved per capita income for local people, improved social welfare facilities etc. in its own way and also revenue to Government through royalty, taxes etc. Besides, it will meet the raw material requirement of the construction industry also.

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