

MINING DEVELOPMENT AND GENDER IN RANIGANJ COAL-BELT

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ABSTRACT : Development as we understand it today is a continuation of the process of colonization through the universalization of needs for improved well-being. It is an extension of the modern capitalist patriarchy's economic vision based on the exclusion of women from the productive process, on the degradation of nature, and on the exploitation and erosion of other cultures. Development thus often entails a destruction for women, nature and weaker people. The displacement of women from productive activity in the modern society was rooted largely in the manner in which development projects appropriated or destroyed their natural resource bases for the production of sustenance and survival. The modern sectors destroyed women's productivity both by removing land, water and forests from their management and control.

We are presenting here a case study of the Raniganj coalbelt where modern mining development has led to major environmental problems and has marginalized the poorer women through their exclusion from the production process.

INTRODUCTION TO THE REGION

Of those human activities which completely alter and destroy the natural environment, the extraction of land resources through mining is probably the most significant.

Environmental experts have closely studied land degradation and dereliction, subsidence, mine fires, air-noise-water quality deterioration in mining areas of different parts of the world (Down and Stocks, 1978). In some cases, 'best practice mining' has been outlined and followed (as in the case of the Environment Protection Agency of Australia), whereas in many other parts of the world we are still a long way from any significant ameliorative steps to tackle environmental degradation in mining areas (see for example Dhar and Thakur, 1995).

We studied the Raniganj coalbelt of Burdwan district, West Bengal, with the help of a research

grant from the Ministry of Environment and Forests, Government of India.

The Raniganj coalbelt comprises a total area of nearly 2,000 square kilometres and is located about 250 Kilometres northwest of the Calcutta metropolis. The region is bounded by 23°33' and 23°53' north latitudes, and 86°37' and 87°23' east longitudes. The Barakar river marks its western end whereas the Ajoy and Damodar draw the northern and southern boundaries respectively.

Early development of coal mining in Raniganj was mostly derivative in nature. Coal production was intended to meet the colonial needs of the British government - for their mint, arsenals, steamboats and later, largely for railways and the newly developing jute and tea industries.

According to Rothermund (1978) the coal mining industry was imposed upon the region

and this new, 'enclave industry' depended on the primary enclaves for the demand of its products. The relationship between this labour-intensive mining industry and the local labour force was characterized by a considerable participation of women workers from the beginning till the 1930s (Roy Chaudhury, 1996). Since the 1930s, however, women's role in the mining industry had declined gradually, but during the last two decades has decreased at an alarming rate.

Dwindling job opportunities combined with a rapid rate of ecological destruction through mining development is now threatening the survival of women in the Raniganj coalbelt. Development has superimposed the scientific and economic paradigms created by capitalist, gender-based ideology on the subsistence farming-forestry economy, and in the process destroyed the life-support systems of entire human groups. The poorer women of the region have suffered most as their subsistence bases were destroyed and they had to bear the brunt of a rapidly deteriorating environment.

In the Raniganj region, environmental degradation and the marginalization of women have been the results of state-controlled mining development of the last 25 years. Women here have indeed been what has been described as 'Special victims of the environmental crisis' (Shiva, 1988).

MINING AND ENVIRONMENT

More than anything else, land dereliction, subsidence and a falling groundwater table are pressing problems created by mining in the Raniganj coalbelt (Lahiri-Dutt, 1995). Since the nationalization of the coal industry in 1972, the public sector company Eastern Coalfields Limited (ECL), a subsidiary of the Coal India Limited, has been responsible for coal extraction from the Raniganj area.

As the ECL takes on lease the surface land alongwith the rights of extraction of underground resources, the surface land use changes dramatically (Lahiri-Dutt, 1995). What had been an agricultural field in the past, turns into a barren wasteland within a short span of time.

The threat of land subsidence has assumed extremely serious proportions in view of the fact that there still are numerous underground voids of unknown depth and size, and of which no maps have been made so far. It is also a fact that the region has undergone massive urbanization in recent years, a fact which threatens the existence of entire settlements and spurs the administrators to plan an alternative site for a new township (Lahiri-Dutt, 1994).

Another cause of land dereliction in the region is underground fire which heats up the ground and destroys all crops. In some places the breathing of air into the voids initiates the fire which eventually gets exposed on the surface during the dry season.

Subsidence of land also leads to the lowering of watertable and drying up of small water tanks which serve as an essential part of common property resources of local communities. Women no doubt are the hardest hit by subsidence. Besides the constant fear and insecurity of losing their homes in subsidence, they also have to find ingenious ways of ensuring survival of their families. The collection of water becomes an arduous task involving longer treks than before and the declining agriculture provides fewer job opportunities nearer their homes.

Less obvious but more important than the problems of physical environment are the impacts of mining on the human society and economy. There is a competition between

agriculture and mining for the occupation of land; as mining yields quicker returns, agriculture invariably loses wherever extractive resources occur. In the Raniganj coalbelt too, the entire cultural landscape has drastically changed in the last two and half decades of planned development. In this changing landscape, poorer women have been excluded from the productive process and rendered powerless in the newly emerging society and economy.

HUMAN DIMENSIONS OF MINING

The first observation that even a casual visitor to the region would make is the extent and pace of urban growth. The Raniganj coalbelt is now

very much a part of an urban corridor that extends to the mining-industrial regions of Dhanbad-Bokaro-Sindri in the west, and in foreseeable future would extend even upto Calcutta in the east.

An extensive built-up area, running in an east-west direction for nearly 75 Kilometres, along the main transport corridor, has emerged in the last two decades. The narrow interfluvium of the Damodar-Ajay rivers is now a rapidly merging conurbation. The rates of population as well as urban growth have been phenomenal during the 1970s and 1980s as evident from the following table :

Table I : Levels of Urbanization : The Raniganj Coalbelt

Year	Total Population	% Increase In pop	Urban Population	% Urban	% Increase in Urban Population
1951	6,63,140	-	2,04,712	30.87	-
1961	8,17,747	18.91	3,16,360	38.69	64.71
1971	9,41,452	13.14	4,65,996	49.50	67.89
1981	11,78,566	20.12	7,38,709	62.68	63.25
1991	17,65,171	33.23	12,22,660	69.27	60.42

On the eve of nationalization of the coal mines in 1972 there were only three mining towns. In the last census in 1991, as many as 38 towns emerged as having their economies based entirely on coal mining activity. At least five of these has over 80 per cent of their workforce engaged solely in mining (Lahiri-Dutt, 1995).

Rapid urbanization has an obverse face too in the decay of agriculture, displacement of poor indigenous groups, often peasants, and immigration of new residents with divergent views of resources use and environment.

Before the discovery of coal by the British in late eighteenth century, Raniganj was part of a forested tract known as *Jungle Mahal* mostly inhabited by the santhals and the bauris, a warrior caste of *Rarh* Bengal. In the first wave of expansion, mining had wiped out the sal forests and by the time Hunter (1877) wrote about the region in his *Statistical Account of Bengal* he described the region as being 'practically treeless'.

Since then, the thin lateritic soils and the slightly sloping (towards the east) terrain had never supported a rich agriculture, but the

expanding mining sector has now replaced even the subsistence farming. In the process of this disruption, the landbased castes and classes have been displaced - alienated from the land and its natural resources as well as from traditional livelihoods that sustained these communities. Only a few Santhals and Bauris were absorbed into the rapidly growing mining sector; most opted for casual jobs with local contractors or migrated to Calcutta or the urban centres of the region. Displacement of peasantry in the Raniganj coalbelt, therefore, has a sectoral as well as a spatial manifestation. Between the two census years 1971 and 1991, both agricultural lands and the representation of peasantry in the workforce have declined even in villages outside of colliery limits. In the process, the women of the region have suffered by way of the destruction of their basic means of livelihood.

In the initial phase of mining development in the region, local labourers, alongwith their families were employed in large numbers from the adjacent areas of collieries. This is evident from the *Gazeteer of Burdwan* published in 1910 in which Paterson reported two-thirds of the total workforce in the Raniganj was locally born.

As long as the family was the unit of production in mining, women had a more direct contribution to the economy. In the transition from a traditional to an industrial mode of production, the family unit broke up into individual units and women were gradually relegated to an insignificant position. As long as agricultural jobs were available, women were able to sustain themselves in the new economy, but as surface rights of lands began to be leased out to the mining company agriculture too gradually decayed.

Again, lack of opportunities to develop new skills in the new system of production using a different technology, made women unwanted

in the new mining economy, and made them lose their status as partners in the productive process. This was made possible by the introduction of shaft technology.

Between thw World Wars, two major phenomena appeared in Raniganj, First, instead of dissociating the local labourers from their land and agricultural activities, the colliery management began to opt for 'upcountry' labour from western districts of Bihar and eastern districts of U.P. with the specific objective of creating captive labour. Second, and related to the influx of immigrant workers, was the santhal and other tribal labourers began to withdraw from the coalfields in favour of plantations. This was also the period of changeover from open cast to shaft or pit mining technology; the older methods obsorbed both male and female labour whereas the new techniques had little place for women in the womb of the earth.

The immigrant wave continues with rapid acceleration particularly in view of the new, capital-intensive, modernization schemes adopted by the ECL during the last ten years.

The immigrant, male, mine worker leaves his family behind, establishes temporary alliances with local women during his tenure, and often retires to his original home. This outsider, temporary resident, has a superficial attitude to the environmental problems of the region. For him, the resource is there to be exploited, taken out of the land and the region, for his own good and of course for 'national interest'. He has little attachment to, and hence hardly any concern for, the land and environment of the region.

The disruption of traditional lifestyles has led in most cases to a pauperization of the original inhabitants of the region. For every tract of land the ECL takes on lease for 99 years, the community loses its common property resources

and other traditional rights of the land. The jobs that are given as compensation usually go to the upper and land owning classes and castes. Even when the landless farmer does get some financial compensation package, it is either inadequate as it has to be divided among several members of his family, or is soon exhausted, or spent on consumer goods, good for a while, daughters' marriage etc. In other words, the monetary compensation does not create any permanent subsistence asset.

An ordinary human being, with deep attachment to the land, then turns into a scavenger living a marginal existence to the mainstream mining-industrial-urban economy.

Many women of such landless families have now been forced into stealing coal from abandoned mines and old open cast quarries. Many of them are often harrassed by the police. Collection of old used polythene bags, rags and paper is another occupation besides the usual work as day-labourers of *thikadars*.

In many areas of Raniganj, coal occurs so close to the surface, that the temptation to dig it out is irresistible particularly in view of the stagnant agricultural sector. Any tool is used for this purpose and the near-vertical rat-holes with their maze of labyrinths are sheer death traps. These are called 'illegal mines' and innumerable such mines are scattered all over the region. The survival needs compel many Santhals, Bauris and other formerly land-based castes to take up this occupation. A large number of women are employed in these mines though no formal data exist on these illegal mines.

Thus the peasantry, now dispossessed of land, gets drawn to the mining industry at the lowest level as unskilled, high-risk, illegal labourers.

WOMEN IN MINING

In the Raniganj Coalbelt, the mining workforce presents much heterogeneity and great

complexity. The bauris were the first to bring their women into the colliery and the role played by their women was quite significant. The santhals, kols, koras or bhuiyas also joined the mining industry with their womenfolk.

The Annual Reports of the Chief Inspector of Mines (1901-'21) provide information on the women workers of the mining industry in the first quarter of the present century. The following table gives an idea of the share of women in the mining workforce at that time.

Table II :
Proportion of women workers in Mining 1901-1921

Year	Number of Workers				% of Female
	Underground		Surface		
	Male	Female	Male	Female	
1901	38,706	17,300	16,976	9,220	47.62
1904	38,497	15,939	37,101	16,244	42.56
1908	44,599	25,398	25,399	17,774	55.96
1913	48,280	30,920	28,676	15,209	54.94
1918	65,443	43,449	42,985	21,624	60.01
1921	66,040	42,165	49,942	28,666	61.07

Among the various castes and communities, there were differences in the proportional representation of women in the mining sector. The following table gives evidence to this fact.

Table III
Proportional representation of castes : Eastern coal Mining Industry

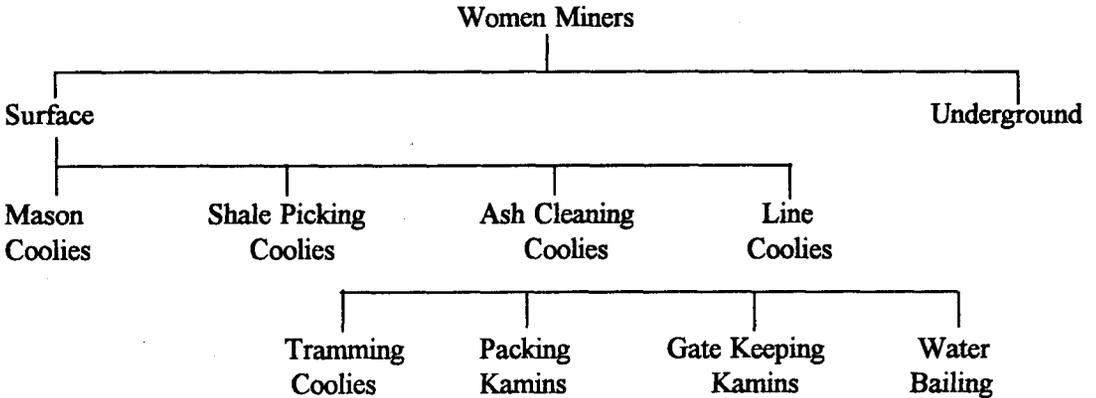
Castes	Women/100 men of Their own Caste	Castes	Women/100 men of Their own caste
Dom	111.0	Jolah	59.4
Beldar	102.0	Bauri	55.8
Santhal	87.9	Teli	45.5
Bhuiya	80.1	Rajpur	27.2
Malhar	79.5	Goala	24.5
Kurmi	67.5		

Source : Seth, B. R. (1940) *Labour in the Indian Coal Industry*, Bombay, P. 129.

A hazardous occupation like mining evoked little response from the upper caste women by way of participation. Women were initially employed as 'gin girls' (an abbreviation of the

term 'engine') but with the advent of steam engines, this mechanical system of lifting coal from shafts was 'phased out' and women found work in a greater variety of fields.

Around the turn of the century, the following types of jobs were women-intensive.



In the early part of the present century women mine workers emerged mainly as *loaders* of coal cut by their respective male partners. A typical family system of operation was prevalent in the Raniganj coalbelt, until the ban of the underground employment of women between 1929 and 1938. The bauris and santhals readily shared the work with their womenfolk. The women worked as loaders while their male partners - father, brother or husband - cut the coal (Roy Chaudhuri, 1996). To the British investigators like A. A. Purcell and J. Hollsworth (as mentioned in Sinha, 1975) suchy family system appeared entirely 'different' from that 'in our own collieries' where miners as an industrial class had already been formed and women coal cutters were rarely treated as partners of male workers.

The system operated well for several reasons - the tribal sentiments of family attachment, unwillingness of women to carry coal for men

of another caste, and above all, for yielding large economic benefits for the owners and for providing uninterrupted maintenance of work-rhythm.

The advent of machines in coal production in India resulted in a shift in the fortunes of women mine workers. As deep shafts replaced the open cast mines, women were considered unfit for underground jobs. The technological shift produced in its wake a ban on women labour for underground mine work. However, the wartime needs compelled the colonial government to once again permit underground employment of women in Bengal and Bihar coal mines as a temporary measure (Despande, 1946).

Since independence, the number of women mine workers has gradually been falling in the Raniganj coalbelt. The situation has now taken serious proportions with the ECL's avowed

policy of discouraging women workers without opening any alternative channels of employment for them.

The ECL has recently begun modernization of the coal mines. This would mean another wave of technological changes, and another wave of wiping out of women workers from Raniganj mines. In the current phase of modernization heavy pay-loaders and earth movers operated by men would work the open cast mines whereas computerized heavy machinery would raze out entire coal seams from underneath the ground. Once again, women workers are being considered as dispensable, and the development process is bypassing the womenfolk who have contributed so much to the growth of the mining industry of India.

The following table gives an idea of the decline in numbers of women workers in ECL during the last one and half decade.

Table IV
Proportion of Women Workers in ECL
1980-1996

Year	Male	Female	% of Female of Total
1980	1,69,136	16,084	8.69
1981	1,72,705	15,451	8.21
1982	1,75,523	14,616	7.69
1983	1,76,294	15,117	7.90
1984	1,76,597	15,086	7.87
1985	1,75,851	14,979	7.85
1986	1,76,049	14,703	7.71
1987	1,73,854	14,557	7.73
1988	1,72,614	13,618	7.31
1989	1,70,471	13,631	7.40
1990	1,65,829	12,875	7.20
1991	1,65,085	12,804	7.20
1992	1,63,298	12,297	7.00
1993	1,61,354	12,327	7.10
1994	1,59,236	12,491	7.27
1995	1,52,355	11,450	6.99
1996	1,51,855	9,879	6.11

Source : EC:

This figure also includes those women who are employed as white-collar workers in the various offices of ECL. No woman is now offered a job, especially in the colliery areas, as an explicit policy matter of the ECL. Even in the case of death of their husbands or close relatives, women are encouraged to opt for an encashment facility instead of being recruited for work. The few women who still work for ECL are now employed as sweepers, bearers or, if it has to be a mining-related job, as mud pellet-maers at best.

Clearly, the Raniganj coalbelt is becoming an overwhelmingly male domain. The region provides an example of how changes in technology and economic organization of pre-independence India and post-nationalization times have interacted to produce a rigidly hierarchical and patriarchal society vis-a-vis women's place.

Such an extreme separation of men's and women's lives was also noted in the colliery villages of Durham, England, by McDowell and Massey (1984), who studied the gender division of labour in several regions of the U.K.

Once women's labour is forbidden, the mines become an exclusively male preserve. Men are the industrial proletariat selling their labour power to a monopoly employer, but also enjoying ownership of the home. Mining is perceived as a dirty, dangerous and hazardous job, in whose appalling conditions the men risk their lives. The shared risks contributed to a particular form of male solidarity. Women's banishment from the male world of work has, in several ways, excluded them entirely from the power to determine their own lives. Even the several trade unions operating in the region do not consider it necessary to highlight the issue of the exclusion of women from the mining industry. Moreover, the actions taken by the panchayats usually consist of catering to

the practical gender needs of the poorer women (such as the construction of a tube well for making the task of carrying water easier) but not to more vital strategic gender needs to bring fundamental changes in the women's role in the society and economy.

From a recent study (Lahiri-Dutt, 1996) we found in the Raniganj Coalbelt, the average Female-Male ratio (EMR) is only 839; a figure

much below the national average (929), state average (917) and district average (899).

Within the region, there is a variation in gender distribution, revealing the facts that mining in the Raniganj coalbelt is undoubtedly a male industry, and a lower level of mining development is associated with a better gender distribution and lower level of urbanization.

Table : V

Urbanization and Gender Inequalities Administrative Units of the Raniganj Coalbelt, 1991.

Name of Tehsils/ P.S.	Level of Urbanization	FMR Total Pop.	FMR General Pop.	FMR Scheduled Caste Pop.	FMR Scheduled Tribepop
Salanpur	9	880	847	906	1009
Kulti	100	843	823	878	959
Hirapur	100	838	822	874	981
Asansol (North)	87	835	827	866	956
Asansol (South)	0	861	804	856	968
Barabani	13	910	884	908	1026
Jamuraia	54	832	804	873	913
Raniganj	79	804	776	852	939
Pandaveswar	401	786	755	832	885
Ondal	82	797	775	837	863
Faridpur	21	847	825	871	943
Average	67.27	839.4	812.9	868.5	849.3

CONCLUSION

Two observations may be highlighted from this study :

- 1) Environmental degradation is gradually marginalizing the women of landless families in the Raniganj coalbelt turning them into environmental refugees and scavengers; and

- 2) modern developments in the mining sector have alienated the women of the Raniganj coalbelt, making them victims of development.

In the Raniganj coalbelt, mining development has not only meant the ecological and cultural breakdown of bonds with nature and within societies, it has also transformed the women

into alienated individuals at the lowest strata of the society with no power to change their lives, and who take the full brunt of environmental degradation.

In the process of planned destruction of the environment, there has been a displacement of

poorer landbased, communities in the region. Among the weaker groups women were particularly vulnerable as they were systematically excluded from the mainstream development leading to their further marginalization.

REFERENCES :

- Despande, S. R. (1946) *Report of an Enquiry into Conditions of Labour in the Coal Mining Industry in India*, Delhi.
- Dhar, B.B. and D.N. Thakur (1995) *Mining Environment*, Oxford and IBH Publishing Co.Pvt. Ltd., New Delhi, Calcutta.
- Down, C.G. and J. Stocks (1978) *Environmental Impact of Mining*, Applied Science Publishers Ltd., London.
- Chief Inspector of Mines (1901-'210 *Annual Reports*.
- Environment Protection Agency (1995) *Best Practice Environmental Management in Mining*, Barton Act, Australia.
- Lahiri-Dutt, K. and Ira Ghosh (1996) *A Woman's Place? A study on the Role and Status of Women in the Raniganj Coalbelt, Burdwan District, West Bengal*, Technical Report No. 3, Department of Geography, Burdwan University, Burdwan.
- Lahiri-Dutt, K. and Soma Lahiri (1996) *Environmental Impact Assessment of the Raniganj Coalbelt*, Technical Report No. 2, Department of Geography, Burdwan University, Burdwan.
- Lahiri-Dutt, K. (1995) *Mining and Urbanization in Raniganj Coal belt, Burdwan District, West Bengal*, Technical Paper No. 1, Department of Geography, Burdwan University, Burdwan.
- Lahiri-Dutt, K. (1995) 'Occupational Structure of Mining Towns in West Bengal', *Urban India*, July-December, NIUA, New Delhi.
- Lahiri-Dutt, K. (1994) *Mining Development and Consequent Degeneration of the Urban Environment : A Planned Alternative for Raniganj Town*, *Geographical Memoirs*, NBU Journal of Geography, Siliguri.
- McDowell, Linda and Doreen Massey (1978) 'A Woman's Place?' in Doreen Massey and John Allen (eds) *Geography Matters*, Cambridge University Press.
- Paterson, J.C.K. (1910) *Bengal District Gazetteers : Burdwan*, Calcutta.
- Rothermund, D. and Wadhwa, D.C. (eds) (1978) *Zamindars, Mines and Peasants*, New Delhi.
- Roy Chaudhury, Rakhi (1996) *Gender and Labour in India : The Kamins of Eastern Coalmines*, Minerva, Calcutta.
- Seth, B.R. (1940) *Labour in Indian coal Industry - Bombay*.
- Shiva, Vandana (1988) *Staying Alive : Ecology and Development in India*, Kali for Women, New Delhi.
- Sinha, P. (1975) *Development of the Mineral Industries of Bihar, 1833-1918*, Muzaffarpur, p. 175.

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