

PLANNING EFFORTS TO CHALLENGE AND AVERT LOCAL RESOURCE CURSE IN MINING AREAS

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1. Introduction

At little supervision from the state and low relative royalty the digging of earth brings out minerals of high value. Thus, mine level profitability is very high and the earning per labor hour is much higher than other commercial activities in the mining areas. This encourages the local people to turn to mining, forsaking farming, agriculture and other local traditional trades. Low productivity of farm and agricultural produce in the mining areas encourage people to leave non-mining jobs and to take up mining jobs. This also in turn reduces the farm and agricultural productivity. Such phenomenon makes it possible for the people working in the mines to have more spending capacity than the people occupied in non-mining activities. This encourages local inflation, disparity and poverty. The local economy becomes overtly dependent on the mining of minerals, oil and gas. This situation is known as “Resource Curse”. As a result, the people of the area lose the initiative to create economic activities other than those based on mining and trade of minerals. Though the demand for minerals go in cycles- high demand increases production, high production tilts the balance in favour of supply in the supply-demand equilibrium, high supply brings down the demand and price, low price brings down the supply and the business till the time when again the demand picks up- such preferences make the community vulnerable to the trades of mineral. Moreover, such polar economic condition of high profits bring more and more people in the trade –many of them are unscrupulous and want to reap benefits with little investment and high manipulation and corruption. The above is a micro-economic effect. We discuss the matter in more details in the following in terms of macro-economic effect.

Another conjecture of local resource curse is that by virtue of internal and external exports of minerals from the mine site it helps external economy much more than that of the mine areas. This can be said as a capital flight from mine sites making the mining areas, perennially handicapped in terms new and different investments.

2. Resource curse expanded

The possible explanations of the natural resource curse largely fall into two classes: economic factors and institutional factors (political economy factors). The economic phenomenon behind a negative growth effect of natural resource dependence is *Dutch disease*. Named after the negative effects on the Dutch manufacturing sector of Holland’s natural gas revenues from the North Sea, the “disease” refers to the contraction of other tradable sectors as a result of a boom in the natural resource sector. As natural resource revenues flow into the country, the real exchange rate appreciates, which increases the demand for services and other nontradables, pushing up wages and making the (nonresources) tradable sectors less competitive *vis-à-vis* foreign imports. This *spending effect* can also be accompanied by a *resource allocation* effect, as the natural resource sucks in factors of production and bids up their rewards. The question is why the resulting sectoral allocation of production factors should lead to a lower growth in the long run. The assumption made in much of the Dutch disease literature is that manufacturing has particularly high learning externalities and therefore is a source of faster productivity growth.

The characteristic factor of fuel and mineral resources is that they are geographically concentrated and almost always government-owned. It follows that they generate high economic rents, which some claim “are regarded as manna from heaven which tends to corrupt institutions and lower the long-term growth prospects.”

Three mechanisms have received considerable attention in explaining the resource curse. These are: (i) the Dutch Disease, (ii) patronage or centralized political economy (PE) models, and (iii) rent-seeking or mechanisms suggested by decentralized PE models. The three types of models differ in their level of analysis, and their description of the underlying problem causing a resource curse, as summarized in Fig.1

Natural resources have played an important role for prosperity in a number of the countries that we now characterize as developed. However, during the last 50 years, there have been relatively fewer examples of countries rich in natural resources that have grown rich. Instead it appears that countries rich in resources such as oil or diamonds on average do worse in terms of growth

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or economic development more generally, a phenomenon that has been termed the resource curse (first documented in Sachs and Warner (1995)).

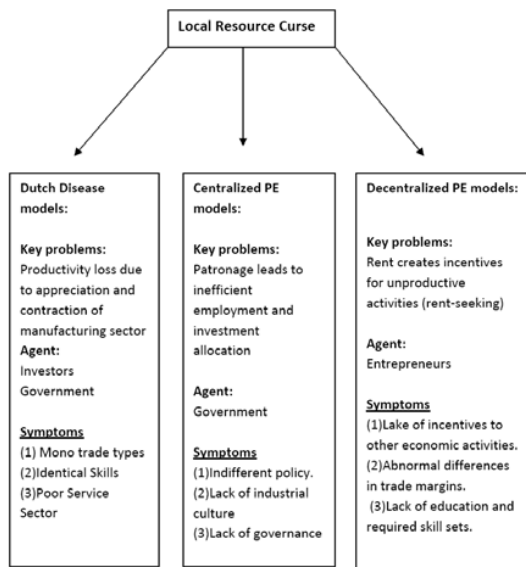


Fig.1 The mechanisms of resource curse

Empirical results suggest that this resource curse is conditional on the level of institutions of countries, where countries with bad institutions of democratic accountability and the rule of law suffer a negative impact of resources, whereas countries

with good institutions do not (Damania and Bulte, 2003; Mehlum et al., 2006). This result is perfectly in sync with examples of local area development. Political economy models, which focus on how resource rents spur dysfunctional patronage or rent-seeking behavior in the context of poor institutional structure present in the mining areas, are thus central to understanding why a resource curse arises. Rents in this context are high surplus and returns in excess of costs (including normal returns to capital) which are a typical feature of many natural resource industries. The rent seeking behavior is similar to the only intention to collect the rent in exchange of permitting to use the national property. Thus, the rent is not reinvested in improving the governance and facility creation in the mining areas but to use in the other sectors far away from the mine sites. The role of institutions like good governance, sound trade practices, modern law and education is paramount to dissuade such behaviors.

The above is a commentary in the economic front. Destruction of natural capital, like of loss of flora and fauna, soil and water bodies leave a non-renewable economy that nearly eliminates the capacity of the mining areas to regenerate, particularly after the mines are exhausted (fig.2).

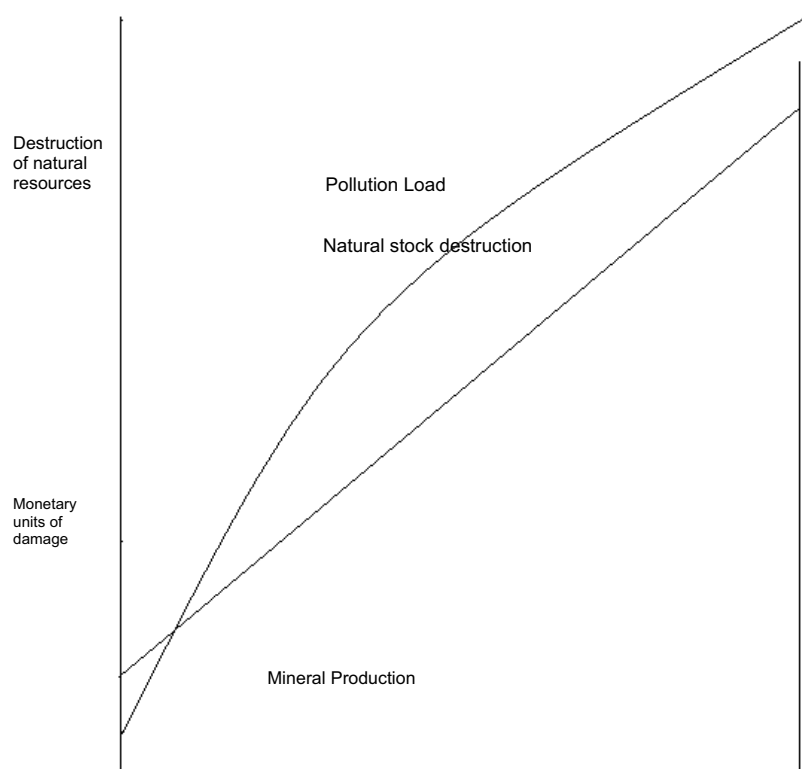


Fig. 2 Increasing pollution load and natural stock destruction during mining

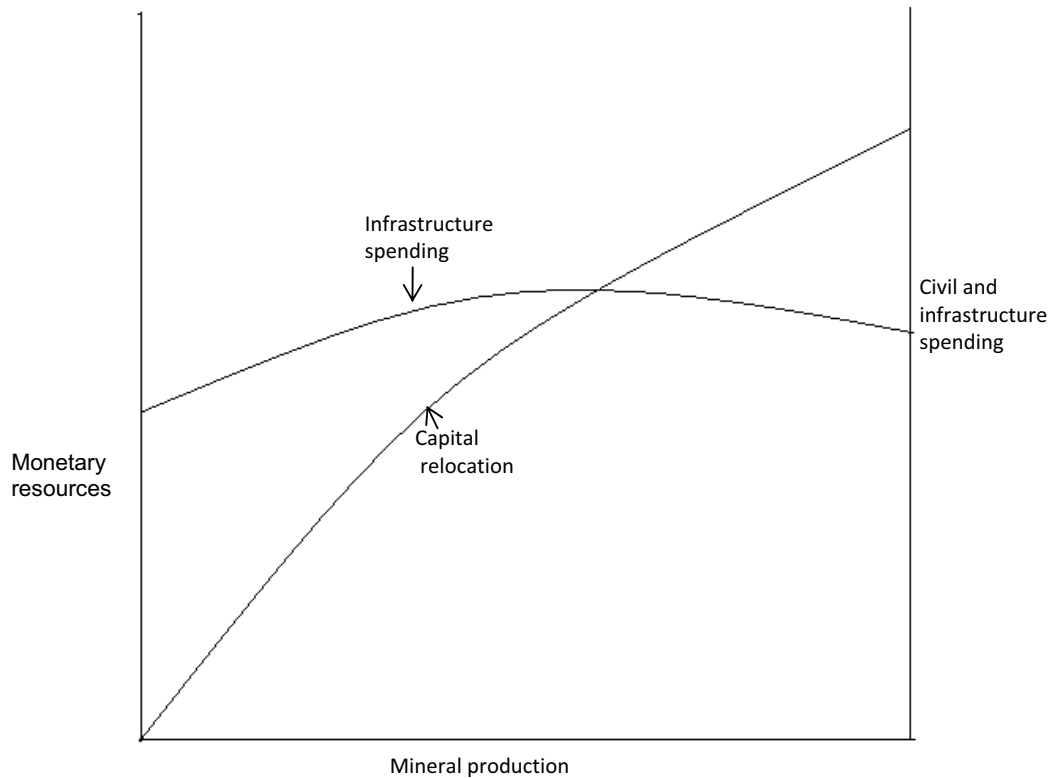


Fig. 3 Increasing mineral production increases capital relocation and decreases rate of infrastructure spending

So mining in an area deal double blows to the economy: first, skewing the economy disproportionately to the favor of miners and the posse of traders, to the crippling disadvantages of other economic activities, and second, by scarring the land by mining beyond redemption to regenerate the local economy.

In general, the investors in mining are not interested in investing their operational surplus and reserve in the non-mining economic activities in the near mine areas. They usually perk their capital in to production, manufacturing and realty in the major city areas. For the mining areas to be sustainable in the long run the capital should stay invested in the near mine lands so that economic activities can flourish and the culture of temporariness, largely seen in the mining areas, gets eliminated. Capital relocation is a major scourge in mining areas (fig. 3)

3. Symptoms of resource curse

Symptoms of local resource curse are like the following:

Institutional

1. Lack of cultural and social institutions
2. Lack of work accounting culture
3. Poor supervision and policing
4. Poor governmental presence and justified interventions

Infrastructural

1. Poor road, rail and air connectivity.
2. Poor quality of infrastructure- broken roads, telecommunications and information networks.
3. Underdeveloped public and private educational and training institutions.

Administrative

1. Poor state supervision and control: lack of impartial policing, illegal logging of forests.
2. Mining mafia control over lazy, indifferent and ineffective administration.
3. Influence of local strongmen in governance and administrative decision.

Finance and Investment

1. High mine production surplus (revenue minus cost) to local investment ratio.
2. Low capital spending in progressive infrastructure development and maintenance.
3. Low local recovery of taxes for mine's license to operate.
4. Poor Investment in public health to demand ratio.
5. No major investment on non-mining commercial activities.

Health and environment

1. Poor air quality and water quality.
2. High dust levels due to supplies and ore transportation.

3. Poor sanitation and health in settler and resident population.
4. High prevalence of skin, respiratory and other endemic diseases among the communities.

Social Life

1. Secluded cloistered living.
2. Escapist community mentality.
3. High crime rates and low neighborhood security.
4. Lack of dominant culture and local pride.

4. Local effects of resource curse

4.1 Mining and Farming

Investigations reveal that the most important relationship is the profitable sale of foodstuffs to miners even though the farmers may not be selling their produce directly to the miners. In many cases it seems that mining ‘boss men’ came to both communities to purchase bulk supplies of foodstuffs for their work gangs. Surveys undertaken among farmers in both communities confirm that average prices obtained for produce sold in the mining areas are significantly higher than prices at the local market. However, it is also a fact that poor road connectivity remains a major barrier to farmers wishing to sell food surpluses to markets outside their communities. Other factors include a weakened local economy, inflation, the devaluation of the local jobs and increased rural joblessness.

The other main link between mines and agriculture is the strong nexus of seasonal work between farming and mining and the associated population mobility. Farm labor could be drastically reduced since youths are being drawn away from agriculture, preferring to be full-time miners. Also seen is the increase of part time miners.

During the non-farming season, the number of youths who become seasonal miners increase. There are a number of explanations for this phenomenon. Most importantly, it is recognized that there was a desperate need for financial capital to invest in farming, repair houses, and other needs that can not be met. All year round job is another prospect that encourages young people to enter mining-thus increasing demands. It is also generally understood that the depressed rural economy and high level of joblessness mean that it was difficult to obtain this much-needed income from agriculture. Agricultural yields were reported to be lower than due to a number of constraints, and it is felt that ‘lost’ income had to be recovered in other ways to make ends meet. Many respondents feel that mining offers the only hope for financing the reconstruction of their livelihoods. It is also acknowledged that certain cultural changes would have taken place since, which has increased

mobility within the rural areas. For example, youths today have become more accustomed to moving out and a ‘culture of mobility’ has developed. In addition, it is reported that a rift has developed between youths and community elders, such that many youths no longer feel any allegiance to the chiefs.

4.2 Small Scale Mining

All over the world small scale mining has ultimately become a bane for the local community. Political influence and shadowy activities promote small scale miners to both legally and illegally mine the small deposits, sometimes of very high value. They promote an overall culture of fly-by-night operators, temporariness and unequal treatment. They operate by the force of corruption and rampant opportunism and put all kinds of stumbling blocks to orderly development.

5. Role of institutions and institution building

Social variables can mediate the relationship between natural resource wealth and development. It is the specific nature of communities, institutions and state–society relations that has a critical impact on economic growth trajectories in general, and the management of shocks in particular. Institutions are regarded as “prescriptions that humans use to organize all forms of repetitive and structured interactions”. In other words, institutions are a form of equilibrium outcome, which arise through repeated interaction between agents.

Institutional structure in the mining area is feeble. Poor administration, rampant corruption, presence of mining and timber mafias, and poor living conditions and amenities are hallmarks of the mining areas. As a result, fast moneymaking and perking the money away from the mining centers become the culture. Weak or partial institutions benefit elites in a position to undermine any serious effort towards institutional change. To properly address the issue of institutional change, it is important to understand analytically what institutions are. An implication of centralized and decentralized political economy models of the resource curse, is that countries that have a specific form of institutions, will see less of these negative effects of resource rents. This form of institutions we would term impartiality enhancing institutions, defined in the following way:

Impartiality enhancing institutions are institutions that reduce the possibility or attraction of favoritism versus acting in the general public interest

This concept hence subsumes the types of institutions deemed important by centralized and

decentralized political economy models. It cuts to the core of the key problems of political and private capture manifest in countries that fail to benefit from natural resources. One type of impartiality enhancing institutions are functioning institutions of democratic accountability, which curb the extent to which a government can secure its power through patronage, and hence reduce the negative impacts of resources on economic development. This represents a key implication from centralized political economy models; institutions are needed that reduce the realm of the partial, and enhance that of the impartial. Another type of impartiality enhancing institutions are institutions that curb the profitability of private capture relative to productive activity, in other words institutions of private sector efficiency. These are crucial to avoiding the bad equilibrium of decentralized political economy models, by reducing the attraction of rent-seeking activities. The notion of impartiality enhancing institutions has a conceptual link that institutions create powers for the people such as rights and obligations. In other words, institutions lay down rules about who deserves what and who should provide them with it. The concept of impartiality enhancing institutions states that these rules should be so structured as to enhance impartiality. So a state has an obligation to pursue the interests of all its citizens. And if we take the view that institutions create such powers, these institutions should consist of rules and structures which facilitate impartiality in the exercise of those powers. Viewing institutions as equilibrium outcomes means that to make institutions change we must understand the dynamics which produce and maintain these equilibrium. Importantly, it is important to recognize that imposing small, incremental changes to the institutions themselves do not always put us on a trajectory to further institutional improvement, as the underlying dynamics of institutional change may just pull institutions back towards the initial bad equilibrium. So the problem in many resource rich countries is that they are in a bad institutional equilibrium, characterized by particularism, but would benefit from transition to a good equilibrium, characterized by impartiality enhancing institutions. It also highlights the standard insight that to attain institutional change there is a need both to punish those who benefit from bad institutions, and to punish those who do not punish those who benefit.

Colonial and Feudal settlement structures have set up rudimentary institutions that have conditioned the evolution of social patterns in the mining areas. It is still complex why and how a few states, even in a country could have in fact

managed to change their initially bad institutions and many other states have failed to do exactly that. The persistence of bad institutions can easily be explained by the fact that these have created vested interests where those who benefit from the existing arrangements possess disproportionate power to ensure that more effective institutions do not evolve. Missing is a dynamic element that points at the evolution of circumstances that can trigger positive institutional change.

But in general, the larger urbanized state turns a blind eye to the needs of law and order in the mining regions. Globally, weakened states do not have the wherewithal and the preparation to look after the economic, political and administrative governance of the mining regions. Their energy and capacity is sapped within the city limits.

6. How to challenge resource curse

Challenging resource curse has many dimensions. It has to be primarily two pronged: reduce the imbalance of the mineral products values vis-à-vis local farm, agricultural and material and service products values by appropriately taxing the minerals produce locally and impose production local efforts to rebuild farming-based livelihoods, examined how surplus farm crops were being marketed and the income used in community reconstruction.

Only mineral policy prescriptions offer limited hope for positive institutional change. First, there is the often repeated call to invest in more capacity building in terms of improving education, health and hygiene, reducing diseases and enabling improved productivity and return. This is based on the assumption that well-trained individuals can set off a rational technical process that alters a currently bad situation into a better future by follow-through best practice policies. But the constraints that each individual faces when trying to do so are too engrained to be done away with by the stroke of a policy. Capacity building is not a sufficient condition for positive institutional change.

A second suggestion proposes that the civic society should undertake an assessment of whether a state or a firm can be trusted to manage well the receipts of natural resource exploitation. Such proposals tend to supersede the authority of the state, in some way and are also overly optimistic about the processes through which the certification of states would be granted and monitored. There is little guarantee that external certifications can really deliver better outcomes. In addition, it is quite conceivable that there will be a lot of contradictions and conflicts.

A third suggestion emphasizes the managerial freedom of technocrats to follow through a successful economic reform process. For example, in Chile this is the story of the 'Chicago boys'. But the political background of such success stories hardly makes for a repeatable path to achieve what could be called a 'developmental state'. The lesson is simply that under certain political and social conditions incumbent governments develop interests that are guided by a long-term developmental perspective. Unfortunately, it is not clear what exactly these conditions are. They may also come in different forms and shapes. They could range from forming a cohesive society with a majority constituency to establishing a dominant military regime able to oppress a heterogeneous majority opposition.

The lack of social cohesion perpetuates poor institutions. Countries remain stuck with inefficient policies and institutions when there are severe misalignments between the economic interests of politically dominant actors and the rest of society. Where such misalignments exist, powerful groups fail to act more efficiently as predators. They are unable to strike a deal with the rest of the society to choose policies and institutions that would maximize output and social welfare for everybody and at the same time leave greater gains for themselves. Acemoglu concludes that politically dominant actors need to develop an interest to build more inclusive societies.

Bad institutions persist because of conflicting interests between what they refer to as different social 'constituencies', i.e. groups of voters united by a common interest. They argue that institutional inertia can occur when a country is riddled with such inequality that no reform path can command obvious support. The destiny of societies need not be preordained by such circumstances. However, in order to overcome such legacies it is not sufficient to adopt political and economic institutions copied from elsewhere. What really requires fixing are not institutions but the 'constituencies'. They conclude that *"Changing explicit institutions without changing the constituencies that back them is likely to be a futile exercise, for the constituencies against change will always find a way around the constraints imposed by the institutions"* (p. 40). Quite clearly, fixing constituencies is extremely difficult, not least because this proposition may entice political leaders to pursue actions which by normative judgment are unacceptable. This may explain why reformist autocracies have not done too badly.

7. Mining and processing

Mining for minerals and their final processing to metals and alloys create an imbalance. Mining is relatively much less expensive among the two, but metals and alloys have wider market and scale advantages. And also, since the market of metals and alloys are closer to the market, different from where the minerals are available, there is a general imperative to put the processing plants closer to the market. And also since processing needs relatively higher and variable skill sets, they are mostly available closer to the cities and transportation networks, the plants are closer to the places where they are sufficiently supplied.

Since the production and transport cost and rent, i.e. the total cost of minerals is much less (between 10-35%) than the price, the distributed cost of labor is much less compared to that of a plant. At a mine level, both percentage per capita cost of labor, including salary, wage and benefits, to total cost and the total cost itself are much less compared to per capita cost of labor and total cost of labor at the plant level. So capital entering into a mining community is disproportionately much less both per capita and quantum wise compared to the plant community, even if the percentage surplus (we will not talk of profit at this stage) per price is much higher in mining than that of the plant. Moreover, higher surplus at the hands of the operator and the investor make it possible to transfer the capital out of the consumption and investment processes in the mine site areas. If resource curse has to be reversed major portion of the mine level surplus capital should stay invested in the mining areas both for the preservation of natural capital and local capacity building. For example, average normative production cost with rent (also can read royalty, cess and other taxes combined) for Iron ore mining in India is on an average between Rs 500.00 (\$10.00) to Rs.700.00 (\$14.00) per tonne. The open market normative selling price of iron ore is Rs.2500.00 (\$50.00) per tonne. Considering more than 250% surplus created ($2500-700/700 > 250\%$), it is always possible, yet making a great business sense, to invest in natural capital and building of about 100% operating surplus, to arrest the effects of resource curse. It also makes an ethical business and political sense to keep the surplus invested in the mining area. If we consider a rough figure, For Rs.10, 000.00 per tonne cost of production of a graded steel product the market price is Rs.25, 000.00 per tonne. The surplus created is 150%. Thus spread of cost at the plant level is much higher than that of in the mine. This would also mean that per capita distribution cost and the spread of total cost to the plant

community is much higher both because of the higher quality and quantity of labor at the plant level than that of at the mine level. But at the same time, the mine is losing out both counts-much lesser quality and quantity of labor even if the percentage of operating surplus is more at the mine level. It is

thus important, for the mine areas to avoid resource curse, the cost of producing minerals has to be increased and the increase in the prices, if any, should be passed to the customer. This situation holds good for all kinds of mineral produce (fig. 4).

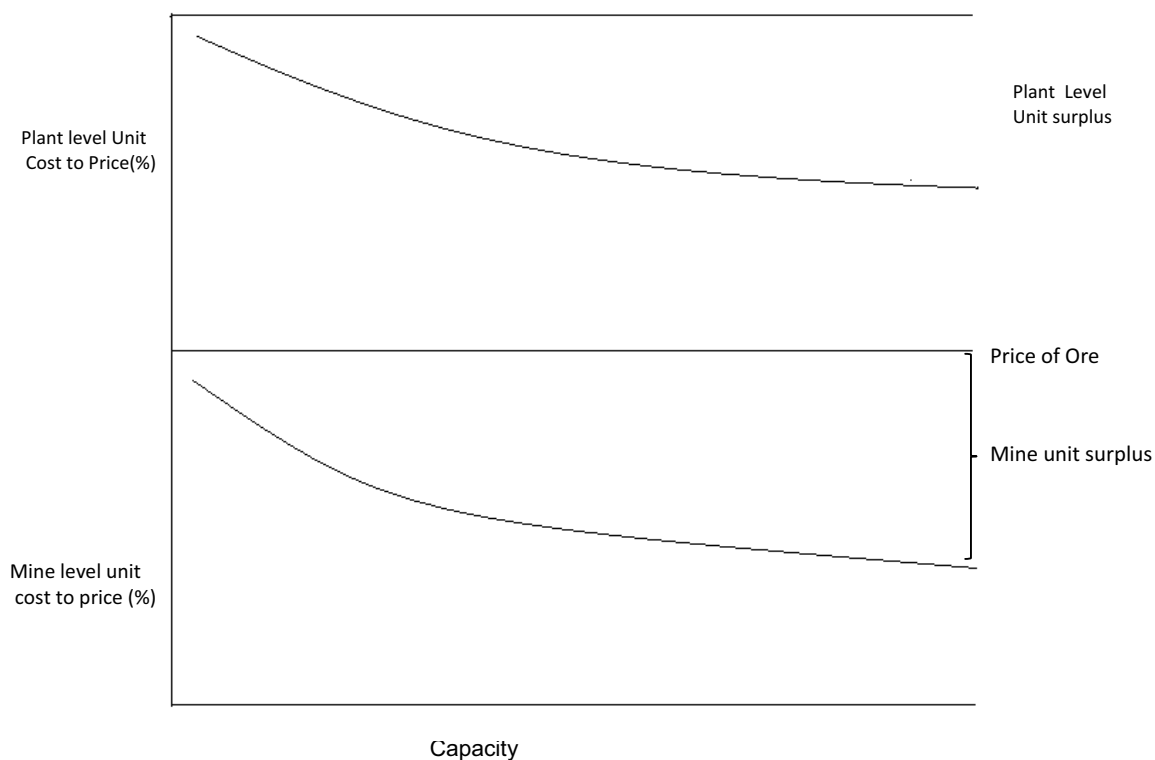


Fig. 4 *In the resources industry, mine level operating surplus is often more than process plant level operating surplus*

8. Role of organizations to avert local resource curse

It is to be re-emphasized that a large part of the mine level surplus should be re-invested in the local economy and capacity building, preferably in sustainable business having larger term goals and objectives, beyond the life of the mine. It is thus important for the mining companies to enter into business making ideas in promoting rural business of farming, agriculture, handicrafts and cottage industry, and tourism, etc along with human resources and entrepreneurship development center for its current and future employees. At the same time, they will have to increase the stock of natural capital.

8.1 Natural Capital Stock

The natural capital stock would mean enhanced forestry, surface and groundwater and flora and fauna productivity. It can be done both ways: by increasing the stock or by reducing the use of the

stock. A mining company should make efforts to enhance the following to preserve natural capital:

- Replenishing the surface and ground water regime, by rainwater harvesting and recharge, and by protecting and rejuvenating streams and by building canals.
- Progressive reclamation of mine areas by filling, leveling, contouring and revegetating.
- Massive mine site and compensatory afforestation programs.
- Consistent efforts to reduce transportation, dust and noise.
- Reduction of water, air and soil pollution by planned investment.
- Consistent energy and material saving efforts to reduce effects on natural capital.

8.2 Mine –Community Dialogue

In resource-rich societies with a few large ethnic groups, each group may channel time and effort away from productive activities to rent seeking or fighting activities, while only one group gets the resource rent. This group ends up richer

than it would be in the absence of this rent while the other groups end up poorer. Resource rents may thus increase income inequality in divided societies. In contrast, resource rents may reduce income inequality in homogenous societies in which they may be shared more or less equally, or even used to support the poor. This would be consistent with the observation that redistribution tends to be more generous in ethnically homogenous societies. And communications and understanding can bring the homogenization among the communities.

All over the world there is a serious disconnect between the miners and the surrounding community, those who are affected by the mining and more particularly by the local resource curse. Miners tend to take a view that-in whatever they do- they are the benefactors and are defensive in their approaches. The approach needs correction. It is time that they should feel that it is the community that is helping them to benefit out of their stock. In order to resolve the apprehensions from both sides continuous dialogue between the community and the miners are important. More importantly, the miners should now understand now why people protest, or why they are afraid, why they are afraid because of the historical wrongs committed against them or they were cheated and exploited.

Interestingly, the mine management would often talk about the financial constraints. But the previous section on mining and processing clearly shows that surplus at the mine level can be gainfully used in the capacity building exercises and sustainable rural business promotion and sustenance activities.

8.3 Capacity Building Initiatives at the Community level

Most of the original inhabitants of a mining region are ruralized poor. They are small farming, forest foraging and agricultural community. They are out of touch with modern developments, have little resources and are afraid, disenfranchised and misunderstood. Also very important is the target population. Most often the opportunists in the settler and privileged population usurp the opportunities; depriving the real needy people. This needs to be stopped at any cost. The following capacity building exercises are important:

- i. Illiteracy eradication.
- ii. Spread of education and modern health and hygiene to the community particularly targeting women and children.
- iii. Creating and sustaining Self Help Groups and delivering opportunities by hand holding.
- iv. Building enabling infrastructure to the existing state infrastructure so as to promote commerce and trade.

- v. Creating and adding capital and enhancing efficiency for and by micro-financing.
- vi. Create opportunities for higher economic returns for farming and agriculture at the local levels. Create crop insurance, encourage high yielding and cash crops, and efficient water use schemes in community agriculture.
- vii. Educate and encourage the community in the use of new technology and changes in the market for its products.
- viii. Create efforts to bring the capability of the state and other agencies to bridge the gaps of knowledge.
- ix. Create awareness about drinking and substance abuse malice and preventing the spread of such habits in the population.
- x. Create awareness of using the government schemes to create entrepreneurship and business.
- xi. Establish and share internet to empower local population and create business opportunities

8.4 Organizational Perspectives

The mine level organizational changes will be required to create the capacity building at the sustainable level:

- i. Use unused and underused existing facilities along with new facilities for community purpose.
- ii. Encourage clear communication channels, transparency, efficiency and business making.
- iii. Target surplus capital generation over time.
- iv. Create capacity to have sustainable future for all initiatives, while gradually withdrawing the organizational help and bringing change in the ownership pattern, if possible.
- v. Finally, create each initiative into a profit center proposition.
- vi. Create structure at the mine level such that the initiatives are not lost when there is a management change.
- vii. Create an organization to interact with the community with a view to create shared and sustainable economic benefits such that it not individual dependent but dependent on the organization.
- viii. Help create buying and selling establishments to infuse and withdraw capital-to create business value-with the help of local governments.

9. Conclusions

In the foregoing discussion, we have touched upon the aspects of resource curse. As evidenced in the history and in the related literature the resource curse is a dominant phenomenon in any natural resource use proposition and found to be pronounced in the underdeveloped countries much because of the lack of institutions at the local level. Most authors pinned the responsibility of resource curse on the governance by the state more than the organizations. In this chapter, responsibility in almost equal measure also has been placed on the organizations as the surplus from mine operations can make it possible to invest in a sustainable manner.

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