

MINING IN THE HIMALAYAS

REPORT ON A FIELD STUDY IN
ALMORA AND PITHORAGARH DISTRICTS

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SUMMARY

For many years now women in the hills have been forced to live with the deleterious consequences of deforestation, soil erosion and low productivity. The hill districts have also had to bear the burden of a growing population, and the migration of males in search of gainful employment elsewhere has become commonplace in most families. In this situation the acceleration of mining activities in the Kumaon region over the past two decades has further aggravated economic and environmental degradation. Geologically the Himalayas constitute a fragile zone. There is clear evidence that activities like mining lead to landslides, land subsidence and air and water pollution.

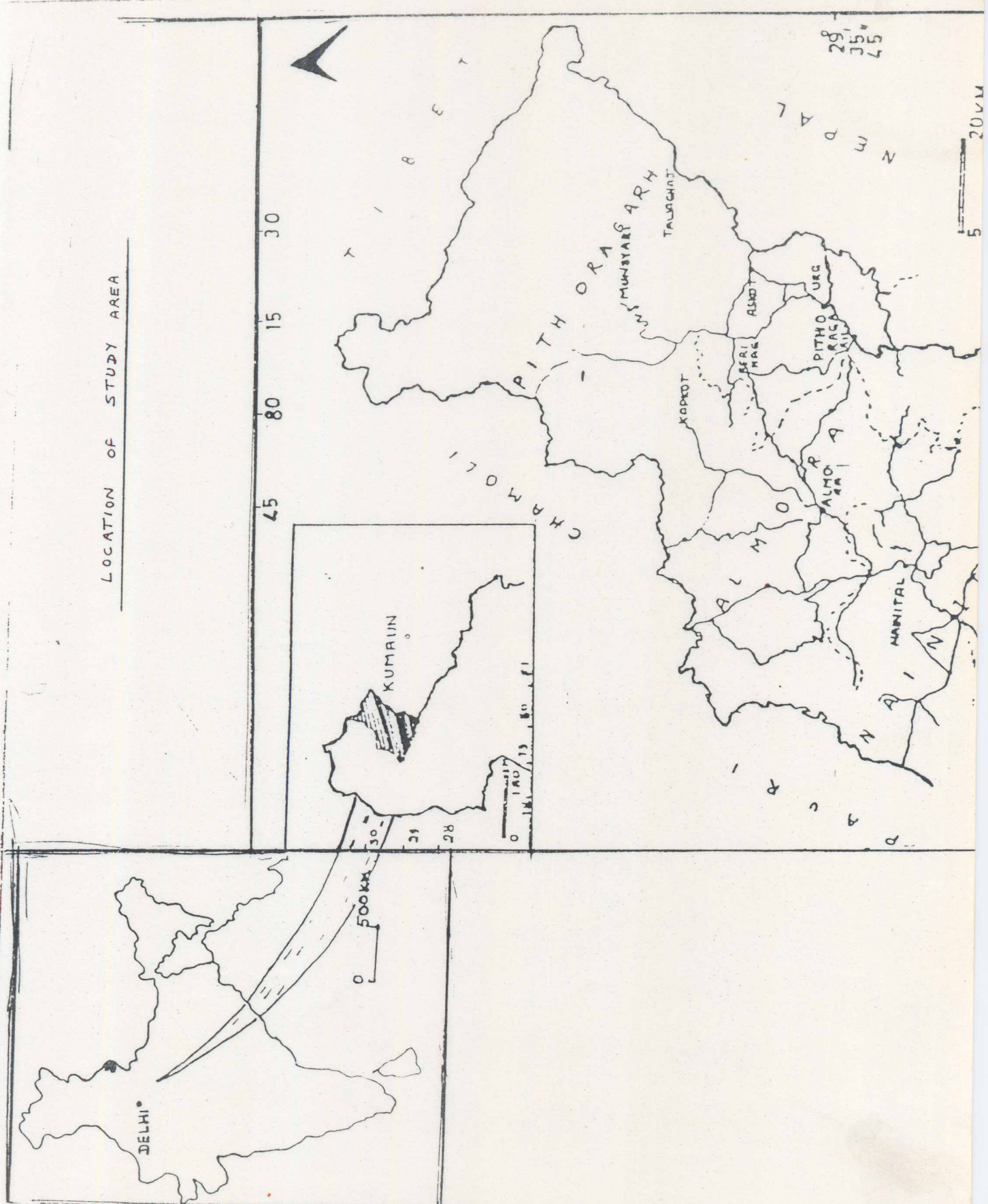
This study investigates the experiences of selected villages in the vicinity of mine sites in Almora and Pithoragarh districts. The correlation between environmental damage and economic loss was found to be high in all of the sites visited in this study. The protests and agitations observed have been reactions as much to economic as to environmental changes. Although these protests have each had an important local context, and to that extent some unique elements, they also show some significant parallels and contrasts with each other. One common feature that deserves emphasis in the context of gender analysis is the participation of women in roles of leadership in agitations protesting damage to common property resources.

Mining leases have gone mostly to private entrepreneurs, with a trading and commercial background, and without local connections. Profits have been repatriated outside the region. There is evidence of very cursory observance, if at all, of labour laws and safety regulations. Institutions for the redressal of grievances do exist. But they are ineffective. There is need to develop a coherent mining policy for the country which will adequately balance "local" and "national" needs and provide for processes of leasing and operation that are responsive to local grievances. The

only enterprise which has shown itself to be responsive to local needs is the joint sector Almore Magnesite Co. This enterprise too has had to face many protests. Its responsiveness has been a consequence both of more enlightened management and of organisational structure.

This study found, among other things, that dust pollution and land subsidence are adverse environmental impacts found in almost all the sites; mining is done in a haphazard fashion leading to accidents; only feeble attempts have been made towards land reclamation; employment generation has been minimal; and mining has not led to any acceleration in the rate of economic growth. The agrarian economy has been adversely affected, and women have borne the brunt of adverse changes. In some ways this study is only a beginning, and should be a stimulant to more focussed research on technical issues. But there is enough evidence that whatever the concern: economic growth, sustainability or human rights: the present methods of mining and processes by which leases are granted do not contribute to any of them. Development processes that can build upon traditional strengths need to be encouraged. If the findings of this study are negative in their assessment of mining impact, they also endorse the inherent vitality of the local people.

LOCATION OF STUDY AREA



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Ratna M. Sudarshan
(Project Co-ordinator)

CHAPTER ONE

INTRODUCTION

Activists from the Himalayan region have in recent years been asking for "extreme" measures from the State, measures that seek to stop processes of "development". The Chipko agitations called for an end to the timber trade; the construction of the Tehri dam in Garhwal is being strongly resisted even as the building of the dam proceeds. The Vishnuprayag hydro-electric project is seen as an ecologically disastrous and economically futile project.¹ Limestone quarrying in the Doon Valley provoked a sustained protest and culminated in a Supreme Court decision two years ago banning the activity. Not all agitations have succeeded in their objectives and not all activists agree on which development decisions are disastrous: but there is a common theme that runs through all these diverse protests, the charge that development projects are actually endangering the region and its inhabitants, that deserves analysis.

Industrial policy in India since Independence visualized the creation of heavy and large scale industries as the base for all round economic development. The Himalayan region was not among the early beneficiaries of this policy and there has been very little investment in industry here. Classified as a "backward" region large scale development projects are today being encouraged because they offer employment potential and could

¹ Chandi Prasad Bhatt, in Illustrated Weekly Sept. 23-29, 1990.

stimulate other industries. But simultaneously with their introduction there have been warning cries from some local residents and activists.

The Uttar Pradesh hills have a land and animal based economy, and with the exception of Nainital and Dehradun districts there is practically no industry here. The agricultural sector does not generate much surplus. One sample study of 2000 households in the eight hill districts showed that only 2% of the agricultural output was offered for sale.² However the services sector has expanded considerably. This has been a consequence of the "Special Areas Development Act" and increased allocations for hill development. This cash inflow has increased salaried employment and petty contractors but has had no observable effect on the productive capacity of the hill economy. Government employment can itself be seen as another form of subsidy to the hill areas. Moreover "development" has been discontinuous and has followed crisis situations, most notably those created by the Chinese aggression of 1962, intensification of the Chipko movement, and most recently the demands for a separate hill state.

To mediate between the opposition of the activists and the economic promoters who argue in favour of developmental projects, ISST undertook a study with special reference to women, of the impact of mining in Almora and Pithoragarh districts of the Kumaon. The investigation was done in response to a request

² Giri Institute of Development Studies.

by Radha Bhatt, an activist of the region. The location of the area studied is shown on the map.

Table 1.1 gives some summary demographic indicators for the region.

Women were chosen as in the hill economy, they are vital economic agents. The economy rests on their work of farming including maintenance of cattle, as well as their work of household maintenance: fuel, fodder, water collection. It was felt that women provide the appropriate set of people from whose angle this issue could best be understood. The contention of the activists is not just that mining causes ecological damage, but also that there is a violation of human rights. Damage to soil, water, air affects the means of livelihood of local people, and hence their rights to food and health. Women are among those who are most affected.

Government policy has encouraged commercial and industrial interests in the Himalayas by offering such incentives as backward area subsidies. The need for planned management of the environment was acknowledged in the Sixth Plan and has been reiterated in all subsequent plans. Areas of conflict between these two objectives have rarely been addressed.

The strength of the international environmental lobby has been growing ever since the Stockholm declaration of 1972. The Brundtland Report, published in 1987, made a forceful case for "sustainable development" and the recently published report of the South Commission reiterates this concern. India was the only

country whose Head of State attended the 1972 Conference, and the Sixth Plan drawn up shortly afterwards emphasized the need for "environmentally sound planning and development of human settlements". Adverse impacts of development projects were identified. Thus:

"For instance, mining operations in India have often led to serious problems of water and air pollution, land subsidence and scarring of large tracts of land. Indiscriminate discharge of wastes by industries has caused a whole variety of pollution problems including those due to heavy metals and other "exotic" chemicals that are inimical to all life forms. The unplanned, intensive use of agricultural chemicals have led to cases of water pollution and appearance of pesticide residues in food and food products..."(p348 6th plan)

The advisory National Committee on Environmental Planning and Co-ordination (set up in 1972) was felt to be inadequate and a need was felt for new legislation as well as the creation of a Department of the Environment.

A fairly strong statement was made on the necessity of more sensitive planning for hill areas:

"Our experience of development planning during the last three decades has increasingly underlined the fact that unless adequate programmes are evolved for the conservation and proper utilisation of the resources of the hill areas, not only the problems of these areas will continue to remain

unsolved, but the economy of the plains may also be adversely affected. Symptomatic of this aspect are the rapid siltation of dams, reservoirs, flooding, changes in agro-climatic conditions and pressure on the employment market because of the large scale migration of people particularly men from hill areas.....

There is, therefore, a paramount need for conceiving an integrated strategy for the development of the hill areas based on sound principles of ecology and economics."

(p.413 6th plan)

Indian planning accepted the necessity for sustainable development much before many other countries. But there remains a hiatus between thought and speech, and action. To many people, the activist protests spells a limited understanding, a mindless panic.

Those described as 'activists' here are individuals and groups with a demonstrated concern for local development and environment issues. It is not assumed that their views are representative of all hill people, nor that all activists share a common world view. Indeed, even while protesting against one form of intervention, we find that another is being sought. But this is not necessarily contradictory - no activist suggests that resources of the region should not be used at all for national benefit. The conflict turns around the measurement of benefits. It must be emphasized that this study seeks to assess the impact of mining without implying that this is the only "culprit".

This study after examining the evidence confirms the anxiety of the activist: the State has a responsibility towards the hill people which it is not fulfilling. There is need for information and for responsiveness by the authorities. It is also the case that mechanisms exist at the local level to manage and resolve many of the ecological problems that exist. The State needs to guide in the light of their experience: not to impose and direct a counter productive development.

TABLE 1.1

DEMOGRAPHIC DATA ON ALMORA AND PITHORAGARH DISTRICT (1981 CENSUS)

1.	Area (Sq. Km)	5385		8856	
2.	Population M	5,64,000		2,43,000	
	F	3,93,000		2,46,000	
	T	7,57,000		4,89,000	
	R	7,09,000		4,62,000	
	U	48,000		27,000	
3.	Cultivated Area (1000 ha)	1,05,470	***	66,326	***
4.	Foodgrains output (per capita)	180	**	317	**
		227	***	257	***
5.	Livestock	699.686	*	554.139	*
6.	%Literate	37.76		39.08	
7.	Population Density (Sq.mt)	141		55	
8.	%of total population Living in cities	6		5.52	
9.	Females/1000 males	1081		1014	
10.	Average family size				
	R	5		5	
	U	4		4	
	T	5		5	
11.	Workers in agriculture as % of total population (cultivators & labourer)	23.6		30.2	
12.	Agriculture labourer as % of total population	0.5		0.5	
13.	Main Workers :				
	Agriculture (Cultivators)	73.25		78	
	Agriculture (labourers)	1.57		1	
	Cottage Industries	1.54		2	
	Others	23.64			

* Represents figures of 1982

** Represents figures of 1984-85

*** Represents figures of 1985-86

 Source: Statistical Report on Almora and Pithoragarh
 Economics and Statistical division. State Planning
 Institute, U.P, 1987.

CHAPTER TWO

The Context: Evolution of Industrial Policy

The objective of planned development in India has been growth with social justice and equity. The particular strategies followed have been adapted over the years to meet changing circumstances. There is a consistency in the attitude of the State towards the role of industry and the Five Year Plans provide a good guide to the philosophy behind State policies.

The First Five Year plan had to address the problems caused by war and partition and few resources were available for industrial development per se. Around the time of Independence different views were expressed on what India's industrial policy should be. Nehru favoured an emphasis on capital goods industries which would enable India to create the infrastructure for an industrial sector that could be modern, competitive and self-reliant. Gandhi felt that in a country like India if any impact had to be made on the lives of the many millions living in poverty, resources should instead be put into developing wage goods industries, with emphasis on employment generation and meeting basic needs. Small scale village industries, widely dispersed, created to meet local needs were in his view what India needed.

Although the Gandhian view had its supporters, there was a widespread political and intellectual consensus that India needed to develop its industrial sector if it wished to achieve any genuine degree of self-reliance, and for long term productivity

increase. But in recognition of the need for employment generation, a proportion of resources has been set aside in each plan for the stimulation of small scale enterprises. The creation of institutions like the Khadi and Village Industries Commission can also be seen as a gesture to the Gandhian view.

The Second Plan and the Industrial Policy Resolution of 1956 defined the pattern of subsequent industrialization in India. The general thrust was to assert that State planning should be directed at the creation of a base of heavy industries. Emphasis was given to the need for import substitution. A mixed economy concept was introduced, with the public sector controlling the "commanding heights" or the heavy and infrastructure industries. But the relationship between the public and private sectors was to be "complementary and supplementary". This strategy is today under great pressure to change. In the 80's India underwent some liberalisation in its economic policies, and the election manifestos presented for the May 1991 election all accept the need to 'free' the economy. Significant changes in economic policy still have to be made, however.

Implications for Mineral Mining

A result of such an approach to industrialisation is that a large demand has been created for inputs into the industrial sector. This is the source of most of the mineral demand in the country as only a negligible quantity of minerals are directly used in consumer goods industries. Thus the large investments

made in iron and steel also led to an intensification of mineral development: mention is made in the Second Plan of an agreement with Canada for technical assistance for an aeromagnetic survey for identification of mineral deposits.

It is generally recognized today that the ecological and other implications of mining, and industrialization in general, vary greatly according to terrain, and that mining in hill areas in particular has consequences for soil erosion and land degradation that are far more damaging than on the plains.

However, no special mention is made of hill area development, except in regard to forest policy and soil conservation, in the first four plans. A Central Soil Conservation Board was set up in 1953, and subsequently extended to all states. (p.309 2nd plan)

A reading of the Section on forest programmes in the 2nd plan suggests that increasing the availability of timber and other forest produce for commercial purposes was an important determinant of policy. Thus:

"Extensive areas could be profitably put under such plantations (i.e. timber) , especially as it is clear that the country's needs for timber and other forest products already exceed production levels and are likely to increase further. . .

The plan provides for adoption of improved "logging " methods particularly with reference to the use of efficient tools for felling and extraction. . . .

Along with improved logging, attention will also have to be

given to large- scale development of forest communications."
(p.303 2nd plan)

The Third Five Year Plan intensified the programmes for mineral exploration and development, with a view to locating workable reserves and replacing imports.(p.518 3rd plan)
To enable this the Geological Survey of India and the Indian Bureau of Mines were both expanded.

Among the more important programmes that were undertaken was the detailed investigation of magnesite deposits in Almora and Salem (Tamil Nadu). Detailed mapping, geological investigations and drilling of deposits in, among other districts, Almora and Pithoragarh, was to be done for copper, lead and zinc. (p533-534)

The 4th and 5th Plans continued the general policy although mention is made of the need to correct "imbalances" that have arisen, as well as the need to encourage greater dispersion of industry and prevent the concentration of economic power. As part of the attempt to promote more balanced regional development, the Fifth Plan introduced a Hill Areas Development Plan. The purpose of doing this was two-fold: to stimulate development, as well as prevent further damage to the eco-system. But commercial considerations still dictated forest policy.

The Sixth Plan brought more directional changes. ¹ Concern with regional imbalances continued. To quote

¹ The Draft Sixth Plan was drafted while the Janata Party was in power, and perhaps the added emphasis upon equity, ecology and gender reflects the concerns of intellectuals who were not altogether happy with development in post-Independence India.

"The expectation that massive investments in Central sector projects would have a wide ranging "trickle down effect" in stimulating small and ancillary industries has not been realised in many states."(p260 6th plan)

In recognition of the uneven distribution of economic benefits, the plan carried for the first time a separate chapter looking at women and development; likewise on environment and ecology.

The Seventh Plan placed much faith in the ability of "sunrise " industries (like telecommunications, computers, micro-electronics, biotechnology) to take India " into the ranks of leading industrial countries of the world" .

"The investment pattern and policy framework should facilitate structural change within the industrial sector towards high-technology, high-value-added and knowledge-based industries like electronics, advanced machine tools and telecommunications. As defence production involves many areas of application of sophisticated technology, appropriate links will also be forged between defence needs and industry."

(p.165 7th plan)

On minerals:

" Minerals, being non-renewable resources of the country, require special attention so that these are exploited and utilised in an optimal manner...

Greater stress will have to be laid on the aspect of

conservation of mineral resources of the country to cater to the various requirements. Formulation of a long term national mineral policy would be desirable...

Small scale mining in the country will need to be put on a sound footing..."

(7th plan. pp 170-1)

The chapter on Environment and Ecology is assertive in the importance it places upon the restoration of already degraded eco-systems. The plan draws attention to the implications of population growth, perhaps with inadequate emphasis given to technology and social process. It proposes setting up demonstration projects in selected areas, which would include mined area reclamation.

On the hill economy:

"It is increasingly evident that development efforts tend to produce wide-spread systemic effects (often deleterious) as a result of strong interactive linkage effects between a growing population, fixed or limited resources, and a fragile eco-system and environment."

(p.328 7th plan)

In order to implement a strategy of growth which had a "total perspective embracing complementarity of interests of both the hills and the plains", people's participation would be essential. For this, the suggestion is made that:

"The people's involvement can be ensured by ingraining the concept of "social fencing", which implies a voluntary and

self-imposed discipline in managing society's resources at the local level."

(p328 7thplan)

While it is laudable that people's participation is made central, the concept, as articulated, might be more effective in organizing the management of common property resources like forests and pastures, but less so in resolving disputes in the use of resources like water or minerals, which involve inter-sectoral conflicts.

Industrial Policy and Legislation

The plan documents are useful sources for identifying the theoretical basis of the state industrial policy. But here as everywhere between statement and reality there is often a gap. The IPR of 1956 laid down certain directions for investment which by and large have been influential all along. The identification of the need for special attention to backward and hilly regions, as to women, and the emergence of an understanding of the need to have environmentally conscious planning has resulted in the creation of new institutions and specially designed policies. But it is probably correct to say that no fundamental restructuring has taken place. One way to assess the impact of the numerous policy statements is to look at relevant legislation. On the whole it would seem that responsibility to take action that would reduce the incidence of poverty and ecological damage has been too easily satisfied by the passing of high minded laws which are not implemented; and this situation cannot change as long as the

State and its institutions remain heavily centralized.

As it is, the motivation behind mining legislation was to regularize payments and ensure that the government got a share of profits. People's rights are not considered and there is no provision for due process or participation.

A View from Below

The Seventh Plan also witnessed a new planning phenomenon, i.e. the identification of "model districts" all over the country, for which plans were to be drawn up with the intent both of developing region sensitive plans as well as attempting to develop replicable modules. Almora district was selected as one of these model districts. However the Almora District plan that was drawn up by the administration made no changes in policy or direction - it represented simply a request for more of the same.

The plan (1988) has been criticised: for example, Madhav Ashish, of Mirtola Ashram, Almora, commented:

"With all the roads, bridges, electric [power lines and water supplies, and with dozens more programmes for poverty alleviation etc., which together leave no aspect of rural life untouched, there is no sense of rural enthusiasm in development as a whole, nothing comparable to the enthusiasm generated in the early years of the Panchayat Raj before it was crushed by petty political interests. In consequence, although career oriented bureaucrats have to

show zeal in fulfilling project targets, they cannot but feel frustrated and depressed at the lack of public response...

This lack of public response ..indicates that both the policies and their implementation are not felt to be relevant to the people's most essential needs...Irrelevant policies must fail to inspire a public readiness to co-operate..

The health of the rural economy is founded on the natural wealth of the land in terms of its material productivity, and not on the economy's purely monetary aspect...

The importance of the uncultivated land has to be emphasized..

For example, in the U.P. hills the uncultivated lands produce all the fuelwood, building timber and wood for tools, building stone, slates and sand; they yield most of the fodder (and so milk and most of the manure for cultivation) all forest litter (used as cattle bedding and then as organic manure) bamboos and fibres) (for baskets and ropes and medicinal herbs; and they form the major part of catchments for the infiltration of rainwater to feed the hill springs...

In identifying the roots of rural poverty as a poverty of material resources, it follows that restoration of the productivity of the uncultivated lands ought to be the priority of the district plan, but no such priority is

identified." ²

An important dimension in the lack of rapport between administrators responsible for implementing government programmes, and the local population, is that administrators very rarely meet women. It is recognized that women are the mainstay of the economy, that they are the "main workers" in the agricultural sector and that their co-operation is essential for introduction of new seed varieties or other innovations. It is often suggested that more education and more training, which will draw them into organised sector activities, is the long run solution to poverty and low income levels. But the agrarian economy will continue to remain important in the foreseeable future. Women's wellbeing and co-operation in development efforts depends in a crucial way on the easy availability of drinking water, fuel and fodder. Until the impact of development policies on these is taken into account, district plans will continue to be unrealistic and unpopular.

Since the nature and impact of development is central to this study and even in what is presented here by way of an introductory statement there is an implicit criticism, a clarification is necessary. It is not being suggested here that change is bad, nor that it is possible at zero cost. What is being highlighted is that there is an inequity in the recognition of certain costs and not of others and that the processes of

² Madhav Ashish, "A New Look at Rural Planning", Economic and Political Weekly.

planned development need to provide corrections to distortions
that have arisen over the years.

CHAPTER THREE

Measurement Issues: Implications for Methodology

Mining activity generates costs and benefits. Inputs into industrial development are the key economic benefit of, and justification for, mining. Other benefits take the form of increase in employment, direct and indirect, and additions to infrastructure, such as roads, schools, hospitals. The "costs" are often intangible. In a region of high resource dependency, degradation of the environment imposes economic costs through the effect on agrarian activity, and the time spent on collection of fuel, fodder and water, but this loss is often invisible. Social change has to be assessed carefully in order to capture the effects on the security and status of women. Political change, in the form of new alliances and new organisations, generates its own costs and benefits.

No single index can capture this range of impact. Physical or geological measurements have to be considered alongside economic and social ones to get a complete picture. This study tries to use all the appropriate sciences but integrated horizontally. It may appear like a pot pourri: but the nature of the domain studied and the goal demand a consideration of a range of variables.

Methodology

Several suggestions were made on methodological issues at an orientation workshop held in May 1988. Since the primary concern was with change, it was suggested that a comparison of "mining"

and "non-mining" areas should be done in lieu of a "before" and "after" analysis. In an assessment of change it would be essential to identify the beneficiaries. Given the intention to focus on women's views, questions and conversations should be guided by a concern to identify differences in perception where they existed. It was felt that using a time allocation method to study the effects of environmental degradation on the lives of women might be useful. Emphasis was put on the need to have an appropriate sense of learning, of respect for "traditional knowledge". Apart from questionnaires and group discussions direct observation would play a critical and important role. On the attitude of the observer, there were different views: the balance of opinion favoured a "conscious partiality".

Informed by these ideas the study was designed with the intention of "narrowing down" on the problem; by gradually selecting from a universe of villages some "problem" villages, then from the households in these villages a sample of households fulfilling stipulated criteria would be chosen for more intensive study, and a time allocation technique used to study the implications of increasing cash inflows on women in situations of high natural resource dependency.

At the same time there was a clear understanding within the team doing field research -consisting of three research associates and nine field workers-that this methodology would be revised in the light of their experiences and "participant observation".

In designing the methodology of this study it was intended to draw on sound academic research models in evolving a style of research suited to the study. Knowledge of more than one science was needed- something which was sought by working in partnership. The objective was to use the tools of academic science to represent knowledge available with the activist, to expose and articulate grass root experience in order to challenge the theory and technology of measurement.

The suggestion for the study came from Radha Bhatt, an activist of the Kumaon and also a trustee of the ISST. Her own involvement with anti-mining agitations had been accompanied by a degree of violent reaction- including stone throwing, defamatory articles, etc. She felt strongly that while the study needed an academic input to differentiate it from an activist struggle, it was likely to encounter obstacles to overcome which a high degree of commitment would be needed.

In putting together a team, it was felt necessary for this reason to recruit people who had not only the needed academic experience but who also met the criterion of commitment. A decision was also taken to recruit local girls from cities in the Kumaon, as far as possible. It was felt that this would minimize or at least reduce intellectual encroachment. It was also seen as a means of empowering members of the team, through exposure both to the "outside" and to the realities of the Kumaoni village. The scholars recruited from outside the area were likewise well informed and committed, and the same experiences

were expected to be equally empowering to them.

As part of the object of "walking" along with activists meetings were held prior to starting the study with experts of the region and with activists, to get a better sense of what were the issues, which the most sensitive areas. There was a large measure of agreement and contact between people from different parts of the Kumaon, which made the task easier in providing a multiplicity of non-antagonistic "entry points". It also indicated the age and maturity of the protest in that an already existing network was available. The ready acceptance and sustained cooperation that was received all through the duration of the study is something to be acknowledged with gratitude.

The experience of the study raised a number of questions pertinent to social science research of this kind. These questions are raised here not because the study was able to answer them fully, but because they are of relevance to appropriate methodology. A more homogenous research team might have produced a more focussed, quantitative analysis. The richness of the research process however owed much to the varied experiences of the group, a richness that it is impossible to capture in this final output. But the meshing together of a quantitative analysis with participatory action research proved to be challenging.

The hope that activists and academics could work together was largely fulfilled : but this was possible because the conflict between the "outsider" and the local was not raised.

The suspicion of the outsider, in the form of a professional whose training and reactions reflect different environments is a strong one. Likewise, the impatience of such a professional with what appears to be slow and outmoded ways of living and working. The study leads to a query : how best a professional can be knitted into a study where the local and the activist are seen as important actors.

Long spells of residence involving continuous interaction with each other was seen as a solution. But this raised a problem of a different kind. Most of the researchers/investigators felt that such long spells of academic "probing" were unjustified. Could "action" accompany the research? While each person did their bit - little acts of help like securing an old age pension, taking a child to a hospital - and in one case securing ration cards for a group of migrant labourers - still, these acts did not seem adequate. While many of the investigators at this point were ready to assist with action programmes, and funds were forthcoming, organisational problems proved to be stronger. Such a programme could not be co-ordinated from Delhi, and it was not possible to identify a suitable person in the area. Moreover, the Kumaon is an area of very active NGO groups: it seemed more logical to request these groups to consider extending their work to the specific villages/areas studied. Despite a high level of enthusiasm, the hope of extending the study into some action projects did not materialize.

The challenge of action following the research, whether directly or through the catalyzing influence of research results, remains.

Field experiences and research process

Phase one: The preparatory work and initial village surveys proceeded without friction. Early on however it became apparent that it would not be possible to have a joint investigation by the lawyer, geologist and economists on the team. This indeed had been one of the strong attractions of the study. The mechanics of inter-disciplinary research, in retrospect, could have been better worked out. For various personal and professional reasons each of these "expert" investigations was done more or less independently although with many intersections. As a corollary the strength of the findings was to be in the semi-anthropological social surveys.

There was no list of villages affected by mining available at the outset. While information on mine leases is available at the collectorate, it is not at one place and not always up to date. In preference to choosing villages on the basis of information available with the administration, contact was established with NGO's known to have been involved with anti-mining disputes. This led to around 44 villages being visited in the two districts. The district records were also consulted and used where possible. Information on the major mining sites was

also obtained from an eminent expert on the region, Dr Valdiya of Kumaon University, Nainital, and government geologists in Almora.

The village visits were not exhaustive. But as it would not have been possible to investigate each known mining village a decision was taken to stop after 45-50 villages had been visited. The larger and better known sites were all covered as also those where there had been popular resistance. Often it was the villagers - and in one notable case, the investigator- who indicated which the worst affected areas were. It thus became possible to find out about villages which even the NGO's were unaware of. Inevitably, some "problem" villages got left out simply because the information showing the extent of the damage there became available only towards completion of the study.

This preliminary survey revealed the inadequacy of civic amenities in the area. Out of the 43 villages for which this information was collected, 8 were located along a main motor road and had markets. (See Table 3.1) This ease of access has also meant a greater visibility to the district administrator. The other villages can be reached only on foot, the trek being anywhere between 1 and 15 kms. The fact that many of them are extremely small, especially if compared to the large size of plains villages, might suggest that it would be 'uneconomical' to distribute facilities adequately. However, this pattern of settlement, with many small and scattered hamlets brings out the need for innovative systems in the provision of facilities.

Although the supply is erratic and of a low voltage, 35

villages had electricity. However, only 13 had a motorised grinding stone within the village. The situation regarding drinking water supply is ironic. While 39 villages, had piped water, in each case other sources (springs, rivers) continue to be significant : in no case has tap water actually displaced traditional sources nor is it the primary source anywhere. So while lines have been laid for electricity supply and water, the demand for kerosene for lighting continues to be high, as does the dependence on natural water sources.

Seven villages had primary health centres. None had veterinary facilities at village level. Once again, people have to fall back on traditional health systems. The shocking fact emerged that in Naag gaon, Pithoragarh, a Harijan village, not a single child had been immunised. A few homes in 8 villages had toilets. Where primary schools were not located in or near the villages, children tended to start school late. It is impractical to suggest that each hamlet should have its own school, but not that each should have pre-primary facilities in the form of balwadis or aanganwadis. In the hills, these play a particularly critical role since a distance of 2-3 kms., acceptable in the plains, becomes too risky for small children to manage on their own. But only 12 of the villages surveyed had either a balwadi or aanganwadi. Mahila Mandals (women's groups) were found in 4 villages.

No correlations could be drawn between the presence of different facilities. In part, this reflects the multiplicity of

responsible organisations. The question arises that if it is indeed uneconomical to distribute facilities more widely, should the state consider re-allocating its investments and strengthening traditional systems of water management and health? Some amenities can become more widespread only if the villagers strongly support and demand them - especially those that provide support to women such as, "Balwadis" and "Mahila Mandals", and better sanitation facilities. People's organisation seems more critical here than technology.

Phase Two

Twenty one villages were selected for the next phase. These included all the villages where the problems posed by mining in the form of environmental degradation or economic impact, was great. Often the search for mining areas had taken the investigators to places where mining had stopped some years ago. Some of these, where no notable occurrence had been recorded, were not pursued further. At other places clusters of villages had been visited. From these clusters a few were selected and this selection was done in consultation with the investigators, so that "crisis" villages were included. [Table 3.2, 3.3 and 3.4 lists the villages selected and the criteria used, and some of the main features of each mine.]

The criteria for selection of villages for household surveys included popular reactions to the mines, economic status and caste structure. The sample chosen offered opportunity for contrast and comparison.

The scale of magnesite mining is much greater than

soapstone, as are the economic benefits. Jhiroli, Matela were selected from among the villages in the AML complex, Jhiroli because it is a "problem" village which has to be resettled, Matela which on the surface has got net benefits.

Sikrani and Tarigaon were chosen to illustrate the impact of the two Pithoragarh magnesite companies.

From among the soapstone villages, Khirakot and Chaurasthal were chosen for historical reasons both being villages where protest led to mine closure. Naag is a small village in Pithoragarh, where a slate quarry was closed after a landslide and it was chosen because of its high degree of economic and social backwardness. Okhaldhunga, Chhatikhet and Jhankot were chosen because there is active protest going on but the mines are working. Rai-agar and Pharsali were chosen in contrast because there seemed to be no apparent protest.

While the reaction to the mine was the main basis on which villages were classified, care was taken to include villages which are relatively prosperous and those which are very poor. Thus Chhatikhet and Jhankot are neighbouring villages but Jhankot is a Harijan cluster, poor and lacks electricity, water, unlike Chhatikhet. Economic structure and caste composition, in addition to mining experience, were used as criteria in selection.

It was felt that no non-mining villages need be studied, since (1) a great deal of information on non-mining villages had already been collected if inadvertently and (2) the experiences

of the mining villages needed careful investigation. In effect, this decision was a part of the "research process" that had been agreed upon.

To encourage participation in research, frequent workshops and meetings were held with the intention not only of exchanging experiences and reflecting on problems, but also of encouraging both verbal and written presentations.

The pre-drafted questionnaire method was also used, as without some formal structure investigations would have been difficult. While the village survey questionnaire had posed no problems, some of the investigators were unhappy with the household questionnaires that were canvassed next. This questionnaire was a fairly long one and in addition to listing members of the household it also sought to find out what notable changes had taken place in the life of the family over the last twenty years, and via consumption patterns, to establish the degree of natural resource dependency.

The objections raised to the questionnaire were of different kinds. One was specific, as it was felt that the question on consumption was very time consuming and difficult to answer. On this it was decided that while the question should be retained for the first round of household surveys it could be modified in subsequent villages. This way we would still have some sample information on patterns of consumption and home production.

But some of the investigators were unhappy about canvassing this questionnaire, feeling that many issues would not be brought

out: that the questionnaire might impose blinkers. This of course was never the intention. As the alternative being suggested was not clear it was decided that at this point some uniformity could be sacrificed: that those who wanted to "follow their noses" could do so. For others a sequence of jobs was stipulated, including interviews with labourers, mine management, local doctors and research in the district archives.

No "second round" selection of households for further study took place. The time allocation study was also abandoned. Most of the team felt that they could not continue "probing" without being able to offer specific programmes of assistance. The villagers everywhere were helpful and hospitable. And the evidence of neglect was overwhelming. Above all there were no employment opportunities, no training centres for women. The long periods of stay in each village, necessitated by the household questionnaire, deepened understanding but increased the responsibility.

Phase Three

In all 770 households were visited in villages clustered around 10 mining sites representing a census of households in 21 villages. Analysis of this data has been done at ISST. A first tabulation was done by the field workers and any obscurities were clarified by them. Apart from questionnaires, the field research generated reports on each village/area/mine, on a geological analysis, copies of appeals and applications made by villagers,

newspaper reports, notes from district archives, interviews, published articles, and even a few direct appeals to ISST for specific kinds of help.

The purpose of this data - gathering exercise was to understand the impact of mining at the level of the household, and the kinds of classification at the level of the household that are meaningful. It became clear that classification in terms of 'mining' and 'non-mining' households had very limited validity. With the exception of villages in the AML complex, and to some extent in Pithoragarh magnesite, elsewhere mining offered employment to those who would otherwise have sought employment as casual manual labour. There was nothing distinctive about mining employment in respect of income, skills or job security. In this situation a separation of mining households would not be revealing. The category offering greater scope for analysis was migrant or non-migrant households. But most households had at least one migrant member. Migration is moreover a male phenomenon : the total number of women migrants in this sample was 22 (1.5% of all adult women), and these had accompanied their husbands. Since the ultimate intention was to identify the impact on women, those households without an adult male present ('or female headed households') were examined. Caste and land ownership were the other possible criteria for household classification. It was hoped, at the outset, that contact with each household would enable follow-up action programmes to be developed.

The next chapter highlights the struggles against mining.
These form the backdrop for the impact analysis that follows.

TABLE 3.1

AUDIT OF FACILITIES AT VILLAGE LEVEL
(Villages Surveyed = 43)

	No. of villages	Comments
Location Easy Access	8	Located along main road, proximity to bazaar.
Electricity	35	Low voltage, erratic
Power mill	13	Often located in fair price shops, location determined by public distribution network.
Water (piped)	39	In every case other sources of water (springs, streams, rivers) continue to be used to a highly significant extent.
Primary Health Centre	7	
Toilets *	8	A few homes in each village
Balwadi */ Aanganwadi	12	Balwadi often run by NGO, aanganwadi part of government programme.
Mahila Mandal*	4	

 (* These require local support & participation, in addition to
 some external financial support; other facilities have been
 provided according to government plans and programmes)

TABLE 3. 2

SELECTION OF VILLAGES : CRITERIAMINING VILLAGES :
MAIN FEATURES

VILLAGE ALMORA DISTRICT	MINE SIZE		OWNERSHIP		OPERATIONAL		PROTESTS		OTHER FEATURES
	Large	Small	Joint	Pvt.	Yes	No	Yes	No	
1.Jhiroli	L		J(AML)		Y		Y		Crisis village to be resettled Harijan
2.Matela	L		J(AML)		Y			N	Thakur Village; land acquisition partial. (Selected to enable more balanced impact of AML)
3.Chhatikhet		S		P	Y		Y		Thakur; relatively prosperous; active protest without NGO support.
4.Jhankot		S		P	Y			N	Harijan
5.Khirakot		S		P		N	Y		History of sustained protest culminating in cancellation of lease.
6.Chaura (Bhulyuda, Ganyuda)		S		P		N	Y		History of protest leading to closure; Geologically fragile zone.
7.Pharsali	L			P	Y			N	Apparently smooth functioning presenting interesting contrast.

VILLAGE PITHORAGARH DISTRICT	MINE SIZE		OWNERSHIP		OPERATIONAL		PROTESTS		OTHER FEATURES
	Large	Small	Joint	Pvt.	Yes	No	Yes	No	
8.Tarigaon	L			P		N	Y		Closed at present but expected to re-open
9.Sikrani	L			P	Y		Y		Relatively prosperous, appears to have benefitted economically despite environmental damage.
10.Naag		S		P		N		N	Harijan village; extremely poor, negligible health/education facilities.
11.Rai- agar-Odiar	L			P	Y			N	Apparently smooth functioning. Odiar (Harijan Basti) included for contrast if any.
12.Khan- peira		S		P	Y		Y		Remote and inaccessible, apparently unsuited for mining; geologically fragile zone.
Okhald- hunga		S		P	Y		Y		

Table 3.3
Summary of criteria in selected villages

	Low	High
Access	4	8
Economic Status	6	6
Protest	5	7
"Crisis"	6	6

 (Details as below)

Village	Access	Protest	Eco Status	"Crisis"
Jhiroli	L	H	L	H
Matela	H	L	H	L
Chhatikhet	H	H	H	L
Jhankot	H	L	L	L
Khirakot	H	H	H	H
Chaura	L	H	L	H
Pharsali	H	L	L	L
Tarigaon	H	H	H	H
Sikrani	H	H	H	H
Naag	L	L	L	L
Rai-agar	H	L	H	L
Khanpeira & Okhaldhunga	L	H	L	H

TABLE 3.4

MINING AREAS SURVEYED

S.No.	Ore	Proprietor	Lease Year	Area under lease (hec.s)	Whether Working	Distance from nearest town	Neighbouring villages surveyed	Distance from mine (Kms.)	No. of household surveyed
1.	Magnesite	Almora Magnesite Limited	1972 for 20 year	351.67	Yes	50 Km. from Almora	1.Jhiroli (including families now in Malladana, Sitarganj), 2.Janauti Paladi 3.Matela 4.Bilori 5.Kafligarh (*near factory)	3 11 8* 1 10	48+12+10 84
2.	Magnesite	Himalaya Magnesite Limited (Previously M/s. Export Drive Pvt. Ltd.) Regional Office 8 A.P. Sen Road, Lucknow	1972 (20 years)	360	Closed Since 1986	10 Kms. from Pithoragarh	Tarigaon	200m.	44
3.	Magnesite	Minerals & Magnesite Ltd.	1973 (20 years)	514	Yes	8 Kms. from Pithoragarh	1.Bakar Katya 2.Gondiagaon 3.Dharigaon 4.Halpati 5.Dhunga 6.Sikdani 7.Bajeti	100 m. 200 m. 100 m. 250 m. 0.5 50 m. 1.5	16
4.	Soap Stone	Katiyar Minerals Pvt. Ltd.	1976	14	Closed since 1982	7 Kms from Kausani	Khirakot Khakoli	2 2	116
5.	Soap Stone	Man Mohan Pathak	1973	48.56	Yes	34 Kms. from Bageshwer	Malladesh	4-5	129
6.	Soap Stone	Y.P. Srivastava	1974	131.26	Yes	14 Kms. from Bageshwer	Chhatikhet Jhankot	1 1	32 37

S.No.	Ore	Proprietor	Lease Year	Area under lease (hec.s)	Whether Working	Distance from nearest town	Neighbouring villages surveyed	Distance from mine (Kms.)	No.of household surveyed
7.	Soap Stone	Chaurasthal Soap Stone (Mangal Singh Ethani)	30 March 1984	85.00	Closed since 1986	from Bageshwer 40 Kms.	Loharkhet Chaura Ganyuda Bhalydua Pethi	5	39 17 14
8.	Soap Stone	Darbar Singh Dange Minerals Ltd.	1984	27.27	Yes		Dophad Rai Agar Odias	1 1 0.5 0.5	49 51 8
9.	Soap Stone	Sahni & Co.	1968 Lease expired 31/8/88	12 acres	Yes	13 Kms. from Jauljibi	Okhaldhunga Imkhola	0.5	26 11
10.	Soap Stone	Devaki Pande	1978	12.98			Ghattavaged Khanpeira	1.5	7 4
11.	Soap Stone	Sahni & Co.	1971	5.62		25 Kms. from Pithoragarh	Devalthal Pithroli	200m 1.5	
12.	Slate	n.a	n.a	n.a	Closed since 1985		Naag gaon	0.5	17

CHAPTER FOUR

LOCAL CHOICES: STRUGGLE AS STATEMENT

People who have had to live with mining have often protested against its adverse impact on their livelihoods. These protests should properly command priority in any "objective" study as they sharply and poignantly give expression to the human condition which dry data and social science surveys cannot capture.

Chipko and Community Action

The best known of recent peasant protests in the Kumaon is the body of agitations that is grouped together as the "Chipko movement". These agitations were a reaction to extensive felling of trees by timber contractors. In contrast published literature on protests against mining is scanty. Ramachandra Guha suggests that Chipko is not a struggle against commercial forestry alone:

"state forestry is by no means the only threat to the ecological and social stability of the hills, for the past decades have witnessed a rapid expansion in the scale of commercial penetration in Uttarakhand. This is exemplified by the location of large dams, increasing mining operations and the spread of alcoholism. This intensification of resource exploitation has been matched almost step by step with a sustained opposition, in which Chipko has played a crucial role, in catalysing and broadening the social consciousness of the Himalayan peasantry. Thus, movements against big dams, unregulated mining and the sale of

illicit liquor have been organized by all three wings of the Chipko movement."¹

Women played a key role in the Chipko agitations. A group of Pakistani women who visited India in 1987 and had a special interest in the Chipko movement and the roles that women played in it concluded that,

"movements such as Chipko cannot be transplanted to another culture: they are too much a product of local circumstances to be neatly replicated elsewhere. Yet the lessons of Chipko ... are applicable everywhere: the importance of drawing on the strengths of the community, the value of training, and the need to use indigenous species of plants and animals. A second conclusion was that education plays a key role in determining leadership. The leaders of the Chipko movement are mainly educated men, whereas the women-most of whom are not trained-form the strength of the resistance."²

On the other hand Vandana Shiva says that,

"The significant catalysers of the transformations which made Chipko resistance possible have been women like Mira Behn, Sarala Behn, Bimala Behn, Hima Devi, Gauri Devi, Gunga Devi, Bachni Devi, Itwari Devi, Chamun Devi and many others.

¹ See Ramachandra Guha, The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya, Oxford University Press, Delhi 1989, p.179.

² Quoted in Dankelman and Davidson, op.cit., p.129-130.

The men of the movement like Sundarlal Bahuguna, Chandi Prasad Bhatt, Ghanshyam Shailani and Dhoom Singh Negi have been their students and followers." ³

An often quoted example of the difference in environmental understanding of men and women is that of the village of Dungari Panteli. At a meeting held in 1978 the men, when asked what trees should be planted suggested fruit trees, while the women when separately questioned said that fuel and fodder giving trees were needed. This and other examples of Chipko struggles where women's perceptions were different have been documented elsewhere.⁴

The essence of a Chipko-type movement is that the local population understands the need to preserve and conserve the natural resources of the area. ⁵ This is not surprising given the high levels of natural resource dependency of the hill people. But the abnormal situation that has existed for some time

³ Vandana Shiva, Staying Alive: Women, Ecology and Survival in India", Kali for Women, New Delhi, 1988.

⁴ See for example, Malini Chand, "Women and Forestry" Nairobi 1985; Guha op.cit. pp.163-4; Gandhi Peace Foundation, Hamara Paryavaran (Hindi), New Delhi 1988, pp 142-43.

⁵ The Chipko Movement has been described as "the Third World's most celebrated indigenous, non-urban, environmental protection group...It may be a unique example of a radical movement whose main activists are rural women and which is neither overtly religious nor founded in a nineteenth century European philosophy. Instead the Chipko Movement looks to the political philosophy of a Third World leader, Mahatma Gandhi." See Martin J. Haigh, "Understanding 'Chipko': The Himalayan People's Movement For Forest Conservation", International Journal of Environmental Studies, 1988, Vol.31, pp.99-110.

now, with a virtual fodder famine, has begun to erode traditional systems of managing resources.

There is a conflict between resource use for the elite urban majority and the large majority of the people. As Vandana Shiva puts it,

"Political struggles based on ecology in industrially advanced countries are rooted in this conflict between long term survival options and short term over-production and over-consumption. Political struggles of women, peasants and tribals based on ecology in countries like India are far more acute and urgent since they are rooted in the immediate threat to the options for survival for the vast majority of the people, posed by resource intensive and resource wasteful economic growth for the benefit of a minority."⁶

Resource use for the benefit of a minority even when it threatens the survival of the majority, generates some jobs and more expectations among them. A set of local beneficiaries is created whose own interests are opposed to that of the community taken as a whole.

Historically, the Kumaon has been an area where the relative absence of sharp inequalities has led to a strong sense of solidarity. Thus Guha cites evidence that at the turn of the century,

"fully nine-tenths of all hillmen were estimated to be

⁶ Vandana Shiva, Staying Alive, p.9.

hissedars, cultivating proprietors with full ownership rights".

And again -

"The dreaded triad of 'Sarkar, Sahukar and Zamindar (which was a political fact rooted in the very nature of British power in the subcontinent' was here conspicuous by its absence.." ⁷

Also, as a result of the difficult terrain, many parts of the Kumaon have remained relatively isolated. But over the years increasing commercialisation has strengthened divisive forces- sometimes between men and women, sometimes between the affluent and the poor.

Consequently the community is no longer as homogenous as it used to be. The viability of traditional ways of organising people and resources cannot be taken for granted. ⁸ At the same time only local management bodies can hope to understand the diversities that exist. The "breakdown" of communities does not reduce the necessity for decentralisation in policy making.

Anti-mining agitations

⁷ See Guha, op.cit. pp. 17, 129.

⁸ A system of community management of forests that was evolved six decades ago is that of the "Van Panchayats", and it is interesting to note that in a recent evaluation of the Van Panchayat experience, it was found that "Single village Panchayats do much better than multi-village Panchayats. Similarly mono caste village Panchayats do better than multi caste village Panchayats." See S.L.Shah, "Functioning of Van Panchayats in 8 Hill Districts of Uttar Pradesh- An Analysis of Present Malaise and Lessons for Future in the Context of the Proposed Van Panchayat Niyamawali 1989." (mimeo)

Mining alters the pattern of resource use and hence the beneficiaries. Licenses have been given to "outsiders" who have had neither the interest nor the legal obligation to restore the land or minimize other damage. It is well known that the communities of the Kumaon are agricultural and depend on the land for their subsistence. It is not always as well understood that the hill people are at least equally dependent upon uncultivated land, pastures and forests.⁹ Mining like commercial forestry is an interference with the balance between people, animals, land and other natural resources. Unchecked population growth increases the imbalance.

This imbalance affects livelihoods. Where people can exercise choice, through withholding labour, the form of protest will be different. But "exit" is not an option open to the communities under study. So, even if the agitation is short lived, and whether or not it achieves its purpose, it represents an exercise of "voice" that should not be ignored.¹⁰

Table 4.1 does not capture the nuances of each agitation, but it shows that degradation or loss of common property resources such as pasture/forest land, combined with the occurrence of landslides, has generally been the cause of protest. NGO's have been involved only in some places.

It also brings out very clearly that where CPRS have been the

8 See Madhav Ashish, S.L. Shah and M.G. Jackson, "Forest Panchayats: Resource Management by the people, for the people"; Shiva, Staying Alive, p.85.

¹⁰ See A.O. Hirschman, "Exit, Voice and Loyalty"

basis for resistance, women have led the protest. Where wages or compensation has been the basis, men have been the leaders.

These differing reactions are a natural consequence of the different occupational roles that men and women have. It is difficult to measure precisely the time spent by women on agriculture, animal husbandry, some cottage industry, and domestic activities, but most women are engaged in at least two of these (the only exceptions being the most destitute). A very small proportion is engaged in service occupations such as teaching. But there is no participation in government or other non-agricultural work. In the aggregate, 96% of women were involved in agriculture, and they constituted 70% of all those engaged in this work. Concern with pasture and forests is naturally more quickly perceived by women.

The occupational distribution for men shows that 64% have only limited and tangential contact with the land. The activities they are engaged in, involve remuneration entirely in cash, hence their greater participation in salary/compensation related disputes.

How much significance can be accorded these protests?

In a recent analysis of environmental movements, Bina Aggarwal said

"While there is widespread grassroots resistance to (these) inequities and nature's destruction-to the processes, products, people, power and profit-orientation that underlie them-the voices of this resistance are yet too scattered to

impact politically beyond the immediate local context. At the same time, their message cannot be ignored, even from a purely growth and productivity concern, and even less so if our concern is with people's sustenance and survival".¹¹

One more point might be made here. Although these movements can be seen as "environmental" in nature, it is important to emphasize that in India, no real distinction exists between the environment and the economy. Setting up of industries in places that are agricultural and also densely populated by poverty households, has always been disruptive. This disruption is inevitable because of the new demands now made upon available resources. The tension inherent in this pattern of industrialization was recognized long ago and constitutes the basis of the Gandhian critique. The intention behind having village industries is to enable the development of non-traditional outputs in such a manner that the villagers, through their property and ownership rights, participate and benefit by such development. But when urban capitalists have an exclusive claim on the use of resources the impact of industrial development is simply exploitative. The real conflict might well be between local and central management; whereas it is generally posed as a sectoral conflict. "Environmental" issues such as water, soil, air, are very much "economic" concerns for households that obtain their food, water and fuel from the land and forest, and not from a market.

¹¹ See Bina Aggarwal, EPW OCT 28, 1989: p.WS-61

The two chapters that follow present a profile of mining protests to highlight the nature of the problem, its perception in the minds of local residents and the response of the authorities.

TABLE 4.1 : A summary of protests in mining areas

<u>PRIMARY REASON FOR PROTEST</u>			<u>NGO INVOLVEMENT</u>	<u>RESULT</u>
<u>1. REDUCTION IN COMMON PROPERTY RESOURCES (PASTURE, FOREST)</u>				
Khirakot-Khakoli	1980-82	YES	MINE CLOSED	}CPR's have been the basis for resistance and women have led the protest, with support from men.
Chaurasthal	1984	YES	MINE CLOSED	
Chhatikhet	1984	NO	MINE CLOSED ¹²	
Payyan-Pauri	1985	NO	MINE CLOSED	
Pithoragarh	1982	YES	MINOR CONCESSIONS	
<u>2. LANDSLIDE: EXPERIENCED OR ANTICIPATED</u>				
Okhaldhunga	1980-present	NO	NIL	}No clear gender dimension
Rima	1986	NO	NIL	
<u>3. BETTER WAGES/COMPENSATION</u>				
Kanda	1987	NO	WAGES RAISED	}Wages/compensation basis for protest and leaders have been men.
Jhiroli		NO ¹³	OCC CONCESSIONS	

¹² Temporary Closure.

¹³ The Almora Magnesite workers union has made frequent demands for higher wages and more employment. Residents of Jhiroli have protested rehabilitation. As a result the mines have often been closed.

CHAPTER FIVE

A PROFILE OF PROTEST-(I)

Khirakot and Chaurasthal, in Almora district, are "success stories" in the history of anti-mining protests. The protests in Okhaldhunga, Chhatikhet and Kanda have been no less vigorous, but they have been unable to do more than articulate the problems. All of these areas have been-or are- sites for soapstone quarries with similar methods of quarrying being used.

Khirakot

The first organised agitation against mining took place in Khirakot and subsequent agitations carry in greater or lesser degree the impress of this one. ¹ The method of protest used was non-violent as elsewhere.

Khirakot is a village in Almora district about 7kms from the town of Kausani. In 1975 a lease to extract soapstone over an area of 14 hectares was granted to Ram Pal Singh Katiyar, a resident of Kanpur. This area was part of the village Van Panchayat forest. The forest was a source of fuel and fodder for residents of both Khirakot and Khakoli. No permission was sought from local residents prior to the mine being opened. Had it been, the strength of local organization for forest protection would have become apparent. Some years previously, in the mid-

¹ After the Khirakot experience, a meeting was organised by the Lakshmi Ashram to discuss "Mining and the Mountain." This was attended by activists and others and a report on it can be found in Ansuya, September 1986, pp 1-10.

60's, the Forest Department gave out a timber contract in the forest of a neighbouring village. The resulting shortage of fuelwood and fodder led to a great pressure on the Khirakot forest, as women from surrounding villages began to use this. Seeing the denuded state of their forest, the women of Khirakot were moved to act. They fenced the area, guarded and protected it and strictly rationed use. In a few years the trees had grown and the forest was dense.² It was in this same forest that the mining contract was given.

In the first two or three years, the scale of extraction was relatively small, and some employment was given to local labour. Initially, soapstone was exported in its raw form. As the enterprise demonstrated its profitability a factory was soon set up for processing the ore. This was located at Chanauda, along the main motor road, about 4-5 kms away from the quarries, and the rate of extraction began to increase.

Mining in the forest reduced fuel and fodder supplies. Large pits were dug and many accidents took place. Debris from the mine flowed into the fields; soapstone dust in the water allegedly led to dysentery. Transporting the ore down to the factory created another set of problems. The ore was carried down on mules. This damaged the paths and made it necessary for women on their way to or from the fields to wait, often for hours, until the mules had passed. Women were also harassed by

² See Radha Bhatt, "Lakshmi Ashram: A Gandhian Perspective in the Himalayan Foothills", in Speaking of Faith, op.cit.. pp 168-174.

migrant labour that Katiyar had replaced the local labour with.³

These problems all affected the women more than the men, and were perceived first by them. With the help of village youth they blocked the paths making it difficult for the mules to pass. The forms of resistance used at that time showed a peculiarly feminine guile.⁴ But such actions did not stop mining.

From August 1980, the women became more militant and eventually succeeded in persuading the men to join them in protesting actively against the mine. The entire village met to decide how to organise the protest- and for the first time the women attended such a meeting. A "Sangharsh Samiti" was formed. This resistance continued until 1982, when the lease lapsed and as a result of the sustained agitation was not renewed by the administration. The course of the agitation has been recorded in detail elsewhere.⁵ We note here only certain salient points.

³ While migrant labour is not uncommon in the hills, it seems that the immediate reason for Katiyar's decision not to employ local labour was the occurrence of accidents on the quarries. Two local boys died and while this particular family took the meagre compensation offered and did not make trouble, it seemed preferable to avoid entanglements on account of death or disability. Malati Devi, Khirakot, in conversation.

⁴ See Krishna Bhatt, Profile of Malati Devi, Vol. II, for a detailed account.

⁵ See Radha Bhatt, "Women against mining: A struggle for survival" in The Fight For Survival: People's Action For Environment, Centre for Science and Environment, New Delhi, 1987, PP145-153; Kamal Joshi, "Khirakot Andolan" (Hindi) in Vama, June 1984, pp24=27.; see also files held by H.S.Bhakuni, Lakshmi Ashram, Kausani.

The Khirakot experience has also been analysed by Devaki Jain, "Gandhian Contributions Toward A Feminist Ethic", in Diana L. Eck and Devaki Jain (eds) Speaking of Faith: Cross-Cultural Perspectives on Women, Religion and Social Change, Kali for

First, the women appealed right at the outset to Radha Bhatt of the Lakshmi Ashram for support -the Ashram is 7 kms away and had been associated with activities in the village over many years. It is difficult to say how far this association was responsible for the success of the agitation. The women identified the problem and also its solution. According to Devaki Jain,

"All that seemed necessary (in these situations) was a link to some source of self-confidence. The women needed simply to recognize their own strength- they did not need to be told how to organise, or how to overcome their difficulties. Such a life-line is provided by the work and inspiration of institutions like Lakshmi Ashram." ⁶

Second, once the decision to organize a protest was taken, and the damage being caused by the mine became evident to everyone, the men joined in. "For two and a half years, these women and about 80% of the men campaigned." ⁷ But the women

Women, New Delhi, 1986, pp262-3._

⁶ Devaki Jain, Gandhian Contributions, op.cit., p.264.

A similar analysis has been offered of the support given by Sachidanand Bharati to a Chipko protest in Gadkharkh village, Garhwal, in 1982. "The Gadkharkh women's spontaneous initiative to guard, protect and regenerate the forest came from their experience that conservation guarantees survival..All that was needed was a catalyst, in this case Bharati, to spark their spontaneity." Renu Wadehra, quoted in Dankelman and Davidson, op.cit., p.60.

⁷ Radha Bhatt, Women against mining, op.cit., p.151._

were the initiators and remained more vocal and unswerving: the men at best were their allies.

Third, in relative terms, Khirakot has literate and well-travelled population. 80% of the men and over 20% of the women are educated. 60% of the migrants are in secure, government jobs. This economic security might have helped in creating a climate for successful resistance.

Fourth, Katiyar tried to break this resistance by using caste divisions. He offered employment to the economically weakest sections hoping that this would buy their loyalty. But despite his attempts, the villagers remained united.

It is interesting to note that in their recollections today, the event most vividly remembered is the case that Katiyar lodged in the court against 22 of the poorest villagers. The villagers attended each one of the hearings, which were held in Almora, some 50 kms away. Their travel and other expenses were borne by the entire village. But in fact the charges of "breach of peace" and "public nuisance" were less serious than perceived; what is remarkable is the unity that was shown by the village.

Perhaps the most impressive thing about the Khirakot experience is that the involvement of the people did not stop with the closure of the mine. Since there is no statutory obligation upon the mine owner to restore the land to its original condition, Katiyar departed leaving the pits and quarries as they were. The villagers, in true Gandhian spirit, contributed voluntary labour, or "shramdan" in a week long camp

held in January 1983. The pits were filled in and trees planted, with so much success that today only a dense forest is visible where the quarries once were. Afforestation was so successful that within two years a leopard made its home there, and in one month killed nineteen cows! ⁸

Chaurasthal

The agitations in Chaurasthal and Pithoragarh took place soon after. Chaurasthal, in Malla Danpur, is on the slope of a high ridge, and prone to landslide. It is about 40 kms from Bageshwar. A lease to mine soapstone was given in 1984 to Shri Mangal Singh Ethani of Bharari, Almora. Ethani was previously a "contractor, transporter and businessman".

Mining began on land owned by some villagers from Pethi village nearby, although the area was used as grazing ground for cattle from four neighbouring villages. Extraction began during November 1984 and the ore was carried by mules down to the newly constructed Kapkot-Loharkhet motor road, where it was loaded on to trucks.

A people's protest movement started during May-June 1985. While it was initiated by the local people, active help was given by a local NGO, the Grameen Uthaan Samiti and by the Lakshmi Ashram, Kausani. It was demanded that the mining stop forthwith. The reasons given were the loss of pasture land, degradation of fertile land, and the drying up of a perennial water source which

⁸ See Radha Bhatt, "Women Against Mining," p.150.

originated in the area demarcated for mining. Above all the villagers feared that mining would lead to major landslides.

Soon after mining started, the miners struck water. This alarmed the villagers and the women protested. They approached the labourers who were initially not prepared to stop working on the mine. So the women kept them, at first by force, in a room, and attempted to convince them that it was not in their interest to continue mining. The contractor retaliated with violence: stones were thrown on the activists and villagers; articles appeared in local and state level newspapers defaming Radha Bhatt, one of the prominent activists. The villagers on their part continued the protest by taking out a protest march ("padyatra") from Kapkot to Bageshwar, holding demonstrations at Bageshwar, Kapkot and Song, and approaching both the Sub-Divisional Magistrate and the Commissioner, Kumaon. The women then went on a relay hunger strike; the fierceness of the resistance, and the support of the local government officials, led to the quarry being abandoned. No formal cancellation of the lease took place, but no "Mining Plan" had been prepared, and this was used by sympathetic officials to stop mining. Some years later houses were built on this land under the Indira Awaas Yojana, so that any future attempts at mining in the area are unlikely.

As in Khirakot, in order to protest effectively, a unity had to be reached not just between men and women but also between residents of neighbouring villages. Both the Lakshmi Ashram and

the Grameen Uthaan Samiti were involved in the organization of the protest. As in Khirakot the women were at the forefront, and this gave the movement a unique character:

"The whole movement against the mining grew around a temple with a goddess. The work for regenerating the land began with crackers and other objects which the people usually take for puja. They first worshipped the goddess and then went in a procession, with drums, to the barren land where they were going to build a protective wall against cattle. They worshipped the land and the soil, like they do when they build their own houses." ⁹

In order to strengthen their case, the Grameen Uthaan Samiti commissioned a geological study by a reputed geologist.¹⁰

Following the closure of the mine, the necessity of restoring and stabilising the land was recognized by the NGO's. Accordingly the National Wastelands Board was approached for a grant to do this. The Chaurasthal area is recognized as being fragile and prone to landslides. According to the proposal made out for the NWDB:

"a major geological fault exists in the area, making the region prone to earthquakes...As a result of seismic

⁹ Radha Bhatt, "Women against Mining" op.cit., p.152.

¹⁰ The person approached was Dr K.S.Valdiya (Professor of Geology at the Kumaon University, Nainital), who is known to be an expert on the mineral resources of the region, and who has been ardently active in the effort for restoration of derelict land. Two students of the Professor came upto Kapkot to carry out an investigation, but were prevented by the mine owner from proceeding further.

activity and thrust movements rocks get sheared, shattered and get locally inverted making the hill slopes in such affected areas extremely unstable, which often lead to slope failures, landslides and rock degradation...The geo-physical features mentioned above have made the entire Saryu Catchment ecologically extremely sensitive. For a distance of about 30 kms on both sides of the drainage area, each micro-watershed had undergone massive landslides, resulting in loss of life (47 persons died when a landslide hit Loharkhet Micro watershed during 1957) cattle, agricultural land and other human property. The Loharkhet dak bungalow kitchen has developed wide cracks in the walls and could collapse anytime.

The natural geophysical forces have been responsible for creating degraded land, full of massive boulders and rock material, which require immediate steps to stabilize them....

Land and water resource degradation have been induced by natural agencies and human activities related to excessive and unscientific land use. Consequently low economic turnover, poor self-employment potential, migration of able bodied educated and non-educated youth, increasing hardship in day to day living, decline in the basic resources of firewood, fodder and drinking water and a constant threat of annihilation by landslides, have caused serious socio-economic stresses, weakening of community structures

and wellbeing of the people inhabiting the area." ¹¹

The grant from the NWDB enabled a very successful participatory programme of restoration. Equal wages were given to all, no contractor was employed and the entire process was planned as well as executed by the villagers. Not only did this reclamation, done without any engineers or other experts supervising it, succeed in reversing the damage caused by mining, but a continuous natural landslide was also checked. Activists suggest that while not every area would be as prone to land movements as the Chaurasthal area, the Himalayan range by and large is one where the margin of permissible stress on the land is low, and developmental activity which does not take this into account is not only inequitable in its impact but is counter productive. The difficulty is that while the inequity or hardship is quickly perceived, the counter productive aspect is only seen in the long run, and not always appreciated as such by policy makers.

Chhatikhet

Chhatikhet is a small village in the Pungar valley, Almora District. Mining of soapstone started here in 1979, after a lease was given to N.S. Corporation of Calcutta. The leased area,

¹¹ Taken from a project proposal for the development of the area, submitted in November 1985 to the National Wastelands Development Board by Dr Virendra Kumar (Professor of Botany at Zakir Hussain College, Delhi University), on behalf of the NGO's that had been active in the agitation against mining in the area i.e. the Lakshmi Ashram, Kausani and the Grameen Utthaan Samiti, Kapkot, District Almora.

altogether 131.26 has is in two blocks, one falling within the villages of Chhatikhet and Jhankot, and the other some distance away in Rima. The area mined in Chhatikhet was previously used as pasture land. Almost immediately after mining started, the people of Chhatikhet protested. The issues raised included fear of landslide; damage to fields from debris; danger to children and animals from open quarries; damage to water; failure to employ locals; and above all the loss of pasture land. As a result of this opposition, mining in Chhatikhet has been intermittent and local opposition has forced closure three times.

Women have played a prominent part in these protests. One of their leaders, each time the mine has started, has set things in motion by her passionate appeals:

"Come, let us go, armed with our sickles. If they do not stop mining, let us throw them into the pits they have dug. We women need not fear for anything."

Naruli Devi is illiterate. In a quick opinion survey conducted on the women of Chhatikhet, it was found that 43 opposed mining; one was indifferent; and five were in favour. All five are related to the mine agent who is a local man. But opposition to the mine comes from men as well as women.

In March 1989, a violent attack was made on the sacks of soapstone waiting to be transported away- they were slashed open with sickles by the women of Chhaatikhet.

Mining has stopped, but there has been no definitive action

such as cancelling the lease. In contrast mining in Jhankot, a Harijan village neighbouring Chhatikhet, has not met with the same degree of opposition, perhaps because the land being mined is not common or pasture land but privately owned fields that have been leased out to the mine owner. Jhankot is a Harijan village, and poorer.

This particular leaseholder is making much more profit out of the second block of the lease, in Rima. Large quantities of soapstone are extracted daily from here: not entirely without opposition, but certainly without effective opposition. A major landslide took place here in 1986, and destroyed almost an entire village. Upon investigation the Soil Conservation Officer attributed the slide to excessive mining and recommended that it be stopped. Mining continues. Although there is a motorable road to Rima, there are very few visitors who make this trip. Trucks carrying ore from here charge double rate and even then are somewhat reluctant to do the hazardous journey -the road is untarred, very narrow, and cut along steep hillsides. Being difficult of access, the quality of information reaching the Collectorate is poor. The villagers are sceptical of the value of protest that would be virtually invisible.

Okhaldhunga

Okhaldhunga, in the Gori-Ganga basin, is also remote and difficult of access. Soapstone has been mined on this hillside since 1968; there are two leaseholders. One (Devaki Pande) holds a lease near the village of Khanpeira. The other

leaseholder, Sahni and Co. of Pithoragarh, holds a lease in two blocks, in Payyan-Pauri and in Okhaldhunga. Sahni and Co. also have a lease to mine soapstone in Devalthal near Pithoragarh and own a small factory to process the ore in Pithoragarh. Earlier Sahni and other members of his family were wholesalers in grain and other commodities like salt, etc. This business was inherited from his father, who left West Punjab after partition, and after spending some years in Meerut and Almora came to the Pithoragarh area. Thus while originally traders from the Punjab, the family is now settled in the Kumaon.

This lease, in Okhaldhunga, (held by Sahni and Co) expired in 1988 and to the best of our knowledge has not yet been formally renewed, but there has been no cessation in mining activity. The lease has been recommended for renewal by the responsible officers. The area appears on the face of it to be eminently unsuitable for mining: the slopes are steep, there is a high frequency of landslide, etc. None of these arguments have been upheld however by the scientific assessment teams appointed by the govt.

However there has been considerable opposition to mining here. In one block, i.e. Payyan Pauri, which is some distance away from Okhaldhunga local opposition was so strong that the company was forced to stop mining. In Okhaldhunga there has been opposition and fairly sustained protest (taking the form of written appeals to mine management and district administration), but the villagers have lacked unity. Residents of Toli,

Khanpeira, Imkhola and other villages protested to the District Magistrate, Pithoragarh, and to M.C.Rawat, M.P., several times between 1980 and 1983, complaining of haphazard mining, damage to trees and crops and danger of landslide. No NGO's have been involved in these protests.

The area being quarried was previously pasture land. Soapstone is the new gold: one or two villagers have begun digging up their fields and selling the ore to the miners. Conversations with villagers showed that almost everyone fears a major landslide.

Kanda

A lease to mine soapstone in Kanda, near Bageshwar, was given to J.C.Tewari of Haldwani in 1973. The impact of this mining affected the residents of Mehtoli village. Their pasture land was affected and water flow reduced. These villagers carried their problems to Radha Bhatt of Kausani. However the pradhan and other influential men in the village were strongly in favour of mining. As a result the voices raising environmental issues were crowded out, and the protests in Kanda have tended to focus, not upon damage to fields or the likelihood of land slide, but on better terms of employment, and higher wages. An advocate from Bageshwar, Gobind Bhandari, intervened on behalf of the local residents, in 1986. The management responded with an increase in the minimum wage in Jan. 1987.

The absence of greater protest in Kanda itself is because

some local employment has been generated and the worst effects of the mining are felt in other villages, Mehtoli for example.

In all of these protests women have played a prominent role. This is not surprising since careless quarrying of soapstone has affected pasture land and caused accidents to animals and children; rain washes the soft stone into fields and water sources. That is, it is the "woman's domain" that gets affected. There has been an easy alliance between women and youth. The NGO's that were involved in Khirakot and Chaurasthal were able to sustain unity and organise the people.

The response of the authorities has varied. Both in Khirakot and Chaurasthal the local officials were ultimately supportive and helped the agitators to close down the mines. But this has not led to any change in systems of supervision. The district administration was unaware of the protests in Chhatikhet and Rima; the responsible officials have investigated and deemed as safe the mining in Okhaldhunga.

CHAPTER SIX

A PROFILE OF PROTEST-(II)

Substantial magnesite reserves are found in both Almora and Pithoragarh districts. The magnesite mines are larger in size, require greater capital investment and use different methods from soapstone, as blasting is necessary and the rock is much harder. Factories to process the raw ore have been established at both places. The local response to mining activity has been different.

This chapter summarizes the protests here.

Pithoragarh

Magnesite mining started in Pithoragarh in 1972-73. At that time Pithoragarh was a very small place. It was declared a "city" for census purposes only in 1971. Today it is an affluent and much larger city. There are many reasons for this affluence, not the least of which is the large sums of money spent by the government under the head of "hill development", and the establishment and growth of the military cantonment after the Chinese aggression in 1962. Being a border area, much money has also been spent upon road building and communication. The magnesite companies have also had a significant impact upon the local economy.

News that industry was coming to Pithoragarh, via the Magnesite and Minerals Company (M&M) and Himalayan Magnesite Limited (HML), was warmly received by local residents. Both

companies represented "outside" interests. M&M is a subsidiary of Orissa Industries Limited, a private limited company. The chairman of this company is Mr J.K.Jhunjhunwala. While its registered office is in Lucknow, business interests extend to Bengal and Orissa. HML, another private company, is registered in Calcutta. The Chairman of the company is Mr J.P.Khaitan, a successful industrialist of Bengal.

HML acquired in 1973 a lease given to the Export Drive Company a year previously, and mining started then. M&M obtained a lease in 1974. The general expectation was that, at last, employment would be generated in the area. But, instead of bringing prosperity, the magnesite mines threatened to become "an ecological disaster", and some Chipko leaders along with local activists met in 1983 in Pithoragarh to discuss this new source of environmental degradation. ¹ By 1982 grievances against the companies had accumulated to a level high enough to trigger off a sustained and widespread agitation. The agitation was not confined to any one village, and each village or group of villages had elected a "Sangharsh Samiti".

In Bajeti the immediate cause of the agitation was the setting up of a factory on land belonging to the Van Panchayat of the village, without much local employment being generated. As the factory was located on forest land used for fuel and fodder collection, women had to go longer distances for this. After a while the effect of the factory on air pollution and shortage of

¹ See "A Mountain in Decay," By a Special Correspondent, Economic and Political Weekly, 5 November, 1983, pp 1917-1919.

drinking water became apparent to everyone, men and women. As dysentery and dehydration led to serious sickness among the cattle, the women were finally motivated to act. The relationship of women with their cattle is a close one; as Radha Bhatt has put it, "Sometimes a woman will ignore her mother who is ill, but first of all will go to see to her calf and milch buffalo."² It is likely that the men were motivated by the hope of cornering a greater share of employment and/or contracts.

Organised agitation was spearheaded by a group of youths, the Yuvak Mangal Dal. A "Sangharsh Samiti" or protest committee, was formed. Both men and women took part in the agitation. A month long "dharna" was held outside the factory. On two occasions a delegation was taken to the District Magistrate. The demands made by the villagers included demands for employment; the grant of 3 trucks and 3 tankers to the village; and appropriate compensation for damaged land. At a meeting held in Bajeti a compromise was arrived at in the presence of the District Magistrate. Many promises were made by the company: money for afforestation; a Convent (i.e. English medium) School for Bajeti village; a playing field; and employment to 90% of the villagers; four trucks were to be given in the name of the village; and a temple was to be built.

Gradually the protest died out. The Company played an active role in seeing that it did. Three men were identified as being trouble makers: they were arrested on grounds of damaging factory property and kept behind bars until a compromise solution

² Radha Bhatt, "Women against Mining", op.cit., p.151.

was reached. Some men were bribed in order to break the protest. Of all the promises made only one was kept, and that was the construction of a temple. A contract for the work was given to one of the villagers. Only six men were given compensation for land acquired by the company.

Bajeti was affected by the factory, while elsewhere it was the process of mining itself that led to similar agitations. A camp held by the "Sangharsh Samiti" brought forth a large number of written applications from residents of Dhunga, Dharigaon and other villages.³ Shri Ummed Singh Chauhan had been appointed Secretary of the "Sangharsh Samiti, Mostamanu". The committee alleged that the Chandak magnesite company had occupied land belonging to the Van Panchayat (Dhunga) and the Van Panchayat (Gondiagaon). While clearing the land about 2500 trees, mostly oak and reetha, had been felled. A boundary wall was broken down. In order to reconstruct this the Soil Conservation Department made a grant of Rs 8000, and the construction was done through voluntary labour or "shramdan". A road constructed by the company to transport ore went through the Gondiagaon Van Panchayat, and a tin shed had also been built here.

A demand was made that prior consent of the affected villages should be necessary before any new areas were mined; appropriate compensation should be given for all nap/benap land that has been damaged by mining; where mining is in progress, a consultative process should be established with locally

³ A record of these applications is available with the Himalayan Study Circle, Pithoragarh.

appointed village groups to find a solution to problems; drinking water sources, paths etc that have been damaged should be repaired forthwith; retaining walls should be built to stop the debris from entering fields.

Although the members of this committee were primarily concerned with the problems caused by the M&M Company, they were also approached by residents of Tarigaon. The problems caused by the functioning of the Himalayan Magnesite Company were very similar and the Committee agreed that they should be included in the protests. Apart from damage to forest and other common lands, some privately owned land was also affected. For example, about 24 nalis⁴ of land owned by Janaki Devi of village Dhunga was damaged and no compensation given.

The agitation against the mining companies was mostly peaceful: letters were written to the Mines Officer of the Company and to the District Magistrate, Pithoragarh. There was no response from either. By October 1983 the tone of the letters changed. Supplication gave way to a more aggressive manner. In October 1983 Umed Singh Chauhan was attacked and warned against continuing the campaign against M&M. This incident did not stop the campaign; but appeals were made to Shri Chandi Prasad Bhatt, and other leaders such as Radha Bhatt, to support and legitimize the whole effort.

A union of magnesite workers was also formed at the same time. In December 1983 the workers went on strike. No

⁴ "Nali" is the local measure of land, there being 20 nalis per acre, or about 50 nalis per hectare.

attempts at dialogue were made by the management; and on the 24 February 1984, 15 union leaders were arrested. The demands of the workers were straightforward: the application of labour laws and industry laws; speedy implementation of wage settlement; reduction of the gap between the minimum wage of Rs 250 and maximum of Rs 6000; facilities for health and hygiene; proper arrangements for canteens and night work; preventive measures against accidental death and illness; provision of protective glasses, warm clothes, gown, cleanliness; drinking water; pensions; and fair recruitment.

A series of articles, highlighting the problems and the demands, were written in the local newspapers around this time. Their limited impact outside Pithoragarh is no doubt due to language, as the English language press did not take up the issue.⁵ Most of these articles were written by a local activist and journalist, Dinesh Joshi. He too was attacked, and a defamatory pamphlet circulated. Dinesh Joshi lodged an F.I.R. and sought police protection but no action was taken by the police. Using a combination of threats and bribes the company eventually silenced the protesters. Janaki Devi for example was appointed a thekedar from 1982-85 and received some compensation for land damaged. When interviewed in March 1989, she did not express any antipathy against the company although she did point out that her crop land was now waste and yielded only grass.

The agitation in Pithoragarh is more complex than that elsewhere. A wide range of issues were raised, from damage

⁵ "Mountain in Decay", EPW, op.cit.

caused by mining or by the processing of the ore, to the inadequacy of benefits flowing to local people, and the grievances of the labour directly employed by the company. A few points might be made here concerning the agitation itself:

First, it was easier for the company to gain support among the men, who were seeking employment and needed money. The women remained unhappy with the situation and well aware that none of their real problems had been resolved.⁶ But given the social environment it was impossible for the women to fight alone.

Second, the magnesite companies represented a far more powerful foe than was faced by the women in Khirakot or Chaurasthal. Apart from having more resources at their command, there is little doubt that local government officials supported the management.

Third, there was greater violence in the anti-mining agitations in Pithoragarh than elsewhere. This might be due to the fact that a class of intermediaries has been created here, the contractors and the management, whose interests are in conflict with those of the community at large. This situation is unique to Pithoragarh: in no other place have the same number of contractors been appointed, and although Almora Magnesite has an equally large managerial class, this by and large has shown

⁶ This dichotomy between the interests of men and women existed everywhere. But in Khirakot and Chaurasthal the lure of employment was not strong enough to overshadow the damage to land and natural resources, as it seems to have been in Pithoragarh.

itself as being responsive. ⁷

Jhiroli

The Almora Magnesite Company is a joint sector enterprise, with equity holdings both of the U.P. State Industrial Corporation and Belpahar Refractories Ltd., Jamshedpur under Tata management. A lease was originally given in 1963 to the U.P.S.I.D.C. for mining magnesite here. This was transferred to the newly formed Almora Magnesite Company in 1974.

The experience of Jhiroli is of special interest because it has had so much influence on people elsewhere. It was mentioned earlier that difficulties of access can prevent effective communication, and yet there is no doubt that for those who want to know there is an effective communication network: as far as Okhaldhunga, the wages and conditions of work in Jhiroli (or more accurately, in Almora Magnesite) are known. The village of Jhiroli will be displaced by the mine and has had to accept the fact of its rehabilitation. Even as Jhiroli continues to debate

⁷ The lack of violence in peasant protests in the area has been commented on elsewhere. See for example R. Guha, Unquiet Woods, op.cit.: "...the actions of the Kumaon peasant do not conform to the picture of violence drawn by scholars reporting tribal and peasant revolts in peninsular India. The methods of resistance characteristically used by the hill peasant were strikes and the burning of the forest floor; physical violence was very rarely resorted to...The absence of a culturally distinct buffer class between the body of cultivating proprietors and the state, and the relative autonomy these proprietors continued to enjoy, are germane to the particular forms assumed by the conflicts between the peasantry and the state, and the manner in which these conflicts were represented in popular consciousness. Thus, in Kumaon the absence of violent protest may be related to the structure of domination in hill society.." (pp129-130).

the terms and conditions of resettlement, the villagers in Okhaldhunga stated that they had no objection to the mountain being mined if they too could be resettled on similar terms. In Pithoragarh the conception of a "good" wage and good working conditions is derived from conditions in AML.

Although Almora Magnesite draws its employees from several neighbouring villages, the only village that has to be resettled is Jhiroli. Most Jhiroli residents have accepted the inevitable and many have moved to the allotted area in Sitarganj. But those who feel they have not benefitted adequately are resentful and allege that the distribution of employment has been inequitable.

Protests have taken the form of petitions to the management, work stoppage, and also representations to the district administration. Apart from these "articulated protests" there are the inadequately articulated feelings of the families and women in particular who are faced with the prospect of being uprooted from the way of life they have known for generations. It is interesting to note that of the 10 families that had moved to Sitarganj and who were interviewed by our investigators, only one appears to have succeeded in establishing itself as an economically viable unit.

The Almora Magnesite Works Union issued an appeal in October 1978. The appeal states clearly that

"We do not want that Jhiroli should be the reason for failure of the enterprise."

It is estimated in this appeal that about Rs 40,000 per month

was being earned in this village alone. Therefore it was argued that the problems faced should be resolved through peaceful discussion and not through strikes. In answer to this the management sought to give an assurance of its good will and pointed out that in exchange for 5 acres that the company wanted to acquire, 88 acres of land was available in Sitarganj.

But while on paper decisions on compensation were taken early, their implementation was tardy. As a result disputes pertaining to compensation and rehabilitation are far from over. Thus again in 1986 we find an appeal signed by 70 residents of Jhiroli seeking sympathetic consideration of their difficulties. And in April 1989 there was yet another strike at Jhiroli.

The villagers did not rely only on these written petitions. Throughout the period there have been frequent work stoppages used as a means of pressurising the management. (see Table 6.1) One person returned from Sitarganj in August 1981 after taking possession of land there, and demanded better facilities there. He illegally occupied the office for three days, resulting in a stoppage of work. On another occasion some of the villagers—numbering eight—put in a writ petition in the High Court at Allahabad to desist AML and the State Government from dispossessing the tenants of their land. The High Court issued a stay order and immediately, the villagers obstructed blasting saying that this was damaging the walls of their houses. They did this by entering along with women and children into the blasting zone during blasting time. The mine remained closed for a month and a half, in October and November

1981. The case was decided in favour of AML, and the State dismissed with costs. ⁸

It seems on the whole that the principle of negotiation has worked reasonably well in Jhiroli, although this has been with union pressure. Within the system, as it exists, the employees are well paid, and the compensation for displacement is good. Despite the very frequent occurrence of strikes and disputes, it appears that people here have generally accepted the system, even if they-women in particular- do not see it as an ideal one.

Women have been leaders in protest movements in Pithoragarh, and here too have been assisted first by the youth. In Jhiroli despite problems the reactions have been different.

Activists maintain that continuous mining on this scale is undesirable. This view does not find support among the people in the villages around Almora Magnesite, because the mines have brought undreamt of economic prosperity.

In Pithoragarh, activism could not counter the "development" decision to mine even with well organised and sustained protest. Today one NGO actively involved in this protest is concentrating its energies on education for women and children.

There is no evidence that government authorities are making an attempt to understand and resolve the disputed issues: on the contrary there is no official recognition of any "problem".

⁸ A complete listing of all the instances of stoppages and reasons thereof are presented in the appendix.

TABLE 6. 1WORK STOPPAGE IN JHIROLI : 1976 - 1989NO OF DAYS PER YEAR

<u>Year</u>	<u>No. of days</u>
1976	7
1977	26
1978	61
1979	1
1980	4
1981	29
1982	29
1983	1
1984	0
1985	3
1986	15
1987	28
1988	1
1989	10

Source : Almora Magnesite Limited.

CHAPTER SEVEN

LEASES AND THE LAW ¹

After the declaration of the Industrial Policy Resolution of 1956, mining acquired a singular importance. The government was committed to large scale industrialisation through the aegis of a large and powerful public sector. And, in any event, the requirements of planning envisaged a dispensation of regulatory control which threatened to be elaborate, intricate, technically proficient and masterminded by a bureaucracy which was to instrument an accelerated growth rate, with particular emphasis on building a vast industrial infra structure. In this, the exploitation of India's mineral wealth was pivotal to fulfilling the expectations of plan and development. At that stage there was a lesser concern about the environment and the impact of industrialization on the lives of the people. These issues were to catch the public imagination decades later. The imperatives of the fifties were growth, planning and the public sector.

However, there was a constitutional problem. Perhaps, it was an oversight. The constitutional power and responsibility "for the regulation of mines and mineral development" lay with the States (Constitution List II, E 23). Today, we might be inclined to welcome such a provision and even argue that the State Governments are much too far away and remote from ground realities. A decentralised set up would, perforce, result in a much more sensitive and responsible decision making. But, in the

¹ This Chapter has been contributed by Dr. Rajiv Dhavan.

mid-fifties, the prevalent and favoured opinion was that giving the State Governments authority to decide matters concerning major minerals would imperil the goals of planning and productivity. As it happens, the constitution also kept in reserve an important power for the Union Parliament to regulate "mines and mineral development to the extent to which such regulation and development under the control of Union is declared by Parliament to be expedient in the public interest". (List I E. 54) Properly interpreted, this meant that the real regulatory body would be the States but the Centre or Union may intrude in the public interest. But the Centre's notion of the public interest was to virtually deny a scheme of decentralization at all. It enacted the Mines and Mineral (Regulation and Development) Act, 1957, amidst subdued parliamentary controversy to establish an overall control over mines and minerals.

The 1957 statute masterminded the control of the Centre on the basis of a distinction between 'major' and 'minor' minerals but with an unequivocal clarity that "no prospecting or mining operations in any area (will take place) under this (Central) Act and the rules made thereunder (Section 4). So much for the State's exclusive power to regulate and control mining. No court has stood in the way of this usurpation by the Centre, accepting without further inquiry that statutory declaration that the statute was in the public interest (Section 2, see Bajjnath V. State of Bihar AIR 1970 SC 1436). The distinction between 'major' and 'minor' minerals enabled the Central Government to

exercise a total stranglehold on the decision making of the State in respect of 'major' minerals. The 'major' minerals covered virtually all important mining. They included :

Apatite and phosphatic ores, asbestos, barytes, bauxite, beryl and beryllium bearing minerals, chrome ore, coal and lignite, dolomite, gold, gypsum, iron ore, kyanite, lead, limestone (except when it is used in kilns for the manufacture of lime as building material) lithium bearing minerals, magnesite, manganese ore, minerals of rare earth containing uranium and thorium, molybdenum, phosphorites, platinum, pitch blonde and other uranium ores, precious stones, rutile, silver, sillimanite, sulphur, tantalum, tin, tungsten, uranium bearing allanite, monazite and other thorium minerals, uranium bearing tailings, vanadium ores, zinc and zircon.

This was quite a list. With an even handedness that robbed the State Government of their sovereign entitlements, an important provision prevented the States themselves from undertaking mining without the permission of the Central Government; and, that too on the clear statutory understanding that they could not undertake any activity within the State where private mining was going on (Section 4 (3)). Even those salutary provisions which required the termination of leases in the interests of ecology could be exercised by the State Government only after consultation of the Central Government (Section 4A(2)). No doubt the State government could grant licenses for prospecting and leases for mining but with the

"previous approval" of the Central Government for all 'major' minerals (Section 5). But, even the distinction between 'major' and 'minor' minerals breaks down in so far as the Act was solicitous of protecting the autonomy of State power in relation to 'minor' minerals. No 'mining Lease' could be granted by the Central Government for any minerals - major or minor - unless it was satisfied that there was a mining plan duly approved by the Central Government for the development of mineral deposits in the area concerned (Section 5 (2)). So the control of the Central Government was quite total. The statute itself placed limits on the amount of area that could be licenced (upto 25 Km) or leased (upto 10 km) per person in an all India (before 1972, calculated on a single State) basis (Section 6). These limits could be varied by the Central Government which also retained the power to extend renewal of leases beyond the limits of two renewals of ten years each (Section 8) and to alter royalties prescribed by statute (Section 9 and 9A). Since this last power could be exercised only every three years, critics perceptively understood this empowerment as a power of patronage linked with elections. Although it is for the State Government to make rules and process applications (Section 10 and 11), the Central Government could interfere with the priority given to the first applicant and make extensive rules on how the power of the State was to be exercised (Section 13). Once reposed with this power, the Central Government has used it elaborately as exemplified by the Mining Concession Rules 1960. The Act gives special power to the Central Government to undertake prospecting and mining

operations on the payment of fee or royalties to the State Government with the additional power to block out an area for its own purposes to the exclusion of others (Section 17); and to designate any area for conservation (Section 17A). Ofcourse, all these powers in the Central Government are to be read with a "duty.... to take all steps as may be necessary for the conservation and systematic development of minerals in India and for the protection of environment by preventing or controlling any pollution which may be caused by prospecting or mining operations". (Section 18 (1)). But, though grandly stated, this 'duty' is not an activist duty since it just empowers the making of rules. More recently, since 1986, the duty has been backed with a further power to gather information and investigation through the Geological Survey of India (Section 18A). It is the Central Government that has powers of inspection entry and entry (Section 24), to delegate its powers to the State government (Section 26) and without any grievance before it revise any order made by any authority (including the State Government) under the Act (Section 8). If the penal law was supposed to deter possible offenders into the discipline of compliance (Section 21-23A), only the State or Central Government could authorise such a prosecution. This means that activists and those concerned with the enforcement of the public interest cannot take an offender to court. That can be done only by the Government which may also 'compound' the offence to let off the offender on the payment of a relatively nominal sum (Section 23A).

The State Government does have powers in respect of minor minerals which, in effect, turn out - in the main - to be the regulation of the rights to ordinary earth, sand, boulders and clay. As we look at the statute and consider it to the realities of India, it takes on the character of being a legislation of patronage rather than control. All the provisions about time, extent of lease or license, penal provisions (which allow a money for absolution from crime) leave vast undefined discretions in the government - mostly, the Central Government. The system of monitoring in the Rules is weak. Although the Mineral Concession Rules require prospectors to send quarterly confidential reports (R.16) and lessees to report finds (R.27), this does not happen. The general requirement compelling information (R. 57) has meaning only if somebody digests this information and allows the public due process participation and inspection. The most wholesome provisions for licenses and leases are contractual (From H and K). Proper records have to be kept as a matter of contractual duty as, indeed, the requirement that the land has to be handed back in good order (From K. Part VIII Clause 8,9,10 and inter alia, 20). We know from our study that this does not happen. The essential machinery to enforce responsibility is woefully missing, thus making the legal requirements no more than a paper system of accountability. What is needed is a full and detailed due process whereby public participation is invited at the time of granting a license, full information and reports and a public redressal system so that

responsible decisions can be taken with full knowledge and democratic participation. What we have is an unbridled discretion and an easy system of accountability which takes matters and issues away from the public gaze. Such a system is necessarily contrary to the public interest.

If we look at the parliamentary history of the legislation, it will be clear that many legislators were wholly unconvinced by the legislation. Firstly there was no overall policy or plan and no mechanism for creating one in any responsible way. In 1957, one member rightly wanted to know whether the Minister had "any specific ideals in the manner of the development of minerals" (X L.S.D. (21 Dec. 1957) 7090-7179 at 7109). And, if the Minister's reasons for not granting to the State Governments was that they were not equipped to share these responsibilities (ibid : 7122-3), there was nothing to suggest that the Central Government was similarly equipped. The Geological Survey of India (itself badly under-resourced) could hardly take policy decisions of an economic and social nature. The Central Government was much too remote from the major or minor areas of mining, was helplessly lacking in local and other expertise, had no comprehensive bureaucracy to develop a plan or monitor what was going on. There was no plan. No policy as such. Even in the 1986 debate in the Rajya Sabha (139 R.S.D. (24 July 1986) 189-268), a former Director of the State owned Tamil Nadu minerals complained that "officials of the rule enforcing departments have (a) big brother attitude and most of them have no practical knowledge of mining"

(ibid : 203). Even in 1986, the Minister could make no more than a promise that a mining policy would be finalised soon (ibid : 257) even to the point of expressing leniency as regards the restoring land to status quo ante (ibid : 256-7). So, it seemed self-confessedly clear that there was a centralised system to operate a policy that did not exist with any great exactitude and which was to be considered by untrained bureaucrats who had neither the expertise nor the will nor the inclination to combine policy making with wisdom.

Second. It also became clear that the centralisation of power was irreversible. The changes in 1958, 1972 and 1986 did not show any signs of the Government relenting and decentralising decision making so that those more in touch with local realities would have a more decisive say or even significant inputs. The States had been reduced to the level of 'vassals' (R.S. Sinha in 19 R.S.D. 24 December 1957) 4004-62 at 4009-4010) to "build a leviathan in the Central Secretariat to concentrate all economic and political power there "(ibid : 4011). The recurring lament in each of the debates of 1958, 1972 and 1986 was that centralisation had rendered the States powerless.

Third, the Act carried with it the suspicion that it combined government patronage with an ambiguous policy of encouraging private entrepreneurs even though the government was moved to deny in the very first debate that "...it (was) not the policy of the government to open the floodgates for all those

people to encourage nepotism or favouritism" (X L.S.D. 7102 at 7137). When the Minister opened in the Rajya Sabha in 1957, he was at pains to point out that he had consulted the "private" and "important industrial sectors" (ibid : 4007). B.Das seemed to have a canny insight into the covert purposes behind such legislation as he surmised that it was strange that whilst "landed andbigger agriculturalists" interests were being liquidated, mine owners were being encouraged in abundance "(ibid : 4011). Since there was general enthusiasm for the industrial policy resolution, some accepted the view that the statute was a good compromise between State socialism and private enterprise "(ibid : 4040). There was a general concern for productivity and the full use of resources for a developing nation. The concern for private owners was brought out in the open in the 1958 amendments which sought to release pre-1949 leases from paying the new royalty provisions. Why? Clearly - as one legislator, Mr. Panigrahi put it - "the spokesmen of the coal mining interests is really pleading the case of coal mine owners". (16 R.S.D. (30 April 1958) 12465 - 12518 at 12473). The whole discussion took place without "any facts and figures (to justify)... this large scale concession in the case of people who are enjoying large scale benefits" (ibid : 12488). To one member, it seemed like protecting a zamindari interest (ibid : 12490). But, the discussion moved on to describe the mine owners (including foreigners) as exploiters, (e.g. 21 L.S.D. (6 May 1958) 1635 - 84) with the insistence of a case being made on hard data being diluted in favour of a moral ideological attack.

In 1972, having taken the stance that large scale nationalisation was necessary on all fronts from banking to coal, individual entrepreneurs were to be squeezed, especially big operators (81 R.S.D. 240 (30 August 72) at 239). But both the debate in the Rajya (supra) and Lok Sabha (18 L.S.D. (21 August 1972) 225, 235-42 (25 August), 14-50 (26 August)) showed a determination to keep protecting the private sector, but remind them who was boss. The Minister's reply was full of assurance; and, therefore evasive (81 R.S.D. at 233 - 41). The amendment reduced the potential holdings of mine owners, with, ofcourse, a power in the Central Government to bless an increase. By 1986, the nationalisation imperative had yielded to the environmental (see 19 L.S.D. 351-55 (7 August), 318-406 (13 August) : 139 R.S.D. 189-268) 25 July). Yet, the undercurrent of old agendas was clear as the Minister himself summed up the debate to be about exports, technology and completing projects on time (139 R.S.D. at 253-6). The purpose was to encourage a bonanza for "new people, young people, with or without the necessary resources from going into this" (ibid : 260). Throughout the discussions from 1957 to 1986, there seemed to be a general commitment to favouring private enterprise; and, to create a system which would control them without disciplining them, allow nationalisation but not implement it, threaten the creation of a policy without formulating it.

Fourth, there was no real concern for the environment, no instrumentality enjoined to consider such concern and no policy objective giving centrality to environmental issues. From 1957

to 1986, the environment did not appear as an objective in the debates in the House on mining legislation. In 1976, during the Emergency, a Directive Principle (Article 43A) was added to the Constitution requiring the State to "endeavour to protect and improve the environment and to safeguard the forests and wild life of the country". A directive principle in the Indian Constitution defines a goal. Although Courts will not enforce such goals as justifiable, they are nevertheless "fundamental to the governance of the nation" (Article 37). All of a sudden the amendments of 1986 were introduced and new powers to prematurely terminate enterprises which affect the environment, cause pollution adversely affect health and communications, conservation of resources or health and safety (Section 4 A). The State Government, would ofcourse, do so only with the consent of the Central Government (Section 4A (2)). The Central and the State Government - the latter only with the permission of the former - could reserve certain areas for conservation (Section 17A). The investigative power of the Central Government - through the Geological Survey of India - was solely concerned with mining and not its impact or conservation. (Section 18 A). We can see that although the 1986 amendments empowered the Central Government to declare areas for conservation and cancel leases, there was no real machinery and information pool on the basis of which the government would act. With no proactive ability, even as a reactive respondent there was no statutory mechanism for investigation, inquiry and consideration. One can not resist the conclusion that the new powers appropriated by

the Central Government added to the gift of control and patronage without creating any strong mechanism to fulfil the environmental purposes for which the statute was supposed to have been enacted. The Minister was grand in his statement of objectives as he talked of "disturbance of land surface, deforestation, and, occasionally, water pollution" (19 L.S.D. (7 August 1986) 35-at 352). But if this concern was important what was the need to "help new entrepreneurs to come up" (ibid 354-4) especially if they were without resources and experience (139 R.S.D. (24 July 1986) 189 at 260). Even the commitment to proper restoration of land after mining seemed negotiable (ibid 256). Yet in both Houses, there were many tales of woe recited on what was done to the environment, with specific mention of the Kumaon Hills and Pithoragarh and Almora (ibid : 197-8). The awful picture was that indiscriminate mining was taking place (e.g. 19 L.S.D. 318 at 347, 357, 370). Yet some felt the development imperative should be strengthened and the Government should come into the rural areas to exploit mineral wealth and provide employment (ibid : 374). Eventually, the new provisions were accepted even though they were stodgy in shape and form and potentially careless and arbitrary. An important provision relating to imposing 'environmental' conditions in new leases was not accepted by government even though such a contract compliance provision was a much needed mechanism. (ibid : 390)1/2.

Fifth, there was the human concern about the health and safety considerations under which mining was done. It was clear

that while the interests of foreign and absentee mine owners was being protected, those of the workers was being ignored (e.g. 19 R.S.D. (24 December 1957) at 4023 - 4). This particularly irked legislators when the 1957 Act was amended within four months to enable the reduction of royalty payments for pre - 1949 leases (see 16 R.S.D. (30 April 1958) at 12477) but to do nothing in respect of the 'death pits' for workers (21 L.S.D. 5 May 1958 1646, 1669). There was a general feeling that the whole policy was a sell out; and as was emphasized again and again in the 1986 debate, workers were being exploited (19 L.S.D. 13 August 1986; 226, 338, 354) that the granting of a license or a lease was not contingent upon the licensee or lessee satisfying the authorities that appropriate health, safety and other provisions had been made for workers. The Government's answer to this has been that there is separate legislation for this, namely the Mines Act 1952. But that Act did not apply to prospectors who hired less than 20 persons and where the height from top to the depth was 6 meters (15 in the case of coal) or less. Nor did it apply to mining where the depth in open cast mining was 6 meters, less than 50 persons were employed and explosives were not used; or, where mining was for general earth, sand or building stone (Section 3). Others could also be exempted by the Central Government. This really meant that there were a considerable number of mines where these safety provisions were not applicable. The provisions themselves left much to be desired. Internally, mine owners had to give some advance information (Section 17), appoint qualified managers (Section 18) and provide

arrangements for water, conveniences, medical appliances (Section 19-21) and report accidents or diseases (Section 23 and 25). There were special provisions on hours of work (Section 28-32, 34-5, 38) and wages (Section 33), leave and other matters (see 49-56) and for children and adolescents (Section 40 and 45). All this was enforced by a system of penalties (Section 63-73), the rigor of which could be softened for the owner if he had himself personally taken all reasonable steps to prevent contravention of the Act and Rules (Section 18 (2) also 78). Externally, there was a Mining Board and committees (Section 12-5), inspectors and surgeons (Section 5-11) and provisions for inspection and inquiries (A Section 22-6), with due information to Government on matters of employment (Section 48). The criminal prosecution would result in fines of a few thousand rupees or a jail sentence (of 3 to 6 months) (Section 63-74). But, these were rarely intimidatory for owners who had their very own let out clause (Section 18 (2), 78) if they could show that they had done what was reasonably necessary. There was also that final omnibus power of the Central Government to reverse or revise any order. (Section 80). In the parliamentary consideration of the Act, the Minister evaded the fact that the Act was not even on par with the Factories legislation because he felt that to expect due compensation for hazardous work was simply "against the present trend society" (IPD (Pt. II) at 611). When the Act was amended in 1959, there was general concern that too many disasters were taking place and adequate measures, equipment and supervision did not exist (e.g/ 36 L.S.D. 4022 at 4034 - 8, 4043; 27 R.S.D. (17

Dec. 1959) at 3235). But, efforts to make the Bill tough and workable were rejected in favour of the present weak monitoring system, insufficient information and inspection and malleable enforcement system. The result has been that either because of the wide exemption rules or because of the weak system, safety is not a priority; and gives way to productivity and development.

So far, we have looked at the legislation in the light of the contemporary critique when it was being enacted to point to five fundamental flaws. These are (i) the lack of any policy or plan about mining, resulting in ad hocism (ii) an irreversible centralization of power in the central government to the exclusion of the State and local bodies or functionaries (iii) the encouragement of a free-for-all private entrepreneurship which could - and, has been - combined with government patronage to produce disastrous results, (iv) a belated recognition of environmental issues but without any effective machinery to measure, monitor, warn, discourage, prevent or deter and (v) a relatively indifferent attitude to safety as the interests of good mining, health and safety are sacrificed to productivity.

Our study explicates these problems to demonstrate that the ostensibly dramatic concerns of the legislators were by no means exaggerated. Commercial mining was not done in the Kumaon until the grant of mining leases in the early seventies. This seems ironical. It was precisely at this time, that the 1972 amendments were being placed before parliament to encourage

nationalization. But, apart from coal (see Coal Nationalisation Act 1973), no general nationalisation was on the cards, and what State and Central Governments were doing was to encourage 'get rich' mining where there was no public sector involvement. All this decision making was controlled by the Central Government which had to clear all major minerals and devise the plan on the basis of which minor minerals could be undertaken. The encouragement of private entrepreneurs to make their fortune was even more clear from the fact that the majority of these leases (excluding leases for construction material) had been for magnesite and soapstone. At present, there are 12 'major' mineral leases - 7 in Pithoragarh and 5 in Almora - in addition to a large number of minor mineral leases in the two districts (41 in Pithoragarh alone). The 'minor' leases have been given generally for construction materials such as sand, stone and earth.

With the exception of Almora Magnesite Co, at Jhiroli which is a joint sector enterprise, the other leases have been given to private enterprises, whether individual proprietorships, partnerships or companies. The government's policy has encouraged this proliferation. For example, two of the leases for soapstone mining in Pithoragarh have been given to Sahni and Co., who were previously in trade. Similarly, Aithani, another leaseholder was previously a 'contractor, transporter and businessmen'. Another lease interviewee described himself as having done "technical jobs, business of minerals and so on".

N.C. Tewari (of Kumaon Minerals) was previously employed in a paper Mill and became aware of the use of soapstone while working there. As a Kumaoni he had a rough knowledge of where the soapstone deposits were to be found, and he, therefore, ventured into business to establish a viable market by about 1980 or so. The background of the miners portray a recent interest in mining, and suggest that they responded to the Government's new but encouraging, ad hocism.

The background and structure of the business concerns affects their modus operandi. Smaller firms are not subject to any form of accountability. This affects the manner in which they mine as well as their labour practices. Thus, the joint sector concern, Almora Magnesite, had no choice but to employ local labour; and accord respect to demands of trade unions. By contrast, the Pithoragarh Magnesite companies decided against employing local labour (employed only to the extent of 25%) and has come down heavily on union action. To some extent, economies of scale are also influential factors. Small companies, out to make a fast buck, are less mindful of necessary overall expenditure for social and economic amelioration. They also find providing safety measures an extra and, therefore, dispensable, expense. This is not to enter into the argument that mining must be done exclusively by big companies. Much rather, it is to assert that in evaluating applications no consideration appears to have been given to economic capacity of

the lessee to execute the multiple responsibilities which mining must necessarily entail if it is to embrace the public interest with social justice.

Our study also indicates that there was no rigorous examining of leases either in terms of the macro picture of required production or productivity or limits of environmental or social permissibility. If the requirements of the Acts had been strictly complied with, detailed reports would have been made; and, an independent assessment made by the Central Government, including the Ministry of Environment since 1986. Even in respect of minor leases, there are requirements that the area be pre-prospected to show evidence of the mineral and, more importantly, "there is a mining plan duly approved by the Central Government for the development of mineral deposits in the area concerned" (Section 5 (2)). Throughout the existence of such a plan seemed a mystery in that, if it existed, there was no knowledge of it and its contents or the exercise of discretion against the backdrop of its stipulations. Although the purpose behind mining legislation has been to devise an overall policy and provide the basis of informed decision making, such a purpose has evaded both design and implementation. Nor has there been any provision for safety even though death, danger and diseases have been manifest. Under these circumstances, it might have been appropriate to impose health and safety regulations in certain areas. Instead, the concerned villagers were bought off with compensatory offers by the mine owners.

What is exposed is that mining is an arrangement between the government and mine owners and prospectors. The strength of the arrangement is in doubt. The local officials, who may be in the know, even if not partisan, have no power as such to take decisions. The Central Government which either approves a mining plan (for the region in the case of minor minerals) or approves the lease itself is even further removed. There are no other participants in this process. The public and actual mining labour became spectators though the lives of both are fundamentally affected and altered. Even when the law and rules are infracted, the Government plays a pivotal role under the 1957 statute in granting permission to prosecute and can compound offenses in favour of the mine owners.

What is really required is new due process which will ensure a multiplicity of in-puts to replace the present bi-polar arrangement. As soon as a mining license or lease is applied for, notice should be given to the residents of the area in such ways that it will bring the application to their notice. The application should contain full details of the mining and its area, Government's plan, the impact of the mining, the experience of applicant, the provisions to be made for workers, ecological and other projections. To some extent, these provisions exist (e.g. Rs. 22 of the mining Concession Rules 1960). But, without the benefit of publicity and being skeletal in nature, there is only an internal government audit without the benefit of outside

critique. At present, the more concern has been the credit worthiness of the applicant as a taxpayer. After publicity, objections should be heard within a time bound programme. The hearing should be heard locally. Once the contract is awarded, it should have written into it those factors which form matters of legitimate concern. Matters of contract compliance (which had also been canvassed in Parliament) should be grouped to cover environmental responsibilities, responsibilities pertaining to health and safety, social responsibilities relating to the social effects of mining, and justice responsibilities in respect of hours of work, pay and working conditions. The machinery to monitor contract compliance should act suo motu and as a response to complaints. What is missing from the rules is a lack of rigour both about what needs to be prevented and protected, as well as the allocative responsibilities and monitoring machinery.

The total exclusion of the public lowers the visible horizons of the policy and increases both dilatoriness and arbitration in taking into account the innumerable things that ought to be taken into account. What is needed is a new mining 'due process' with expanded concerns and greater participation. The present system is an invitation to ad hoc decision making and disorderly growth. This is self-evident from our study.

Chapter Eight

Mining Impact : Some Economic Aspects

There is a sizeable industrial demand for some of the minerals found in the region. But until very recently minerals were exploited primarily for domestic, as opposed to commercial purposes stone and slate for building houses, soapstone for chalk and home made powder, iron and copper for implements and utensils. Today the U.P hills make a small but significant contribution to mineral output in the country.

The contribution of the "Mining and Quarrying" sector to national Net Domestic product. (at current prices) in 1985-86 was estimated at being 2.9%.¹ Total employment in the sector was 4% of all employment (March 1986). Among the different states, the largest contribution to national income from the mining sector comes from Bombay High (21.01%) followed by Bihar (19.25%) and Madhya Pradesh (13.52%) U.P contributed 2.67% (1985-86, constant prices).

The aggregate contribution of magnesite to national income (at current prices) was 0.17% in 1985-86. Most of this (over 60%) is from public sector enterprises. About 79% of the total production of magnesite in 1985 came from Tamil Nadu, followed by U.P. (14%) and Karnataka (7%). The Salem mines in Tamil Nadu are still the most important source of magnesite. But the U.P mines, in Almora and Pithoragarh, are much "younger" and their importance is likely to increase. The only other alternative

¹ Source: Indian Minerals Yearbook

sources are sea-mining, which is still experimental, and imports.

Steatite contributed 0.05% to national income (at current prices) in 1985-86. Unlike magnesite, all reporting mines in this sector (273 in 1985) are privately owned.

Rajasthan accounted for 87% of production in 1985. U.P. contributed about 5% (from 9 mines) and Andhra Pradesh about 3%. The remaining 5% was together accounted for by Bihar, Gujarat, Karnataka, Madhya Pradesh, Orissa and Tamil Nadu. Of the 9 reporting mines from U.P., 6 were in Almora District and 3 in Pithoragarh.

The extraction of magnesite and soapstone in Kumaon is in response to industrial demand. Magnesite ($MgCo_3$ in the raw form) is used mainly in the manufacture of refractory bricks. Almost 95% of consumption in 1985 was reported by refractory manufacturers including iron and steel plants.

For soapstone, (talc)² user industries include paper (54%), insecticides (35%), ceramics, textiles and cosmetics (4%). Talc is also used in small-scale cottage industries for which data is not available. The purest grades - those which approximate most closely to the theoretical composition, and are fine in texture and colour- are used in cosmetic and toilet preparations. Other varieties which are relatively coarse in texture are

² Soapstone is categorised as a talc or talcose rock. The basic formula of talc (a hydrous magnesium silicate) is $MgFe + 2 3SiO_4 O_{10}(OH)_2$ with theoretical weight percentages as follows: 63% SiO_2 , 32% MgO , and 5% H_2O . Fe +2 may substitute for as much as 10% of the magnesium atoms.

regarded as industrial or commercial talcs. ³

Production and Profitability

The most reliable figures available, both for production and profit, are those for Almora Magnesite. The production of raw magnesite in 1981-82 was 43,851 million tonnes and sale of dead burnt magnesite (DBM) in the year 18,614 million tonnes. At an approximate price of Rs. 2000 per million tonnes this gives gross earnings at Rs. 40,000,00 or so, i.e, about Rs. 4 crores. Around 750 people are employed in all and the annual wage bill is about Rs. 1,700,000. This gives an average wage of over Rs. 2000. After allowing for dividends (at 10%), and other charges, reserves and surplus remaining with the company were put at Rs. 1.38 cr. in 1981-82. Payments to the State Exchequer by way of various taxes in the year were over Rs. 62,29,000.

Since all ore extracted here is made into DBM before leaving the area, the value added by the enterprise is high. If for example we calculate value added/hectare, the latest figure is close to Rs. 3 lakhs/hectare (with value of final output at Rs.6 crores, and the area covered about 200 has). Even if the actual leased area is considered, 350 ha, although only a part of it has been brought under mining, the value added/hectare is still high, at Rs. 1.7 lakhs.

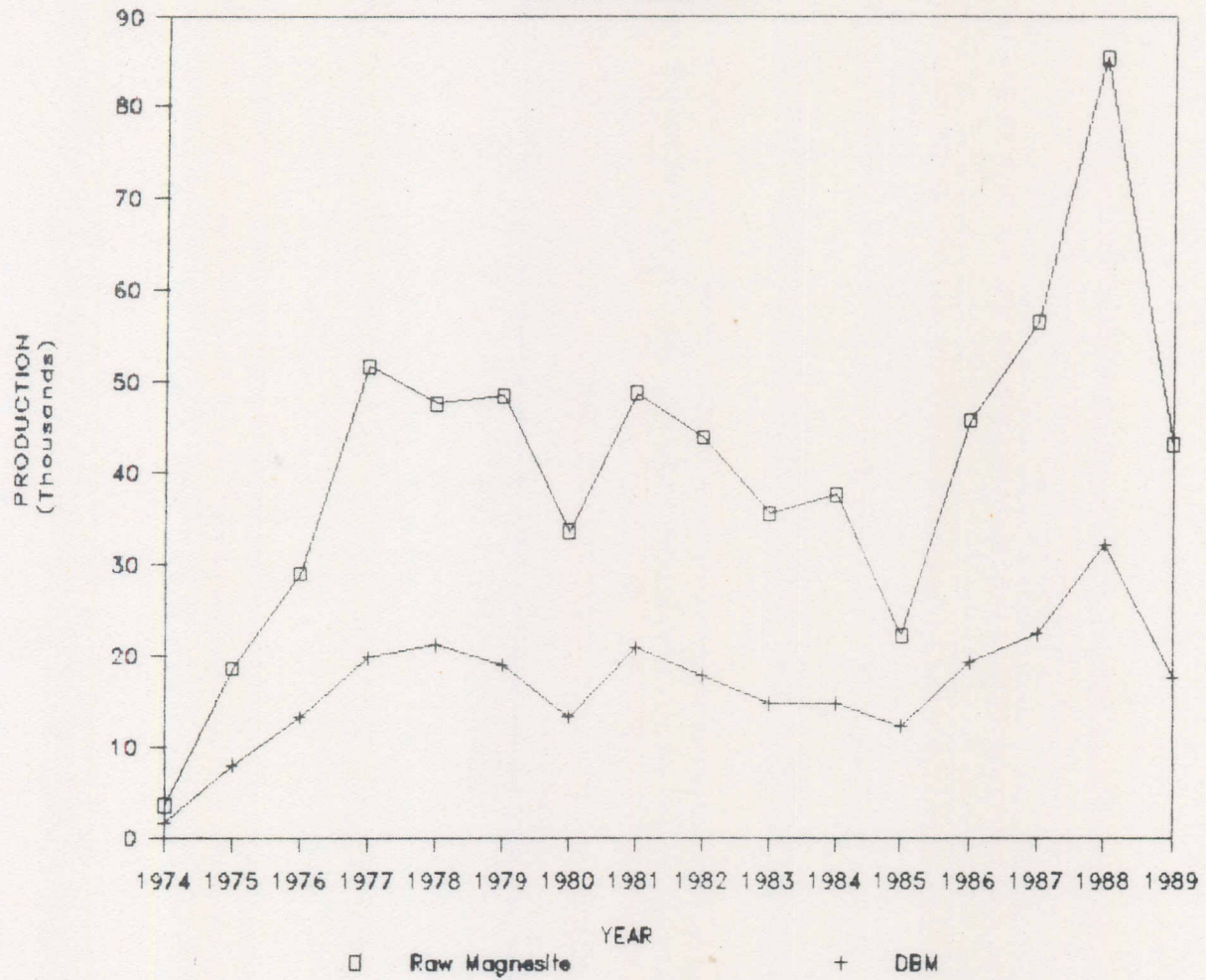
The chart and explanatory notes that follow illustrate the trends in annual production at AML.

³ See International Labour Office, Encyclopaedia of Occupational Health and Safety, Third Edition, Vol 2, pp. 2141-2.

Figure 8.1

ALMORA MAGNESITE LIMITED:

ANNUAL PRODUCTION 1974-87



Notes on production of magnesite:AML (Figure 8.1)

1. 1st Nov. 1987 to March 1989 is counted as one year due to change of accounting year. The next year is 1st April 1989 to March 1990
2. Though the development work in the mines started in 1972 and mining of ore in 1973, the factory and the kilns were commissioned in 1974.
3. The production improved in 1981 but then the down slide started again due to severe competition from Magnesite and Minerals and Himalayan Magnesite Limited. At the same time, the mines production also went down due to lack of investment in replacement of equipment till the nadir was reached in 1985.
4. Then a massive injection of Rs. 1.75 crores investment in mining machinery was made which improved the production of raw magnesite. Simultaneously, a sustained drive in marketing won back the customers for DBM.

Equally reliable information is not available elsewhere. In Pithoragarh, both magnesite companies have consistently declared that they are unable to earn a profit and this has been used as an argument against raising wages. This does not seem credible. The ex-factory price of magnesite ore (as given in the Indian Mineral Yearbook) is between Rs. 1,500 - 2,700 per tonne, depending on quality, and that of DBM between Rs. 2,100 - 2,300 per tonne. The costs of extraction are low; the contractors were being paid at the rate of Rs. 21 per tonne (in 1988), while labour was paid a piece rate of Rs. 10 per tonne. Royalty paid to the State Government was around Rs. 12 per tonne. It seems likely that after adding on all the costs of transport and where the ore is processed into DBM, of processing, considerable surplus would remain as clear profit.

Dinesh Joshi, a journalist and activist from Pithoragarh, has made a forceful statement on the likely profits being earned by the Magnesite and Minerals Company. He suggests that the company has misrepresented its financial situation: that while it is actually selling the ore after sorting/grading/processing, at a price of between Rs. 2880/- and Rs. 3800/- per metric tonne, it has claimed to be selling lumps at a price of Rs. 1675/- per metric tonne. ⁴

The price index of magnesite shows a clear upward trend since 1970. With 1970 as base, the index stood at 578.3 in 1984, 580.7 in 1985, and 585.4 in 1986.

⁴ Dinesh Joshi, "Nainital Samachar", 1 May 1983.

One of the peculiarities of the Magnesite and Minerals Co. has been the export of large quantities of raw magnesite to processing factories owned by Orissa Industries, the parent enterprise, in Orissa. This has been seen by local residents as a means of benefitting the employees of the other factories at their expense, since additional processing in Pithoragarh itself would have generated more employment. Since the capacity utilization has been low-estimated at between 10-15 % - the argument that only an excess of ore, over and above the amount that could be locally processed, is being sent out, does not hold. The ratio of such exports to total production shows minor fluctuations. The mining lease states that the company would install a calcination plant within a specified period of time. But only a small percentage of the ore is locally processed even today. (see Figure 8.2)

The output trends of Magnesite and Minerals Ltd. are shown in Figure 8.3. The peak production year (1983) was one when sustained and organised agitation took place, reflecting the environmental losses sustained by people. For the same reasons, the smaller mines at Dharigaon and Dhunga have been virtually abandoned.

In contrast the production at AML also shows some fluctuation, but much less. There has been no export of raw magnesite from the Jhiroli mines. In fact the company in the first few years of operation i.e, till 1977, imported some magnesite ore from Pithoragarh.

Fig. 8.2

Magnesite and Minerals Ltd. :
Destination of Output

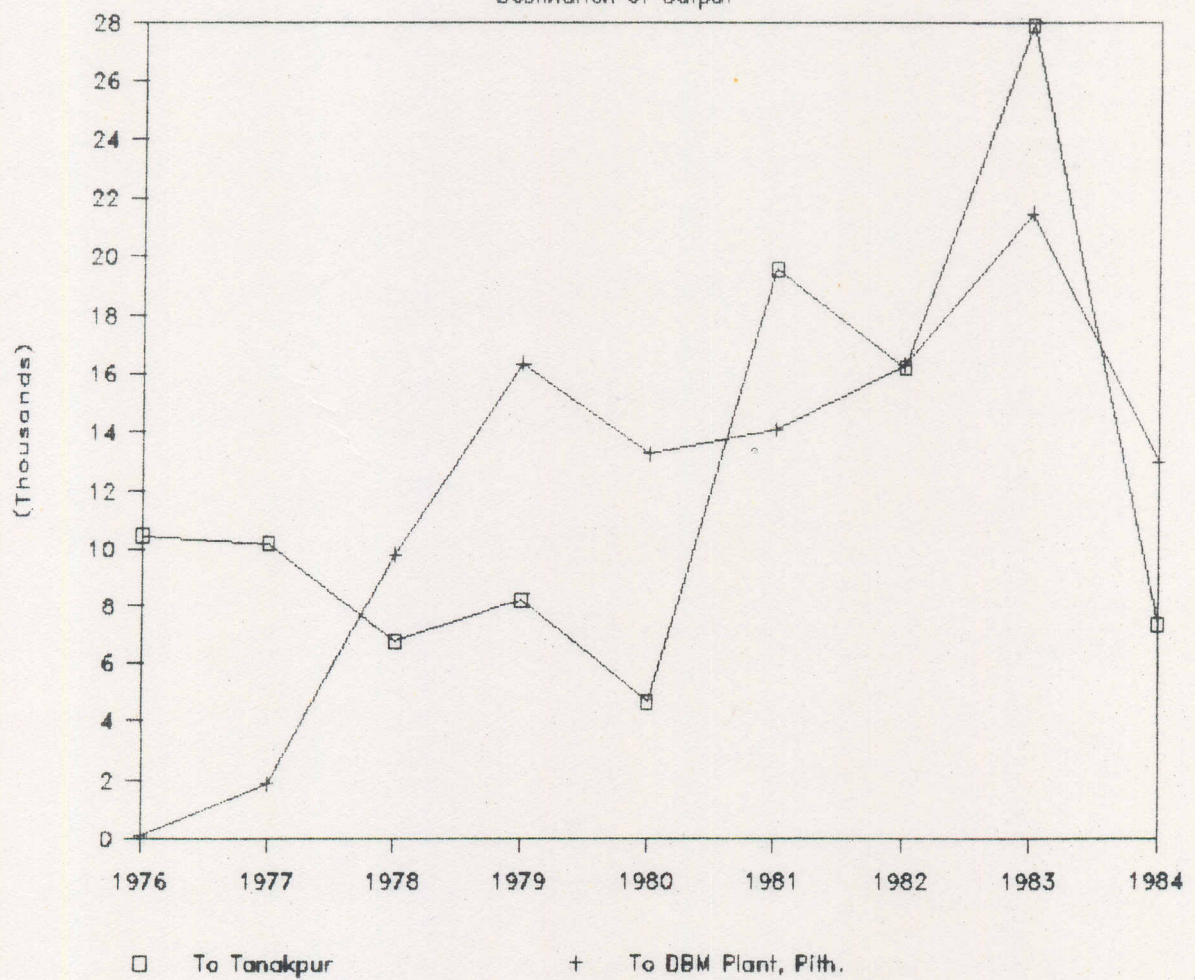
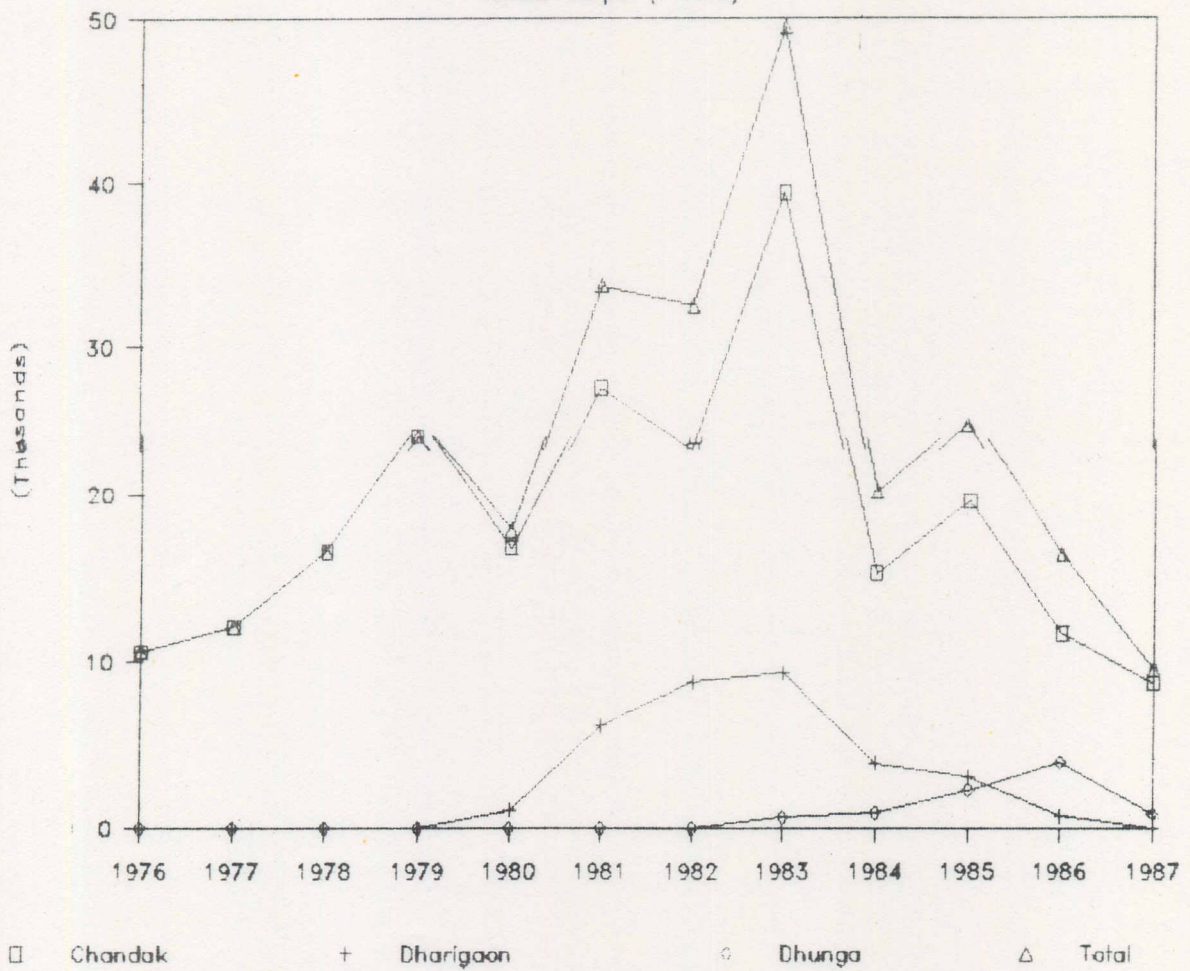


Fig. 8.3.

Magnesite and Minerals Ltd. Pithoragarh

Annual Output (m.tons)



Soapstone

Each of the Magnesite enterprises, in Almora and Pithoragarh, is responsible for a larger volume of output than the soapstone quarries, or the stone/slate quarries. Production trends in some soapstone quarries are illustrated in the that follow. (see Figure 8.4, 8.5 and 8.6)

The main source of the production statistics used here is a monthly return (the "L form") that has to be filed by each enterprise under the Mines Act. While these might not be totally accurate it is likely that the trends will be correctly portrayed.

Looking at these production trends in conjunction with protests, a striking fact emerges. There is a close correlation between the rate of extraction of output and popular resistance e.g. in Chaurasthal in 1984-85 and Khirakot 1979 onwards, the peak production year is also the year of maximum protest.

The reason for this is that economic benefits accruing locally stay more or less constant, while adverse environmental impact accelerates. In Pharsali the reasons for less protest are mainly geographical, since the quarries are located some distance away from the village.

Soapstone quarries are of different sizes but the economics of their operation is similar. Current prices of soapstone are as much as Rs. 350-550 per tonne for the better quality powdered soapstone; and Rs. 35-280 per tonne for loose lumps, depending on quality. While the quality of the soapstone in the Kumaon is generally considered among the best, each enterprise would be

selling different grades, and it has not been possible for us to estimate accurately the composition of the output from any one mine. One analysis of the surplus being extracted by the average mine owner in the average soapstone mine in the Kumaon is reproduced here.

"As soapstone is easy to extract, being a soft stone, one man can take out 18-20 sacks, that is 9-10 quintals in a day. The wage he receives for this work is Rs. 9-10, ie, Rs.1 per quintal.

The lessee gets a subsidy for transporting this ore to the ailhead and here it is sold for between Rs. 350-750 per quintal...

Consider the selling price of the final product: talcum powder. The price of a 100gm tin is about Rs. 15 or Rs. 15,000/- per quintal!" ⁵

Most local benefit has been in the form of employment. The employment generation potential of mining depends partly on the techniques used. Most soapstone quarries use only simple hand tools, crowbars and picks in the extraction of ore, so they offer employment to the average unskilled labourer. Where factories have been set up a slightly higher level of skill and some minimum technical knowledge is required. Employment shows large fluctuations over the year. This is particularly true where migrant Nepali labour is used, as most return home in the summer for 2-3 months. A rough description of the kind of employment that has been generated in different areas is given in Table 8.1.

⁵ This analysis was presented in Taran, Feb. 1983.

The number of locals employed probably does not change much through the year. Nepalis are employed for some months. There are several reasons why the Nepali is preferred to the local man and these are not unique to mining. Low absenteeism, a readiness to work longer hours and at a marginally lower wage, and a proven capacity for sustained hard work, are all factors. There is also no observable sense of displacement by locals, who have long been used to the presence of the hardworking Nepali mazdoor, and who do not aspire to manual labour (although acute economic hardship might force them into it).⁶ The other group of migrants to be seen on mining sites are Biharis, who like the Nepalis, are forced by poverty into such migration. However their visits home are less frequent. Exploitation of these labourers takes many forms.

As an example in the Pithoragarh magnesite mines a survey of Bihari labourers showed that as they are generally employed on a piece rate basis there is ample scope for cheating on the weight, in the absence of reliable weighing machines. There is no payment for holidays; or on days when a man falls sick.

⁶ For more information on Nepali migrants into the Kumaon, see G.C. Pandey, "Nepal ke pravasi shramik" (Hindi), Pahad-2 pp90-96. The seasonal migrant will always be exploited; the Nepali is no exception. It is estimated that about 75,000 Nepalis are to be found spread over Uttar Pradesh, Punjab, Haryana and Himachal Pradesh and of these about 50,000 at least, return home once in two years. The average Nepali will save between 30-60% of his earnings. Out of an average wage of Rs. 7300 per annum, they are able to save and send home as much as Rs. 4500.

Facilities for drinking water etc. are not provided at the place of work. According to one worker a team of four men could extract enough ore to fill 1.5 trucks in a day. Assuming an average working month of 25 days this equals 37.5 trucks in a month, each truck holding between 7-8 tons. The company pays currently Rs. 9-10 per tonne of magnesite and Rs. 5 per metre of overburden removed. On average each man earns around Rs. 1000 per month. (At the rate of Rs. 10 per tonne each man should actually be getting closer to Rs. 2600-3000, if the estimate of 37 truckloads of output is correct). The actual wage bill to the company of employing four men would thus be roughly Rs 4000 per month. At the rate of 7.5 tons of raw magnesite per truck, and a minimum of Rs 2000/- per tonne, the company will be earning over Rs 5 lakhs for this quantity. Since the workers have neither security of employment, nor any facilities for housing, schooling, medical treatment, etc. nor even acceptable conditions at work, it is not surprising that they have a strong sense of being exploited; and the migrant is in a worse position.

The only large factories that have been set up are those in which magnesite is processed. Both at AML and in Pithoragarh, the technical posts are held by outsiders (with the occasional exception, of locals who have been attracted back by the availability of suitable jobs near their homes). But while there is no suggestion that the companies in Pithoragarh have made any attempts to train local residents, AML has apparently done so.

The discovery of magnesite near Jhiroli was followed by the grant of a lease to the U.P State Industrial Corporation. In

1967-68, road construction started along with surveying the area for ore deposits. About 160 men were given employment for a period of three months, the daily wage being Rs. 1.50 or Rs. 2.50, according to the work being done. At around this time a union was formed, the "Magnesite Mine and Mazdoor Sangh", later to be known as the "Almora Magnesite Works Union". Members of the union managed to get hold of the company's muster roll and found that daily wages had been put down as Rs. 3.50; they then insisted on their rights and succeeded in getting daily wages increased to Rs. 3.50 from the Rs. 1.50 or 2.50 that was actually being paid. This continued for the next two years i.e., 1968-70. Almora Magnesite was formed in 1971 and the lease transferred to it. After this employment was no longer given on a daily wage basis as employees were made permanent and paid by the month. Around this time, the company sent educated men out for foreman's training; as a result now local people are employed as foremen. In all about 700 men or 95% of the total employed are locals. While most are in unskilled or semi-skilled jobs, training has been given to employees and one or two have also become officers. ⁷

⁷ Balam Singh Janauti (Chairman, Municipal Board, Almora, who was a labour leader in Jhiroli) at a seminar organized by ISST at Almora to discuss preliminary findings, emphasized that there is little doubt that AML has benefitted local residents. Employment has been accompanied by skill training and upgradation, so that many people are now in better jobs both at Jhiroli and elsewhere. He pointed out that in the soapstone mines the remuneration to labour has hardly changed in the last 15 years: the price paid by the leaseholder to the villagers for soapstone has stayed unchanged at Rs. 80/- for 160 half-Kg bags, or Rs. 1 per Kg. The real problems of the area are employment, and the need to check migration, and not the "mining situation".

Women are not generally employed on the mines, although they may be employed as casual labour for carrying the material down to the roadside. It was reported that the Pharsali mine had a large female labour force when it started but there are no women employed there now. Children are also not generally found working on the mines. But there are some exceptions to this. Occasionally boys of twelve to fourteen years have been observed on some quarries. But the total number of boys so employed does not appear to be large.

One question often raised concerns indirect employment generated. To this the categorical answer, based upon direct observation, is that with the exception of an occasional tea shop, there has been no change in the local economy. Trucks taking the ore down to the plains return with finished products for sale. To the extent that cash income has been increased there is an increase in consumption. But there have been no ripple effects of economic development.

The economic impact of mining has been limited in its positive aspect to some casual employment. It has not been a growth sector. The interaction between rate of extraction of output, and protests, indicates that the economic impact cannot be separated from environmental impacts to which the next chapter is devoted.

Fig. 94

KHIRAKOT
PRODUCTION OF SOAPSTONE

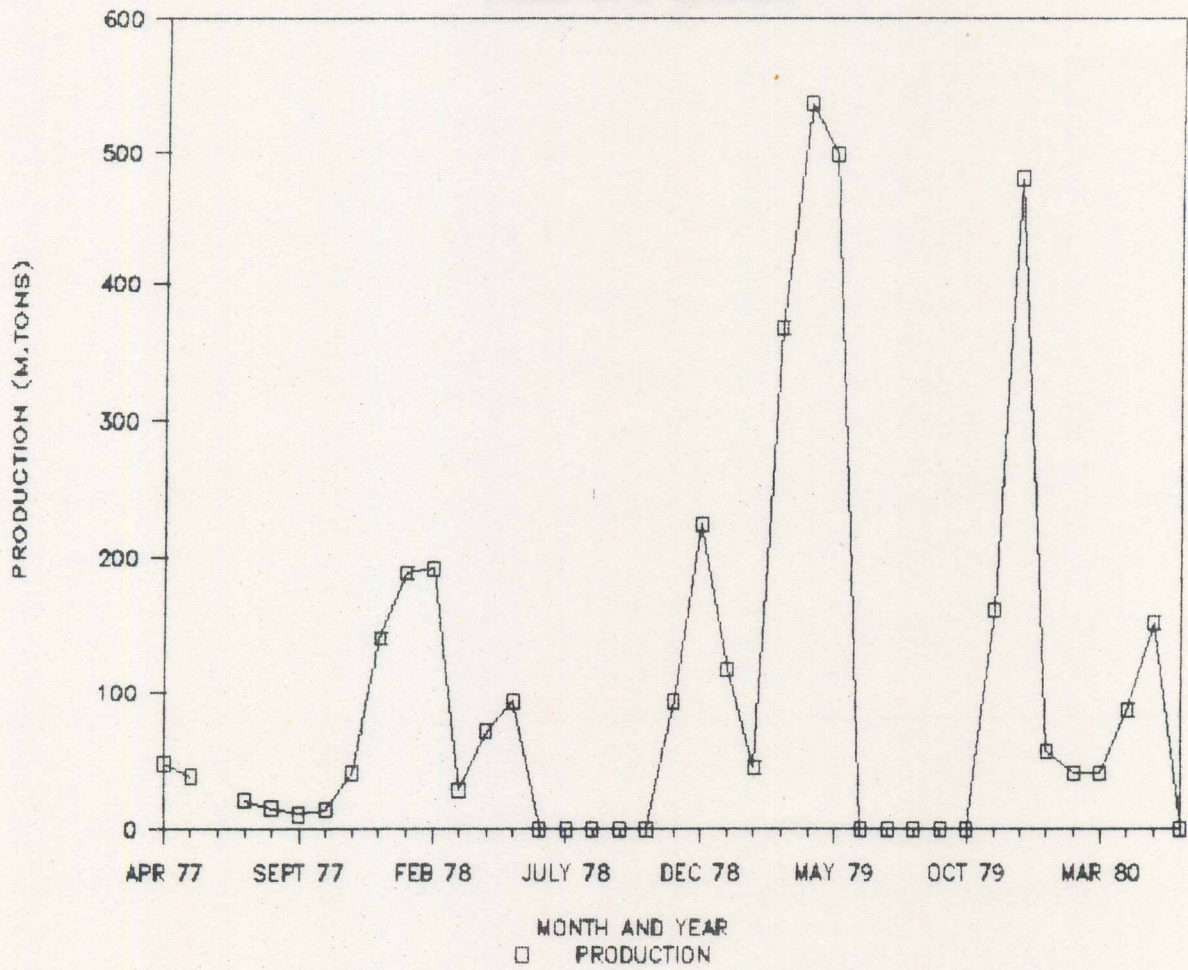
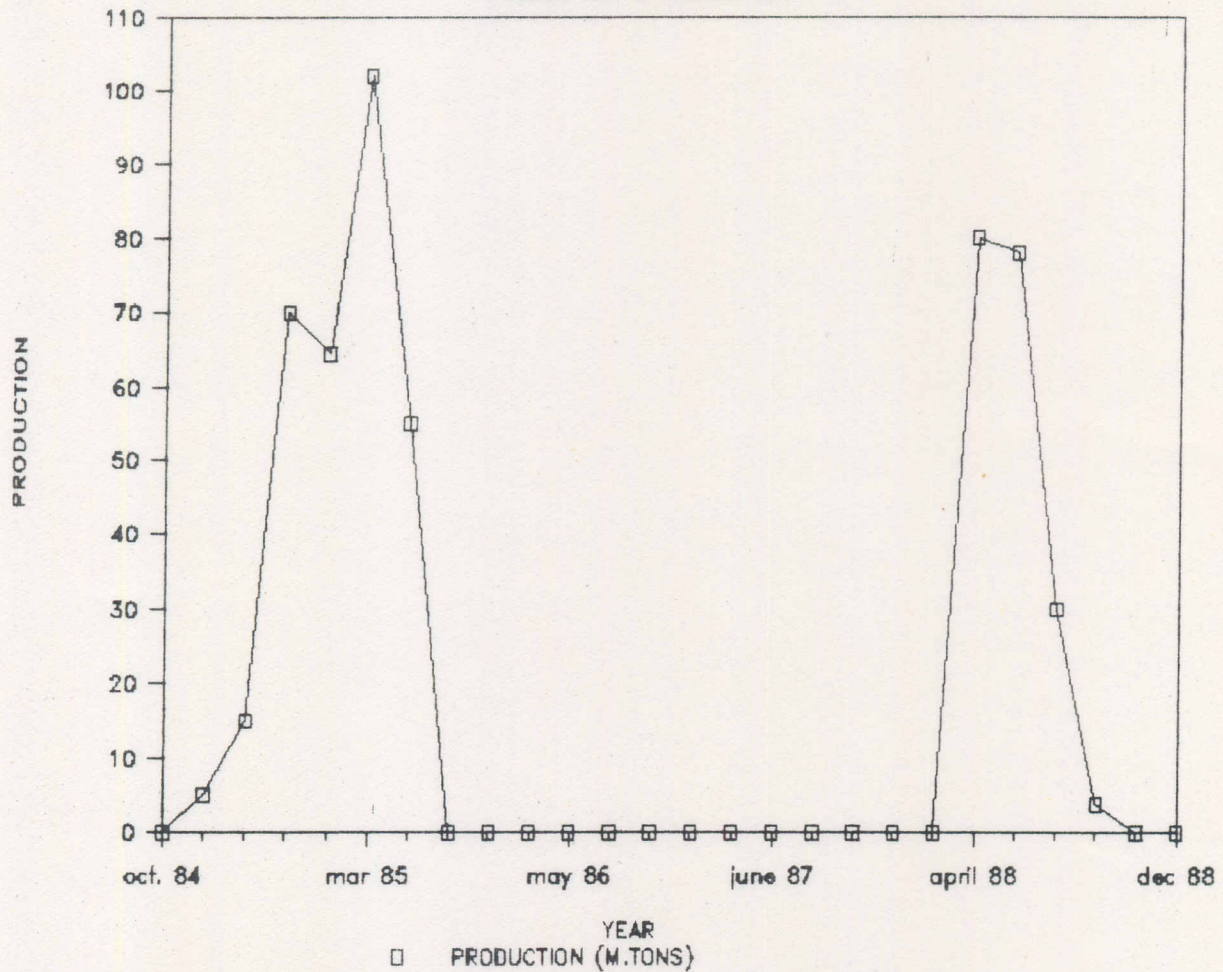


Fig. 8.5

CHAURASTHAL PRODUCTION OF SOAPSTONE



Note:- Production figures for 1988 are inconsistent with the closure of the mine in 1985; this is based on 'L' forms filed at the Collectorate, and all efforts failed to reveal the reasons for this inconsistency.

Fig. 8.6.

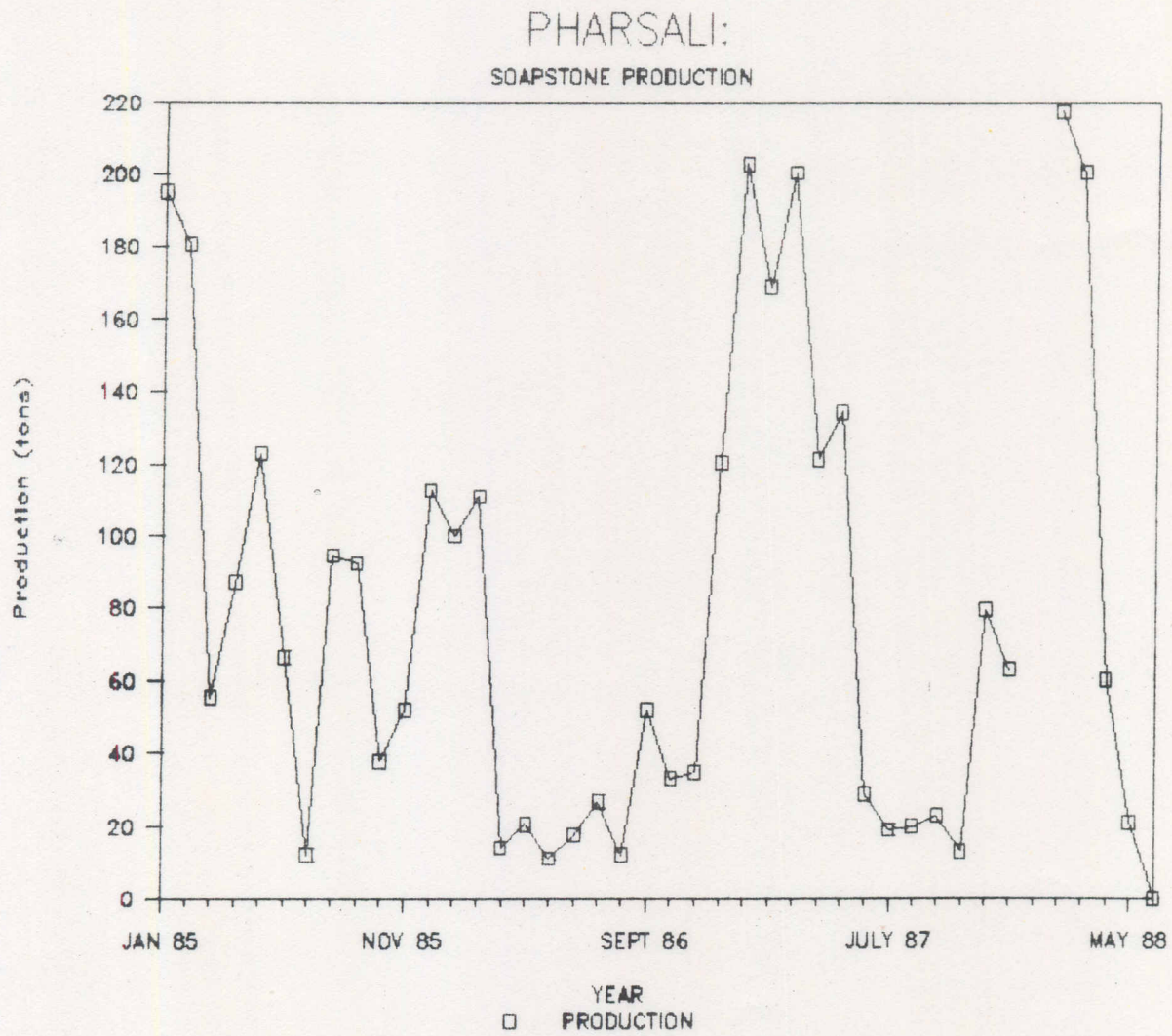


Table 8.1Mining Employment in Soapstone Quarries

Place	nature of employment	local labour	Nepali labour	wages p.m
Chatikhet	daily wage	-	15	500
Pharsali	"	20	14	"
Kanda	"	150	-	"
Rai-Agar	"	19	45	"
Devalthal	"	10	50	"
Toli-Payyan	"	-	150	"

(Note: These figures are those that were quoted to the investigators in Dec. - Jan. 1988. They should only be seen as indicative. Employment in the soapstone mines tends to be seasonal and the Nepali mazdoors go home for 2-3 months in the year).

Chapter Nine

Mining: The Environmental Impact

The environmental impact of mining extends far beyond the actual area being mined because of the associated need to build roads, railway lines, buildings, stores, houses etc. In the Kumaon, the area under mining is not large in absolute terms. For example the total area leased out for magnesite mining is about 1225 hectares while the total land area in the Kumaon is 21,000 sq kms; and only a small part of the leased area is currently being mined.

The mining enterprise can become an integral part of the region's development and not result in the creation of an enclave if the "policy induced impacts" which include development of roads, housing, electrification, water supply, stimulation to other employment generating activities, etc are matched to locally expressed needs.

It has been suggested that

" development aspirations and reality can be brought closer together ..through the institution of a rigorous, relevant and non-prejudicial project development cycle appraisal, well in advance of any undertaking."¹

Maximum benefits to the local community can be obtained with such indirect economic stimulation accompanied by more effective land reclamation. Success stories from other parts of

¹Mining projects in developing countries: a manual (Beijer Institute, 1987)

the world suggest that reclamation can be effectively done. ²

There are technical problems associated with reclamation but the greater problem is often that of expense. In the USA for example, soil erosion has been recognized as a major problem; but within the framework of a market economy, even with massive subsidies, the problem has proved intractable:

"Time and again, farmers have been asked to improve their farming methods- and time and again they have told soil conservationists that they cannot afford to do so."³

It should also be remembered that in tropical countries soil itself is virtually a non-renewable resource: it takes an estimated 500-1000 years for 1 cm. of soil to be formed. In the Himalayas, where slopes are steep, it takes even longer.

Often, legislation is seen as the first necessary step in reducing the adverse environmental implications of mining. An analysis of environmental legislation worldwide showed however, that:

"no direct relationship between population density and public awareness of the need for land reclamation as shown by legislation. Instead, ..affluence , not surprisingly, was the more important correlate of land reclamation legislation...

There is an urgent need for effective land reclamation law

²See for example, A. N. Banerjee "Reclamation of land laid waste by mining", Wastelands News, Feb.89-March89, in which the successful creation of a wildlife habitat from large areas of coalmine disturbed land, in Canada, is discussed.

³Nicholas Hildyard, "Development: no cure within the market", The Ecologist, Vol12 no.1, 1982.

in India and the Himalaya. This legislation is not needed "because surface mine operators cannot be trusted". It is needed because reclamation costs money."⁴

In the area under study, most often mining has affected land that is used collectively. This makes reclamation doubly difficult because there is no adequate measurement of collective needs, nor means for the control and protection of collective assets, in an economic and social system which is built up around assuring the security of private goods. Problems concerning reclamation are not thus limited to expense⁵ and the identification of responsibility, but also require that a way be found of acknowledging the significance of publicly owned property. An additional problem in the Kumaon is that irrespective of the legislation or the objectives, problems of access and inspection are so acute that without some kind of community participation/control it is most unlikely that there would be a

⁴ Marianne P Kilmartin and Martin J Haigh, "Land reclamation policies and practices", in S.C. Joshi et. al (Eds.) Mining and Environment in India. (Himalayan Research Group, Nainital 1988).

⁵ The mining industry in India today is considerably exercised about this question. Their contention is that there are two segments in the industry, one large, mechanised, monopolistic with access to finance, market and technology, - and state dominated - and the other non-state sector, which is small, manually operated with restricted or restrained access to market, finance and technology; that these two are expected to contribute equally to the protection of environment and ecology; and that in regard to the projects undertaken by private enterprise, the size of the area and the financial status of the unit should be a determinant insofar as eco-management is concerned. See R.K.Sharma, (Secretary, Federation of Indian Mineral Industries) "Eco- management: Strategies of Resource Mobilisation". (mimeo).

satisfactory degree of reclamation. But people's participation in conservation or restoration cannot be separated from the crucial question of ownership and rights. The State claims ownership of all sub-surface minerals which complicates the question further. The contention of representatives of mine owners is that they lack adequate incentives for reclamation. In the U.S.A for example, land is owned by the mining company, which therefore can continue to make a profit for itself by reclaiming land once the deposit is exhausted. Another problem is that the smaller companies are unable to mine profitably if reclamation is their responsibility, but no viable alternative to small leaseholders is being evolved.

Any effective land reclamation strategy will need to find some answers to the following:

1. An assessment of potential future damage, both physical and social
2. Agreement on appropriate post-mining land use, based upon needs of local community
3. Agreement on who would meet costs of protection/reclamation
4. Methods of enforcement that involve the local community

The description and analysis of environmental impact that follows highlights some issues relevant to the formulation of any reclamation strategy.

Table 9.1 shows the pre-mining land use in different areas. Information is not available on the proportion of leased area to the total area with significant mineral deposits. But deposits are likely to be distributed over a much wider area than is given

out on lease. It is also unlikely that all soapstone deposits occur on village land and none in the Reserved Forest areas. But no leases have been given to mine in the latter. The reason must be that the government is more concerned to protect industrial resources, both forest and mineral, than to benefit local people. AML has a lease to mine over an area that includes some reserved forest. For many years now permission has been withheld for mining this. It is difficult to understand this decision. No such reluctance is shown when the area affected is civil forest land.

Land reclamation in practice

Reclamation of the mined land is being attempted in some few places, following the greater importance now being given to it by the Central government. The Almora Magnesite Ltd. has the most detailed reclamation plan. In some other places all that has been done is that a few trees have been planted. e.g. "raam baans" in Rai-Agar. It might be said that the need for soil conservation has been to some extent accepted by the miners (although they bear the costs of this measure reluctantly, and it has only been done under pressure). But there is certainly no appreciation of the ecological distress, as opposed to just the environmental damage. In fact if it were suggested that the purpose of land reclamation should be primarily to guard against irreversible damage to the socio-economic structures, this might be seen as a retrograde step, an attempt to turn the clock back. In this context it is well worth emphasizing the Khirakot and Chaurasthal experience. Here reclamation was done by the

villagers on a voluntary basis. In Khirakot a dense forest has been recreated: an incredible prevention of change in land use. But here the community was responsible for the halt of mining and the community was organised and aware enough to know what the best land-use for them was.

In most of the areas studied, the disturbance of land surface is limited to the actual mined area. In the Almora Magnesite Complex this is not true, as many buildings, a road network and a factory have been set up; likewise it is not the case at Pithoragarh. Elsewhere there has not been much construction, although there is more traffic on the roads and footpaths.

Reclamation generally refers to the area under mining as this has a time bound use for the miner. Other construction or road building takes on a much more permanent character.

Soapstone Quarries

Soapstone quarries are generally small. One of the largest is at Pharsali. (40 acres). While there are problems specific to each area, certain impacts are observable everywhere. Our "data" consists of observation and recall, and we do not have pre-mining observations.

The extraction of soapstone usually requires no blasting, unless magnesite or other hard rock is inseparably associated. However, the careless extraction of ore has almost in all places led to land subsidence. At Rima, which is part of the Chhatikhet-Jhankot lease, a major landslide took place in 1986. Investigations by the Soil Conservation Officer showed that the

landslide was caused by mining.⁶

Some of the older, abandoned quarries at Pharsali are located towards the top of the hill where there is clear evidence of land subsidence. The first quarry, closest to the village, collapsed one evening after a heavy rainfall, burying all tools and one Nepali labourer. Despite this subsequent quarrying has followed the same pattern but now the quarries are more difficult of access and any damage is not visible from the roadside. A large "gadhera" or rivulet near the older quarries is now completely dry. Stumps of trees cut down to clear the ground for mining can be seen near the quarries.

At Chaurasthal, within a week of the start of mining one of the major springs dried up, and water started seeping into the quarry. Land subsidence was also seen.

All of these problems are seen in Okhaldhunga. Okhaldhunga and Imkhola in the Dharchula Tehsil of the Pithoragarh District are small villages of nearly 25-30 families. Okhaldhunga is located about 10 km from Jauljibi and Imkhola is 1 km beyond in the ori valley. A lease for mining soapstone for 20 years, given to K S Toliya on 29 October 1968, was transferred to Sahni and Co in 1976. This mine is situated high up on the hillslope overlooking the Jauljibi-Madkote road. Another small quarry owned by Pandey of Pithoragarh is located in the small hill about 1 km downward. Mining is being done in an obviously dangerous fashion, the quarry face being 20-30 m high. The hill slope is

⁶ Vide letter to the Officer in Charge, Mining from the Soil Conservation Officer, dated 16.8.1986.

badly scarred by quarrying and excavations for temporary roads to the quarries. The quarrying has led to considerable loss of vegetation and topsoil due to erosion and landslides. As far as the restoration of mined area is concerned, no significant effort has been made by the mine owner.

Subsidence of land is also very common in the area as observed near Imkhola where several cracks developed after the start of mining. Landslides are also common particularly after heavy rainfall. When visited, eight landslides were observed within a stretch of 1 km. Soapstone being very soft is prone to slipping downslope. The weathered, crushed pieces of rocks and fine powder produced by mining suspended in water accelerates the pace of slippage. Most of the pits dug in the past are now abandoned either due to exhaustion of the reserve or on account of increased cost of digging out soapstone from deeper levels. The miners tend to shift their mining to a new spot once the shallow deposits are exhausted and rely on natural processes to even the ground. The old sites have not been restored or treated with any conservation method.

But when the lease for the mine at Okhaldhunga came up for renewal in 1988, the scientific team appointed by the government recommended renewal. It seems that once again,

"In the event of scientific uncertainty..doubts will be resolved in favour of the status quo." ⁷

⁷ Constance D Hunt, "Resource allocation and development: selected issues from Northern Canada", Third World Legal Studies, 1987, p. 188.

Table 9.1

PRE MINING LAND USE

Almora District:

1.	Jhiroli	cropland: compensated by land in Terai civil forest/pasture (pine) deposit in reserved forest is not yet being mined pending Central govt clearance.
	Matela	cropland has been acquired for factory
2.	Chhatikhet	pasture
	Jhankot	cropland
3.	Chaura } Bhalyuda } Ganyuda }	pasture
4.	Khirakot	civil/panchayat forest: fuel, fodder
5.	Pharsali	panchayat forest of the village
6.	Kanda	pasture, cropland

Pithoragarh district:

1.	Okhaldhunga	pasture, cropland
	Imkhola	pasture
2.	Sikrani	civil/panchayat forest/reserved forest ⁸
3.	Aagar	pasture
	Rai	pasture
	Odiar	pasture
4.	Tarigaon	Pasture, cropland

⁸ It is difficult to be completely accurate about the pre mining land use, but some indication of this for the Pithoragarh area is given by the following figures supplied by the Patwari, Chandak (in May 1987): of a total of 82 acres currently being mined, 37% was "nap" land, 20% "benap" land, 23% panchayat forest and 24% reserve forest. The impact upon different villages varies. The distribution in each village was given as:

	Nap	Benap	Panchayat	Reserve	Total
Sikrani	67*	132	-	400	600
Dharapani	12	2	24	-	38
Dhunga	393	-	50	-	444
Bakarkatya	25	-	6	-	31
Halpati	41	180	229	-	451
Dharigaon	64	10	-	-	74

Total	605	324	390	-	1640

*figures in nalis (20 nalis= 1 acre)

Magnesite mining: Pithoragarh

Magnesite mining on a large scale has been taking place since the early seventies. The total area under lease is 360 ha. to the Himalayan Magnesite and 513.89 ha. to the Magnesite and Minerals company. Although there have been local agitations and these were reported in local newspapers, there is little awareness outside the region on the extent and type of damage, and certainly there has not been any public outcry of the kind that limestone quarrying in the Doon valley provoked.

Magnesite deposits are being excavated on a hillslope facing the township of Pithoragarh. About half a kilometre stretch of the mining belt in the Chandak area has undergone drastic modification in its landscape and soil cover. About 30-40 has. of land in the Tarigaon area has been used for mining. Excavation scars on the landscape are also seen in the Dhunga and Dharigaon areas to the west.

There is no record of heavy landslide although small landslides are quite common during the monsoon period. Overburden is usually very thick and waste is generated during mining and processing of the raw material. Dumping of this overburden in the streams has affected both the quality and quantity of water flow. According to the local villagers they are left with a very small discharge. During the last 15 years about 5 metres thick sediment load has been deposited in the stream, resulting in the shallowing of the channel. The commonly occurring flash floods have destroyed the boundary walls of cultivated fields near Pubdeo. Check dams of a sort have now been

constructed in the drainages, following the complaints of the villagers. The dust generated during the processing of raw material spreads far and wide covering leaves of the trees and other vegetation. The extent of dust pollution has now been minimized, as a dust collector has been installed in the kiln. However, the dust collected in the kiln is dumped near the factory in the ravine that leads to the main drainage. No asphalt spraying is done on that debris in order to check blowing of the ash and dust in to the atmosphere.

Environmental changes have had a considerable effect upon the life of the average villager. A study at Bajeti illustrates the kinds of impacts there have been. Part of the Panchayat forest of Bajeti was acquired by the Magnesite and Mineral Co., in order to construct a factory for processing the ore. Most of the villagers appear not to have been aware of the reason behind this land acquisition at the time. Most of them had hoped that the factory would offer employment to the villagers. In 1981-82 an agitation against the factory took place and a series of demands were presented to the Company. These were not met, and apart from intermittent closures the factory has been in continuous operation since 1980 or so. Complaints against the factory operations related to the sickness caused in milch animals by excessive dust and the pollution of water sources.

A survey of 27 households selected so as to include different castes, different sizes of landholdings and occupations, showed that:

1. The number of heads of cattle kept per household showed a fall in most cases. The total number for these households, was reported as being about 69 in 1989, against 113-115 before the factory started. The number today is around two-thirds of that previously. Reasons given for this reduction included a shortage of grass and of manpower within each family due to the breaking up of joint families. Some people also reported a fall in milk yields and poor health of the cattle.
2. Grass⁹ is obtained from a variety of sources, panchayat forest, private land, plots in reserved forest or elsewhere, or purchased on the open market. The diversion of a part of the Panchayat forest land to factory construction has made a considerable difference to grass availability. From the 27 households surveyed it seems that the Panchayat forest now yields less than 30% of the yields

⁹ Grass is fed to animals and is of different kinds. Green grass or "ganjo" grows in the forest, is cultivated according to demand, and is around a foot high. "banjar" or waste land is used for this purpose but informal rights are acquired and the villagers' respect each other's plot. This grass is cut in the months of September and October and dried for use in the winter months. Grass is also grown on fields in between the furrows of wheat/rice.

The stalks of wheat/rice left after the crop has been harvested is also fed to animals. This is less rich in protein than "ganjo", as it is obtained only after the crop is ready for harvesting whereas "ganjo" is got by drying green grass.

When no more grass is available green fodder is obtained from trees. This is mixed with dried grass and fed to animals. Trees from which green fodder is got include peepal, harad, bhimal, kaural, kharak phadisa, etc. These are called "shawl" in the local language. It is got mostly from the forest, and in smaller quantities from trees near the house.

obtained previously. No change was reported in yields from private land; reduction in grass from the Panchayat forest therefore has meant that the deficit is made up from plots in the reserved forest and elsewhere. Ten families reported that they now need to purchase grass as well.

As against 15 days spent earlier in cutting grass from the panchayat forest, only 4-5 days are now needed to exhaust the available supply. After allowing for population increase only about 30-35% of the grass previously obtained is now available.

3. The emission of dust from the factory seems to have adversely affected crop yields particularly in those fields that are near the factory. The reduction in yield was said to be as much as 75% by some farmers, as compared to the pre-mining period, and 30-50% by others. Some farmers observed that there had been a tendency over the years for a reduction in the average level of rainfall. A few reported that whereas previously the land produced enough grain for 12 months consumption, now with the fall in yields they were forced to supplement home production.
4. The high, near universal prevalence of dysentery among cattle was attributed to the intake of factory dust.
5. The factory has provided employment to only 10-11 local persons at salaries of around Rs 600-650 per month. Two men had been employed as contractors. Other than these 12-13, no-one has benefitted from the mining. It seems reasonable to conclude that the effect of mining on the village Bajeti

has been negative in an economic sense.

This particular survey was limited to one village. But the emergence of a "grass market" all over the area is an indication of encroachment upon fodder resources, although this cannot be attributed to a single cause.

Sikrani, which is located very close to the mine at Chandak, has also been affected by the dust from the factory. A reduction in crop yields was reported here too of the order of 50-80%. The reduction has been noticed over the last 10-12 years. Problems with eyesight and stomach, again attributed to the dust, were also mentioned. Since Sikrani residents have otherwise benefited, having obtained remunerative contracts from the company, resentment at these adverse movements was less apparent.

At Tarigaon, animal husbandry is an important occupation and almost every family is engaged in the sale of milk to the town of Pithoragarh. This did not stop during the period that Himalayan Magnesite was in operation. But mining affected animal husbandry in several ways: a shortage of grass due to acquisition of land for the factory; shortage of water; and dust leading to sickness. According to one villager, as a result of these problems the family now keeps 2 buffaloes against 6 or 7 earlier. But as the price of milk has also gone up a better breed is now kept, with higher milk yields. Another villager said that they still keep the same number of buffaloes, but have reduced the number of cows. Milk yields had not changed: but shortage of grass and green fodder meant that supplements of soyabean and salt are now given. Grass has to be purchased in increasing

quantities. But while no change in milk yields was reported, it was said that crop yields had gone down considerably. A 30% reduction in crop yields was estimated. Villagers had also observed a change in the colour of the soil from black to brown, and associated this with an adverse change in the soil composition due to fall of dust and ash.

Based on these surveys around Pithoragarh it seems that there has been some change in the fertility of soil, and a drop in yields. It is difficult to quantify with complete confidence- it may be of the order of 30%. The agriculture in these areas is heavily dependent on animals, and the shortage of water and fodder has affected these animals adversely. In the two years since Himalayan Magnesite closed down, villagers report an improvement in the health of the cattle. More people are choosing to keep milch cattle- and the number of "unproductive" cattle has been cut down. This area (Tarigaon) has traditionally supplied milk to the town of Pithoragarh.

Magnesite Mining: Almora

Opencast mining, partly mechanized is being carried out in the Jhiroli area, to work a steeply dipping ore body. Already about 450 acres of the area is under direct effects of the mining activity. There is no record of landslide caused by blasting but minor landslides during the monsoons after heavy rainfall are not uncommon.

Increase in the dust content as a result of mining activity has considerably reduced the agricultural output of the farms. Near the DBM plant the fields are now totally sterile due to

thick cover of dust on them and the hill facing the factory is totally barren.¹⁰

The villagers say that the incidence of intestinal disease has increased over the last 6-7 years and that dysentery in cattle is common. Questions put to the villagers revealed that before mining started water sources for Matela village included two naulas and three springs. Two out of the three springs have dried up since mining started. The water in the naulas is polluted. Twenty years ago the naula was used for drinking, irrigation, bathing, for the animals, but now it is no longer fit for drinking. Now less water is available for irrigation. This is one of the factors contributing to a fall in the productivity of the fields. Previously, springs and naulas were always kept clean, and a "gul" or irrigation channel well maintained. But today since land has been acquired for the factory and jobs given to men from every family, no incentive remains to maintain the irrigation channels as much less land is being cultivated. Other water sources are also neglected now since a pipeline has been constructed by the company.

AML has employed local labour as far as possible, around 90%

¹⁰ This observation has been disputed by the Managing Director of Almora Magnesite. Far from soil fertility having gone down, he claims in fact that it has gone up. Fruit trees planted in the factory compound according to him are growing well and bear fruit. He emphasized that magnesite acts as a fertilizer and that introduction of magnesite in an acidic soil improves soil quality. The villagers are now able to get three crops annually. The barren stretch noticed near the factory is barren because it has been acquired by the company for further construction; even the hill side facing the factory is now showing signs of regeneration.
(Verbal communication, June 1989)

of all labour being local. Despite persistent labour problems the policy has been continued and virtually all those employed in the recently started cement plant are locals. So if the mining has displaced earlier agricultural operations it has also created new employment. ¹¹

The environmental impact on soil, water and air is adverse. But unlike Pithoragarh a series of measures have been taken to reduce adverse environmental impact.¹² The proportion of adult males working as migrants elsewhere has dropped from 30% before the company opened to under 5% today. Men have given up jobs that would be considered both relatively secure and remunerative in order to stay at home and work at AML: e.g. one man now a mine labourer used to work in Haldwani in a sweet shop; a driver in Delhi is now working as a driver at AML; several ex-servicemen have been re-employed by AML. ¹³

Protests against AML have tended to concentrate on the resettlement problems of Jhiroli village. The problem is

¹¹ AML has received rather more than its fair share of criticism, however. Recently (in January 1989), as a result of a strongly worded letter written by a local group- the "Uttaranchal Glaciers Paryatan evam Janakalyan Parishad"- the government instituted an enquiry which eventually exonerated the company of the main charge, that mining was going on in reserved forest area. In actual fact AML has applied for permission to mine in the reserved forest area falling within the leased area, but this has not yet been received. But it is unfortunate that such encroachments in less visible places go unchecked.

¹² See Mining Plan of the company for details.

¹³ The Magnesite and Minerals Works Union, in a letter written to the management in 1986, pointed out that as against the employment of about 750 men with minimum wage of Rs 650, the work force in Pithoragarh is only 160 with a minimum wage of Rs 437 only.

compounded by the fact that Jhiroli villagers are Harijans.

The total number of families listed for resettlement were 88. Of these 58 have taken possession of land offered as compensation (1 acre each) in Sitarganj. In addition 52 families have taken possession of an additional 1.5 nalis for homestead in Dewaldhar.

Of a total of 111 houses in Jhiroli, 60 have been sold and vacated, 11 sold but not vacated, and the balance 40 have not yet been sold to the company.

Although 60 have been sold and vacated, only 7 houses have been built in Sitarganj, 12 in Dewaldhar, 17 in Malladana and 11 in other places. There has been unauthorized construction at Jhiroli of 10 houses.

A small group of 20-21 individuals are therefore continuing to resist the move.

70 people from the village are at present employed by AML. The scale of the resettlement necessitated here is small. for example, the Bhakra dam necessitated resettlement of 2170 families; in Andhra, the Sri Salem dam meant that more than a lakh of people had to be resettled; about 50,000 people had to be resettled both in Singrauli and in Orissa (the Raingoli dam). In fact in Singrauli the very same families have had to move two and even three times.¹⁴

It was reported that in Andhra, one family's income had fallen from over Rs 7000 to Rs 2347 after resettlement. In Orissa

¹⁴ See e.g. Bharat Dogra, "Jo apni jagah se ukharte hain", Jansatta, 17 March 1990.

resettlement created a large number of casual labourers. As awareness of problems consequent upon resettlement grows, so too does resistance to it and the best example today of this is the resistance being put up to the Baliapal Missile Range in Orissa.

In Jhiroli, the company management asserts that people are better off and to some extent this is echoed by the villagers in that most of them do not wish a return to the pre mining era. Grievances include the following:

1. At the time that the company drew up a "family list" in Jhiroli- around 1974- the number of families was 88. Since then the number of families and hence claimants has gone up, since "family" is being understood in a nuclear sense. But provision for compensation was made only for those originally listed.

2. The ten households who have moved to Sitarganj have certain grievances:

-some families have more than one person employed at the mine, while in others there is none. Since employment was assured to all families, this is seen as unjust. The company sees this as an unfair accusation since jobs are limited and go to whoever is first eligible.

-no provision has been made in Sitarganj for electricity or water. But this the management sees as not possible until all families have shifted.

3. A survey of the ten families who are now living in Sitarganj showed that only one had been able to make the transition to a different lifestyle and felt optimistic about future prospects.

Mining has impacted upon land, air and water with

corresponding adverse effects on traditional livelihood from land. At Jhiroli there has been a check to migration. Elsewhere there is little compensation for this environmental-economic loss.

Chapter Ten

Mining: The Social Impact

Mining and other activities increasing the role of money and markets, have deepened the distance between those whose livelihoods are still dependent on land and forests, and those who have been drawn into the commercial-industrial system. Generally there is a gender divide here, since it is men who experience the latter most.

Women play a multiplicity of roles here as elsewhere—within the home they have the primary responsibility for domestic chores, cooking, child care, cleaning. They are also primarily responsible for home sustaining activities. But in addition women in the hills are farmers, and undertake all activities related to farming, with the sole exception of ploughing. This is an age old characteristic of hill agriculture. But high rates of male migration have increased the burden of responsibility falling on women.

An occupational profile of hill women is shown in Table 10.1 and 10.2. While the dominant category is that of "agricultural cultivators", in almost every case the more accurate description is "agricultural cultivation and animal husbandry". Within the category of cultivators a very small number work as wage labourers on other people's fields, the majority being fully employed on their own land. The category 'Agriculture' used here is an umbrella one including (for women) animal husbandry related tasks as well as domestic activity which includes fuel, fodder, water collection. Cottage industry is

also included here, since it is a supplemental and seasonal activity, with some few exceptions.¹ "Agriculture" therefore includes tasks relating to

- a) Productive activities- agriculture, cottage industry
- b) Home sustaining, or survival tasks- fetching water, fuel, fodder
- c) Domestic- child care, cooking, cleaning

The category 'other' for women is mostly teaching, for men it includes manual labour, trade and business etc. All female migrants in this sample were 'involuntary' migrants i.e, those who had accompanied their husbands. This table shows no female employment in mining. While this is true for the sample studied, a few women, in the Pithoragarh area (but from villages not surveyed here) were known to be mining contractors.

Women's work patterns, as described, are not unique to the hills, but whether it is the hills or the plains women's interaction with the eco-system is much greater than that of men. In areas of greater environmental degradation the same roles result in longer hours of work, because of the shortage of fuel, fodder, water and consequent greater time required to obtain needed supplies. The agricultural work done by hill women is probably greater than their counterparts in the plains. This reflects the limited possibilities of mechanization in the hills, and the small average size of plots, with the result that much agriculture is virtually "kitchen gardening", in contrast to the

¹ For details on this, see Krishna Bhatt, Rural Haat Survey, ISST 1988.

different techniques followed on the plains.²

The eco-system within which the typical village household functions would be a closed one but for (a) migration and (b) development interventions. Today these are forces affecting all parts of the Kumaon, and households here have been drawn into a cash economy even though only partially.

The implications of this commercialization will be further pursued later.

Within a household there will be some sharing of work. As Krishna Bhatt puts it "The best part of a Kumaoni woman's life is when her husband and son are working, and there is a daughter-in-law at home to do the work"³ In general, young girls - specially over the age of eight - assist the mother, starting with the lighter tasks: animal husbandry and child care. Cooking and other kitchen responsibilities are not usually delegated to unmarried girls. Some tasks related to animal husbandry are also often undertaken by old men or boys.

Table 10.3 shows the land distribution in the villages studied. It can be seen that 10% of households are reported as being landless. This figure drops to 8.4% if Jhiroli is excluded as the compensatory land allotments have not all been made there.

² For a comparison of the roles and participation of women in the hills with that in the plains, in Nepal, see Bina Pradan and Kathy Rankin, "Conceptual Perspectives on Women's Roles in Resource Management", paper presented at the consultative Workshop Women, Development and Mountain Resources: Approaches to Internationalizing Gender Perspectives, Nov. 1988, ICIMOD, Kathmandu.

³ See Krishna Bhatt, Status of women in Kumaon, ISST (mimeo), p43.

This figure is relatively high as other studies and Census data show around 4-5% as landless for the region as a whole. 67% of the land holdings are under 1 acre. Besides being small, the landholdings are also fragmented. The degree of fragmentation is often astonishingly high. The average number of parcels in a land holding is probably around 8. Therefore agricultural work absorbs a great deal of labour time with relatively low rewards. It is also important to note here that the importance of animal husbandry is heightened by its interaction with agricultural operations and land productivity. Cow dung is used as manure (chemical fertilizers are not used in the hills) and bullocks are used to till the fields. Goats and sheep in contrast are kept for different reasons: goats mainly for ritualistic purposes, and sheep which are reared for their wool. In some places milk is sold - a prime example among the areas surveyed by us being Tarigaon, near Pithoragarh. Where milk is not that plentiful and there is no established market, it is generally shared among neighbours and relatives when supply exceeds family demand.

The one activity that is not undertaken by women (though even here exceptions have been reported) is that of ploughing and preparing the land for cultivation, which is always done by men. Other agricultural tasks become the province of the women. This division of labour has tended to become exploitative over the centuries.

Access to land reflects caste differences in land ownership (see Table 10.4). It can be seen from the data on land distribution that 86% of the landless are Harijan households.

Looking at percentage distributions within each caste, there is some indication of lower access to land among the Harijans. But the more interesting feature is that in all castes, the majority of landholdings are between 1 & 40 nalis (i.e, under 2 acres). It is this feature that differentiates land distribution in hill areas from the highly uneven distribution in many parts of the plains (and especially in those areas which were under zamindari cultivation, as in Bihar).

In general men do not participate in home sustaining activities- fuel, fodder, water collection. But in the more remote areas it has been found that men do assist.⁴ Household cottage industries, such as ringaal, carpet weaving etc. are done jointly by men and women in the household.

But the "inside outside" dichotomy, that many observers have commented on, holds as much in the Kumaon as anywhere else in India or for that matter, the world.

"Part of the cultural definition of the female in India is her association with the inside, the home and courtyard where the family is cared for. This is in contrast to males who belong outside in the fields and the bazaar where livelihoods are earned and economic and political power is

⁴ Shekhar Pathak (Department of History, Kumaon University, Nainital) has documented men in some of the most interior villages carrying fuel.

Dr Rees and Mitra of the Kassar Trust, Almora report that in some villages where hand pumps have been installed, men are willing to fetch water. The introduction of "technology" seems to be enough to wipe out the age old prejudice against men doing a "woman's" task.

transacted. Since education, health care and labor force participation all involve interaction with the "outside", girls and women face special barriers in these areas.

"For every individual and every family there is a "map" of the appropriate domains of women and men. The definition of the "inside" and the precise boundaries of where a woman can operate vary greatly according to the economic status of the household, its place in the caste hierarchy and the social norms prevailing in their community and region..."⁵

The "outside" activities of sale of home produced goods, or of milk, are undertaken by the men. The poorest households, where sustenance is possible only with wage labour, "permit" their women to seek work on the market. But few women who are not forced to, would seek work outside, and this stigma only begins to disappear in families where girls have been educated up to a level that permits them to obtain professional employment such as teaching.

The existence of the inside -outside dichotomy has many dimensions to it. Women who are on the inside have tradition and whatever support tradition can offer on their side. Where they have been forced to change their lifestyle very suddenly as a result of a change in the man's occupation they are also very much more alone. For example in Jhiroli the wages earned by men are sufficient to sustain a family, even though all land has been sold to the company. As the compensatory land allotments are in the Terai the women here are left without the land and cattle

⁵ Lynn Bennett, Gender and Poverty in India, (mimco, 1989)

related jobs they would otherwise have had to do - without a fall in their living standards. But nothing has equipped them to manage this change emotionally. In other words, the change in their roles appears to have been very sudden, leaving them without adequate "coping strategies".

The result of this is that in an area of relative affluence, we find the women almost ill at ease.

Some snippets of conversations with women from Jhiroli are given in illustration of this:

"All provisions have to be bought from the shops now. Often what we need is not available. Things are expensive, the quality is poor."

"Whatever other problems we may have had earlier, we did not have to worry about food. We could grow enough, even if it was only coarse cereal, to feed ourselves."

"I was married at the age of 14. Working on the fields, tending the cattle, and other work kept us very busy. Today we have no work. So we sit all day. Certainly we have more comfort. But it is also sad to leave one's home- the company has given us land in Sitarganj. When the house is built we will go and live there. We had to do all the work ourselves earlier. But if we look into the future, I do not know what we will do after my husband retires. Looking at today's world I feel very worried about the future of my children."

These remarks should be seen as indicating a very major social change that has accompanied the economic change of the

mining in Jhiroli. We return to this point later.

A popular method of depicting lifestyle is to describe "a day in the life of.." A brief description of the typical village woman's day would go as follows:

The typical village woman rises early, while it is still dark outside. ⁶ The first jobs of the day include grinding the wheat (where there are no power driven flour mills) and bathing in the spring- which often means a long trek from the house. Drinking water will be brought home -either from natural springs or village taps. Making tea, milking the cows, giving them grass, collecting cow dung, etc. all follow. Food will then be cooked, and eaten: then begins the day in the fields. Where there is more than one woman, jobs will be shared. If there is no-one to look after young children they are left locked in a room till the mother returns. Evening chorès include tending to the cattle, cooking etc. Where there are no other facilities, in the evening the woman will thresh the wheat. During peak agricultural seasons, clothes are washed infrequently-say once a week- and sometimes women would comb their hair only once a week or fortnight. Traditionally women of a village would help each other and work jointly to complete the work. Now those who can afford it employ wage labour.

Commercialisation has affected women in other ways too- the traditional garment of long skirt, blouse and chunni has almost everywhere given way to the sari from the plains. Bare feet have

⁶ The following paras are based upon an essay by Diwa Bhatt.

given way to slippers: but many women can still be seen at work with bare feet irrespective of the weather.

Simple food is cooked and eaten, and generally it is home grown: not just the cereal, but also the vegetables, fruit and milk. The quality of food eaten naturally varies according to general economic situation. But in all cases, women are served last, and their portions are small. The men, boys have first serving followed by elder women. The resulting deficiencies in calcium and iron have led to a widely observed tendency for women to eat mud, stones, coal or the bark of trees: sometimes these habits persist even when diet improves. From the same causes children can be seen nibbling at paper, cloth, or mud. Nutritional deficiencies manifest themselves in poor health, early ageing and short life spans.

This situation is made worse by social taboos that are still observed in very conservative families. Pregnant women are not given vegetables, or pulses, nor milk. Eggs and fish are likewise banned. During a period and eleven days after delivery women are considered ritually impure, and hence have to sleep and stay separately: but this does not exempt them from heavy jobs. Miscarriage tends to be common. As Krishna Bhatt puts it:

"Traditionally a lot of restrictions were placed, as far as food was concerned, on the mother of a newly born child..The mother cannot eat heavy things such as jaggery, lentils, garlic, onion, chillies, etc., because these things being heat-producing are harmful for the delicate limbs of the child. Similarly things which have a cooling effect are

also omitted, such as curd, rice, bananas, urad dal, cold water, etc. Green vegetables and various other vegetables are also excluded as green vegetables upset the child's stomach. It is also believed that greasy things are not good for the child's throat, and also lungs, hence ghee etc. are also excluded...

As it is the food in this area is restricted, and the mother finds herself with just a dry chappati and salt. She cannot even drink cold water after eating the dry chappati, for cold water also harms the child." ⁷

Generally, the age at marriage for women does not exceed 25, and a large number are married off much earlier when they are 15 or 16. Child marriages still take place in some remote areas. While the girl is seen and approved of before a marriage is settled, the girl does not have the same right to say how she feels. In some castes- Harijans e.g. - a woman can marry more than once. But the first marriage is not of her choice: subsequently, she may leave to live with a man of her choice without the social stigma there would be in upper caste families.

Marriage did not generally bring much joy to the woman: very often her situation was that of a bonded labourer. Often the sole reason behind the marriage was to bring in a pair of younger hands to handle work. There is no release for the woman, whose responsibilities for the land are lifelong. This is reflected in women's health - sex ratio statistics in this sample show a sharp drop in the 15 + age group, as shown in Table 10.5.

⁷ Bhatt, Status of women, op.cit.

Education is seen as inessential for girls. The location of schools and the problems of access that are found in almost all villages affect the education of both boys and girls but it is true in general that parents make a greater effort to educate their sons.

Table 10.6 presents the percentage of educated males and females in the study area. There is a clear disparity in the levels for the two. The ratio of F to M drops as the level of education rises. The much higher ratio for the (5-15) group suggests higher drop out rates for girls.

In the villages near the Almora Magnesite complex, women's activities now depend upon the working hours of the factory/mine. The regular hours of mine or factory work imposes a certain rhythm on the household. For example, work shifts in the factory are from 6a.m.-2p.m., 2p.m. - 10p.m., and 10p.m.-6a.m. Thus women are likely to return home around 1p.m. for the lunch break, while the more normal pattern is to have a meal around 10a.m. and then work without interruption in the fields till 4 or 5. There is also naturally less work for the women in Jhiroli (almost all cultivable land here has been acquired by the AML) - after fetching the required fuel, water and if there are animals, fodder, they have to occupy themselves at home. Our investigators commented that despite spending more time at home, their children still had dirty faces and the homes did not look any cleaner. The process of converting these working women into home bound housewives as has happened elsewhere with industrialization has thus begun, but is still incomplete.

It is possible to see in Jhiroli the beginnings of "housewifisation".

"I define housewifisation as a process by which women are socially defined as housewives, dependent for their sustenance on the income of a husband, irrespective of whether they are de facto housewives or not. The social definition of women as housewives is the counterpart of the social definition of men as breadwinners, irrespective of their actual contribution to their family's subsistence. The conceptualisation of women as housewives and of men as breadwinners is based on the erroneous assumption, shared by Marxists and non-Marxists, that capitalism will develop the productivity of labour to such an extent that the reproduction costs of all workers will be covered by the male wage. It is obvious that the income of the vast majority of men in underdeveloped countries does not cover these costs and that their own reproduction depends largely on the hidden subsistence of their women.

The propagation of this conceptualisation in underdeveloped countries and the building up of legal and institutional frameworks to support it has the effect of creating the illusion among people that "development" will eventually give all men a wage sufficient to keep a non-earning housewife. It leads to defining the bulk of women's subsistence work as non-work and hence open to unrestricted

exploitation."⁸

Looked at like this the inside -outside dichotomy would get stronger with industrialization because to the conventional dichotomy would get added the pressures of being good middle class housewives.

ROLES AND SOURCES OF STRESS

It is apparent that the heavy work burden imposes stress on the average hill woman. Other sources of stress can be found in the orthodoxies of appropriate food, and other customary obligations. The impact of mining and similar interventions would be in the first instance an increase in commercialization and as a consequence, the strengthening of materialistic values, in turn imposing both emotional and economic stress. The experience of Jhiroli would suggest that it is difficult for the community to handle the psychological implications of a better, but very different, economic environment.

It cannot be concluded from the above observations that mining or similar activities have had a detrimental effect. Our purpose has been to identify the social impact of economic change on women.

FEMALE HEADED HOUSEHOLDS

In most parts of the Kumaon male migration is necessary for family survival. This has resulted in the creation of a large number of "female headed households".

Definitions-

⁸ Maria Mies, "Housewives produce for the world market: the lace makers of Narsapur", I.L.O. Working Paper 1980.

The narrow definition of FHH is of a household without a resident adult male: widows, or separated/ divorced women living by themselves are clearly female headed. But FHH can also be created by prolonged absence of the male from the house for other reasons- one of the most common being because of employment elsewhere, so that for a major part of the year the man is not at home.

Generally the household head is specified by the household, in response to a simple query on who is the head. The perception of the household is important because it reflects status within it. This presumably has implications for decision making and authority. But this method is not always adequate, specially in the case of men working elsewhere. A migrant might well be perceived as the head within the household, but cannot be seen as the de facto head unless his visits home are frequent enough.

It is not entirely indisputable that a migrant who is away say 11 months in the year, is not the head of the household. It could well be that not only is he seen as the head within the family, but also that his own self-perception and identity turn around this - all of which would be important considerations, at least sociologically. However we have chosen here to extend the definition of FHH to households where the man is away for most of the year, on permanent or semi-permanent employment, irrespective of perceptions of headship. The reason we do this is that it is the only way of capturing one of the most pronounced features of the hill economy.

Some people have argued against limiting the definition of

FHH to cases of actual absence, saying that being the head of a household implies certain economic and other responsibilities towards all other members of the household. So if the woman is the main earner, even though her husband may be at home and earning less than her (or not earning) and /or if she takes primary responsibility for most household decisions, then she should be seen as the head. The difficulty with this latter definition is that while it is perfectly accurate in describing who is the main earner or the main economic contributor to the household, it does not take the social aspects of "headship" into account and as such is really a new and independent concept. In this study we have not attempted to calculate headship according to economic contribution. Therefore the households classified as FHH are:

-widows

-separated/divorced/abandoned women

-wives whose husbands are in permanent or semi-permanent employment elsewhere.

The picture of FHH that emerges using this concept in the villages surveyed by us is given below.

Out of the 770 or so households surveyed, 137 or 17% are identified as female headed on this definition. The proportion of FHH varies a lot, from 34% in Khirakot to barely 1% elsewhere. It might also be noted here that Khirakot is one of the more affluent villages, with a high general level of education, and this has enabled a higher level of migration than in villages like Naag or Pharsali, which are far less affluent and have a

smaller educated population.

The majority -over 70%- of the female heads are married and over 60% are in the age group 15-44. Caste wise distribution reflects that of the total population, with the largest group being Thakurs(60%) followed by Harijans (25%). Most are small land owners (70% own between 0-20 nalis). The majority -over 75% - live in households with one woman only. 85% of the female heads are illiterate.

The cause of formation of these households is usually male migration, and over 85% are partly supported by migrant earnings. The average age of the head of household among the FHH is 35 years, and the average number of dependents is 2.5. A small number (5%) have taken up outside wage employment.

Tables (10.7a..j) give some of the main characteristics of the FHH surveyed.

It is well known that female headed households are among the most vulnerable groups, and it has often been suggested that they should be made an explicit target for policy interventions. Many studies have emphasized the large proportion of such households in the hill areas, leading to the logical implication that these should be target groups for policy. Our description does not alter the basis for this claim. But we would like to suggest, although in the absence of longitudinal data we cannot prove, that the number and proportion of FHH in the hills is actually smaller today, in the areas surveyed by us, than we would expect from descriptions of the Kumaoni village which lead one to believe that almost the entire adult male population is away.

This is not because of increased employment opportunities in the Kumaon-with the possible exception of Jhiroli and Pithoragarh-but we would suggest that it is because it is becoming increasingly "difficult" to migrate. In our sample, it is Khirakot, which has the highest proportion of educated men, and which is also among the more affluent villages, which also has the largest proportion of migrants. It is likely that the minimum level of education/literacy, money, and contacts needed in order to migrate, have all gone up. Table 10.8 shows that only 5% of migrants are landless, 52% are from households owning less than one acre of land and 23% from households owning between 1 and 2 acres. The "push" factor is obviously important, but needs to be accompanied with ability to attract employment. Although 16% of migrants are illiterate, a substantial proportion - 60% are educated above class VIII (which is the minimum required for several categories of government jobs).

The age distribution of migrants, shown in Table 10.9, is much as expected, i.e, 64% are between the ages of 20 and 40 years, and 82% between 20 and 50 years. There is a strong preference for government employment (which offers job security and an old age pension) and the army has traditionally recruited large numbers from the Kumaon. Of the migrants surveyed in this study, 39% were in the army and 17% in other government jobs. However a large proportion - 41% were employed in the private sector. (Table 10.10).

So while as a coping strategy migration still works for the

relatively better off, it may not be so feasible any more for the not so well off.

SOME IMPLICATIONS FOR POLICY

The hill woman is a worker. More important she is perceived as one: by herself, by men, by the community at large. She is not, like so many women workers in the informal sector, "invisible".

It is where there has been some urbanisation, some industrialization, where more men are able to get formal sector jobs, by virtue of their greater access to education, their greater mobility- that women are perceived as "non-working housewives", and we have indicated how this process is beginning to take place in Jhiroli.

Commercialisation however is much more widespread today than urbanisation: most hill families can no longer survive off the land alone. So they have been drawn into cash employment even if on an intermittent and occasional basis. Generally, it is the men who get drawn into cash employment first. The inflow of money has many implications. Consumption patterns begin to change; thus relatively less coarse cereal is consumed in the hills today and much more is purchased. A change in food habits has a whole range of other implications: no longer is "grandmother's cooking" seen as good enough. Styles of cooking change, requiring that more spices be used (and purchased), and that more time be spent in the kitchen. The greater importance given to cooking might even mean an increased energy consumption.

New styles of dressing become acceptable. Women today are able to have more clothes and footwear is almost universal. In the more affluent villages durable goods like T.V.s, can be seen. Almost everywhere, women reported that the relationship between husband and wife is changing, that there is more companionship today, that women no longer hesitate to accompany their husbands to functions outside. The authority of the mother in law they said has consequently been affected; no longer is their word unquestionable. Change encompasses many dimensions; it is increasingly difficult to find many of the old songs and dances being performed at times of festivity. New rhythms have been introduced into the Kumaon - but as one observer has so perceptively put it, it is the monotone that has been the very essence of the rural life of the Kumaon.⁹

All of these changes were reported to us as having taken place. They are an inevitable consequence of better transport, communications, and of increasing commercialisation. It is difficult to say whether on balance the status of women has bettered or worsened, because the same forces that have given them a degree of freedom within the family, have made them more vulnerable to external economic forces.

It has been suggested that interventions aimed at increasing women's access to resources: to education, health facilities, credit, etc. , is the best and perhaps the only means both of improving the situation of women and simultaneously of tackling

⁹ Krishna, status

poverty. This study suggests that women are articulated and capable of organisation. They are not educated or skilled in the modern sense, but their response to economic change is highly "rational". However, if optimum use is to be made of the resource and the traditional knowledge that they represent, administrators and policy makers need to be comfortable with their peculiarly "feminine" ways of speech and action.

The above analysis of migration and FHH suggests that the traditional safety valve of male migration is beginning to lose its effectiveness. If this is correct the implication is that any development policy must have as a primary objective the strengthening of the local economy and its absorptive capacity, even from the point of view of social stability or women's welfare. One final point can be made here. Generally, migration has been seen as a net loss. But the fact is that except for a negligible number, Kumaoni migrants have always returned with an undiminished attachment to the land. As many of them are ex-army they are expected to return with an attachment to liquor as well. But these men who return after many years away might also be more receptive to innovations, and could be a "target" in development efforts.

Table 10.1Occupational Distribution - (1)

	Males		Female	
	No.	% of total	No.	% of total
Agriculture	499	36	1189	96
Mining	126	9	--	--
Government Employment	55	4	--	--
Other	346	25	32	2.5
Migrants	356	26	22	1.5
	-----	-----	-----	-----
	1382	100	1243	100
	=====	=====	=====	=====

Note : In Table 10.1 and 10.2, all data is for population over 15 years. Explanation of categories is given in the text.

Table 10.2 presents the data on occupational structure to bring out the significance of women's agricultural roles.

Table 10.2Occupational Distribution - (2)

	Males	Females	Total
Agriculture	30%	70%	100%
Mining	100%	0	100%
Government	100%	0	100%
Other	92%	8%	100%
Migrant	94%	6%	100%

Table 10.3

Land Distribution of households in different villages (Measure used "Nalis" : 20 nalis = 1 Acre)

Village	0	1-20	21-40	41-60	>60	Total
Odiar	-	5	3	-	-	8
Naag	-	11	5	-	1	17
Sikrani	2	14	-	-	-	16
Rai	-	23	8	4	14	49
Agar	15	23	3	6	4	51
Tarigaon	8	22	7	3	4	44
Okhaldhunga	-	8	8	4	6	26
Imkhola] Khanpeira] Ghattavagad]	1	10	4	2	5	22
Chaura	-	52	13	1	4	70
Chhatikhhet	-	17	12	-	3	32
Jhankot	5	23	9	-	-	37
Matela	1	37	43	1	1	83
Jhiroli	18	20	9	-	1	48
Malladana Sitarganj	4	7	10	1	-	22
Pharsali	6	82	32	8	1	129
Khirakot	18	88	10	-	-	116
Total :	78 (10%)	442 (57%)	176 (23%)	30 (4%)	44 (6%)	770

Table 10.4

Land distribution of Households by caste

Land Size (Nalis)/caste	0	1-20	21-40	41-60	>60	Total
Harijan	67 (22%)	189 (63%) _____(76%)_____/	39 (13%)	2 (1%)	4 (1%)	301 (100)
Thakur	10 (3%)	195 (57%) _____(85%)_____/	94 (28%)	19 (6%)	22 (6%)	340 (100)
Brahmin	0	15 (50%) _____(87%)_____/	11 (37%)	1 (3%)	3 (10%)	30 (100)
Bhotia	1 (27%)	17 (39%) _____(62%)_____/	10 (23%)	5 (11%)	11 (25%)	44 (100)
Others	--	26 (48%) _____(88%)_____/	22 (40%)	3 (5%)	4 (7%)	55 (100)

Table 10.5
Sex Ratios for Different Age-Group

Age Group	Females/1000 males
0-5	901
6-15	1027
15+	896
All ages	926

Table 10.6
Ratio of Educated Females to Males at different educational levels.

	Males	Females	Females/100 males
Children (5-15)	529	378	71.4
Adults (15+)			
upto Class V	162	79	48.7
Class V-VIII	344	164	47.6
Class VIII-X	324	49	15.1
Over Class X	229	33	14.4
All Adults	1059	325	30.7

Table 10.7aStatus of Female Heads of Household

	Number of households	% of total
Never married	-	-
Currently married	99	72.26
Widowed/Separated or Divorced	38	27.74
Total	137	100

Table 10.7bCaste-wise distribution of FHH

Caste	Number of households	% of total
Brahmins	12	8.76
Thakurs	84	61.31
Harijans	35	25.55
Bhotiyas	6	4.38
Total	137	100

Table 10.7cAge distribution of Female Head of Household

Age Group	No of households	% of total
15-44	85	62.04
45-59	32	23.36
60+	20	14.60
Total	137	100

Table 10.7dLand ownership of FHH

Land category	No of households	% of total
Landless	16	11.68
0-20 nalis*	100	72.99
21-40	16	11.68
41-60	3	2.19
61-80	1	0.73
80+	1	0.73
Total	137	100

* Within the 0-20 category the distribution is:

Land category	No of households	% of total
<5	33	28.4%
5-10	38	32.75
10-15	17	14.65
15-20	12	10.34
Total	100	100

Table 10.7eNumber of women in each FHH

Families with	No of households	% of total
1 woman	104	75.91
2 women	27	19.71
>2 women	6	4.38
Total	137	100

Table 10.7f

Levels of education in FHH

	No of households	% of total
Illiterate	117	85.40
0-4th class	9	6.57
5-8th class	11	8.03
Total	137	100

Table 10.7g

Sources of income of FHH

Source of income	No. of households	% of total
No known source	2	1.5
Only land	12	8.8
Labour	3	2.2
Land +labour	-	
Land +migrant	107	78.1
Only migrant	10	7.3
Land+labour+migrant	1	0.7
Pension/local job.	1	0.7
Pension/local job+ Land	1	0.7
Total	137	100

Table 10.7h

Occupational distribution of migrants from FHH

Occupation of migrant	No. of migrants	% of total
Army	62	42.2
Other govt.	14	9.5
Professions	5	3.4
Private/domestic service	66	44.9
Total	147	100

Table 10.7i

Dependents and family size in FHH

Dependents	Total family size (excl. migrants)	Dependents as % of total family
337	512	65

Table 10.7j

Distribution of FHH by village

Village	No of FHH	Total no. of households	FHH as % of all households
Almora district:			
Jhiroli	4	48	8%
Kalyanpur	1	10	10
Matela	9	70	12.8
Chhatikhet	9	32	28
Jhankot	7	37	18.9
Chaura	5	18	28
Bhalyuda	4	14	28.5
Ganyuda	5	17	29.4
Khirakot	53	116	45.7
Pharsali	7	129	5.4
Total	104	491	21.2%
Pithoragarh district:			
Okhaldhunga	5	26	19%
Imkhola	1	11	9
Sikrani	1	16	6
Aagar	4	51	8
Naag	1	17	6
Odiar	3	8	37
Rai	7	49	14
Tarigaon	11	44	25
Total	33	222	15
Total, Almora+Pth	137	713	19.2%

Table 10.8 ¹Status of Migrants

Land size	%
Landless	5
Upto 20 nalis	53
20-40 nalis	23
40-60 nalis	10
Over 60 nalis	9

	100
	=====
 Level of education	 %
Illiterate	16
Upto class V	8
V-VIII	18
VIII-X	35
Over Class X	23

	100
	=====

¹Tables 10.8, 10.9 and 10.10 are based on data for male migrants only (In the sample surveyed all female migrants represented wives accompanying husbands)

Table 10.9

Migrants by Age

Age	%			
Upto 20 years	6			
20-30	37	}	64%	}
30-40	27	}		}
40-50	18			}
50-60	5			
Over 60	4			
age not given	3			

	100			
	=====			

Table 10.10

Job-wise distribution of migrants

Type of job	%
Army	39
Other Govt. *	17
Private **	41
Student	3

Total	100
	=====

* Includes police, state govt., banks, schools

** Includes hotel jobs, factory, tea stall, petty shop

CHAPTER 11

WHERE DO WE GO FROM HERE?Summary of findings and recommendationsWomen in development:

The mining experience in the Kumaon demonstrates the active role that women play not only in the daily duree, but in the events that disturb the even ripple of everyday existence. They have demonstrated a capacity for organisation, an understanding of economic and environmental issues, and an ability to confront the apparently all-powerful administration.

Yet once the immediate crisis is over, the status quo returns. The fact that women are the backbone of the agrarian hill economy does not need repetition. The question really is not "why", but "how" they could become central actors in any development design, even in the absence of a perceived crisis. From the experiences of this study and knowledge of related experiences in the Kumaon, some general suggestions can be made concerning this "how". The most acceptable and least disruptive "entry point" for development programmes seems to be through "family related outside work"-e.g. interaction with teachers (in general the conventional roles that women play require them to stay "within" the home: but certain natural extensions of home related work, such as taking children to the school, do take them "outside" but without being perceived as a change in their normal and conventional role). Health, nutrition and literacy interventions can be targetted to women without being disruptive and counter-productive if they use a path which is not

an artificially created one (such as invocations to feminist ideology in a heavily stratified society tend to be). For example in many villages in the Kumaon, it has been found that a balwadi teacher is able to interact easily with mothers, and this has led to demands for basic health and nutrition, and even population control and education being voiced by the women themselves.¹

Involving women also calls for an understanding of their ways of speech and action. Only 24% of the women in this study were literate, and only 18% had studied beyond Class V. Literacy is not necessary for good management of natural resources, nor are acquired skills necessary. But their manner of speech and behaviour has not been shaped or tutored: and this makes it difficult at times to communicate. Slow, rather than rapid, change is needed.

Migrants as a resource:

The analysis of protests showed that women were generally supported by the youth. This alliance appears to be an easy and natural one. It is suggested here that in much the same way, return migrants should be seen as a potential resource and asset in development and

¹ This has been the experience of a number of NGOs in the Uttarakhand who have been enabled to undertake programmes of balwadis, in some cases extending from this to a range of other environment and development activities, through grants made by the Uttarakhand Sewa Nidhi, Almora which acts as a nodal agency for the purpose of stimulating environment education programmes, having received a grant from the Department of Education, Ministry of Human Resource Development, for the purpose.

not, as they generally are, as a drain. The fact that almost all migrants return to their homes, retain an attachment to the land, and perforce acquire some skills, should make them too a "target" population for development efforts. It is the experience of at least one NGO effort that attempts at improving sanitation were succesful because of the strong support given by the large number of ex-servicemen in this particular village. Put the same people in a small market town to which they have migrated in order to earn money and the response to the same programmes is virtually negligible.

Markets in rural development:

Rural development means different things to different people. It encompasses such changes as more roads, schools, and hospitals; industry; higher agricultural productivity; outward mobility or its converse, reduction in rates of migration. Most often debates over rural development centre around sectoral choices, attempting to identify the appropriate balance between agriculture and industry. Parallel debates concern the relative priority to be given to local and national perspectives in any investment choice. Sustainable development, participation, equity and decentralisation get juxtaposed alongside efficiency, self-reliance, national security.

The major finding of this study is that mining in the Kumaon has not triggered off a "growth process". There has been no stimulation of ancillary industrial development or employment.

Mining operations form an enclave, having few links with the rest of the local economy. This is true even at Almora Magnesite where the economic and environmental impact has been more favourable than elsewhere. Growth and expansion has been limited to activities directly related to mining and processing of ore.

The context in which rural development is discussed today is one in which an increasing number of people favour more liberalisation, a larger role for the private sector and market incentives. Rural markets are becoming significant for consumer durables, to the extent that market research organisations so far primarily concerned with the urban-industrial sector, are exploring rural markets with new awareness of development issues and the market implications of development choices. Thus a recent article carried the news that

"The bottom 60% bought 33% of the wristwatches sold in India, 22% of the small black and white televisions, 46% of the bicycles and 36% of the radios. People in the countryside now buy 72% of the radios and 45% of the motorcycles that are sold." ²

But large portions of the hill economy are non-monetised, and as long as they continue to be agrarian and land based, will remain so. The above findings on the increasing size of rural markets notwithstanding, in the context of the Kumaon this study would recommend a very limited and selective role for market instruments.

² The Economist, 30 March-5 April 1991, p. 25.

"Voices" in planning:

An unambiguous recommendation of this study is that decision making needs to be sensitive to protest. In situations where "voice" has been the only means of registering a grievance, the processes of policy making need to take explicit note of these protests. This study does not suggest that there has been any tendency on the part of villagers to overstate or capitalize on these situations. There are genuine grievances and the processes by which administrative and legal decisions are taken should give a hearing to them. This would need change in both attitudes and procedures, as they exist at present.

Management of resource conflicts:

The reaction to mining in the hills is an expression of protest to an inter-sectoral dispute in the use of natural resources. Such disputes are likely to become increasingly frequent. At present almost 90% of water use for instance, taking India as a whole, is for drinking purposes: as industrial demand for water increases, conflicts between categories of users should be expected. Land use in the hills, if based on the needs of those who live there, would differ from land use that is in response to commercial demand from outside.

There cannot be a local resolution of this issue. Such conflicts are inherently political and probably less amenable to local

management than an intra-sectoral conflict would be. Even while advocating local management, in recognition of local knowledge and experience, particularly in the use of resources, there is need to recognise that resolution of such conflicts, whatever the outcome, will require external intervention. There is need here for sustained debate on these issues, so that decisions are better informed and hopefully more sensitive to the anguish of those who get no share of the benefits but still have to pay the price.

Directions of further research:

1. While this study has its limitations, a discussion on the report³ suggested that more socio-economic studies of mining areas were needed. Involving the different agencies and individuals responsible for mining policy, government, business and academics, in the research process would help in the ultimate objective of such research which is to get a more sensitive formulation of policy. Impact assessment studies commissioned by public sector units at present are predominantly technical. Getting a more holistic picture might be of interest to the Indian Bureau of Mines as well.

3. The differences in behaviour of Almora Magnesite and the Pithoragarh Magnesite mines suggests that the influence of organisational form, in the specific context of the mining

³ Seminar held on 9 Feb. 1991 to discuss the draft report.

industry, would be useful for an analysis of business behaviour.

4. Land use, including such questions as how the incentives to the miner to restore land can be increased and the economics of land use, forms a large area of research inadequately explored in this present study.

5. Research into systems of evaluation, such as appraisal of pre-investment procedures e.g. why is the technical capability of the applicant not a factor in granting or not granting a lease.

6. Analysis of the role of local government officials vis-a-vis higher authority.

7. More research directed at picking up the voices of women affected by development decisions.

8. Methods of research, especially "action research", can themselves be the subject of study. It was the experience of this study that research however well motivated does not always develop into action; even though this was a theme articulated and highlighted all through the research process, the real difficulty lies in the conflict between individual aspirations and the demands of activism. The conclusion is not that "action-research" is a bad thing but that it needs to be well-specified, even as a concept.

Formulation of a checklist:

A large number of people requested from us a checklist, a list of questions to be put to the community so that "wrong" decisions were not taken. It is possible to formulate some broad and general guidelines but the reason this is not emphasized in this report is that one of the points we wish to make is the absence of ready answers, and the fact that for those concerned with policy formulation there is no substitute to first-hand knowledge. What is needed is not a list of questions as much as an attitude of being ready to listen.

Mining: Yes or No?

In the hill areas the conflict between "sustainability" and "growth" has been found to be low. Mining that reduces pasture land and hence upsets the existing balance between people, animals and land has not generated much alternative employment nor added significantly to infrastructure. For many of the sites studied here, mining seems to have made on balance a negative contribution to both sustainability and growth objectives. At a more general level, mining is one of many actions that have the potential to endanger the stability of the area, both geologically and socially, and in that sense poses no greater danger than the timber trade or even road construction.

Activism and Research:

The general objective with which this study was undertaken was to scrutinise the viewpoint of the activists and to sharpen the analytical tools with which to assess the impact of development. But the process of research while it was an exciting and eventually sobering journey for the researchers involved, perhaps has not added much to the knowledge of the groups involved in anti-mining protests. On the other hand it does offer, in a small way, a conduit by which such micro-experiences can be brought to the notice of policy makers.

One general point can be made about the nature of activism in the area. Social awareness of which there is ample evidence does not necessarily translate into action. A certain degree of material assistance is necessary. But the match between such assistance and the particular groups (not always organised in any formal way) with the motivation needs to be exact. ⁴ In Khirakot, where the villagers found their own resources for re-afforestation, the economic status of households is well above the average. In Chaurasthal, a grant made by the National Wastelands Board enabled land reclamation and conservation. Elsewhere no follow up action has taken place. In recognizing the high levels of activism and social awareness in the region it is also necessary to note that commitment or ideology in itself cannot promote development beyond a point. Having said that, the existence and articulation of awareness offers vast opportunities.

⁴ The UKSN experiment is one such attempt, to match local, voluntary activism with the small sums of money that are needed.

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