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*Gender Mainstreaming in India's Mining Sector: The Role Government Can Play*

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## **Gender mainstreaming in India's mining sector – the role government can play**

### *Abstract*

Extensive literature is available highlighting the gender issues involved in the mining sector, while the same is yet to get its deserved policy attention in the country. This paper is based on research conducted by TERI and also draws on available research results in gender and mining in varied contexts across the country. Research studies in the iron ore mines of Goa highlighted that mining operations vastly and disproportionately increase the hardships borne by women in their role as caretaker of food, water and health of the family as well as their livelihood. My recent research studies in the limestones mines of north Karnataka revealed the impacts of mining on environmental health and thereby impinging on women's wellbeing. Drawing from the research studies carried out in different parts of the country, some of the adverse impacts of mining with respect to the women are reported in the form of displacement on women, labor wage inequality, childcare for working women, health and even cultural impacts. These are important issues from the policy relevance point of view in the country.

Based on the above listed issues, this paper discusses the evidences of gender inequity in India's growing mining industry that plays an important role in the economy and development of the nation. The paper further highlights the need and mode of gender mainstreaming in the Indian mining scenario and suggests possible measures that can be taken up by the government.

### **Introduction**

With the increasing awareness and felt needs on sustainable development, many sectors, including mining, has gradually embraced the concept of sustainability and environmentally responsible practices. In this context, gender mainstreaming in many developing sectors is yet to get the required attention, despite, growing recognition of linkage between environmental sustainability and role of gender. Thrust on gender mainstreaming and empowerment are explicit from the UN Millennium Development Goals (MDGs) that calls for gender equality and women's empowerment (<http://www.un.org/millenniumgoals/gender.shtml>). The 4th World Conference on Women in Beijing in 1995 also highlighted critical areas of concern for empowerment (<http://www.un.org/womenwatch/daw/beijing/>). Despite the acknowledgment on the fundamental role of women to the management of local resources and the sustainability of local communities, gender inequalities are found in all societies and all regions of the world irrespective of indicators of economic prosperity. Drawing on the definition of sustainable development by United Nations Development Programme<sup>1</sup> it is imperative to encompass gender mainstreaming in every sector for

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<sup>1</sup> UNDP Defines sustainable development as 'development that not only generates economic growth but distributes its benefits equitably, that regenerates the environment rather than destroying it, and that empowers people rather than marginalizing them - It is development that gives priority to the poor,

sustainability (reference). Gender mainstreaming in the mining industry is vital, especially in view of growing felt need of sustainable development. This would in turn directly bear on the way the industry currently operates, and point at areas where there is scope to support women's advancement through a proactive recruitment, promotion and skills building policy.

In most of the developing nations, including India, gender issues of mining are yet to get its deserved policy attention. There is a well-researched literature available that has brought out the gender issues involved in this sector such as adverse effect of displacement on women (reference), labor issues (reference), childcare for women working in the mines (reference), cultural and health impact on women in mining areas. Unfortunately, the research work has not moved beyond identification of the issues, particularly with reference to the identification and suggesting the relevant policy measures. This paper therefore attempts to highlight some of such issues centering on the much needed policy measures to mainstream gender in the mining industry in India.

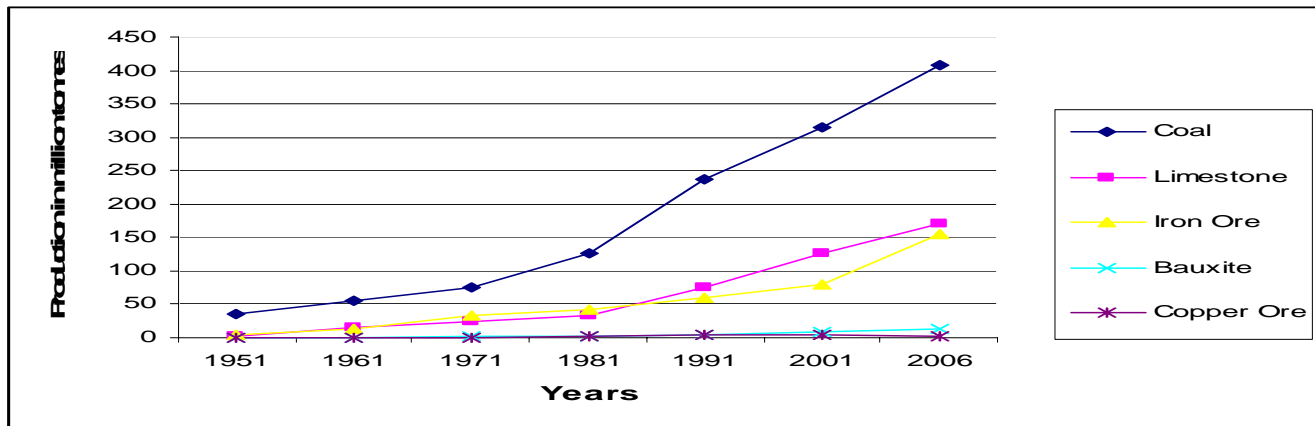
### **General overview of mining in India**

India is a major mineral producer in Asia and globally (Davis, 2007). The mineral industry has played a prominent role in the economy as it is the backbone of industrial development as well as source of valuable foreign exchange. Some of the important mineral resources of the country include, coal, iron ore, manganese, mica, bauxite, titanium ore, chromite and diamonds. The country's production of mica sheet was ranked first in the world. India produces as many as 76 minerals comprising 4 fuels, 18 metallic 54 non metallic minerals (IBM 2006). The total value of production from all the 2970 mines in India during 2005-06 was estimated to INR 756990 million. Of these, 572 mines belonged to fuel minerals and 590 to metallic minerals and 1808 to non metallic minerals. Significant progress has been made in the country's mineral sector. Since Independence (1947), India's mining industry has shown rapid growth, from production of 20 minerals valued at INR<sup>2</sup> .700 million in 1950 to 84 minerals valued at INR 756990 million during the year 2005-06. The total number of mining leases granted in the country for different minerals as on March 2007 was 7734 covering an area of about 445847.49 hectares. The following ten states together account for 93% of the total leases granted: Andhra Pradesh (19.48%), Rajasthan (18.52%), Gujarat (13.7%), Madhya Pradesh (9.89%), Tamil Nadu (5.96%), Karnataka (5.88%), Jharkhand (4.87%), Orissa (5%), Chattisgarh (4%) and Maharashtra (3.38%). Production of some of the important minerals is presented in the figure below.

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enlarging their choices and opportunities and providing for their participation in decisions that affect their lives',

<sup>2</sup> INR- Indian National Rupee ( 1US\$ = INR - 49.5 – current value)



**Figure 1:** Figure representing the growth in production of some of the important minerals in India

The Mineral Policy opened the gates of Indian mineral industry to domestic and foreign investment, much of which was earlier reserved for the public sector. It aims to boost the country's exploration and mining efforts and render the mineral industry more competitive. Almost 94% of the total mine lease is now with the private sector. In view of the trends during recent years, the mineral industry of India is expected to continue its increased output through expansion of the production capacities (TERI, 20001).

### Impact of mining

Research results from many parts of the world on gender aspect of mining indicate that despite many positive developmental aspects of growing mining industry, it has often transformed the lives of women in all dimensions, including social, cultural, economic, political and physical. It has at time often forced women to shift to new economies, occupations and very different life-worlds. My research observations in India reveal that mining operations have vastly and disproportionately increased the hardships borne by women - be it in their role as the caretaker of food, water and health of the family or in their roles as wage earners. In most parts of rural India, women have extensive work loads with dual responsibility for farm and household production for land holding families, while for landless, besides household responsibilities, wage earning for their survival make their lives all the more difficult. Mining can impinge on women's well-being through the impacts that it has on environmental health as it degrades the environment quality, such as air, water, and forests and therefore increases their burden of living and impacts on productive assets such as arable land through conversion, or a lowered productivity due to changed soil quality, reduced ground water table caused by dewatering of mine-pits and/or run over of reject material into these lands due to run-off. The increased burden on living arises from the fact that women are the primary providers within the household of clean water for domestic use, food and fuel wood. Once these functions become increasingly difficult because of mining the amount of time and energy that women need to spend on these activities increases many folds (Shirin Cooper et al, 2006). Further, an adverse environmental impacts of mining on the community health adds to their susceptibility, especially women to illness/diseases. Skin diseases, respiratory diseases like tuberculosis, silicosis, asbestosis, gastro-intestinal diseases, cancers,

reproductive diseases like frequent abortions, malformed babies, mental illnesses, AIDS and other sexually transmitted diseases, etc. are common direct and indirect health impacts of mining (Victoria Tauli-Corpuz, 1997). While both men and women equally face the health impacts, women generally get less medical attention, due to their household responsibilities.

## Gender issues in mining – the Indian scenario

### *Women Mine workers*

A quick investigation into the gendered nature of employment in the mining sector reveals clearly that the sector is overwhelmingly male dominated. Compared to other employment sectors, women’s integration into mining has been slow infact; data reveals a decline in the percentage of women working in mines. The table below presents the average daily employment of male and female workers in all mines of India.

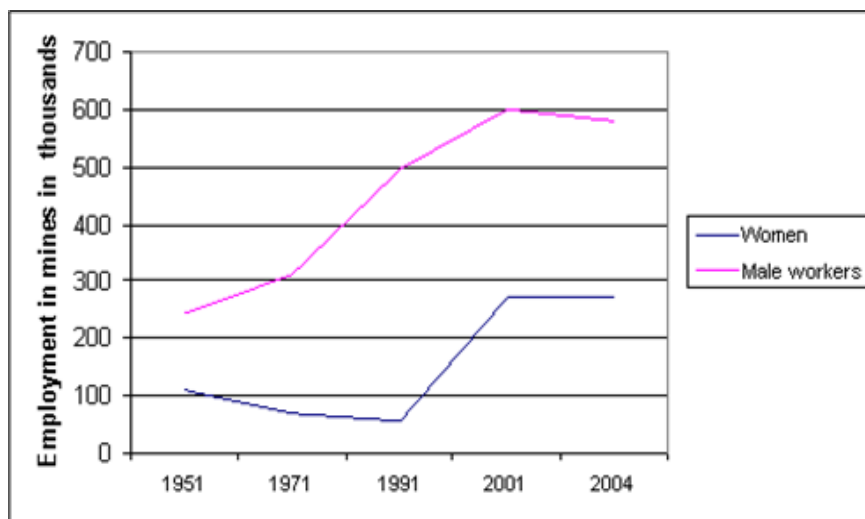


Figure 2. Average Daily employment of male and female workers in Indian mines

Between 1951 to 1971 women’s share of employment in mines declined from 21.1% to 11.9% the heaviest decline being from the coal mines. It is very interesting to note that women once formed a large component of the labour force in coal mines. In 1919 38.1% of the colliery labour forces were women (Madhu Kishwar, 1991). Statistics confirm that the employment of women in open cast mines and above ground works has steadily declined between 1961 to 1991, (while the overall employment of women and women’s participation in industrial activity has gone up during this period). Reports also state that the share of women in the total employment in cola mines has declined from 6.3% (1981) to 4.05 % in 1992.

As is the case in other parts of the world, women often work part-time at informal mining operations and occupy ancillary roles and hence there may be significant discrepancies between the estimated and actual numbers of women involved in mining. Women’s direct participation in mining varies across various kinds of mines. Women are generally on contract and are employed in head loading, stone breaking, cleaning and other forms of daily wage labour where they are entirely at the mercy of petty contractors and absolutely no work safety or security. They always get less

employment and less income from mining. Data from Ministry of Labour reveals that although average wages of mine workers in open cast and above ground mines increased there is distinct difference in the increase of wages for men and women.

TERI studies in the iron mines of Chitradurga and Limestone mines of Gulburga, Bagalkot in Karnataka state demonstrates huge difference between male wages and the wages paid to the female counterparts. During recent Focus group discussions conducted in the limestone mining regions women complained of low wages in mines and lack of alternate economic employment as most pressing issues of concern. While the male workers on contract receive wages of INR 120/day, women generally get around INR. 50-70/day. While the large mining companies in the refused to accept employment of women in the mines (there are large number of women working as contract labourers), the small mines and quarries accepted 30-40% share workforces strength as women. The young women working on the small quarries and mines of Gulburga region in Karnataka have absolutely no help with their children and generally bring them to work. These women workers also have very less safety measures & are susceptible to health hazards.

#### *Women in Small and artisanal mining*

Artisanal mining has played an important role in since time immemorial since these mines employ a very large section of population living with low level of incomes (Mihir Deb et al, 2004). Chakravorty (2001), estimates around 6-7% (-20400) of artisanal miners in India to be women. This sector is often associated with unsafe working conditions, an historically unregulated policy environment and a lack of appropriate mining technology. Women enter small scale mining primarily as a means of survival. The stone quarries of Gulburga producing building stones employ women in large numbers. Earlier members (both male and female) from *Woder*<sup>3</sup> communities took up work in these small and artisanal mines however, recent times see women from all communities especially the economically and socially backward communities taking up work in these mines and quarries many of which are illegal and hence lacking any social welfare and security measures (TERI Survey 2008).

#### *Mining and displacement*

Some of the mining regions have displaced the traditional settlements of the inhabitants. The living conditions of women displaced by mining have negative impacts on them. Migrant women who live in mining are often forced to take up menial jobs due to lack of proper economic opportunities. Naseer Ahmed and Lahiri 2006, describe the restructuring of state-controlled coal mining of Jharkhand India and the resulting displacement of local communities, including the indigenous communities and the gendered impact of the same Displacement from the original habitations often means not only the physical relocation but also the loss of livelihoods derived from the subsistence resources offered by the local environment.

A study of a particular scheduled caste<sup>4</sup> community (the *baoris*) in the area where India's largest public sector steel plant was constructed brings out the special aspect of women's destitution clearly. The *baoris* women in the region who were always economically active, their communities earlier engaged in cultivation and in coal

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<sup>3</sup> Community belonging to backward castes without any land holdings who are skilled to cut and polish these stones

<sup>4</sup> The Scheduled castes are the historically disadvantaged section among the Indian castes of low rank, now under government protection as per the constitution of India.

mining were displaced due to the nationalisation of the coal mine. Urbanisation around the steel plant increased land prices and a mix of other factors led to the alienation of these *baoris* from their land. Most of them thus taking up domestic work and even prostitution (Madhu Kishwar, 1991).

#### *Indigenous women and mining*

*“ Indigenous women are the worst sufferers as most large scale mining is displacing them from their lands and denying them access and control over natural resources”*

*K Bhanumathi, 2004*

Maximum impact of mining has been experienced by tribal<sup>5</sup> women as most of the mineral concentrations are in areas of the south, central and northeastern states of Orissa, Madhya Pradesh, Chattisgarh and Jharkhand, areas that also home to a majority of India's 90 million tribal population. Singh and Rajya Lakshmi 1993, expose the vulnerability of tribal women and state the evidences of sexual exploitation of tribal women by forest and mining contractors. They also state that the incidences of sexual assaults on tribal women have increased. Huge mine projects in tribal areas often leaving them devastated, has time and again led to conflicts between these tribal communities and large international mining projects as is the case of the Nyamigiri bauxite mines in East India(<http://www.actionaid.org/main.aspx?pageId=917>). The twelve year old conflict between without any resolution by the villagers and mining consortium in the Kashipur block of Rayagadh District of Orissa is another such instance to the continuous agitation by tribals against mining ([http://www.downtoearth.org.in/cover.asp?foldername=20050415&filename=anal&sec\\_id=7&sid=1](http://www.downtoearth.org.in/cover.asp?foldername=20050415&filename=anal&sec_id=7&sid=1)). Land is the most important resource owned by the tribals who still heavily dependent on the natural resources of the region. Lahiri Dutt 2006, brings out the plight of the tribals in the north east who where the lands owned by these indigenous communities are in legal parlance 'non transferable' special legal instruments have superseded these and millions of such tribals have been forcibly displaced both physically and from their livelihoods.

#### *Mining induced burden on women*

The social impact of low water table is felt most by women since they have to put in more energy and time to get water for household needs Various TERI studies in the mining regions of Goa have established that ground water has been greatly affected by mining activities. As a result, wells and springs used by the local community, located at a higher level, usually go dry. In rural Goa, village communities are heavily dependent on ground water for household use. Depleting water resources in these regions have impacted women severely in terms of longer walk and more work, as they are the principal collectors of water. Thus, as water has become scarce as a result of mining, the burden of shortages and erratic/irregular supply has also fallen upon women. TERI studies in the iron ore mines of Chitradurga have also highlighted the impact of mining on forests and increased burden of women in the collection of fuel wood. Bina Stanis (2000) in her presentation on women in mining at the 1<sup>st</sup> national convention of mines minerals and people argues that there is a clear evidence of mining induced destruction of the social system of which women are the worst hit. In Jharkhand, it is not the land alone but also the traditional way of life that

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<sup>5</sup> Whereas, the Scheduled Tribes as in Article 366 (25) of the Indian constitution recognized as those tribes or groups within tribal communities

has been ravaged in Parej and Duru Kasmar. Pantoja Enrique (2000), based on studies on coal mining in Orrissa describes how large state-run coal mining operations in India has had a negative impact on women's social capital, in particular their access to social networks. Coal mining activities in the region tend to reduce opportunities for women and to increase their levels of dependency and vulnerability. Women in these areas traditionally found work as agricultural workers or earned income from collecting forest produce. In recent years, however, access to the forests has been restricted and the availability of agricultural work has declined, while coal mining has not provided positions seen as suitable for women.

#### *Impact on land resources*

The ownership of productive assets, such as arable land, is crucially linked to viable livelihoods, to a lower risk of poverty; to access to credit; and to a greater ability to bargain for higher wages. The most crucial form of property and productive asset is arable land. It determines livelihood options, social status and political voice (Agarwal, 2000). TERI studies in mining in the iron ore mining regions of Goa has brought out that while the ownership of these productive assets are vested in both men and women under the existence of an uniform civil code<sup>6</sup>, this is not an effective equality. This ineffectiveness arises from certain provisions within the law itself which reduces the effective decision-making powers of women. The uniform law potentially enables the women to have a greater say in what happens to land. While land is important for men, it is more important to women as a result of their greater involvement in agriculture, as men work on mines or other related or non-farm jobs. Even if the farm plots are small, these plots provide opportunities of diversified livelihoods and thereby reduced vulnerability in moments of stress. When mining occurs, mining companies may enter into deals with the males of the household and convert land based on compensation payments. These compensation payments are one time payments which are often used for immediate consumption needs rather than for investment purposes. There are situations in which these are wasted in alcoholic use; the net result is the impoverishment of the family. Thus in some areas the emergence of such social vices such as alcoholism and several harassment towards women is attributed to mining (TERI2002 & TERI 2006).

#### *Mining induced health impact on women*

TERI surveys carried out as a part of research studies in the iron ore mining villages of Goa, have highlighted that women have reported illness such as colds, headaches, fever, dry cough, eye allergy, dust allergy and throat irritation. The percentage of women reporting health problems were also higher (91%) than the percentage of men (85%) reporting these problems. The common reported illnesses were similar for men and women across the surveyed villages. Adverse health impact on women is higher since women generally take care of the sick as well as cope with their own illness. Research in the coal mines Parej and North Karanpura of Jharkhand state found high concentration of metals like fluoride, manganese, nickel and sulphate in drinking water which was indeed affecting the longevity of the communities living near the mines. The average longevity of women was found to be 45 years in the region (Purusottam Nayak and Mishra, 2005).

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<sup>6</sup> Goa is the only state in India having uniform civil code that provides for gender equality in law.

Reports from Jaduguda in Jharkhand the country's highest producer of Uranium impact has been found on reproductive health. According to a Jharkhand Organisation Against Radiation (JOAR) survey done in seven villages within a 1-km radial area of the pond, 47 per cent of the women have reported disrupted menstrual cycle, and 18 per cent said they suffered either miscarriages or gave birth to stillborn babies in the last five years. Moreover, nearly all women complained of fatigue, weakness and depression (<http://www.nettime.org>). Another report establishes the case of congenital disorders, sterility, spontaneous abortions and cancer to be alarmingly high among the villagers, mostly from the *Ho, Santhal, Munda* and *Mahali* tribes in Jaduguda (Aparna Pallavi, 2008).

### *Relevant Policies*

The current mining laws such as the National Mineral policy Mines, Minerals regulation act, Mineral Conservation and Development Rules, 1988 and the Mineral Concession rules 1960 do not encompass gender to the extent required and thus there is an absence of regulation to address gender issues in the mining sector. However the country has passed many enactments for the protection of the women workforce. The Contract Labour (Regulation & Abolition) Act, 1970 has made provision of crèches where twenty or more women are ordinarily employed as contract labour however there are large number of women working on contract in the limestone mines and the iron mines of Karnataka and do not have the above mentioned facility. The Mines Act, 1952 has made provision of employment in mines below ground prohibited. Provision of separate toilets and washing facilities for women workers while the employment in Mines below ground level has been well taken by many large companies, this has indeed led to gender inequality in employment. The Maternity Benefit Act, 1961 is applicable to all workers generally the mine workers do not come under this gamut since majority of them work as contract labourers and in small mines. The Equal Remuneration Act, 1976 holds good on papers once again as majority of the women do not come under the direct rolls of the companies. Some of the other acts Iron Ore Mines, Manganese Ore Mines and Chrome Ore Mines Labour Welfare Fund Act, 1976, Lime Stone and Dolomite Mines Labour Welfare Fund Act, 1972 and Mica Mines Labour Welfare Fund Act, 1946 have also been passed with good will in the country but the women rarely benefit from the same.

### *Discussion and Recommendations*

An examination of the employment and social perspectives of women in the mineral industry reveal the sector is least gender sensitive especially in the Indian context. There are numerous alternatives for reducing the negative impacts and increasing the positive impact of mining on the overall well-being of women, however the same can be successful only through a combined concerted effort from the government, companies and non government organisations the community. The state should be responsible for comprehensive formulation and implementation of policies related to promotion of gender mainstreaming. The following are a compilation of recommendations being put forward for consideration and dialogues that are of great relevance to the industry and realistic as well.

- Analysis of the current situation; Drawing from existing studies and secondary data and research in some aspects a clear picture highlighting issues and identify gender differences and disparities across areas

- Interventions to lead to gender mainstreaming need to be put into the project implementation procedures through official documents
  - Gender mainstreaming in mines mandatory
  - Gender to be addressed rightly in mine documents
  - Gender sensitive technology initiatives
  - Gender audits mandatory as per law
  - Gender issues to be addressed in closure plan
- Implementation of the enactments
- Draw an institutional framework towards effective enactment of policies. The institutional framework with clarification of roles and responsibilities, establishing accountability mechanisms, developing guidelines, utilising gender specialists is required. The Department of Women and Child Affairs, Government of India should be one of the key departments responsible for ensuring the mainstreaming of Gender in the policy development. Other departments that must ensure gender sensitivity are Ministry of social welfare, Indian Bureau of mines and the Department of mines and Geology at the state level.
- Increase public awareness and support through Information Education and Communication strategies.
- Monitor the progress in implementation, carry out periodic assessments
- Finally, the most important aspect for all developing countries is to built capability sets of women: It is indeed necessary to relook the work of Nobel laureate Amartya Sen where he highlights on 'wellbeing' and agency' as two different aspects to approaching gender. The agency aspect means the pursuit of goals and objectives that a person has reason to value and advance whether or not they are connected with a person's well being. The focus on women began in the 1970s and 1980s with the idea of improving their wellbeing' but as the women's movement has evolved the thrust is now on women as agents doing things assessing priorities, scrutinising values, formulating policies and carrying out programmes. One cannot separate the two. The agency role must also focus on improving well being similarly to improve the well being of women, the agency of women is crucial. Thus the two concepts need to be interconnected. Enhancement of capability sets of women is a must for social and community development. Developing the capability of women, would enable the women to think rationally on issues of concern in the region, motivate them to raise their voice in public, develop their personality and leadership skills, effectively participate in local governing institutions, build unity among them and help them bargain and negotiate with the mining company.

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