Ecological Conflicts and the Environmental Movement in India

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ABSTRACT

Nature-based conflicts have increased in frequency and intensity in India. They revolve around competing claims over forests, land, water and fisheries, and have generated a new movement struggling for the rights of victims of ecological degradation. The environmental movement has added a new dimension to Indian democracy and civil society. It also poses an ideological challenge to the dominant notions of the meaning, content and patterns of development.

PART I: THE SITES OF STRUGGLE

Introduction

As the centre of power and patronage, the Indian city of New Delhi is the venue of year round demonstrations by organizations representing different classes, castes and ethnic groups. Farmers demanding the provision of subsidized power and fertilizer, industrial workers campaigning for higher pay, and ethnic minorities fighting for a separate state all recognize the symbolic significance of a show of strength in the national capital. Assured of widespread coverage by the print media, these demonstrations are often held at the Boat Club lawns, a stone's throw from the houses of Parliament and the government secretariat.

May 1990 saw a series of events unprecedented even in New Delhi: a demonstration followed, within a week, by a counter demonstration. First, villagers to be displaced by the massive Sardar Sarovar dam, being built on the Narmada river in Central India, assembled in a peaceful *dharna* (sit-down strike) on Gol Methi Chowk in the heart of New Delhi, and very close to the residence of the then Prime Minister, V.P. Singh. Consisting mostly of poor peasants and tribals, the demonstration lasted for several days, with singing, dancing and exhortative speeches by the protest leaders. Most of the demonstrators had come from Madhya Pradesh, the state containing a majority of the villages to be submerged by the dam. They dispersed only

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after the Prime Minister met a delegation of the protesters, and assured them that the Sardar Sarovar project would be reviewed. Immediately, politicians in Gujarat, the state that stands to benefit most from the project, set about organizing a counter demonstration. After a public meeting at the Boat Club, the Gujarat protesters themselves went to meet V.P. Singh. The Prime Minister granted them an audience immediately (he had kept the Madhya Pradesh peasants waiting for days) and told them what they wanted most to hear — that he and his government were fully committed to the implementation of the Sardar Sarovar project.

A few months later, the two opposing groups were involved in a face to face encounter hundreds of miles from New Delhi, on the Madhya Pradesh–Gujarat border. On 25 December 1990, the 'Narmada Bachao Andolan' (Save Narmada Movement), an organization working among the potential oustees of the dam, began a 250 km. march from Rajghat in Madhya Pradesh to Kevada colony, the site in Gujarat of the Sardar Sarovar dam. The marchers, several thousand in all, were stopped by the Gujarat police at the border village of Ferkuva, and prevented from entering the state. On the Gujarat side, a large group, including students and plainclothes policemen, had assembled to heckle the marchers. A stalemate lasting several days ensued, with the pro-dam agitationists shouting slogans in favour of the dam and against the Narmada Bachao Andolan and one of its leaders, the respected Gandhian Baba Amte. For their part, the protesters insisted on their right to march peacefully to the dam site at Kevada.

On the second day of the New Year, a group of twenty-five protesters, with their hands tied to emphasize the non-violent nature of their struggle, entered Gujarat, only to be stopped by the police 150 m. inside the state. Two more groups, again with their hands tied, joined them the next day. On 5 January, Baba Amte and another group of twenty-five also entered Gujarat. After being allowed to cross the border but not proceed further, they began an indefinite *dharna* (sit-down strike) on the Gordah river bridge, barely 30 m. inside Gujarat. The next day, a group of anti-dam activists including Medha Patkar, perhaps the movement's most important leader, went on a hunger fast on the Madhya Pradesh side of the border. With the Gujarat government unrelenting, the stalemate continued for several weeks, until on 28 January, with their lives in danger, Patkar and her associates were persuaded to give up their fast (Anon., 1991).

The Narmada controversy is just one, especially charged, example of a wide spectrum of social conflicts over natural resources in contemporary India. Competing claims over water and forests, in particular, are now a visible presence on the social landscape. They arise, typically, when one group of resource users — for example, industry or commercial farmers — is seen as violating (often with the aid of the state) a prior claim of another set of resource users — for example, subsistence peasants or tribals. With the resources in question becoming increasingly scarce owing to environmental degradation, these conflicts seem certain to intensify.

Social conflicts over nature and natural resources add a third category to the two generic forms of conflict widely studied by social scientists — those over cultivated land and its produce, and those within the factory. Struggles between landlords and agricultural labourers/sharecroppers over wages and the disposal of produce, or between peasants and the state over taxes and prices, have been closely studied for decades, as have conflicts in the industrial sector, whether between capitalists and workers, or between industrial enterprises and the state. By contrast, nature-based conflicts are as yet hardly documented and very poorly understood, both within the social science community and outside. Like conflicts over land and in the work-place, conflicts over natural resources typically pit against each other two unequal antagonists. To return to the example of the demonstrations in New Delhi in May 1990, the transport and food needs of the opponents of the Sardar Sarovar dam were met by modest voluntary contributions from numerous individuals and organizations. By contrast, the defenders of the dam came all the way from Gujarat (a distance of more than 800 km.) in buses owned by the Gujarat government, their transport and living expenses fully subsidized by the state and its ruling political party. When the same protagonists squared off at the Ferkuva border over the New Year, the Madhya Pradesh tribals were staying in tents at the height of winter, cooking by open fire, while the Gujarati supporters of the dam were ensconced in schools and other public buildings, again well looked after by their state government.

In contemporary India, conflicts over nature, just as much as the more conventional agrarian and industrial conflicts, raise important questions about distributive justice and economic efficiency. The distinguishing feature of this third generic form of socio-economic conflict is that it simultaneously raises issues of environmental sustainability. In so far as the natural resources in question are also vital to the agrarian and industrial sectors, the fate of these conflicts is intimately connected to the development process as a whole.

The first part of this essay provides a broad based survey and analysis of natural resource conflicts in contemporary India: we shall demonstrate that nature-based conflicts lie at the heart of the Indian environment debate. The second part investigates the vocabularies of protest characteristic of the Indian environmental movement, and its ideological expressions. The essay ends with a brief comparison between First World and Third World environmentalism.

Forests: For Whom and for What?

In the last decade of this century, water-based conflicts — of which the Narmada controversy is at the moment the most contentious — are likely to dominate the environment debate in India. For much of the past twenty years, however, conflicts over forest resources were more visible, and perhaps

more widespread. Indeed, the origins of the Indian environmental movement can be fairly ascribed to that most celebrated of forest conflicts involving the Chipko movement of the Central Himalaya. In April 1973, the peasants of Mandal, an interior village in the Garhwal Himalaya, effectively thwarted commercial felling in a nearby forest by threatening to 'hug the trees'. This brought to the fore a simmering but widespread resentment among the hill peasantry, directed at state forest policies which had consistently favoured outside commercial interests at the expense of their own subsistence needs for fuel, fodder and small timber. Thus the 'Chipko' (Hug the Trees) movement was born. In the following decade, a wave of protests against commercial logging swept the Himalayan foothills, coordinated by Gandhian as well as left wing activists. Notably, the region had a long history of peasant protest which Chipko both drew upon and furthered. As a powerful statement against the violation of customary rights by state forestry, Chipko brought into sharp focus a wide range of issues concerning forest policy and the environment debate as a whole (Guha, 1989a).

Because of its novel techniques and Gandhian associations, the Chipko movement rapidly acquired fame. Yet it was representative of a far wider spectrum of forest-based conflicts. In the tribal areas of Central India, economic dependence on the forests is possibly even more acute than in the Himalayan foothills where Chipko originated. Here the 1970s witnessed escalating conflict between villagers and the forest administration in tribal districts of the states of Bihar, Orissa, Madhya Pradesh, Maharashtra and Andhra Pradesh. In tribal India, moreover, forest conflicts often have a sharper political edge. Thus in Bihar, they have been an integral element in the popular movement for a tribal homeland, while in the four other states mentioned, the question of tribal forest rights has been actively taken up by revolutionary Maoist groups (Calman, 1985; PUDR, 1982; Sengupta, 1982).

Academic research inspired by the forest conflicts of the 1970s also revealed their long lineage. Indeed, local opposition to commercial forestry dates from the earliest days of state intervention. Before the inception of the Indian Forest Department in 1864, there was, by and large, little state intervention in the management of forest areas, which were left in the control of local communities. The takeover of large areas of forest by the colonial state thus constituted an important watershed in many ways: a *political* watershed, in that it represented an enormous expansion of the powers of the state, and a corresponding diminution of the rights of village communities; a *social* watershed, in that by curbing local access it radically altered traditional patterns of resource use; and an *ecological* watershed, in so that the emergence of timber as an important commodity was to fundamentally alter forest ecology (Gadgil and Guha, 1992: Chs V and VI).

The imperatives of colonial forestry were largely commercial. From the point of view of this analysis, its most significant consequence was the intensification of social conflict between the state and its subjects. Almost everywhere, and for long periods of time, the takeover of the forest was

bitterly resisted by local populations for whom it represented an unacceptable infringement of their traditional rights of access and use. Hunter-gatherers, shifting cultivators, peasants, pastoral nomads, artisans — for all these social groups free access to forest produce was vital for economic survival, and they protested in various ways at the imposition of state control. Apart from forest laws, new restrictions on *shikar* for local populations (while allowing freer hunting for sport by the British and the Indian élite) were another contributory factor in fuelling social conflict (Rangarajan, 1992).

Throughout the colonial period, popular resistance to state forestry was remarkably widespread and sustained. In 1913, a government committee in the Madras Presidency was struck by the hostility towards the forest department, which was the most reviled government agency along with the Salt Department (likewise concerned with a commodity ostensibly low in value but of inestimable worth to every village household). Two thousand miles to the north, in the Garhwal Himalaya, a British official wrote at almost the same time that 'forest administration consists for the most part in a running fight with the villagers' (quoted in Guha, 1989a: 105). Popular resistance to state forestry embraced forms of protest that minimized the element of confrontation with authority, such as covert breaches of the forest law, as well as organized rebellions that challenged the right of the state to own and manage forest areas (Gadgil and Guha, 1992: see especially Chs VI and VIII).

Ironically, in the post independence period the process only accelerated. Economic development implied more intensive resource use which, in the prevailing technological and institutional framework, led inevitably to widespread environmental degradation. In the forestry sector, the industrial orientation became more marked, exemplified by the massive monocultural plantations begun in the early 1960s, while other development projects like dams and mines exerted a largely negative influence on the forests.

Not surprisingly, the conflicts between the state and its citizens have persisted, and the forest department continues to be a largely unwelcome presence in the Indian countryside. However, forest conflicts in independent India have differed in one important respect from conflicts in the colonial period. The earlier conflicts emerged out of the competing claims of state and people over a relatively abundant resource; now these conflicts are played out against the backdrop of a rapidly dwindling forest resource base. In other words, a newer *ecological* dimension has been added to the moral/political/economic dimensions of social conflicts over forests and wildlife.

Cumulatively, these processes have worked to further marginalize poor peasants and tribals, the social groups most heavily dependent on forest resources for their subsistence and survival. A long-time student of Indian tribals poignantly captured their frustration with state forestry:

> The reservation of vast tracts of forests, inevitable as it was, was . . . a very serious blow to the tribesman. He was forbidden to practice his traditional methods of (swidden) cultivation. He was ordered to remain in one village and not to wander from place to place. When he had

> cattle he was kept in a state of continual anxiety for fear they would stray over the boundary and render him liable to what were for him heavy fines. If he was a forest villager he became liable at any moment to be called to work for the Forest Department. If he lived elsewhere he was forced to obtain a license for almost every kind of forest produce. At every turn the forestry laws cut across his life, limiting, frustrating, destroying his self-confidence. During the year 1933–34 there were 27,000 forest offences registered in the Central Provinces and Berar and probably ten times as many unwhipped of justice. It is obvious that so great a number of offences would not occur unless the forest regulations ran counter to the fundamental needs and sentiments of the tribesmen. A Forest Officer once said to me: 'Our laws are of such a kind that every villager breaks one forest law every day of his life'. (Elwin, 1964: 115)

Popular movements in defence of customary rights have focused on two issues central to the direction of forest management. First, they have contended that the control of woodland must revert to communal hands, with the state gradually withdrawing from ownership and management. Second, those opposing forest management have pointed to the contrast between the subsistence orientation of villagers and the commercial orientation of the state. This contrast can be illustrated by two strikingly similar incidents, separated in time by a few months and in space by some 2000 miles. The first took place in Kusnur village in the Dharwad district of the southern state of Karnataka. Protesting against the allotment by the state of village pasture land to a polyfibre industry which intended to grow eucalyptus on it, the peasants of Kusnur and surrounding villages organized a 'Pluck-and-Plant' *satyagraha* demonstration on 14 November 1987, when they symbolically plucked a hundred eucalyptus saplings and replaced them with useful local species. Less than a year later, and probably without knowledge of the Kusnur precedent, Chipko activists in the northern state of Himachal Pradesh were arrested on charges of causing 'damage to public property'. Their 'crime' had been to lead villagers in uprooting 7000 eucalyptus saplings from a forest nursery in Chamba district, planting indigenous broad-leaved species in their stead. The Dharwad and Chamba episodes vividly illustrate the continuing cleavages between village interests and the commercial bias of state forestry (Kanvalli, 1991; Modi, 1988).

The clash between subsistence agriculturists and industry over the usufruct of state lands is only the most visible of forest conflicts. Localized opposition has also arisen amongst village artisans facing increasing difficulty in obtaining raw material from forest areas. Typically, the state has diverted to industrial enterprises, resources previously used for generations by artisans. Thus reed workers in Kerala, bamboo workers in Karnataka, and rope makers using wild grass in the Siwalik hills of Uttar Pradesh have all resisted the Forest Department's plans to give preferential treatment to the paper industry in the supply of biomass from forests owned by the state.

In most areas, forest-dependent artisans have yet to be politically organized. That is no longer the case with millions of tribals in Central India for whom the collection and sale of 'minor' (i.e., non-wood) forest produce is vital to survival. For decades, tribals collecting non-wood forest produce

have been severely exploited by merchants who control the trade. For these merchants, the most lucrative of all 'minor' forest produce is the *tendu* leaf, used in making the *bidi* or Indian cheroot. Over the last two decades, social activists have organized *tendu* leaf pluckers in a bid to increase their collection wages. On the eve of the 1991 plucking season, twenty-four organizations working among tribals in five contiguous states of Central India announced that they had fixed the price of *tendu* leaves at Rs. 50 per 5000 leaves (the merchants' acquisition rates varied from Rs. 9 per 5000 leaves in Bihar to Rs. 25 in Maharashtra). In several areas, tribal forest labourers have been organized by left wing revolutionaries, leaving the alarmed traders to seek the protection of the state. Sadly but perhaps inevitably, violence has escalated in the tribal forest districts of Madhya Pradesh, Maharashtra and Orissa (PUCL, 1985; *The Statesman*, 1991).

These varied protests against state forestry coalesced in the coordinated opposition to the Draft Forest Bill of 1982, an act that sought to greatly strengthen the punitive powers of the Forest Department. Several dozen grassroots organizations lobbied hard against the proposed legislation, which the government finally withdrew (Fernandes and Kulkarni, 1983; PUDR, 1982). Popular opposition has also forced some notable changes in forest policy, such as the abandonment of programmes for clearfelling natural forests to replace them with plantations of industrially useful exotic species. These modest successes, along with the eventual loss of interest in any single issue that is a characteristic of democratic politics, has led to an attenuation — if not on the ground at least in the public imagination — of forest based conflicts in recent years.

Dams and the Damned

In the Indian environment debate, the space vacated by forests has been quickly filled by major dams. A small but revealing indication of this shift is contained in the dedications of the first two citizens' reports on the state of India's environment (CSE, 1982 and 1985). While the first was dedicated to the 'Women of Chamoli' who were amongst the originators of the Chipko movement, the second was dedicated simply to the 'Dam-displaced people of India'. Through the 1980s and beyond, different river valley projects — from Tehri in the north to Silent Valley in the south, Koel Karo in the east to Sardar Sarovar in the west — have been the subject of bitter controversy. The critics of multipurpose river valley projects have operated on several flanks. From an economic perspective, they have argued that the cost–benefit ratios derived by the government to justify various dams invariably overvalue benefits and undervalue costs. Using official data, they have also shown that siltation rates have usually been much higher than anticipated, thereby shortening the life of reservoirs. From an ecological perspective, the high

incidence of waterlogging and the wholesale submergence of forests and wildlife have been presented as examples of the unacceptable costs of dam building. The construction of large dams has also been shown to seriously disrupt fish life and to assist the spread of water borne diseases (CSE, 1985; Kalpavriksh, 1988; Paranjpye, 1989; Sharma and Sharma, 1981; and, for a global survey and critique, Goldsmith and Hildyard, 1984).

These economic and environmental criticisms have considerable force and yet it is the *social* implications of dam construction that have evoked a major popular response. It has been estimated that in the last three decades, more than 11.5 million people have been displaced by development projects in India without being properly rehabilitated — and it is indisputable that major dams have been the major contributor to this process of forcibly uprooting people from their traditional homes (Fernandes and Ganguly-Thukral, 1988). With evidence steadily accumulating of the deprivation — cultural and psychological as well as economic — suffered by the displaced communities of past projects, new dams have been increasingly opposed by populations anticipating such dislocation. Movements representing dam-displaced people have gathered force in the last twenty years: we shall come to these contemporary protests presently, but we must first note one important, though as yet little known, precursor. Known as the *Mulshi satyagraha*, this was the opposition to a dam being built near Bombay by the flourishing industrial house of the Tatas. This episode is virtually unknown to Indian environmentalists, but in view of the remarkable parallels between the Mulshi satyagraha and ongoing protest against large dams, its history is worth recording at some length.

In the years following World War I, the Tatas had in fact planned an ambitious series of dams on the Sahyadri hills, chiefly to supply power to the rising industrial city of Bombay. When the first dam was built near the hill station of Lonavala, the farmers whose lands were submerged were paid no compensation whatsoever. When the Tatas came to Mulshi for the next phase of the project, however, they ran into trouble. At first, the company moved on to the farmers' lands and began their test trenches without any legal formalities. But Mulshi was very close to Pune (Poona), then an epicentre of the Indian freedom movement. So when a peasant objected to a trench being dug in his field and a British engineer threatened him with a pistol, there were strong protests in Pune. The ensuing opposition to the dam, led by a young Congressman called Senapati Bapat, succeeded in halting construction of the dam for a year. The Bombay government then promulgated an ordinance whereby the Tatas could acquire land on payment of compensation. This caused the resistance to the dam to split into two factions: while the Brahmin landlords of Pune, who owned much of the land in the Mulshi valley, were eager to accept compensation, the tenants and their leader, Senapati Bapat, were totally opposed to the dam project. With the landlords, the power company and the state all ranged against them, there was little the peasants could do, and the movement collapsed in its third

year. Tragically, the compensation was pocketed by the landlords, and the actual tillers of the soil were left high and dry. None the less, the movement had at least succeeded in forcing the Tatas to provide reasonable, negotiated compensation for the submerged lands, one consequence of which was that they did not proceed with the other hydroelectric projects they had intended for the Sahyadris.

When the Mulshi satyagraha broke out, the British District Collector had toured the area, extolling the virtues of the dam. He remarked that the electricity produced by it would light up the latrines of the Bombay *chawls*, the dwelling homes of the city's industrial workers. This drew the sharp retort that the government and the Tatas sought to extinguish wick lamps in thousands of rural homes in order to light up the latrines of Bombay (Bhuskute, 1968).

This exchange, apocryphal as it might be, could just as well have taken place in 1990 — in either Ferkuva or New Delhi — between proponents and opponents of the Sardar Sarovar dam. In fact, when the Narmada controversy was at its height, the *Times of India*, whether by accident or design, reproduced in its archive section a report on the Mulshi satyagraha, dated 2 May 1921. Here the paper's correspondent had succinctly represented the main objections to the Tata project, as well as its most powerful justifications. The origins of the Mulshi satyagraha, he concluded, lay in:

> 1. A strong sense of wrong and deep feeling of resentment among the peasantry whose lands are affected by the project, against the Government for sanctioning the scheme more than two years ago, without taking them in its confidence, i.e., without consent, knowledge or consultation of the peasant-owners of the land . . .
> 2. Suspicion and distrust in both the Government and the Company, due chiefly to the procedure of acquisition, as to the bonafides of their intentions to award full compensation, or equivalent . . . land somewhere else, and other facilities already enjoyed by them or necessary for fresh colonization . . .
> 3. Reluctance to part with the land on account of its extreme productivity, the natural facilities of irrigation and nominal amount of land revenue.
> 4. Reluctance to part with lands, ancestral homes, and traditional places of worship and see them submerged under water.
> 5. Natural reluctance in this class of peasantry to emigrate from one place to another . . .

For the other side, the main claims of the project promoters were listed:

> 1. One and a half lakh (1,50,000) electrical horse-power would be created by the Mulshi Peta dam.
> 2. It would save 525,000 tons (of) coal every year. This quantity of coal at the present rate costs Rs. 1,83,00,000.
> 3. The saving of coal means a corresponding saving of Rs. 1,05,50,000 worth of fuel to the mill industry of Bombay.
> 4. The quantity of coal saved on account of the scheme would require 26.250 wagons for transport. These would be saved and utilized for other public purposes.
> 5. Water once used can be directed for agricultural purposes after electrical power is created.

6. Electricity thus created would give work to 300,000 labourers. If it is utilized for cotton mills, every day 51 lakh yards would be manufactured.
7. The projected electrification of the Bombay suburban railway lines would give to Bombay city much faster and more frequent trains, thus enabling the development of housing schemes in purer air and healthier circumstances. (from *The Times of India*, 2 May 1921)

Here lies an uncanny anticipation of the ideological roots of the conflicts over large dams that were to erupt half a century later. On the one side, the interests of subsistence oriented peasants, on the other, the interests of urban centres and industry. When the major push towards river valley projects took place after Indian independence, it was easy to represent the former as static and backward, the latter as dynamic, forward looking and coterminous with the national goals of progress and development. The villages to be submerged by the new projects were then expected to make way for the greater national interest, all the more so as the new schemes (unlike Mulshi) were owned and executed not by private capitalists but by the state, itself the legatee of a broad-based, popular national movement.

Of course, displaced people were not entirely unyielding. A comprehensive but somewhat euphoric survey by the political scientist Henry Hart of the first wave of large dams built in independent India, noted the resentment of villagers confronted with the prospect of displacement. Thus in 1953, the residents of the town of Narayan Deva Keri, in present day Andhra Pradesh, hoped desperately that the new reservoir on the Tungabhadra river would not fill up to capacity, thereby sparing their town. Disregarding the warnings of engineers, the townspeople stayed on till the last moment, having to be evacuated in haste when surrounded on three sides by water. Despite these signs, there was general agreement, at least amongst the devotees of dam building, that 'the suffering of the displaced people was for the good of the greatest number'; nor was there much doubt of the 'willingness of the Indian villager to make way for a nation building project, provided he is convinced that the sacrifice he is called upon to make is unavoidable' (Hart, 1956).

It is true that the massive — one might, following Hart, call them heroic — river valley projects of the 1950s met with little opposition. They included the Bhakra-Nangal dam in Punjab, the Tungabhadra project in Andhra Pradesh, the Hirakud dam in Orissa and the Rihand dam in Uttar Pradesh, each displacing tens of thousands of people. Yet, over time, the Indian villager has developed a marked unwillingness to make way for 'nation-building' projects. A major reason for this growing hostility is the actual experience of communities displaced by earlier projects. The resentment of dam evacuees has been uniform: rates of cash compensation have been very low; the promise of land for land has very rarely been fulfilled (and where it has, the new lands are invariably of much poorer quality); there are problems making a new home in unfamiliar, and often hostile, surroundings, and so on (CSE, 1985; Fernandes and Ganguly-Thukral, 1988; Ganguly-Thukral, 1992). A

significant acknowledgment of these failures has been the substitution, in recent years, of the term 'displacement' by the euphemistic 'resettlement' in public discussions of this process.

Meanwhile, organized opposition to new projects gathered force in the early 1970s, with movements emerging independently in different parts of the country. The most long-standing opposition has been to the Tehri dam, being built on the river Bhageerathi in the Garhwal Himalaya. For more than a decade, the dam's construction has been opposed by the Tehri Baandh Virodhi Sangarshan Samiti (Committee for the struggle against the Tehri Dam), a forum founded by the veteran freedom fighter, Virendra Datt Saklani. The respected Chipko leader Sunderlal Bahuguna has also been very active in the movement, undertaking several hunger fasts to pressurize the government to stop construction. The objections to the dam range from the seismic sensitivity of the fragile mountain chain (and hence the possibility of a dam burst), through the submergence of large areas of forest, agricultural land and the historic town of Tehri, to the threat to the life of the reservoir from deforestation in the river catchment (D'Monte, 1981). These criticisms have gathered force since the massive earthquake in the upper Bhageerathi valley in October 1991, but the government appears resolved to go through with the dam none the less.

At the same time, the other well known Chipko leader, Chandi Prasad Bhatt, has been leading the resistance to the building of a dam at Vishnuprayag, on the Alakananda river in eastern Garhwal. This construction is taking place very close to the famed Valley of Flowers, and fears that the ecology of the valley would be permanently disturbed are compounded by the geological features of the Vishnuprayag area, which is peculiarly prone to landslides (Bhatt, 1992). At the time of writing, and due in part to such opposition, the Vishnuprayag project has been indefinitely shelved. The participation of Chipko activists in these protests is hardly accidental. Having largely lost their forests to commercial exploitation, Himalayan peasants now face further suffering owing to external pressures on the other resource in which their hills are abundant — water. As with the forests, the benefits of intensive exploitation have accrued almost exclusively to the inhabitants of the plains.

The water-rich and heavily forested tribal areas of central India have also witnessed a surge of opposition to new hydroelectric projects. Two of the more notable movements have arisen in opposition to the Koel Karo dam in Bihar, and the Bhopalpatnam-Inchampalli project on the Maharashtra–Madhya Pradesh border. In both cases, threatened tribal groups have put up a spirited defence, organizing demonstrations and work stoppages. The Koel Karo struggle has been coordinated by established left-wing political groupings such as the Jharkhand Mukti Morcha and the Communist Party of India, whilst opposition to the Bhopal-Inchampalli project has been initiated by unaffiliated voluntary organizations and inspired by the veteran Gandhian Baba Amte (CSE, 1985).

Groups affected by large dams have not always been tribal, however: one successful movement was actually led by prosperous orchard owners. The Bedthi project which was under construction in the Uttara Kannada district of Karnataka had to be abandoned after it was opposed by influential spice-garden farmers, largely Brahmin, whose lands were to be submerged by the project. The Uttara Kannada farmers organized a national seminar in the project's early days, and after hectic lobbying with political leaders, forced the State Government to abandon the dam (Sharma and Sharma, 1981).

Another, more striking, success was the abandonment of the Silent Valley hydroelectric project in the state of Kerala. No human community was to be displaced by this 120 KW dam, but it did involve submerging one of the last surviving patches of rain forest in peninsular India. Opposition to the project was led by the Kerala Sastra Sahitya Parishad, an organization dedicated to popular science education, which has a wide reach and influence in Kerala. This *Marxisant* movement of school and college teachers built up an unlikely collaboration with wildlife conservationists. Each group had its own reasons for opposing the project: while the KSSP rested its case on a technoeconomic appraisal of energy generating alternatives, its allies invoked the need for plant and animal conservation. Eventually, the desire of the Prime Minister of the day, Indira Gandhi, to enhance her image among the international conservation community appears to have been critical in the government's decision to shelve the project (D'Monte, 1985).

There is, then, a considerable prehistory to the movement against the construction of a dam on the Narmada river. The Narmada river valley project — which the writer Claude Alvares has termed the 'world's greatest planned environmental disaster' — is a truly utopian scheme, envisaging the construction of thirty major dams on the Narmada and its tributaries, not to speak of an additional 135 medium and 3000 minor dams (Kalpavriksh, 1988). With two of the major dams already built, the focus of popular opposition has been the Sardar Sarovar reservoir, the largest of the Project's individual schemes. Sardar Sarovar is unique in the history of dam building in India, in that the command area of major beneficiaries lies in one state, Gujarat, while the major displacement (193 of the 243 villages to be submerged) will affect another state, Madhya Pradesh. According to official estimates based on the outdated 1981 Census, over 100,000 people, of whom approximately 60 per cent are tribal, will be rendered homeless (V. Raina, personal communication).

As early as 1977, villagers in the Nimad region of Madhya Pradesh began protesting against the prospect of eviction due to Sardar Sarovar. Somewhat ironically, social activists like Medha Patkar (now one of the Narmada Bachao Andolan's moving spirits) first began working towards the proper rehabilitation of potential oustees: it was only after realizing that there was no land available in Madhya Pradesh/Maharashtra or Gujarat for the proclaimed 'land for land' policy that they turned to opposing the construction of the dam itself. Although more than ten years old, the movement has

really gathered momentum only since 1989. It has used a varied repertoire of protest to put forward its demands: the blockade of roads and traffic (*rasta rokos*), public meetings (including some where oustees have pledged not to leave their homes even if the dam waters rise and drown them), hunger fasts, and demonstrations, especially at state capitals. In one dramatic incident, villagers from the neighbourhood of Badwani town uprooted stone markers from the dam's submergence area, transported them several hundred miles to the state capital of Bhopal and flung them outside the Madhya Pradesh legislature (Narmada, 1989–90).

While localized protests have been occurring all along the Narmada valley, wider public attention has been drawn through the more spectacular events. Two of these have already been mentioned — the congregation in New Delhi and the 'Sangarsh Yatra' (struggle march) from Rajghat to Ferkuva. However, the most successful of these public events was a huge rally in the town of Harsud, held on 29 September 1989. Upwards of 60,000 volunteers, mostly of tribal and peasant background, gathered in the town, itself destined to be submerged under 50 ft. of water; representatives of citizens' groups from all over India came to demonstrate their solidarity with the Narmada movement; a large public meeting, addressed by Amte, Patkar, Bahuguna and others culminated in a collective oath to resist the pattern of 'destructive development' exemplified by the Sardar Sarovar dam (Alvares, 1989).

There are several features which help distinguish the Narmada movement from other protests against large dams. Two of the most notable are its spread — it has activist groups working in three states and many supporting organizations elsewhere — and its tenacity in the face of government repression. Although the movement itself has been, in the main, non-violent, its leaders and participants have been repeatedly harassed, and occasionally beaten and jailed. Also unlike many other movements, the Narmada Bachao Andolan has been widely, and often sympathetically, covered in the print media, while it also has well established links with environmental groups overseas. Thus Japanese environmentalists have persuaded their government not to advance money for the Narmada Valley Project, while US groups sympathetic to the movement have tried hard to convince the World Bank to do likewise.[1] A final testimony to the movement's vigour is the active counter movement it has generated in support of the dam. Political leaders and social activists in Gujarat have rallied strongly behind the state's rich farmers, who stand to gain most from the project, organizing demonstrations and press campaigns and mounting an ideological offensive which portrays the Narmada movement's leaders as 'anti-development' and 'anti-national'. The Narmada activists have even been accused in Gujarat of wanting to deny

1. In March 1993, the Indian government itself decided not to ask for further World Bank support for the project, indicating its inability to meet the Bank's criteria for resettlement and environmental rehabilitation.

tribals the fruits of economic growth by keeping them in a perpetual state of nakedness, hunger and illiteracy (Anklesaria, 1988; EPW, 1991).

Struggles in the Sea

The social base of forest and anti-dam movements has been amongst the tribals and poor peasantry. Our third category of nature-based conflicts involves artisanal fisherfolk whose dependence on a living resource has also been undermined in recent decades. Distinct endogamous groups of fisherfolk, both along the sea coast and on rivers, have long been a feature of the Indian landscape. These communities, which depend more or less exclusively on the catching and sale of fish, have recently been threatened by massive encroachments on their territory.

The problems of ocean-going fisherfolk have been well documented, particularly in the studies of the economist John Kurien. The clash between artisanal fisherfolk and modern trawlers, at its most intense in the southern state of Kerala, provides a chilling illustration of what can happen when one group's exclusive control over living resources is abruptly challenged by forces more economically and politically powerful. For centuries, the coastal fish economy was controlled by artisanal fisherfolk operating small, unmechanized craft, who supplied fish to inland markets. In the 1960s, big business began to enter the fisheries sector. The advent of large trawlers, catching fish primarily for export, led to major changes in the ecology and economy of fisheries in Kerala. A rapid increase in fish landings in the early years of trawling was followed by stagnation and relative decline. While some artisanal fishermen were able to make the transition to a more capital- and resource-intensive system, the majority faced the brunt of direct competition from the trawlers. This conflict gave rise to a widespread movement — involving strikes, processions and violent clashes with trawler owners — in which small fishermen pressed for restrictions on the operations of trawlers. The movement also called for a ban on trawling during the monsoon, the breeding season for several important fish species. A partial ban which was finally imposed in 1988 and 1989 did in fact result in an increased harvest following the monsoon months (Kurien and Achari, 1990).

So far as inland fisheries are concerned, there have been intermittent reports of localized opposition by fisherfolk affected by industrial pollution (see below). In a class of its own, however, is a unique movement to 'free the Ganga', involving fisherfolk in the Bhagalpur district of Bihar. Here, in a bizarre relic of feudalism, two families asserted hereditary rights of control over a 50 mile stretch of the Ganga. Claiming that these 'panidari' (water) rights originated in Mughal times, the waterlords levy taxes on some 40,000 fisherfolk living along the river. A protracted court case has so far been unsuccessful in abolishing these rights, which by an anomaly escaped the provisions of the law abolishing landlordism (*zamindari*) which was enacted

after 1947. Since the early 1980s, the fisherfolk have been organized by young socialists into the 'Ganga Mukti Andolan' (Free the Ganga) movement. With fish catches also declining due to industrial pollution, the movement has been waging battle on two fronts simultaneously — against effluents and against an anachronistic system of monopoly rights over water (Narain, 1983).

Mines and Misery

Like forest conflicts, struggles over fish stocks have arisen out of the competing claims of different groups, each coveting the same resource but for different reasons. By contrast, the conflicts which we now highlight are a consequence of the negative externalities imposed by one kind of economic activity, open cast mining, upon another, subsistence agriculture.

The most celebrated of mining conflicts took place in the Doon valley in northwest India. Home to the Indian Military Academy as well as the country's most famous public school, this beautiful valley is a favourite watering hole of the Indian élite. Here, the intensification of limestone mining since 1947 has led to considerable environmental degradation — deforestation, drying up of water sources, and the laying waste through erosion and debris of previously cultivated fields. Opposition to limestone quarrying, which gathered force in the late 1970s and early 1980s, has come from two distinct sources. On the one side, retired officials and executives formed the 'Friends of the Doon' and the 'Save Mussoorie' committees to safeguard the habitat of the valley. They were joined by hotel owners in Mussoorie, worried about the impact of environmental degradation on the tourist inflow into this well known hill station. These groups may fairly be characterized as NIMBY (not in my backyard) environmentalists, preoccupied above all with protecting a privileged landscape from overcrowding and defacement. On the other side, villagers more directly affected by mining were organized by local activists, many of whom had cut their teeth in the Chipko movement. While the first group lobbied hard with politicians and senior bureaucrats, the latter resorted to sit-ins to stop quarrying. Finally, both wings collaborated in a public interest litigation that resulted in a landmark judgement of the Supreme Court, recommending the closure of all but six limestone mines in the Doon Valley (Bandyopadhyay, 1989; Dogra et al., 1983).

At the height of the Dehradun limestone controversy, one of the valley's 'NIMBY' environmentalists called — with characteristic disregard for the inhabitants of those areas — for mining to be shifted to the interior hills so that Dehradun and Mussoorie would be spared (Dalal, 1983). Apparently she was unaware that mining was already proceeding apace in the inner hills. As could have been expected, it has met with resistance. In Almora and

Pithoragarh districts of Kumaun, soapstone and magnesite mining — by either using, or by leading to the degradation of, common forest and pasture land — has greatly reduced local access to fuel, fodder and water. With the onset of the monsoon, the debris accumulated through mining descends onto the fields of adjacent villages. Meanwhile, with mining leasees preferring to bring in outside labour to act as a buffer between management and villagers, any tangible benefits to the village economy are few — and certainly inadequate in offsetting the losses caused by declining agricultural productivity and biomass availability.

Kumaun has a long heritage of social movements (Guha, 1989a; Pathak, 1987) and this has been invoked in the continuing struggles against unregulated mining. Social activists have worked hard to form village level *Sangarsh Samitis* (struggle committees) in the affected areas; the Laxmi Ashram in Kausani, started by Gandhi's disciple Sarla Devi, has been quite successful in involving women in these movements. In other instances, villagers have acted independently to protest against the damage done by open cast mining, using such varied forms of struggle as sit-ins, hunger fasts and efforts to persuade mining labourers to go on strike. In many of these protests, women — whose own domain is most adversely hit by mining — have played a leading role. Several mines have been forced to close down, whereupon villagers have turned their energies towards land reclamation through afforestation (ISST, 1991; Joshi, 1983a, 1983b).

Another movement with broadly similar contours has been directed against bauxite mining in the southeastern state of Orissa. In the Gandhamardan hills of the Sambalpur district of the state, the public sector Bharat Aluminium Company (BALCO) has been granted permission to mine a heavily forested area of about 900 ha. The foundation stone for the project was laid by the Chief Minister of Orissa in May 1983 and mining commenced two years later. By the end of 1986, however, BALCO operations had been forced to a halt. As in the Himalaya, bauxite extraction in Gandhamardan led quickly to deforestation, erosion, and the pollution of water sources. Blasting operations were perceived as a threat to the region's ancient temples, which are visited by pilgrims from long distances. Characteristically, protest originated in a series of petitions being sent to senior officials and politicians. When this had no effect, students and social activists began forming village committees. A three day strike in front of the Block Development Office in October 1985 was followed two months later by a blockade which prevented BALCO vehicles from proceeding up the Gandhamardan plateau to the mines. Private vehicles carrying materials for BALCO operations were also blocked and unloaded. In the first two months of 1986, the movement shifted to the site of BALCO's proposed railway line, close to the Orissa–Madhya Pradesh border. According to figures collected by a civil liberties group that visited the area, a total of 987 people were jailed in the course of the year-long struggle, including 479 women and 51 children (Concerned Scholars, 1986; PUDR, 1986).

The Polluter Does Not Pay Principle

Open cast mining cannot help but cause environmental degradation; it is in trying to pass on the costs of such degradation to surrounding villages that miners have encountered resistance. The textbook case of such negative externalities is, of course, industrial pollution. With air and water being free goods, it makes perfect economic sense for a private entrepreneur to pollute his surroundings instead of investing in technology to properly treat and safely dispose of effluents. The state, as the repository (in theory) of the welfare of the public, then emerges as the agency most likely to pass legislation to check pollution and take punitive action against offenders. Indeed, in the industrialized world a major focus of the environmental movement has been on pressurizing the state to pass legislation and create enforcement agencies to check air and water pollution (Hays, 1987).

In India, too, pollution control legislation is in the statute books, but with administrative efficiency and honesty of lamentably low standards, industrial pollution has gone largely unchecked. In its executive functions, the Indian state apparatus alternates between being 'soft' and 'predatory'; in the first incarnation, laws are not enforced, while the second allows offenders to buy official compliance. Yet, in a democratic political system, citizens' actions can act as a partial corrective even when the state abdicates its role.

Among the most notorious of industrial polluters are paper and rayon factories. Three units of the Gwalior Rayons — owned by India's largest industrial house, the Birlas — have been indicted by environmentalists for affecting the economic welfare of downstream villagers through pollution. The Gwalior Rayons factory on the Chaliyar river in Kerala was closed for seven years after a spirited movement, led by the KSSP. In the adjoining state of Karnataka, Harihar Polyfibres (owned by the same parent company) has faced concerted opposition and a long drawn out court case for discharging untreated effluents into the Tungabhadra river. Villagers have complained of new diseases, declining fish yields and the reduced availability of irrigation water (Hiremath, 1987). A similar charge has been laid at the door of the massive Gwalior Rayons factory at Nagda in Madhya Pradesh, while in the same state, in the district of Shahdol, the Birla-owned Orient Paper Mills has also been criticized by social activists for its pollution of the Sone river.

Two other illustrations of the conflict between private profit and the public good come from Maharashtra, a state with a highly developed industrial sector and a long tradition of social activism. In October 1987, farmers and fisherfolk from the Devananda creek area of the Raigadh district protested against the discharge of effluents from forty units operating in an industrial area owned by the Maharashtra State Industrial Development Corporation. Accusing the MIDC of not treating effluents before discharging them into a nearby river, peasants jammed a wooden log into the discharge pipeline (*The Times of India*, 1987). Some months later, villagers in Ahmednagar district of the state united to oppose the pollution of land and water by the discharge from

South Asia's largest distillery. Despairing of remedial action, the villagers filed a suit in the Bombay High Court, seeking Rs. 10 million in damages from the offending company, the Western Maharashtra Industrial Corporation, and the State Pollution Control Board (*Indian Post*, 1988a).

One final example of citizen protest against pollution comes from the district of North Arcot in the state of Tamil Nadu. Here, effluents from a cluster of tanneries abruptly raised the chloride content of drinking water and contributed to declining crops by causing soil salinity. On World Environment Day 1984, the town of Ambur, site of several tanneries, observed a total strike or *hartal*. Many women and children from the affected villages went in a procession through the town: here, women broke pitchers containing contaminated water, demanding that the authorities protect the health of their children. A huge effigy of an 'effluent monster' was burnt on the same day (*The Hindu*, 1984).

Conflicts in Context

Conflicts over forests, water and other natural resources have been widespread across human history. In premodern times they arose typically as a consequence of competing property claims and economic interests (Gadgil and Guha, 1992). In the modern world, however, these conflicts have increasingly acquired a sharp ecological edge, being played out against the backdrop of increasing resource scarcities and shortages.

In India too, although nature-based conflict was by no means unknown in the past, the proximate cause of the struggles analysed here has been the pattern of development followed since independence in 1947. The distortions in resource flows, preferential subsidies and short term horizons of capitalists and the state have all worked to sharply circumscribe the access of the poor to the gifts of nature. The ensuing conflicts have been generated both by ongoing processes, such as the history of forest mismanagement, and massive new projects such as large dams. The variety and range of nature-based conflicts notwithstanding, two particular movements stand out for their symbolic importance to the Indian environment debate. These are the Chipko movement, which has now passed into history, and the ongoing struggles against the Narmada Valley Project, whose eventual outcome is still uncertain. Both conflicts illustrate the deep inequities in access to resource use in contemporary India. As paradigms of the conflict between the low and the mighty, both have relied — quite remarkably — on non-violent forms of protest. In each case, folk knowledge and anguish have forced ecologists and economists to reconsider the efficacy of dominant forms of resource use widely justified as 'scientific'. Their contribution to scientific debates apart, both movements are invested with a deeper cultural, almost religious, significance. Chipko originated in the watershed of the holiest river of Hinduism, while for the people of central India the Narmada is no less sacred

than the Ganga. Both struggles have attracted a dedicated core of activists who, in their selflessness and courage, exemplify the best in what remains of Gandhism. Finally, the two movements have helped generate a far reaching debate on the direction of economic development in India, and on the kind of society (and ecology) most appropriate to the needs of its culturally diverse, yet sharply fragmented, population. This debate and the various strands within it are examined more closely in the second part of this essay.

PART II: INTERPRETING INDIAN ENVIRONMENTALISM: TACTICS AND THEORIES

What is the Indian Environmental Movement?

In analysing the Indian environmental movement, we may distinguish between its *material*, *political* and *ideological* expressions. The material context is provided by the wide-ranging struggles over natural resources, the theme of this essay's first part. Broadly speaking, these conflicts have set in opposition, on the one side, social groups who have gained disproportionately from economic development whilst being insulated from ecological degradation (in particular, industrialists, urban consumers and rich farmers), and on the other, poorer and relatively powerless groups such as small peasants, pastoral nomads, tribals and fishing communities, whose livelihoods have been seriously undermined through a combination of resource flows biased against them and a growing deterioration of the environment. Our analysis suggests that the origins of these conflicts lie in the process of development itself. While forests, water and other natural resources are diverted to produce energy and commodities for the rich, the poor are made to bear the social and environmental costs of economic development, whether in the form of the declining availability of natural resources, a more polluted environment, or — increasingly — physical displacement (for a detailed analysis, see Gadgil and Guha, 1994).

With these struggles as its backdrop, the *political* expression of Indian environmentalism has been the organization by social action groups of the victims of environmental degradation. Action groups have embarked upon three distinct, if interrelated, sets of initiatives. First, through a process of organization and struggle they have tried, with varying degrees of success, to prevent ecologically destructive economic practices. Second, they have promoted the environmental message through the skillful use of the media, and more innovatively, via informal means such as walking tours and eco-development camps. Finally, these groups have also taken up programmes of environmental rehabilitation (afforestation, soil conservation, and so on), restoring degraded village ecosystems and thereby enhancing the quality of life of the inhabitants.

Although these myriad initiatives may be construed, in the broad sense, as being political in nature, they have been almost entirely undertaken by

groups falling outside the sphere of formal party politics. Across the ideological spectrum of party politics in India — from the Bharatiya Janata Party on the right to the Communist Party of India (Marxist) on the left — the established parties have turned a blind eye to the continuing impoverishment of India's natural resource base, and the threat this poses to the lives and livelihoods of vulnerable populations. At the same time, all parties have supported resource wasteful, ecologically destructive and centralizing technologies such as nuclear power plants and large dams. In the circumstances, it has been left to social action groups not owing allegiance to any political party — what the political scientist Rajni Kothari (1984) has termed 'non party political formations' — to focus public attention on the linkages between ecological degradation and rural poverty.

Through the process of struggle, the spreading of consciousness, and constructive work, action groups in the environmental field have come to develop an incisive critique of the development process itself. Responding to the conflicts over natural resources that have become so sharp in recent years, environmental activists and intellectuals sympathetic to their work have raised major questions about the orientation of economic planning in India, its in-built biases in favour of the commercial-industrial sector, and its neglect of ecological considerations. More hesitantly, they have tried to outline an alternate framework for development which they argue would be both ecologically sustainable and socially just. Although perspectives within the movement are themselves quite varied, in its totality this fostering of a public debate on development options constitutes the *ideological* expression of the environmental movement.

By highlighting the variety and intensity of conflicts over nature, the first part of this essay provided the material context for the Indian environment debate. We now present an analysis of the political and ideological contexts of this debate. In conclusion, we briefly contrast the Indian case, as a paradigm of Third World environmentalism, with the more intensively studied phenomenon of First World (i.e., Western) environmentalism.

Organizing for Action

As already noted, struggles over the uses of nature have a long history. Popular upsurges like the Kumaun forest movement of 1921, and the Mulshi satyagraha of the same year, may justifiably be claimed as part of the prehistory of modern environmental conflicts in India. In so far as there is a marked continuity in forms of resistance, the contemporary environmental movement is, to a considerable extent, a peasant movement draped in the cloth of environmentalism (Guha, 1989a). Thus many of the methods by which communities have resisted environmental degradation and/or external control of natural resources, fall under the overall rubric of *satyagraha* (literally 'truth force', but used more generally to denote non-violent

resistance). Here there are obvious parallels, and not merely terminological, with peasant protest in the Gandhian mode; although it must not be forgotten (Spodek, 1971) that Gandhi himself drew upon long standing traditions of peasant resistance.

Among the variety of protest forms used by groups resisting environmental degradation, we may single out six. First comes the *pradarshan*, a collective show of strength by communities at the receiving end of environmental degradation, be they peasants opposing commercial forestry or fisherfolk protesting the ravages of trawling. Characteristically, this will take the form of a procession, culminating in a meeting near a locus of official power — perhaps a dam project site, or the residence of the District Magistrate — in which leaders make exhortative speeches and a petition may be presented to the authorities.

The *pradarshan* is intended primarily to demonstrate popular disaffection and the strength of numbers. It shades imperceptibly into a more militant form of protest, the *dharna* or sit-down strike. In contrast to an ordinary procession or protest meeting, the *dharna* often aims specifically at stopping economic activities that threaten the survival options of resource dependent communities. Examples include attempts to stop the work at a dam site or, as was undertaken with some success in the Chipko movement, a large congregation in the forest to stop tree felling. A more sharply focused variant of the *dharna* is the *gherao*. Here, a key authority figure — a senior bureaucrat or politician perhaps — is surrounded by protesters and heckled till he accedes to their demands or is rescued by the police. More militant still is the *rasta roko* (literally, road blockade). Whereas the *dharna* has a narrow target, the *rasta roko* — born out of a more general disgust with state policy — blocks channels of communication that may not even be directly linked to the object of disaffection. Exasperated by the attitude of the Madhya Pradesh and Maharashtra governments, supporters of the Narmada Bachao Andolan sat for days on the National Highway between Delhi and Bombay, blocking passenger and commodity traffic on a vital artery.

Fifth, we have the resurrection of a classic technique of Gandhian nationalism — the *jail bharo andolan* (literally, movement to fill the jails). Here, protesters deliberately court arrest by violating a law, most frequently Section 144 of the Criminal Procedure Code, used to prohibit large gatherings. At the same time, the inadequacy of Indian jails to handle large numbers of prisoners assures them a relatively swift release. Our sixth and final technique also vividly recalls Gandhi. This is the *bhook hartal* or hunger fast. Whereas the other forms of protest highlighted above are characteristically collective, the *bhook hartal* is most frequently the preserve of one charismatic figure. The fast unto death by a widely respected popular leader is a coercive technique to compel the state to yield, in fear of the consequences of the leader succumbing to the fast.

Environmental action groups in India have thus utilized a varied and flexible repertoire of protest. These distinctive forms of struggle are, of

course, both overlapping and complementary: nor is our list exhaustive; new forms are being created even as we write. The Narmada movement has already witnessed a major *sangharsh yatra* (struggle march), while its participants have frequently threatened a spectacular *jal samadhi* (literally, water burial) — in other words, to immerse themselves in the rising waters of the reservoir rather than be displaced from their ancestral lands. All in all, this repertoire of protest has helped to focus public attention on specific natural resource conflicts. In a democracy which allows dissent, but where the state tilts markedly towards the rich and powerful, these forms of protest collectively constitute the 'weapons of the weak' (Scott, 1985).

Communication and Education

In most such conflicts, collective protest against the agencies of the state, using one or more of the tactics described above, has been closely accompanied by coverage in the print media. Leading environmental activists (Sunderlal Bahuguna and Baba Amte come immediately to mind) sometimes write signed articles in newspapers, drawing attention to the struggle they are engaged in. More often, sympathetic journalists write on these struggles and their wider implications. Since the mid-1970s, there has been a virtual explosion of environmental writing in English and Indian language newspapers and magazines. With radio and television controlled by the state, the print media has played an important role in reporting, interpreting and publicizing nature-based conflicts in modern India.

In understanding the spread of environmental consciousness, however, one must not underestimate oral communication. For example, the popular science group, the KSSP, has performed plays and rendered folk songs in all parts of Kerala in order to increase popular awareness of deforestation and pollution. In the neighbouring state of Karnataka, themes of environmental abuse and renewal have figured in the traditional dance-drama of the west coast, Yakshagana. An activity which combines discussion and practical action is the 'eco-development' camp, widely used by action groups to promote afforestation and other forms of environmental restoration (Bhaskaran, 1990). But in the sphere of communication too, the most innovative technique of the environmental movement recalls its acknowledged patron saint, Mahatma Gandhi. This is the *padayatra* or walking tour. Used by Gandhi to spread the message of communal harmony and by his disciple Vinoba Bhave to persuade landlords to donate land to the landless, the *padayatra* has been enthusiastically revived by environmental activists. The first environmental *padayatra* was the trans-Himalayan march from Kashmir to Kohima, covering 4000 km., by Sunderlal Bahuguna (one of Bhave's disciples) and a group of his associates in 1982–3.

The most notable *padayatra* of this ilk was the Save the Western Ghats March of 1987–8, along the 2500 km. long mountain chain. After seven

months of preparation involving over 150 voluntary organizations (from the states of Kerala, Tamil Nadu, Karnataka, Goa and Maharashtra), on 1 November 1987 the march commenced from the two extremities simultaneously — Kanyakumari in Tamil Nadu and Navapur in the Dhulia district of Maharashtra. Three months later, marchers from the north and south converged at Ponda in Goa, for the meeting which marked the march's conclusion. By then they had collectively covered 4000 km. of hill terrain, making contact with over 600 villages en route. The marchers themselves came from a variety of backgrounds and age groups. Their aim was threefold: to study at first hand environmental degradation and its consequences for communities living along the Ghats; to try to activate local groups in playing a watchdog role to prevent further ecological deterioration; and to canvass public opinion in general (Hiremath, 1988; Vijaypurkar, 1988).

One of the objectives of the Western Ghats March, in which it largely succeeded, was to draw attention to threatened mountain ecosystems other than the Himalaya, whose plight had hitherto dominated the Indian environment debate. As a haven of biological diversity (nearly 150 endemic species) and the source of many rivers, the Ghats are as crucial to the ecological stability of peninsular India as the Himalaya are to the Indo-Gangetic plain. The Western Ghats march inspired *padayatras* across other vulnerable mountain systems. A 'Save the Sivaliks' march was undertaken across 200 km. of the Sivalik range in Jammu and Kashmir the following winter, while in early 1991 a fifty-day march was undertaken through the Eastern Ghats of Andhra Pradesh and Orissa. The latter effort, the Vanya Prant Chaitanya Yatra (Tribal Areas Awareness March), focused on the interconnections between environmental degradation and tribal poverty, as exemplified by deforestation, pollution, land alienation and displacement (Saraf, 1989; Vinayak, 1990).

Our final illustration of an environmental *padayatra* highlights not a region but a threatened resource — water. This was the Kanyakumari march, organized by the National Fisherfolk Forum in April 1989 under the slogan 'Protect Waters, Protect Life'. As in the Western Ghats, two teams started independently — one from a fishing village in Bengal on the east coast, the other from a village near Bombay on the west coast. Making their way on foot and by van, the marchers organized a variety of meetings and seminars in villages along the way. Although initiated by organizations working among fisherfolk, the march had a wider ambit. As well as declining fish yields, the marchers studied the pollution of coastal waters by industry and urban sewage, and the destruction of key ecosystems like mangrove swamps and estuaries. The objectives of the march as enumerated by its organizers, were: (i) to widen people's awareness of the link between water and life and to encourage popular initiatives to protect water; (ii) to form a network of all those concerned with these issues; (iii) to pressurize the government into evolving a sustainable water utilization policy, and to democratize and strengthen the existing water management agencies; (iv) to assess the damage

already done, identify problem areas for detailed study, and evolve practices for rejuvenating water resources; (v) to revive and propagate traditional water conservation practices and regenerative fishing technologies (NFF, 1989).

The marchers from the two coasts converged in Kanyakumari, on the southernmost tip of India, on May Day 1989 (this culminating date reflecting the trade union locus of the organizers). An exhibition on water pollution and conservation, held at a local high school, was followed by a march to the sea. Here the participants, led by 100 women, took a pledge to 'Protect Waters, Protect Life'. Finally, a crowd of nearly 10,000, at least half of whom were women, wound their way to the public meeting that was to mark the culmination of the march. Sadly, an incident provoked by a government bus disrupting the marchers led to a police firing in which several people were killed, and the rally was called off. Despite its unhappy ending, the Kanyakumari march had fulfilled its aim of highlighting the threats to a liquid resource which, in the Indian context, must be reckoned to be as important as oil (Dietrich, 1989; Kumar,1989).

Ecological Restoration

As tactics of struggle and consciousness raising, the *satyagraha* and *padayatra* have received generous media coverage. Less visible, but equally significant, are the programmes of ecological restoration that various social action groups have undertaken. With the state's manifest inability to restore degraded ecosystems, many voluntary organizations have taken it upon themselves to organize villagers in programmes of afforestation, soil and water conservation, and the adoption of environmentally sound technologies.

In focusing on environmental rehabilitation in preference to struggle or publicity, some groups have been influenced by the Gandhian tradition of constructive work, others by religious reform movements, and yet others by the example of international relief organizations. Often, groups with a background of work in health care, education or women's issues have turned in recent years to promoting sound natural resource management. Three brief case studies are presented below, to illustrate the variety of groups engaged in ecological restoration.

We start with the group that pioneered the Chipko movement, the Dashauli Gram Swarjya Mandal. While one wing of Chipko, identified with Sunderlal Bahuguna, has preferred to connect Himalayan deforestation with national and global environmental concerns, the DGSM, under the leadership of Chandi Prasad Bhatt, has turned from struggle to reconstruction work at the grassroots. Over the last decade, the DGSM has concentrated chiefly on afforestation work in the villages of the upper Alakananda valley. Two notable features of these plantations have been the lead taken by

women, and the high survival rate of saplings — an average of 75 per cent in contrast to the 14 per cent average rate in Forest Department plantations. In addition, in heavily eroded landscapes, volunteers have taken up appropriate soil conservation measures like the plugging of gullies, construction of small check-dams, and the plantation of fast growing grass species. Finally, the DGSM has enthusiastically promoted energy saving devices such as fuel-efficient cooking stoves and biogas plants (CSE, 1985; S.N. Prasad, personal communication).

A second example of successful eco-restoration work also originated in a process of struggle. In the Sangli district of Maharashtra, where socialist workers have long been active, peasants have been faced with persistent drought. In this context, two villages of Khanapur taluk, encouraged by socialist and popular science activists, decided to build on a cooperative basis, a small dam across a river that sporadically contained water. To finance the dam they requested the state government to allow them to sell sand from a nearby river bed. The administration, however, preferred to auction the sand to private merchants: it was even reluctant to sanction the dam. A series of hunger strikes, processions and *gheraos* forced the government to abandon the auction system, although it permitted local sale to a limited extent. Helped by voluntary contributions and under the technical guidance of a Bombay engineer, the villagers finally succeeded in building the 'Bali Raj Memorial Dam' by the end of 1988. The water thus stored is used to provide one irrigated crop to each family of the two villages, and for nursery and forestry work (*Indian Post*, 1988b; Joy and Rao, 1988; Omvedt, 1987).

Our final case study originated not in a movement but in a remarkable individual, Anna Saheb Hazare of the village of Ralegaon Siddhi in the Ahmednagar district of Maharashtra. Ahmednagar too is drought prone — speaking of the scarcity of water, the *Bombay Chronicle* of 2 March 1913 had called it 'the most unfortunate and heavily tried district in India'. Thus when Anna Hazare returned to the village on retirement from the army in the mid-1970s, he found that food production reached barely 30 per cent of its requirements. Quickly locating the problem as insufficient retention of rainwater, he organized villagers into building a series of storage ponds and embankments (*nallah bandhs*) along the low hills surrounding the village. Very quickly, run off was reduced and aquifers recharged, and the groundwater table rose considerably. There is now sufficient water for household use and irrigation, and crop yields have increased dramatically (the village has begun to export food). Besides this, Hazare has mobilized villagers to plant 400,000 saplings. With his village now acknowledged as a model of eco-restoration through self help, Hazare is training volunteers to work in other villages. He has simultaneously launched a movement against corruption in state forestry and drinking water programmes (Rai et al., 1991).

As these examples show, reconstruction work can proceed hand in hand with struggle. Yet in other instances, groups temperamentally unsuited to confrontation have done admirable work in promoting environmentally

benign technologies and in rehabilitating degraded lands. Reconstruction work constitutes a valuable third front of the environmental movement, complementing the activities of consciousness building and popular resistance to state policies.

Individual groups working in the environmental field are typically confined to a small area. In the last decade, various attempts have been made to develop a macro-level organization to coordinate these various groups and activities. This process got a considerable boost with the rally against 'destructive development' held in Harsud in September 1989. In a follow-up meeting held in Bhopal in December — to coincide with the fifth anniversary of the gas tragedy in that city — groups that participated in the Harsud rally initiated the formation of the Jan Vikas Andolan (Peoples' Development Movement), a loosely knit national level organization to coordinate local struggles. Over the past three years, the JVA has had meetings in different parts of the country, involving a wide range of groups and individuals. In defining itself as a movement against the existing pattern of development, the JVA's own objectives are fourfold: (i) to coordinate collective action against environmentally destructive policies and practices; (ii) to provide national solidarity to these struggles; (iii) to mobilize wider public opinion on the need for a new development path; and (iv) to work towards an alternative vision, ecologically sustainable and socially just, for India's future (JVA, 1990).

Ideological Trends in Indian Environmentalism

Social action in the three generic modes outlined above (i.e. struggle, publicity and restoration) constitutes the bedrock of the Indian environmental movement. While such activism has characteristically been localized — with most groups working within one district — the links between the micro and macro spheres have been made most explicit (recent initiatives like the JVA excepted) through the environmentalists' critique of the ruling ideology of Indian democracy, that of imitative industrialization. For environmentalists have insistently claimed that the intensification of natural resources conflict is a direct consequence of the resource- and capital-intensive pattern of economic development, modelled on the Western experience, followed since independence. The resource illiteracy of development planning, they claim, is directly responsible for the impoverishment of the resource base and of the millions of rural people who depend on it (JVA, 1990).

While there is widespread agreement within the environmental movement as regards the failures of the present development model, there is little consensus on plausible alternatives, all responding to the range of conflicts we have analysed above, but advocating widely varying proposals for mitigating these conflicts. It is, however, possible to identify three distinct ideological perspectives within the movement. It is of course entirely possible that none of the ideologies so identified is present in a particular struggle, or

indeed that adherents of all three viewpoints might participate in unison in a specific initiative. However, close study and discussions with groups spread all over India does suggest that the three strands analysed below are the dominant ideologies of Indian environmentalism.

The first, which we may call *Crusading Gandhian*, relies heavily on a moral/religious idiom in its rejection of the modern way of life. Here, environmental degradation and social conflict are viewed above all as a *moral* problem, their origins lying in the wider acceptance of the ideology of materialism and consumerism, which draws humans away from nature even as it encourages wasteful lifestyles. Crusading Gandhians argue that the essence of 'Eastern' cultures is their indifference, even hostility to economic gain: thus, if India were to abandon its pursuit of Western models of economic development, it would only be returning to its cultural roots. These environmentalists call, therefore, for a return to precolonial (and precapitalist) village society, which they uphold as the exemplar of social and ecological harmony. Gandhi's own invocation of Ram Rajya (the mythical but benign rule of King Rama) is here being taken literally, rather than metaphorically. In this regard Crusading Gandhians frequently cite Hindu scriptures as exemplifying a 'traditional' reverence for nature and lifeforms.

Crusading Gandhians have worked hard in carrying their message of moral regeneration across the country and indeed across the globe. They have sharply attacked the stranglehold of modernist philosophies — particularly those upholding rationalism and economic growth — on the Indian intelligentsia; through the written and spoken word, they propagate an alternative, non-modern philosophy whose roots lie in Indian tradition (Bahuguna, 1983; Nandy, 1987, 1989; Shiva, 1988).

The second trend, in many ways the polar opposite of the first, is Marxist in inspiration. Marxists see the problem in political and economic terms, arguing that it is unequal access to resources, rather than the question of values, which better explains the patterns and processes of environmental degradation and social conflict. In this sharply stratified society, the rich destroy nature in the pursuit of profit, while the poor do so simply to survive (the Crusading Gandhians would tend to deny altogether that the poor also contribute to environmental degradation). For Ecological Marxists, therefore, the creation of an economically just society is a logical precondition of social and ecological harmony. In their practical emphasis, socialist activists concentrate on organizing the poor for collective action, working towards their larger goal of the redistribution of economic and political power. While including various Naxalite and radical Christian groupings, Ecological Marxists in the Indian context are perhaps most closely identified with People's Science Movements (PSMs) — the best known of which is the Kerala Sastra Sahitya Parishad — whose initial concern with taking 'science to the people' has been widened to include environmental protection. Ecological Marxists can be distinguished from Gandhians in two significant respects: their unremitting hostility to tradition (and corresponding faith in

modernity and modern science) and in their relatively greater emphasis on confrontational movements (KSSP, 1984).

Crusading Gandhians and Ecological Marxists can be seen as representing the 'ideological' and 'political' extremes of the Indian environmental movement, respectively. Because of their ideological purity and consistency, their arguments are often compelling, albeit to different sets of people. In between these two extremes, and occupying the vast middle ground, lies a third tendency, which may be termed (less controversially) Appropriate Technology. Less strident than the Gandhian in its opposition to industrial society, this strand of the environmental movement strives for a working synthesis of agriculture and industry, big and small units, and Western and Eastern (or modern and traditional) technological traditions. Both in its ambivalence about religion and in its criticism of traditional social hierarchies it is markedly influenced by Western socialism. Yet in its practical emphasis on constructive work, it taps another vein in the Gandhian tradition. Thus Appropriate Technologists have done pioneering work in the generation and diffusion of resource conserving, labour intensive and socially liberating technologies. Their emphasis is not so much, *pace* the Marxists, on challenging the 'system' — or, *pace* the Gandhians, the system's ideological underpinnings — as in demonstrating in practice a set of socio-technical alternatives to the centralizing and degrading technologies presently in operation (Bhatt, 1992; Reddy, 1982).

All three tendencies are represented in that most celebrated of environmental initiatives, the Chipko movement (Guha, 1989a). The Gandhian trend, associated above all with the figure of Sunderlal Bahuguna, is best known outside the Himalaya. The Marxist trend within Chipko has been represented by the Uttarakhand Sangarsh Vahini, a youth organization that has organized popular movements against commercial forestry, unregulated mining, and the illegal liquor trade. Finally, the Appropriate Technologists are represented by the organization under whose auspices the movement began, the Dashauli Gram Swarajya Mandal, whose fine work in ecological restoration has already been alluded to.

These contrasting perspectives may be further clarified by examining each strand's attitudes towards equity and science, as well as their style and scale of activism. Most Crusading Gandhians reject socialism as a Western concept: this leads some among them to gloss over inequalities in traditional Indian society, and others even to justify them. Clearly the Marxists have been most forthright in their denunciations of inequality across the triple axes of class, caste and gender. The Appropriate Technologists have been sufficiently influenced by Marxism to acknowledge the presence and pervasiveness of inequality, but have rarely shown the will to challenge social hierarchies in practice. Attitudes towards modern science and technology also vary widely. The Gandhians consider science to be a brick in the edifice of industrial society, and responsible for some of its worst excesses. Marxists yield to no one in their admiration of modern science and technology,

viewing science and the 'scientific temper' as an indispensable ally in the construction of a new social order. Here, the Appropriate Technologists are the most judicious, calling for a pragmatic reconciliation between modern and traditional knowledge and technique, to fulfil the needs of social equity, local self reliance and environmental sustainability.

On the scale of activism, Appropriate Technologists prefer to work on a micro scale — a group of contiguous villages at best — in demonstrating the viability of an alternative model of economic development. The Gandhians have the largest attempted reach, carrying their crusade on worldwide lecture tours: they have often tended to think globally and act globally, even as the Appropriate Technologists have acted locally and occasionally thought locally too. The Marxist groupings work in the intermediate range, at the level of a district perhaps, or (as in the case of the KSSP) the level of a state. Finally, the three strands also differ in their preferred sectors of activism. Their rural romanticism has led the Gandhians to exclusively emphasize agrarian environmental problems, a preference reinforced by their well-known hostility to modern industry. While Appropriate Technologists do recognize that some degree of industrialization (though not of the present resource-intensive kind) is inevitable, in practice they too have worked largely on technologies aimed at relieving the drudgery of work in the village. Here it is the Ecological Marxists, with their natural constituency among miners and workers, who have been most alert to questions of industrial pollution and workplace safety.

Crusading Gandhians, Appropriate Technologists and Ecological Marxists represent the three most forceful strands in the Indian environmental debate; but we should also take account, however briefly, of two other points of view. First, we have the Indian variant of that vibrant strand in global environmentalism, the wilderness movement. Indian naturalists have provided abundant documentation of the decline of natural forests and their plant and animal species, urging the government to take remedial action (Krishnan, 1975). Although their earlier efforts were directed almost exclusively towards the protection of large mammals, more recently wildlife preservationists have used the scientific rhetoric of biological diversity and the moral arguments in favour of 'species equality' in pursuit of a more extensive system of parks and sanctuaries and a total ban on human activity in protected areas (Guha, 1989b).

So we come, finally, to an influential strand of thinking within the state and state agencies, which might be termed scientific conservation. Pre-eminent here is the work of B.B. Vohra, a senior bureaucrat who was one of the first to draw public attention to land and water degradation. In a pioneering and impressively thorough paper (Vohra, 1973), he documented the extent of erosion, waterlogging and other forms of land degradation. There was, he noted, no countrywide organization or policy to deal with these problems; nor was there coordination between concerned government departments. For Vohra, as for the early scientific conservationists (Hays,

1957), the solution lies in the creation of new ministries and departments to deal with problems of environmental degradation. The Central Government, he has written, 'has no option but to obtain a commanding position for itself in the field of land and soil management through financial and administrative measures' (Vohra, 1973; see also Vohra, 1980, 1982).

Neither wilderness protection nor scientific conservation command a popular following, yet each has had a considerable influence on government policy. Both tendencies look upon the state as the ultimate guarantor of environmental protection, and their energetic lobbying has informed stringent legislation in pursuit of this ideal, such as the Wildlife Protection Act of 1972 (modified in 1991), the Forest Conservation Act of 1980, and the Environment Protection Act of 1986. However, in so far as neither group is cognisant of the social roots of environmental use and abuse, they tend to be dismissed as 'élite' conservationists by environmentalists owing allegiance to Gandhian or Marxist traditions.

First World and Third World Environmentalism

While there is a vigorous environmental debate and environmental movement in India, it should be noted that its very existence challenges the conventional wisdom of Western (and especially American) social science. Thus, a decade ago, a leading American economist confidently asserted: 'If you look at the countries that are interested in environmentalism, or at the individuals who support environmentalism within each country, one is struck by the extent to which environmentalism is an interest of the upper middle class. *Poor countries and poor individuals simply aren't interested*' (Thurow, 1980: 104–5, emphasis added). As a social phenomenon, the economist went on to explain, environmentalism is 'a natural product of a rising real standard of living. We have simply reached the point where, for many Americans, the next item on their acquisitive agenda is a cleaner environment. If they achieve it, it would make all of the other goods and services (boats, summer homes, and so forth) more enjoyable' (ibid: 104–5).

This interpretation of environmentalism is in fact widespread in the West. Historians of American environmentalism are unanimous that environmentalism is a 'full stomach' phenomenon, a direct consequence of economic affluence by which wilderness areas and clean air come to be cherished once basic material needs have been fulfilled (Nash, 1982). As a leading historian has remarked, the emergence of popular environmentalism in the US was 'not a throwback to the primitive, but an integral part of the modern standard of living as people sought to add new "amenity" and "aesthetic" goals and desires to their earlier preoccupation with necessities and conveniences' (Hays, 1982: 21; see also Hays, 1987). Or to quote a leading British journalist, it is 'safe to assume that when everyone turns environmental, prosperity has truly arrived. Greenness is the ultimate luxury of the consumer society' (Moore, 1989: ix).

In this perspective, environmentalism is organically related to the expansion of leisure opportunities in a 'postindustrial' society — it is itself an expression of a 'postmaterial' world view (Inglehart, 1977). Yet, contrary to what one might expect from this theory, poor countries and, even more strikingly, poor individuals and poor communities within them, have shown a strong interest in environmental issues. India is not an exception in this regard, for Brazil, Malaysia and Kenya all have growing environmental movements with markedly lower class constituencies.

A detailed contrast between First World and Third World environmentalism would take us too far afield, into the realm of comparative and global environmental history: that is not possible here. Given the bias in the literature towards the study of North Atlantic environmentalism, and indeed the equation in many minds of environmental concern with economic prosperity, it will help to locate the Indian environmental movement by contrasting it with what one might call the 'ecology of affluence'. Just as we take the Indian case as a paradigm of Third World environmentalism, we use the American movement as a paradigm of First World environmentalism. The histories of environmentalism in these two great and vibrant democracies have, inevitably, been very different. In the one case, environmentalism as a popular movement is, indeed, an unmistakable product of a postindustrial economy and a postmaterial society. India, however, is still a dominantly agrarian country — here the environmental movement has emerged at a relatively early stage in the industrialization process.

This is, of course, related to the very different trajectories of economic development in the two countries. The countries that pioneered industrial development in Western Europe and North America did face environmental problems relating to the degradation of land and forests. However, with technological substitution and scientific resource management, problems such as timber scarcities and dust bowls, once faced by countries like the US, have disappeared. In the second phase of Western industrialization (i.e., after World War II) other forms of environmental degradation — especially air and water pollution and the destruction of wilderness — have come to occupy centre stage. In other words, with the maturing of the industrialization process, public attention has shifted from problems of environmental sustainability, such as the steady supply of forest produce, or the protection of soils, to issues of environmental quality like cleanliness of air and water, or the protection of pristine habitats.

On the other hand, in India's industrialization experience — and here it is typical of the Third World more generally — it has simultaneously faced problems of land and resource depletion, pollution, and the decimation of biological diversity. The history of colonial exploitation and the process of planned development after Indian independence are both germane here. Moreover, unlike in the West, there is little hope of a large scale shift in

consumption patterns — from fuelwood to oil, for example — to overcome the problems caused by deforestation, soil erosion, and so forth. Consequently, at least in the immediate future, resource depletion and destruction are likely to persist (Gadgil and Guha, 1992).

A second major difference, flowing logically from the first, concerns the social origins of the environmental impulse. Clearly, in the Indian case environmental degradation and the ensuing resource shortages directly threaten survival and livelihood options. Here, as we have documented at some length, environmentalism has its origins in conflicts between competing groups — typically peasants and industry — over productive resources. By contrast, environmental conflicts in the West have characteristically emerged out of threats to health and leisure options. The forces for environmental destruction are, in both cases, overwhelmingly state agencies and private enterprise. In one scenario, intensification of resource use undermines existing but subsistence-oriented economic activities, while in the other it poses a threat to the health or amenities of local communities. In advanced industrial societies, quality of life issues such as environmental protection, have somewhat displaced economic conflicts as the motivating factor behind collective action; while in the 'developing' world, environmental conflict is, for the most part, only another form of economic conflict.

These different motivations closely influence the tactics of protest. In India, direct action — tree hugging, demonstrations, attacks on official property — have from the beginning been a vital component of environmental action. Here there is a marked similarity in idiom and action to the archetypal peasant movement. In the US, environmental groups have relied to a greater degree on litigation, skilful use of the media and lobbying politicians — tactics with a greater chance of success in a more formal and mature democratic political system. The experience of recent years, however, somewhat qualifies this sharp contrast between direct action on the one hand and lobbying and litigation on the other. Environmental groups in India are turning increasingly to the courts as a supplement to popular protest, while in America, militant environmentalists disgusted with the incremental lobbying of mainstream groups have taken to direct action — the spiking of trees, for instance — to protect threatened wilderness.

A fourth important difference concerns the role of science and scientists. In the US, scientists have played a key role: indeed, the beginnings of modern American environmentalism are conventionally assigned to the writing of and reaction to the book *Silent Spring* by the biologist Rachel Carson (1962). In subsequent decades, the work of scientists such as Barry Commoner, Paul Ehrlich, Garret Hardin and the co-authors of the Limits to Growth report have all helped bring ecological concerns to a wide public audience. In India, scientists (and social scientists) have played a severely circumscribed role in the environment debate. Rather, journalists, Gandhians and environmental activists themselves have been in the forefront. Comparative rates of literacy are relevant here, as is the attitude to science: unlike the US situation, science

does not enjoy a high public profile in India, nor do scientists command moral authority.

The last difference is the most crucial of all. This is that environmental degradation has been, in terms of its human consequences, a far more serious issue in India, as in most of the Third World generally. For in the Western world, the destruction of the environment has had an adverse impact primarily on health and on natural habitats valued for reasons of science, aesthetics or leisure, whereas in the poorer countries it has in addition gravely undermined the life chances of millions of rural (and urban) households. This key distinction has meant that in the US, for example, the environmental movement has by and large run parallel to the consumer society without questioning its socio-ecological basis (cf. Guha, 1989b). The sharper edge to environmental conflict in the Third World, and its close connections to questions of subsistence and survival, have prompted a more thorough-going critique both of consumerism and of uncontrolled economic development. This has been a critique primarily directed at the iniquitous and unsustainable patterns of economic growth that characterize most Third World countries; yet it is also a critique with much relevance to Western lifestyles and economic preferences, themselves the cause of massive environmental degradation worldwide.

It is thus that the environmentalism of the poor has a very different agenda from the environmentalism of the rich. The conflict between these two agendas came briefly to the fore at the Rio Conference in June 1992. It was brushed aside then, but will assuredly resurface at regular intervals. With the environment becoming a major theme in global politics, there is more need than ever for a fuller understanding of the social roots of environmental concern: of its origins, motivations and forms of expression in different countries and social systems.

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