



# ORF POLICY BRIEF

JULY 2009

POLICY BRIEF # 11

## Issues in Captive Coal Block Development in India

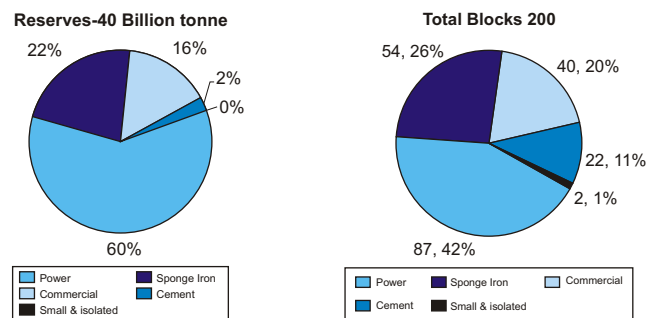
### Introduction

Given the high global demand for and the ever-rising price of oil and the abundance of comparatively inexpensive coal in their own region, India and China have long been heavily dependent on it as a source of energy to meet the needs of their people, as also for national growth. China has the third largest and India the fourth largest coal reserves in the world. The importance of the coal sector to India's energy security cannot be underestimated. Much concern has been expressed across the world over the resultant extent of CO<sub>2</sub> emissions admittedly high, in these two countries. Given the scale of their energy demand even to meet their very basic needs, it would be vain to hope that reduction of green house gas emissions can be achieved through the increased use of renewable energy sources. At present, the only way to control the emissions is through increased efficiency in the extraction, use and handling of coal, as also its combustion process. Having coal under the ground is no assurance of its availability. There are constraints in its extraction, handling and use. Early on, the Coal Mining Nationalisation Act, had brought the sector largely under the Indian Government control, with Coal India Limited being the dominant producer. The belated process of reform started with the introduction of captive coal mining for specific end-uses. Though as many as 200 blocks came up for allocation, barely 14 are actually under active production. This is not very encouraging, considering that the liberal policy, introduced with focus on both environment concerns and production efficiency, did not result in the increased flow of technology and investments into the moribund coal sector. Most of the end-users face a multitude of problems in securing coal.

### Background

About 40 billion tonnes of coal reserves have been allocated for captive mining, which amounts to about one sixth of

India's total resources. About 60 percent of captive coal in terms of resources (or 42 percent in terms of the number of blocks) is allocated to the power sector [Figure 1].



The primary objective of awarding captive coal blocks to specific consumer segments is to provide fuel security, cost competitiveness and a measure of control over the production of coal. The Government allocates coal blocks to captive users through two routes. The first is through government dispensation where the Central or State owned company is allocated a block without the sale being restricted to captive consumption only; the company is free to sell surplus coal in the market. Typically, state mining companies operate under this scheme. The second is through captive dispensation, where captive consumers develop and use coal from the block for their own consumption, but are not allowed to sell surplus coal in the market. Though the allocation processes are different, the state mining companies and the captive developers face similar problems.

Production by Coal India Limited (CIL) is expected to grow at about 6 percent and is likely to go beyond 500 million tonnes by 2012. There is pressure on CIL to increase

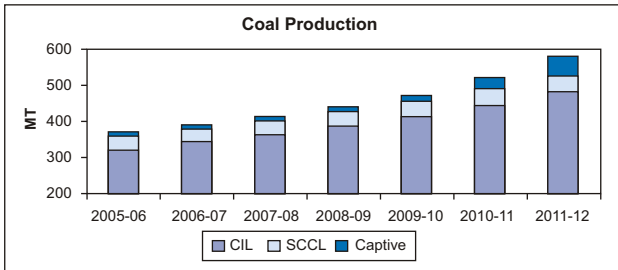


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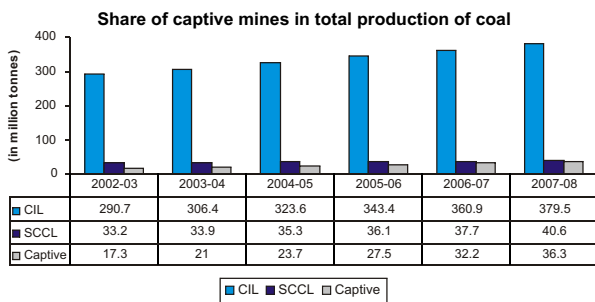
CRISIL Infrastructure Advisory is part of CRISIL Risk and Infrastructure Solutions Ltd., a 100% subsidiary of CRISIL. CRISIL Infrastructure Advisory has been working very closely with the Government both at the Centre and the State, in structuring bankable projects and in managing the commercialization/privatisation programme in a transparent, objective and time-bound manner.



production to about 600 million tonnes. Production from captive coal blocks is expected to grow to about 55 million tonnes by 2012, but more optimistic projections expect about 100 million tonnes. Either way, the share of production from captive mines is likely to increase by 2012. Total coal production has gone up from about 320 million tonnes in 2002-03 to about more than 450 million tonnes by 2007-08 and the captive share has gone up from about 17 million tonnes to around 36 million tonnes [Figure 2].



The progress in captive coal block development has been stunted, with only 14 of the 200 allocated blocks having started production. Since the majority of these blocks have been awarded only in last five years, speedier progress, it is hoped, will be made sooner than later. Production from captive blocks has increased from 17 to 36 million tonnes with most of the contribution coming from traditional mining companies such as SAIL, Tata Steel and other new players like JSPL and West Bengal Power Development Corporation. Captive coal production contributes 7.8 percent of total coal production [Figure 3].



Out of 40 blocks allocated prior to 2003, 14 blocks have already started production as shown in Table 1. The remaining 25 blocks are facing certain challenges, but these blocks have the potential to start production in the next few years.

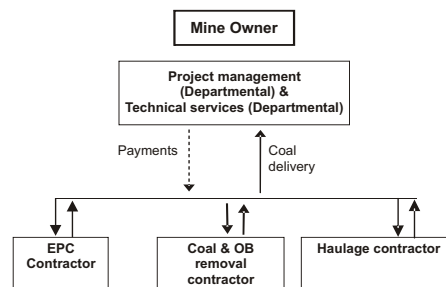
CESC Limited-Sarisatolli	Hindalco- Talabira-I
WBSEB-Tara East	WBPDC- Tara West
BLA Industries- Gatitoria-E & W	JSPL- Gare Palma IV/1
Monnet Ispat-Gare Palma IV/5	Jindal Power-Gare Palma-IV/2 & IV/3
Jayaswal Neco-Gare Palma-IV/4	PSEB- Panchwara Central
Prakash Industries Ltd-Chotia	Arunachal pradesh MDC-Mamchik Namphuk

For the 160 blocks that were allocated after 2003, the issues are much more severe. There are four broad problem areas:

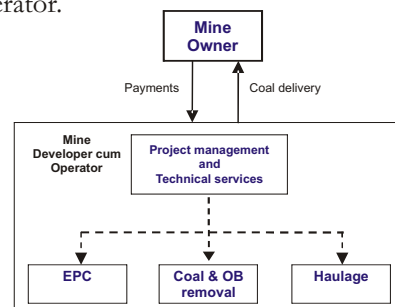
- ◆ Business structuring;
- ◆ Equitable risk sharing;
- ◆ Investment and;
- ◆ Policy and procedure.

Appropriate business structuring is a critical success factor in developing coal blocks. Since most of the entities that have been allocated blocks do not have mining expertise, business structures need to accommodate partners with such expertise. There are different models that one can adopt to incorporate suitable partners. Even Government companies which are given blocks under 'Government dispensation' are allowed to form joint ventures with private developers, provided the stake of the private developer is not more than 49 percent. Captive end-users are allowed to form either an associated coal company or have a separate company, provided the end user has a stake of at least 26 percent. West Bengal Power Development Corporation's joint venture with EMTA, Punjab State Electricity Board's joint venture with EMTA and CMDC's joint venture with Moser Baer are examples of working partnerships. Another model that has emerged is that of outsourcing the entire mining function where the mining expert or the mining partner comes in as the developer cum operator (MDO). The third model is that of conventional owner mining, where the captive block owner develops the mine directly. All models face constraints in terms of availability of mining skills, which impedes the growth of production. Some of the models are discussed below.

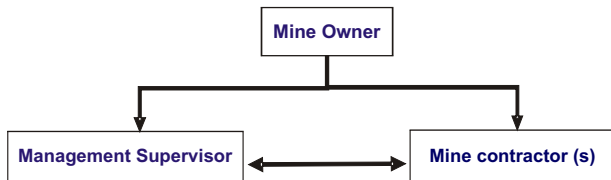
Figure 4 shows one of the structures for contract mining. In this model, the owner goes in for separate EPC contracts (mine construction), coal & OB removal & haulage contracts. These are short duration contracts and adopted in operational mines. Since multiple contractors work on the site, management becomes a complex task. The owner takes all the responsibility and obligations in terms of planning and construction. Subsidiary obligations of mine management also remain with the owner.



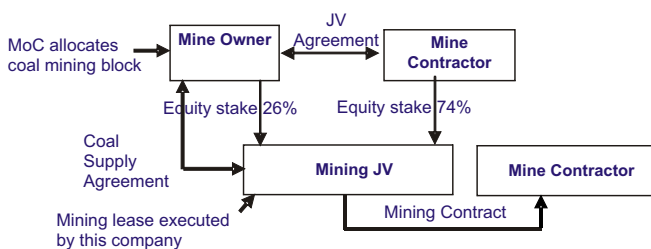
A model that is currently emerging is depicted in Figure 5. The mine owner out-sources the whole obligation of developing the mine. Getting equipment, planning the mine design and subsequently the removal and haulage of the coal and the overburden becomes a bundle contract given to the mine operator.



An alternative model is where a mining expert comes in as a consultant and offers advice on best practices in mining and mine design technologies [Figure 6]. He prepares the initial mine plan, updates the geological model and also assists in preparing the annual mine plan, monitoring the performance, dealing with environmental issues and trains the contractor in the best mining practices. The mining contractor is separately appointed for extraction of coal & overburden and for O&M of the infrastructure. This model exploits the dual benefits of getting global know how and economical local operator.



The joint Venture route is typically adopted by Government companies [Figure 7]. In this model, the control over the coal block is ceded to the mining company. The JV partner mining company is selected through a bidding process.



Equitable risk sharing is a heavily contested issue. The allocation of risks between the owner and contract minor is generally ill defined. Typically, all the leases, permits and approvals are obtained by the mine owner. Obligation towards land acquisition and mining licence also rest with the mine owner.

*For unexplored blocks, if the PL and FC for prospecting are handed over to the developer upfront, it would save a significant amount of development time.*

The onus of mine development plan could be on either party. Coal evacuation is typically the owner's responsibility because the owner is the user. He is also responsible for the provision of geological data and access to the site. The contract miner takes responsibility for production planning, construction and mine operations like drilling, blasting, excavation and hauling. Safety of mining operations is the responsibility of the contract miner.

To avoid inordinate delay in the selection process of the mining partner, it is of utmost importance that the risks involved are clearly identified, well defined and that the contract design is based on equitable risk allocation. Some of the contentious issues encountered in the process are lack of data & information, clear definition of the separate roles of the owner and the partner, uncertainties on clearances, land acquisition, annual off take and quality and terminal remedies.

**Key Issues**

- ◆ About 20 to 25 million tonnes of additional production is expected from captive blocks by 2012. This will require an investment of about \$ 600 million. Captive coal block projects need to be made bankable through appropriate packaging with necessary technical information in universally acceptable format. Certainties on progress in land acquisition, clearances and sustainable contractual structures that give confidence to the investor must also be in place. Providing commercial incentives to the captive miners, especially in terms of sale of surplus coal or other fiscal incentives may also be considered to make the package attractive for captive miners.
- ◆ Selection of appropriate business structuring based on overall objectives of the owner and the underlying commercial value of the block would be the key to the success of the project.
- ◆ Developing institutions for raising funds for such ventures (given the geological risks involved) and granting mining infrastructure status would also encourage capital inflows.
- ◆ While there has been considerable progress in developing an enabling policy framework, there are some bottlenecks that are typical to coal block development. There is a need for greater objectivity in the allocation process. A transparent method of allocation would ensure the elimination of non-serious players. The issue of auctioning of coal blocks as an appropriate solution merits a detailed debate and discussions.
- ◆ There is a need for rationalising the number of clearances required, as it is a cause of major delays in project implementation. The Ministry of Coal may take a lead in eliminating duplicity. Alternatively, the task of obtaining statutory clearances may be carried out jointly by the Ministry and mine owner.
- ◆ Land acquisition is another major hurdle in developing coal blocks. Sharing of economic benefits with local people could hasten the acquisition process. Lack of rail road networks to evacuate coal is another major bottleneck. The public-private partnership model may be used to develop evacuation networks.

**Mine Owner's Perspective**

Until 1976, coal mining was reserved for the public sector with no role for private sector. As a result, even today the private sector has not acquired the capability in coal block mining. The available capacity in terms of trained manpower, research agencies, laboratories, etc come from Coal India Ltd, its subsidiaries and from the Ministry of Coal. Periodic amendments and notifications to the existing regime allowed select end-use companies to engage in

captive coal mining. Iron & Steel Industries was granted the privilege of captive mining in 1976, power generation in 1993 and cement in 1996. More recently, proposals that convert coal to liquid (CTL) have also been included in the list. So far, the effort to increase coal supply through captive coal mining has been a failure.

The blocks identified for captive mining are in fairly remote, undeveloped areas. The selection guidelines stipulate that blocks allotted should be at a reasonable distance from existing mines. But in most cases these are in areas which have no access roads or any infrastructure. Given these infrastructural inadequacies, it is unreasonable to expect the private miner to develop the project within a time frame that is often shorter than the time frame available to Coal India for developing a well placed mine. Additionally, these mines are geologically challenging. Development of initial infrastructure such as roads and conducting prospective mining consumes considerable amount of resources and time.

*The Government needs to fast track the Environment and Forestry Clearance process for the coal mines. For their part, industries should carry out detailed technical studies to the extent feasible.*

There are specific problems in joint development of mines. About 40 mines have been allocated on a joint basis and, in certain cases, to as many as eight parties. When too many parties are involved, the task of forming joint ventures, or the task of forming a board and management becomes a complex task. Due to difference in the schedules of end use projects, time-bound development of these mines becomes very challenging. Varied economic interests of the allottees make it difficult for optimal development of the mines, thereby affecting the utilization of the resources. The technical requirements of end-use projects (coal grade, blend, quantity etc) are often at variance, adding to the problems. These difficulties make such joint ventures unattractive to the finance market.

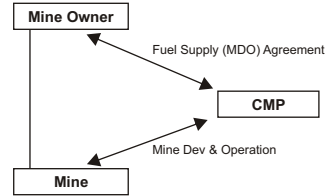
For unexplored coal blocks, developers require prospecting license (PL) for prospective exploration. Getting the PL grant is a long drawn process involving both State & Central Ministries and generally takes a year. Forestry clearance (FC) for prospecting is an equally tedious process involving both State and Central ministries and all of 12-15 months. For example, the PL for a coal block received by AES in November 2007 was not signed even by March 2009.

In fact, it is from the same Ministry which allocates the captive mine that developers have to seek a PL. The shortage of drilling agencies, laboratories and sampling agencies in the country contributes to the delays. A number of projects under development face delays due to opposition from the local population. Even otherwise, the land acquisition process itself is a fairly tedious one involving 12-15 months of time just for the application to be approved. Opposition to land acquisition is mostly due to inadequate compensation or marginalisation of the long-term interests of the Project Affected People (PAPs). With a robust relief and rehabilitation package and generation of long term

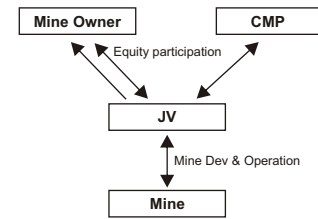
employment opportunities, villagers and local population will be amenable to large scale industrial projects. The time frame for Environment and Forestry clearance ranges from 18-24 months. The governments is not time-bound for clearing projects, but the developer faces the risk of forfeiture of Bank Guarantee and cancellation of allotment if the clearances are not obtained within the time specified in the allotment letter.

Other challenges in mine development include lack of in-house skill and know how vis-à-vis the current mining technologies and arriving at the optimal business model such as JV, MDO or Alliance partnership. There is a shortage of capacity as all developers are dependent on CMPDIL, CMRI, etc. There may be a role for the private sector. Significant lead times are required for procurement of skilled man-power to operate and support the equipment fleet and mine operations. Accurate assessment of development costs, managing the safety risks during development and operation phase, financing challenges in the changing capital environment along with increasing equity and debt costs are some of the economic challenges in developing mines. A power plant requires approximately four times the investment in the coal mine and it is difficult to synchronise the development of the two.

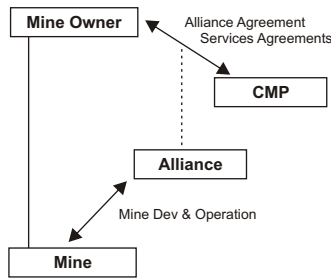
The model described in figure 8 is the most typical one in India. In this model, the contractor faces all kinds of risks and also provides the capital necessary for development and operation of mine. Commercial arrangement is usually that of a contractually agreed fixed rate. The contractor demands a significant premium, leading to a higher coal price.



The other model is that of a joint venture shown in figure 9. Separate joint ventures are taken up, in which the owner and the contractor contribute capital in proportion to their equity. The key issues in a joint venture are transfer pricing of coal and additional tax liability (sales tax). The advantage in this model is that the owner and the contractor share the risks.



Yet another model is that of an alliance between the mine owner and the coal mining partner [Figure 10]. The financial obligations for construction and operation will be on the balance sheets of the owner and partner. The board of the alliance will comprise of representatives from both parties. The commercial arrangement is based on the cost plus formula, where gain and pain is shared between the owner and partner. Essentially the partners work out the procedure for optimum benefit.



In India, contract mining is still a relatively new concept. The market is yet to evolve. Risk sharing between parties is not well-defined or optimal. The mine owners attempt to load the entire risk on the contractor (MDO). Such aversion to risk on the part of the mine owner has meant that business models like a JV or an Alliance partnership remain unexplored, even though they provide better risk sharing mechanisms. Mine owners are focused on the lowest per tonne coal mining cost, but this can put safety and environmental aspects in jeopardy. Excessive focus on the lowest mining cost can also put optimal planning of the mine at risk. In the long run, the key issue is to develop coal mines that can be sustainable on a long-term basis.

International players have tried to gain foothold in the contract mining business in India over the last few years. However, most of them have had limited success due to (1) excessive loading of risk on the foreign partner (2) bid evaluation on the basis of the single parameter of per tonne cost rather than the value added basis. The absence of international players has meant that the Indian coal mining market is poorer as compared to global best business practices and technical expertise.

**Lenders Perspective**

The borrowing entity is typically a start-up or is a very small company with a very small balance sheet. The ability of the lender to take balance sheet risk is limited. Since the project generally calls for large capex, the borrowing entity becomes over-leveraged. In terms of underwriting, there are three issues. First, the cash flow from the project is uncertain. Second, the capability of the mine developer is not always

proven. Third, the lenders risk gets linked to the risk of the end-user industry. The expertise needed for underwriting a mine is limited in India. Reliance on third party reports entails its own risk. Though environmental, health & safety concerns are not considered major issues by those involved, they form part of the problems for the lender. Finding the means to safeguard lenders from these risks is very important.

Poor financial status of the borrower means that there is no cushion for underperformance in a downturn. This becomes more acute when bidding for the project has been aggressive. In general, additional collateral is required so that there is recourse to stronger entity and access to hard collateral such as a Bank Guarantee [BG] or Standby Letter of Credit [SBLC]. The end user industry can be underwritten only if the onward sale contracts is an

unconditional contract or a very strong take or pay contract, in which dates and sums are certain and assignable. From a lenders perspective, if there are challenges in the project, the lender requires the comfort of assignability in the contracts. The inadequate execution capability of mining contractors is a concern for the lender. In the private space, there are just four or five established names in the field and they tend to get over-leveraged. If established international players become more active, lenders could focus on financial issues rather than get entangled with capability issues.

On the structural side, the mining lease not being assignable is a matter of concern. There is a bar on sale of coal mined from captive mines to the open market. From a lender's perspective, the

option for open sale would provide an exit route in case of default. Non Banking Financial Companies (NBFCs) do not come under the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interests (SARFAESI) Act. This means that the dispute resolution mechanism for NBFCs is not as efficient as that of other financial institutions. Advisory Institutions focus mainly on power, oil & gas while mining receives little or no attention. As a result, the proposals that lenders receive are often inadequate in detail, adding to his discomfort. In a joint venture, where 60 percent is held by a public sector company and 40 percent by private companies, financing becomes a problem. Public sector companies are reluctant to participate in any form of debt financing.

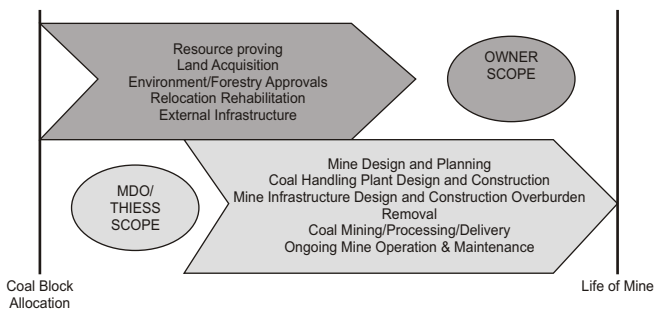
Inadequate logistics and infrastructure is a concern that holds up initiatives of all the players in the value chain. The bids for Ultra Mega Power Projects (UMPPs) using Indonesian coal have quoted competitive rates, but they are almost double the rates of projects using domestic coal.

*(1) Allowing assignment of mining rights in favour of lenders in case of default (2) removal of the bar on outside sale in case of financial stress or lower captive consumption (3) blocks being made available based on competitive bidding, without restriction of captive use, so that experienced players can come in (4) shielding lenders from environmental issues (5) greater focus on the mining sector by advisory institutions (6) better coordination amongst agencies for providing vital infrastructure e.g. roads, rail, power transmission, ports etc.*

From the lenders perspective, a domestic captive coal mine offers certainty with regard to pricing, whereas no international coal producer offers long term certainty on pricing. For the lender, the risk inherent in captive coal block development is not debt risk, but equity risk. Therefore, it becomes necessary to completely understand the strengths of the mine owner and mine developer. If some of the risks are shifted to the user industry, it may be possible to underwrite transactions based on the user industry. In summary the following issues need to be addressed for the lenders comfort.

**Mine Developers Perspective**

When two parties are jointly developing a mine, the scope of work between the mine owner and the MDO needs to be on the basis of the expertise of the respective parties and the extent of risk they are capable of handling. In figure 11, the time line runs from the left to right, starting from allocation of mine running right through the life span of the mine.



The owner's tasks include proving the resource, land acquisition, getting approvals from environmental and forestry departments, relocation and rehabilitation of the displaced and building the mine's external infrastructure. The last mentioned task is a critical issue for all captive mines stakeholders. These are certainly not the easier mines to operate, as the coal in the shallower levels have long been dug up and taken away.

For the mine developer, the scope of work includes planning and designing the mine and the coal handling plant and its construction, as also mine infrastructure design and construction. Then comes the mining activities, such as overburden removal and mining of coal, the processing and the delivery of coal to a an agreed point, keeping up the ongoing operation and maintenance not only of the mine, but also of all of the coal handling facilities.

Traditionally, this is the manner in which the scope of work is distributed between the mine owner and the developer

and it has worked very efficiently. In the figure, the scope of work of both parties is deliberately depicted to overlap in terms of the timeline. The sooner the MDO is introduced into the life cycle of the project the better value one would be able to derive. The decisions that are made on critical issues, such as mine planning, require the participation of the developer at an early stage, as these processes determine the overall cost of the operation. The risk profile in mine development include: (1) dealing with natural variables including climate, weather; (2) dealing with variable materials; (3) adequate planning, risk assessment and mitigation; (4) an understanding of the current available technologies; (5) accurate assessment of development costs; (6) making decisions on a value basis and not on a cost basis; (7) managing safety and; (8) managing people ably enough to deliver results. Benchmarking the captive mines' processes against those of the CIL is just not a fair or worthwhile comparison because the geology, the strip ratios and other characteristics are completely different. A company with several mines will be able to cross subsidize one mine against another and quote an average price in the market. The actual cost of developing a particular block may be quite different, depending on the geographic location and infrastructure availability.

Getting that cost model right is the crucial element and this flows back to the point that mine planning starts soon after mine allocation. Mine planning must include both a short term and a long term plan. Planning must include factors such as mine Infrastructure requirements, haul and dump

design and management, equipment selection considering productivities, fuel, tyres etc., plant maintenance, drill & blast, drainage, ore waste control, wash plant yields and so on. Decisions need to be made on a value basis and not on cost basis. The importance of safety risk management is underestimated by those involved in India, but at a high cost. The cost of a fatality is rarely considered during the planning stage, but in reality it could be very high. The cost versus value argument where costs today are compared to overall value of the project is missing in the Indian context. A short sighted view about getting cheaper equipment or putting in low cost infrastructure is likely to create problems in terms of reliability and quality in the later stages of the project. Life cycle

approach to cost is necessary.

The life of a mine is about 20 years, meaning it would require three cycles of equipment. In other words, mine equipment may have to be changed at least twice during the life of a mine. This would provide the opportunity to benefit from new technologies as better understanding is gained of the

*The solution is to seek pre-project clearances where the environmental impact assessments have been completed before blocks are handed out. Delineating areas into categories of 'accessible for mining' ('go') and categories 'inaccessible for mining' ('no go') by the Environment Ministry, prior to allocation for captive mining, will ensure that hapless investors do not have to waste time getting this simple but vital information. The model followed for Ultra Mega Power Projects (UMPPs), where clearances are obtained by the shell companies formed for the purpose and then handed over to the developer, is an ideal example. This would be a more proactive approach on the part of the Government that will ensure that projects move ahead. Project preparedness is very important from the perspective of land clearances and geological data availability.*

mines' characteristics. The process of mine planning involves many challenges. Responsibilities of the owner and responsibilities of the mine developer overlap with regard to provision of topographical and geotechnical data, land availability schedules and environmental constraints. This requires open interaction between the mine owner and MDO. Determining the technical parameters of coal quality and preparing accurate electronic data for use on software packages require specialist skills. There are equipment challenges as well. Lead times for procurement of equipment spans out from 18 months to two years. There is a worldwide shortage of tyres as well as for skilled labour to operate and support plant fleets.

Significant capital is required for procurement of equipment and infrastructure. Contracting mechanisms that minimise the need for additional financing result in lower overall project cost. In India, where part of the rehabilitation and relocation process requires the employment of local villagers, training becomes part of the development process. Taking people who are completely unfamiliar with technical details of mining and turning them into very capable operators is possible through the use of simulators. This requires a significant investment upfront and must be treated as part of the capital requirements. One of the key points in contracting mechanisms is to have the source of the funds as close as possible. This would enable both the mine owner and MDO to have access to credit. Understanding cost is critical to efficiency in mine development. The dynamic environment in a mine under development requires daily costing. Electronic shift planning capability through shift data collection and shift end data validation and analysis could be of critical value in cost management. Proper scheduling of plant maintenance will optimise mine development.

### Issues raised by participants

- ◆ *Active involvement by the Ministry of Environment & Forests:* The figure of only 14 out of 200 allocated mines being developed has remained the same for the last few years for the simple reason that securing environmental and forestry clearances is extremely complex and time consuming. There is a need to engage the Ministry of Environment & Forests in discussions over development of captive mines. The prescribed schedule for forestry clearance specifies 15 months, but in reality it takes about three to four years. Environmental clearances are no different. The mine owner is so frustrated by that time that he starts looking for new sources of coal. The Ministry of Coal, which allocates the mines is unable to influence the Ministry of Environment & Forests.

*The solution is for various stakeholders to make an earnest and sincere effort to work together to augment captive coal production. The industry should evolve innovative business models and develop a realistic approach to risk sharing, so as to attract the best mining companies to participate. The mine planners and owners should provide comprehensive technical and commercial data to enable the investors to take the right decisions. It is hoped that some more policy initiatives would be put in place to mitigate the risks associated with statutory clearances and land acquisitions so as to make coal mining competitive.*

- ◆ *Participation at the State and District level:* Government officials at the state level and even at the district level should be invited to participate in discussions with coal mine developers because issues such as land acquisition and Resettlement & Rehabilitation (R & R) are under their jurisdiction.
- ◆ *Political & bureaucratic will to increase coal supply:* If mine allocation could come with clearances as they do in the case of Ultra Mega Power Projects (UMPPs), captive blocks will be developed in the shortest possible time. This becomes important in the light of the fact that the least experienced private developers are allocated the most difficult mines.
- ◆ *Policy on right of way:* There needs to be a policy on right of way for 'block-locked' captive coal blocks such as Mandakini A in Talcher Coal Field of Orissa, that are surrounded by other coal blocks on all sides. In such blocks, problems in infrastructure development and evacuation along the common boundaries are all too common and can be sorted out only when there is a clear policy on right of way.
- ◆ *Project preparedness:* The databases that are available to prospective miners are inadequate. There is a clear need for better project preparedness and packaging the block in terms of comprehensive technical reports like GR, DPR, Mining Plan and EMP, to enable prospective mine developers to take an informed call.

### Conclusions

Two broad classes of issues arise with regard to captive coal block development.

One concerns long delays in obtaining regulatory clearances regarding environment, land and people issues from the Central, State and local governments a problem common to all mining ventures, including coal. The issues arise from the way the relevant statutes in the Act have been framed, the way it is implemented and a host of civil society institutions that have come to influence environment management in the country.

The second broad category of issues relate to commercial aspects, including sustainable risk sharing, appropriate business structuring and workable contractual structures to ensure active participation of domestic and global miners and project developers in putting the coal blocks in to operation.

Captive coal mining, being a nascent concept in India, faces some business and policy related issues that need to be

carefully examined and resolved. An open minded, holistic approach is needed. Considering the limitations of the CIL and SCCL to completely meet the burgeoning demand for coal, rapid development of captive coal mining with active private sector participation holds the key to reliable and competitive supply of coal, so that affordable power reaches

all. Ensuring a sustainable supply of coal to our power sector has emerged as a cornerstone for our energy security. Looking at the strengths and the huge opportunities in the domestic coal scenario, India looks to be well positioned in meeting successfully the energy challenge for sustaining the high growth initiatives for its people.

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### Participants

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### Disclaimer

This policy brief is a summary of the deliberations of distinguished participants of the brainstorming session on 'Issues in Captive Coal Block Development in India' organized by the Observer Research Foundation and the CRISIL Ltd. The arguments are reorganised for better readability. A copy of the unedited transcript covering the entire proceedings will be made available upon request to [energy@orfonline.org](mailto:energy@orfonline.org)

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