

# THE GREAT OUTSIDER



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*Shankar Guha Niyogi, Technology  
and Green Politics in India*

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INDIAN INSTITUTE OF ADVANCED STUDY  
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## CHAPTER 1

# Introduction

In 1954, the Government of India decided to set up an iron and steel plant in Bhilai, Chhattisgarh (formerly part of the state of Madhya Pradesh). The Bhilai Steel Plant (BSP), commissioned in 1959, along with its counterparts in Rourkela (in Odisha) and Durgapur (in West Bengal), was to be the exemplar of the newly independent nation's self-reliance and pride. Over the years, this industrial behemoth transformed lives, livelihoods and landscapes in the predominantly agrarian region of Chhattisgarh. Far away from the policy-makers' offices in New Delhi, the BSP wrought changes in the daily lives, cultures and ecologies of the region. For local communities, who found themselves confronted with the plant and its presence in their vicinity, the BSP was hardly a benign presence or an uncontested provider of the 'good' life. This manuscript attempts to look at the responses of organized labour to the BSP, and therefore by extension to the industrial project in independent India. How were workers responding to the profound social, technological and ecological changes brought in by the steel plant?

In April 1977, the Chhattisgarh Mines Shramik Sangh [Chhattisgarh Mines Struggle Association, CMSS] was formed, an organization born out of mineworkers' struggles in the Bhilai Steel Plant's Dalli Rajhara iron ore mines in Chhattisgarh.<sup>1</sup> Beginning with a mobilization of workers in Rajhara's *Laal Maidaan* (Red Grounds) in 1977, this moment led to the formation of the *Chhattisgarh Mukti Morcha* (CMM) two years later. This manuscript touches briefly upon the myriad experiments and experiences of the CMM from the time of its formation in 1977 to 1991 when its founder secretary

<sup>1</sup> Chhattisgarh Mines Shramik Sangh literally means the Chhattisgarh Mineworkers' Association.

and leader was murdered. We use these experiences to explore the potential of organized labour to intervene in debates, policies and decision-making processes. In particular, we study the potentials and the limitations of a trade union in the 1970s and the 1980s to influence environmental narratives in India, and to intervene in technological choices being crafted. This manuscript traces the trajectory of the CMM during a specific time period (1977-1991). This period, as chroniclers of modern India inform us, was indeed tumultuous – a period marked by the emergence of new social forces, new ideas and ideologies, fresh challenges to narratives of ‘development’ that were considered hegemonic in the preceding decades. It is, futile, perhaps, to study the CMM in isolation of the various changes that we were seeing in Indian society and polity. In the next sections, we shall see the broad contours of these shifts in India in the 1970s and 1980s.

### **Shifting Discourses in the 1980s**

In October 1980, several intellectuals, scientists, economists and political activists gathered in the idyllic hill station of Coonoor in Tamil Nadu to “share... common concern at the accelerating pace of retreat from reason”. The result of their deliberations was a document released by the Nehru Centre in Bombay in July 1981 under the somewhat bland and innocuous title, “A Statement on Scientific Temper”. The ‘statement’ was a reiteration of a commitment to ‘scientific rationality’ and the need for optimizing the results of science and technology:

...the scientific temper...is the most precious heritage of humanity. It is the result of incessant human labour, search and struggle... the fullest use of the method of science in everyday life and in every aspect of human endeavour from ethics to politics and economics...is essential for ensuring human survival and progress...one should accept knowledge gained through the application of the method of science as the closest approximation to truth at that time, and question what is incompatible with such knowledge...the inculcation of Scientific Temper in our society would result in our people becoming rational



and objective, thereby generating a climate favouring an egalitarian, democratic, secular and universalist outlook.<sup>2</sup>

Writing the foreword to the document, P.N. Haksar (former Principal Secretary to the Prime Minister and Deputy Chairman of the Planning Commission) expressed a hope that the statement would generate a wider debate and discussion, leading to a “much needed second renaissance” in India. The Statement on Scientific Temper (henceforth SST) might not have ushered in a ‘second renaissance’ or a retreat of obscurantism and irrationalism as the authors fondly hoped for; it did however succeed in evoking passionate responses. For almost a year, arguments and counter-arguments over the SST flew back and forth. Scathing and furious criticisms came from several individuals and organizations with strikingly varied ideological and political predilections. The discussion over the SST was an indication that the ‘ameliorative’ nature of science and technology, and its easy equation with ‘development’ was hardly a *fait accompli* during this period. During colonial rule, the introduction of Western science and technology provided a philosophical as well as practical dilemma to the nationalist movement.<sup>3</sup> Raina and Habib have traced the various stages of this engagement of the nationalists with Western industrialism. This discourse saw some of India’s best known scientists of the time launch an ideological offensive against Gandhian economics, an offensive which culminated in the retreat of the moral critique of industrialism and in what has been termed

<sup>2</sup> Amit Bhaduri et.al., ‘A Statement on Scientific Temper’, *Mainstream*, 25 July (1981), 6-10.

<sup>3</sup> A discussion of the debates that took place amongst the nationalists regarding the role of science and technology is beyond the scope of this work. For good accounts of this debate, see Deepak Kumar (ed.), *Science and the Empire: Essays in Indian Context (1700-1947)* (New Delhi: Anamika Prakashan, 1991); Dhruv Raina and S Irfan Habib, *Domesticating Modern Science: A Social History of Science and Culture in Colonial India* (New Delhi: Tulika Books, 2004); Deepak Kumar and Roy MacLeod (eds.), *Technology and the Raj: Western Technology and Technical Transfers to India 1700-1947* (New Delhi and London: Sage Publications and Thousand Oaks, 1995).

as the ‘cultural’ commitment to science.<sup>4</sup> As the nationalists set out to chart the course of ‘development’ in India, it seemed that a broad consensus had been forged over the employment of capital and energy-centric technology in industry as well as agriculture.

Deepak Kumar points out that M.N. Roy (a pioneer astrophysicist) “wanted India to choose ‘the cold logic of technology’ and not the vague utopia of Gandhian economy”, and “could convince the national political leadership” of the necessity to plan for the same.<sup>5</sup> The National Planning Commission (NPC), consequently set up in 1937, set the stage for a version of “democratic socialism with a mixed economy”: “The new political leadership under Nehru took a conscious decision to modernize and the dualism of the previous eras virtually ended”, notes Kumar. Zachariah, in his account of the development discourse in India between 1930-50, also points out the marginalization of the Gandhian alternative, “the debate on Gandhi’s ideas of a village-centred, social, political, and economic order...began in earnest from the 1930s, and grew through the 1940s, and after his death. By the second World War, these ideas seemed to have been successfully marginalized”.<sup>6</sup>

Nehru believed that “recourse to science and its application” was needed to remove many of the “anomalies that exist in Indian society”.<sup>7</sup> For him, science and technology had changed the world “for

<sup>4</sup> See Dhruv Raina and S Irfan Habib, ‘The Unfolding of an Engagement: The Dawn on Science, Technical Education and Industrialisation in India, 1896-1912’, *Domesticating Modern Science: A Social History of Science and Culture in Colonial India* (New Delhi: Tulika Books, 2004); Dinesh Abrol, ‘Colonised Minds or Progressive Nationalist Scientists: The Science and Culture Group’, in Deepak Kumar and Roy MacLeod (eds.), *Technology and the Raj: Western Technology and Technical Transfers to India 1700-1947* (New Delhi and London: Sage Publications and Thousand Oaks, 1995).

<sup>5</sup> Deepak Kumar, ‘Science and Society in Colonial India: Exploring an Agenda’, *Social Scientist*, Vol. 28, No. 5/6 (2000), 36.

<sup>6</sup> Benjamin Zachariah, *Developing India: An Intellectual and Social History c. 1930-50* (New Delhi: Oxford University Press, 2005), 158.

<sup>7</sup> Jawaharlal Nehru, ‘Inaugural Address at the 47th Session of the Indian Science Congress held at Bombay, 3 January 1960’, in Baldev Singh (ed.), *Jawaharlal Nehru on Science: Speeches Delivered at the Annual Session*

the better”, and would continue to do so.<sup>8</sup> His main concern, as he articulated to the delegates of the 46th session of the Indian Science Congress in 1959, was that India had “not quite caught up to these wonderful discoveries of science”.<sup>9</sup> The Nehruvian vision, therefore, held that it was an “accepted tenet” for one to “pay obeisance to” and “worship at the temple of science”.<sup>10</sup> Paradoxically perhaps, science and its ‘rationality’ were occasionally invoked with religious fervour by its proponents. Even as we recognize the need to steer clear from the dangerous terrain of conflating science with technology, it was perhaps inevitable that Nehru’s commitment to science translated into a distinctly technological vision. It was, therefore, no aberration that post-Independence, the policies implemented in India reflected this commitment to a technology-driven model of development. In the first few decades after Independence in 1947, several major dams were constructed across many rivers. Manufacturing industries were encouraged, and several mining projects came up to support various industrial sectors. The steel township of Bhilai and the iron ore mines in Dalli Rajhara (the places where the trade unionist Shankar Guha Niyogi worked and articulated several of his ideas) for instance came up in 1959. Massive manufacturing units, huge dams, mechanization and large-scale mining were meant to be the major drivers propelling the country’s economy.

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*of the Indian Science Congress* (New Delhi: Nehru Memorial Museum and Library, 1986), 73-74.

<sup>8</sup> Jawaharlal Nehru, ‘Inaugural Address at the 46th Session of the Indian Science Congress held at Delhi, 21 January 1959’, in Baldev Singh (ed.), *Jawaharlal Nehru on Science: Speeches Delivered at the Annual Session of the Indian Science Congress* (New Delhi: Nehru Memorial Museum and Library, 1986), 69.

<sup>9</sup> *Ibid.*, 71.

<sup>10</sup> Jawaharlal Nehru, ‘Inaugural Address at the 49th Session of the Indian Science Congress held at Cuttack, 3 January 1962’, in Baldev Singh (ed.), *Jawaharlal Nehru on Science: Speeches Delivered at the Annual Session of the Indian Science Congress* (New Delhi: Nehru Memorial Museum and Library, 1986), 75.

### **Doubts, Dissents and Contestations of Nehruvian 'Nation-building'**

Voices of doubt, voices which urged for a more nuanced understanding of the role of science and technology in society, and even voices of open dissent have always accompanied the implementation of State policy. However, by the 1970s and the 1980s, the voices of doubt and dissent were threatening to move out of the margins. Mapping the landscape of ideological and political churning in India, T.K. Oommen points out that after Independence, several movements were kept in “suspended animation”. However, from the mid-1970s, the centrality of the Indian state “came in for interrogation”, and post emergency the state lost legitimacy as the “prime mover of economic development”. Further, by the 1980s, the very idea of “state-sponsored, capital intensive, high-technology driven model of modernization came to be questioned”, he states.<sup>11</sup> Moreover, these dissenting voices were being reported and discussed at a scale which we seldom saw in the period immediately following independence. Routledge terms these types of dissent as articulations of “counter hegemony”; as “contestations of power” between differing beliefs, values and goals; and as “the use of sanctions in an attempt to undercut the state’s source of power”.<sup>12</sup>

If the role of science and technology in ushering in development was being questioned, so was the very definition and nature of ‘development’ itself. As a result of myriad and multi-faceted movements across the country, several issues came to occupy not just traditional spaces of protest such as the Boat Club in New Delhi, but also the pages of national newspapers, academic journals and magazines – issues of displacement, of alienation from access to natural resources including land, water and forests, of identity and representation in the decision-making process, of environmental

<sup>11</sup> T.K. Oommen, ‘Introduction’, in Oommen (ed.), *Social Movements I: Issues of Identity* (New Delhi: Oxford University Press, 2010), 35-37.

<sup>12</sup> Paul Routledge, *Terrains of Resistance: Nonviolent Social Movements and the Contestation of Space in India* (Connecticut: Praeger, 1993), 35-37.

pollution, of employment, retrenchment and workers' rights, to name a few.<sup>13</sup> Not all of these movements, however, overtly expressed disillusionment with the capital-intensive, technology-centred model of 'development' that was followed in independent India.

It is not as if differences, and deep ones at that, did not exist previously and suddenly made an entry in the 1970s and the 1980s. In fact, many of the places where movements emerged had a long history of even militant resistance. Possibly, existing contradictions came to the fore and became increasingly difficult to be ignored or underplayed. If in the period immediately following Independence, promises and hopes were offered, the late 1960s onwards saw growing expressions of doubts and disillusionment.

### **Emerging Resistance: Voices of Protest in Peasants, Workers, *Adivasis***

As we seek to understand the nature of contestations in the 1970s and the 1980s, we need to ask how different sections of society – peasants and farmers, workers and *adivasis* – were contributing to the process. How was power being contested? In what ways was dissent being articulated? What were the issues raised by various groups and social as well as political movements in the 1970s and the 1980s? What was happening as social movements, to borrow Oommen's words, came out of their state of "suspended animation"?<sup>14</sup>

<sup>13</sup> Magazines like *India Today*, *Dinman*, the *Illustrated Weekly* and *Science Today* regularly carried articles related to environmental pollution, scarcity of resources and poverty; so did the *Times of India* and *Hindustan Times*. Even R.K. Laxman's cartoons occasionally lampooned scientists and referred to environmental issues. *Seminar* and *Mainstream*, *Lokayan Bulletin* as well as the *PPST Bulletin* regularly focused on developmental policy, on environmental issues and on the role of science of technology.

<sup>14</sup> T.K. Oommen, 'Introduction', in Oommen (ed.), *Social Movements I: Issues of Identity* (New Delhi: Oxford University Press, 2010), 35-37.

*Peasant Movements: Assertion for Land, Wages and Dignity*

Dipankar Gupta points out that there were two types of agrarian mobilizations in independent India.<sup>15</sup> On the one hand, we had farmers' movements led by groups such as the Bhartiya Kisan Union (BKU) in western Uttar Pradesh, Shetkari Sanghatana in Maharashtra, the Karnataka Rajya Rayyat Sangha (KRRS) and the *Vivasayigal Sangham* [Farmers' Association] in Tamil Nadu which were essentially *kulak* mobilizations. The main support base of these movements was the middle peasantry, largely owner-cultivators with a few hectares of land which they worked on themselves for the greater part of the year. On the other hand, there were movements of poor peasants and agricultural labourers for land reforms, higher wages and better working conditions. The latter movements were largely led by rural wings of established political parties such as the *Kisan Sabhas* or the agricultural labour unions of the CPI, the CPI (M) and the CPI (ML). For instance, in 1968, the CPI set up the first nation-wide agricultural labour association, the *Bhartiya Khet Mazdoor Union* in Moga, Bihar.

Oommen asserts that peasant movements (along with labour movements) were conditioned by colonialism in the beginning, and subsequently by the impact of 'nation-building' initiated by the State. Later, with the onset of economic liberalization, these movements responded to market forces. Oommen points out that the "central thrust" of these movements was the "pursuit of equity" and this remains the same in all the three phases.<sup>16</sup> This pursuit of equity was perfectly exemplified in the Naxalbari uprising that began in 1967. From 1967-1972, the vision of change raised in Naxalbari spread to Srikakulam and other districts of Andhra Pradesh (led by the AP Revolutionary Communist Committee), to Mushahari and Bhojpur in Bihar, to Koraput in Odisha, as well as Mednipur and Birbhum in

<sup>15</sup> Dipankar Gupta, 'Farmers' Movements in Contemporary India' in Ghanshyam Shah (ed.), *Social Movements and the State: Readings in Indian Government and Politics – 4* (New Delhi: Sage Publications, 2002), 193.

<sup>16</sup> Oommen, 'Peasant and Labour Movements in India' in T.K. Oommen (ed.), *Social Movements Part II : Concerns of Equity and Security* (New Delhi: Oxford University Press, 2010), 51.

West Bengal. It also spread to certain parts of Uttar Pradesh, Kerala, Tamil Nadu and the Punjab. As Sumanta Banerjee points out, the crux of the problem was land and release from “usurious” burden.<sup>17</sup> The programme of the Bihar Pradesh Kisan Sabha (BPKS), adopted in its first Congress held in Patna on 10-12 March 1984, articulates forcible seizure of land and crops and its redistribution amongst the poor and landless, *pure kaam ka pura daam* [equal wages for equal work], as well as wage parity between men and women, cancellation of uncleared debts of peasants and establishment of traditional rights of forest dwellers and fishermen over forests and rivers as its agenda.<sup>18</sup> The thrust of the peasant movement was indisputably control over land and other resources including water, as well as increased wages.

Apart from Naxalbari, several other movements on the question of land emerged. In Bengal, we saw the Operation Barga demanding registration of sharecroppers.<sup>19</sup> In 1974, the United Dalit Sangharsh Samiti (DSS) was formed and held protests on wage and land issues (and incidentally even against the *devdasi* cult of dedicating women to temple deities). From 1967-75, the Bhils were involved in a protracted agrarian struggle in Dhulia, Maharashtra. In 1978, we also saw the Warlis’ struggle led by the *Kashtakari Sanghatana* headed by the Marxist Jesuit Pradeep Prabhu. 1970 saw the ‘land grab’ movement in Basti district of Uttar Pradesh, where ‘untouchables’ and Muslims were mobilized.<sup>20</sup> This movement utilized the heightened

<sup>17</sup> See Sumanta Banerjee, ‘Naxalbari and the Left Movement’ in Ghanshyam Shah (ed.), *Social Movements and the State: Readings in Indian Government and Politics – 4* (New Delhi: Sage Publications, 2002), 125-192; Kathleen Gough, ‘Indian Peasant Uprisings’ in T.K. Oommen (ed.), *Social Movements Part II : Concerns of Equity and Security* (New Delhi: Oxford University Press, 2010), 53-71 and *Reports from the Flaming Fields of Bihar*, a CPI(ML) document for accounts of the Naxalbari movement.

<sup>18</sup> ‘Programme of the Bihar Pradesh Kisan Sabha’, *Reports from the Flaming Fields of Bihar* (Calcutta: CPI(ML), 1986), A3-5.

<sup>19</sup> The Left Front government also advanced credit to poor shareholders, and facilitated loans for agricultural inputs as well as some Food for Work programmes as a result of the peasant movement.

<sup>20</sup> For an account of this movement, see Rajendra Singh, ‘Peasant Movements in Uttar Pradesh: A Study in the Politics of Land and Land

class consciousness that the Congress-led *Nijai Bol* movement of the late 1940s had consolidated in the area. Though it did not lead to any structural changes in the caste-class relations, and though the peasant participation was far more limited than during the *Nijai Bol* movement, it did metamorphose into a movement against caste hierarchy – as evident from its slogan ‘*Muslim Harijan Bhai Bhai, Hindu Jati Kahan se Aai*’ [Harijans and Muslims are brothers, why are Hindu castes coming in between?].

In Bihar too, peasant struggles were often combined with caste-class conflicts. One can find indications of this in the BPKS programme, which talks of establishment of equal social rights of *harijans* and *adivasis* and against untouchability. Besides, various upper caste armies (such as the Ranveer Sena, the Bhoomi Sena and the Lorik Sena) waged war against the peasant movement in Bihar.<sup>21</sup> Kohli points out that two related, but independent struggles took place in Bihar<sup>22</sup>: one, a political struggle for control of the State, pitting the forward castes against the backward castes and the other a socio-economic struggle of the landless. One notes therefore that the peasant struggle was often simultaneously a struggle for social and political assertion. Interestingly, the BPKS in its programme, while demanding proper compensation for displacement due to development and industrial projects (note, the agenda mentions that the compensation should not merely be a monetary one) also commits itself to a struggle for “changing the big bourgeois industrial policy, for the establishment of agro-based small and medium-sized industries and for bringing industrial development in harmony with the development of agriculture”. Interesting, because it expresses a desire for an alternative industrial model – the opposition to

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Control in Basti District, 1801-1970’ in M.S.A. Rao (ed.), *Social Movements in India, Volume I* (New Delhi: Manohar Books, 1992), 91-148.

<sup>21</sup> *Harijans* refers to people belonging to the Scheduled Castes or Dalits, while *adivasis* is a term used interchangeably with tribals and indigenous people.

<sup>22</sup> See Atul Kohli, ‘Breakdown in a ‘Backward’ State: Bihar’, *Democracy and Development in India: From Socialism to Pro-Business* (New Delhi: Oxford University Press, 2009), 253-286.



industrial policy is articulated not just in terms of demands for more employment or against displacement.

Some of the demands of the peasant movement indicated crises and ecological stresses in the agrarian economy: for instance, crop insurance, abolition of indirect taxes, and balance between prices of industrial and agricultural commodities were issues raised by the peasant movement. Kohli also refers to the influence of the lack of agricultural growth in the struggles over land in Bihar, leading to increasing tensions as backward and forward castes fought for control over falling profits and productivity of land.

### **New Farmers' Movements: Emergence of *Kulaks* and the Middle Peasantry**

In January 1988, the BKU led by Mahendra Singh Tikait held a three-week long protest in Meerut, Uttar Pradesh (UP). An estimated 20,000 farmers camped in the city throughout this period: they got food regularly from villages nearby, and did not strain the city's infrastructure. A few months afterwards, in October 1988, yet another huge protest was held at the Boat Club in New Delhi. The BKU's massive mobilizations were no exception. The 1970s saw the emergence of farmers' movements in different parts of the country under the leadership of the likes of Tikait, Sharad Joshi, Ramaswamy Naidu and Prof. Nanjundaswamy. They were undoubtedly extremely powerful movements. One can find an indication of their influence in the fact that for seven years, farmers in western UP (Bijnor, Meerut, Muzaffarnagar) did not pay their electricity bills, until the tariffs were lowered from Rs 30/horsepower to Rs 22.5/horsepower. Moreover, the State did not cut their electricity connections throughout this period. As Dhanagare points out, the main achievement of these movements was that they "brought farm issues to the centre-stage of the political and ideological discourse in India".<sup>23</sup>

<sup>23</sup> D.N. Dhanagare, 'The New Farmers' Movement in Maharashtra', in T.K. Oommen (ed.), *Social Movements Part II : Concerns of Equity and Security* (New Delhi: Oxford University Press, 2010), 109.

What were the demands of these movements? Unlike the peasant movement, they articulated the interests of owner-cultivators. Therefore, the main issues of concern for these movements were higher prices for agricultural produce, lowering cost of agricultural inputs like electricity, fertilizers and water and easier terms for loans. Their interests rarely coalesced with those of the peasant movement. As Bentall and Corbridge point out, “new agrarian politics is seen in those areas where the Green Revolution has made more progress and where farmers are ... more concerned about farm input and output prices than with agrarian class struggles and the merit of further land reform”.<sup>24</sup> In fact, the BKU came into existence in 1978 in Kanjhawla, Haryana, to fight against land grants to *Harijans* and *Valmikis*. Moreover, a *Mazdoor Union* was formed in 1987 in western UP to protect the interests of the predominantly Dalit labourers against the “employers’ cartel” operated by BKU members.<sup>25</sup> Dipankar Gupta reminds us that socially, the mass base of the BKU “despises the *Harijans* and the *Valmikis*”. Jat leader Charan Singh is known to have once stated that one is not a farmer if one does not own land, even if one labours on it. The ‘farmers’ movement’, however, was far from a homogeneous one. If the BKU consisted mainly of Jat owner-cultivators, the KRRS’s constitution specified 30 per cent reservation for Dalits in village councils. Shetkari Sanghatana included agrarian labour and landless workers, who are all supposedly ‘*shetkaris*’, and also had farmers from various castes. Gupta mentions that Shetkari Sanghatana deliberately opted not to use the word ‘*khedut*’ in its name, which means owner-cultivator.

However, the demands of the farmers’ movements were hardly ‘radical’, in the sense that they did not aim at the thoroughgoing transformation of existing social or political structures. Bardhan classifies rich farmers as one of India’s most important proprietary classes. According to him, Sharad Joshi essentially articulated

<sup>24</sup> Jim Bentall and Stuart Corbridge, ‘Urban-Rural Relations, Demand Politics and the ‘New Agrarianism’ in Northwest India: The Bhartiya Kisan Union’, *Transactions of the Institute of British Geographers*, New Series Vol. 21 No. 1 (1996), 28.

<sup>25</sup> *Ibid.*, 41.

conflicts between proprietary classes – urban, industrial and professional classes on the one hand, and the rural hegemonic class of rich farmers on the other. In this reading, Joshi's rhetoric of "Bharat versus India", "rural versus urban" is thus a sign of unequal exchange between India's metropolitan capitalist industrial economy and the vast agricultural periphery of primary farmers. Dhanagare points out that there were streaks of "economism" and "populism" in these farmers' movements, and they neglected "rich farmers-landless labourers' internal contradiction to a minor position".<sup>26</sup>

The attitude of *kulak* movements to women is yet another indication of their essentially conservative agenda. The *Vivasayigal Sangham* demanded minimum, but unequal wages for men and women. The BKU once wanted daughters to be denied inheritance, so as to avoid land parcellization.<sup>27</sup> The response of the farmers' movements to neo-liberalism, globalization and the Dunkel Draft also revealed the limitations of their vision, in terms of being able to articulate transformative alternatives to the existing policy frameworks. Shetkari Sanghatana supported the Dunkel Draft, terming opposition to the patent regime as "elitist apprehensions" and a "hoax".<sup>28</sup> While the KRRS and Tikait opposed GATT provisions, in Punjab the BKU split into two factions, one supporting GATT and one opposing it. In fact, in order to garner support for the Dunkel Draft, V.P. Singh inducted Bhupinder Singh Mann of the BKU (who supported GATT) into the Rajya Sabha while Sharad Joshi was made advisor to the Ministry of Agriculture.

<sup>26</sup> D.N. Dhanagare, 'The New Farmers' Movement in Maharashtra', in T.K. Oommen (ed.), *Social Movements Part II: Concerns of Equity and Security* (New Delhi: Oxford University Press, 2010), 110.

<sup>27</sup> Achin Vanaik, *The Painful Transition: Bourgeois Democracy in India* (London and New York: Verso, 1990), 209.

<sup>28</sup> D.N. Dhanagare, 'The New Farmers' Movement in Maharashtra', in T.K. Oommen (ed.), *Social Movements Part II : Concerns of Equity and Security* (New Delhi: Oxford University Press, 2010), 115.

## **Workers' Movements: Wages, Working Conditions and Technology**

While the peasants' and farmers' movements were articulating their demands in rural India, what were industrial workers doing? How were they placed in the capital and energy-intensive, technology-centred pattern of industrialization? S.M. Pandey shows that trade union activity increased and became much more organized in the period following independence, because the real wages of workers decreased while profits increased.<sup>29</sup> Besides, according to Pandey, workers' enthusiasm was "high" after independence. However, trade unions also felt the pressure to talk about "economic" and "national" development. This post-Independence hegemonic discourse over "national development" ultimately led to both unions as well as employees adopting the Code of Discipline, Model Grievance Procedure, and Inter-Union Code of Conduct at the 16th Indian Labour Conference held in 1958. Soon after, in response to the six-day strike in July 1960 (which was the first recorded instance of a major workers' strike organized in independent India), the Essential Services Maintenance Act was put in place as a deterrent against strikes. These regulations and obstacles, however, failed to put an end to workers' strikes.

The railway strike which began in May 1974 saw thousands of railway workers affiliated to several different unions coming together to literally paralyze the economy. It continued for three weeks and was an impressive show of working-class solidarity. Given its impact on the economy as well as on the lives of common people, this strike was extensively covered by newspapers across the country and brought the issue of parity between various sections of workers (which was the main demand of the striking workers) as well as their poor working conditions to the national limelight.<sup>30</sup> The 1980s saw

<sup>29</sup> See S.M. Pandey, 'The Indian Labour Movement: Growth and Character', in T.K. Oommen (ed.), *Social Movements Part II: Concerns of Equity and Security* (New Delhi: Oxford University Press, 2010), 125-142.

<sup>30</sup> See Stephen Sherlock, *The Indian Railways Strike of 1974: A Study of Power and Organised Labour* (New Delhi: Rupa & Co, 2001) for a good account of the 1974 railway strike.

three major workers' strikes: in 1980-81, there was a 77-day long strike in Bangalore involving 1,25,000 workers of the Hindustan Machine Tools (HMT), the Hindustan Aeronautics Limited (HAL), the Electronics Corporation of India and the Indian Telephone Industries. In 1987, teachers across the country launched the All-India Teachers' Strike.

If one were to look for somewhat covert expressions of workers' discomfort over technology, the two-year long mill workers' strike led by the Maharashtra *Girni Kamgar Union* (GKU) in the early 1980s in Mumbai, which justifiably enjoys an iconic status within the labour movement, is an interesting case in point.<sup>31</sup> It is well-known that the GKU's protracted movement began in late 1981 as a wage and bonus issue in a few mills in Mumbai. Several other connected demands, and the underlying tensions they brought to the fore, have curiously escaped serious scholarly attention. The workers spoke of poor working conditions, occupational health problems, modernization, mechanization as well as environmental pollution in the mills.<sup>32</sup> These concerns – complete domination of the working day by machines, retrenchment due to mechanization, health hazards due to noise and exposure to toxic chemicals – while couched perhaps in the more familiar framework of workers' livelihoods and occupational hazards, did highlight some of the contradictions inherent in the industrial project of independent India.

Far more visible contestations over technology emerged in the coastal regions across the country. From the 1960s onwards, protracted militant struggles by fisherpeople in Kerala have confronted capital-intensive, specialized technologies. Their context was the onset of the so-called Blue Revolution, promoted by the State to increase the production of fish and marine products, which

<sup>31</sup> For an account of the strike, see Salim Lakha, 'Organized Labour and Militant Unionism: the Bombay Textile Workers' Strike of 1982', in Ghanshyam Shah (ed.), *Social Movements and the State: Readings in Indian Government and Politics – 4* (New Delhi: Sage Publications, 2002), 230-250.

<sup>32</sup> Salim Lakha, 'Organized Labour and Militant Unionism: the Bombay Textile Workers' Strike of 1982', *Bulletin of Concerned Asian Scholars*, Vol 20, No 2 (1988), 43-45.

undermined the then widely prevalent traditional, labour-intensive and technologically diverse fishing patterns. The cotton or nylon nets, non-mechanized boats and a wide variety of fishing gear and tackle traditionally used for fishing in Kerala began to be seen as “a hindrance to development and had to be either transformed or phased out”.<sup>33</sup> New technologies, such as the use of trawlers, which scraped the sea bottom with a bell-shaped net and the practice of ‘pursesailing’ (deploying a large net around an entire area or school of fish), initially led to huge profits. However, these practices ultimately destroyed underwater ecosystems. The euphoria over the new technologies thus soon died down, and in fact they became the target of militant protests.<sup>34</sup> Fishermen began to demand zoning of fishing waters that would force the trawlers to fish in deeper waters, and also banning of fishing in the monsoon months which is the breeding season for several species of fish. This resistance, bolstered by protracted litigation, ultimately culminated in a total ban on the use of trawlers during the monsoon season – a State policy which was challenged in the courts and later upheld by the Kerala High Court and Supreme Court.

The case of the Kerala fisherpeople’s struggle, revealing as it does a deep discomfort with capital-intensive technological paradigms, could however be seen as a relatively rare instance of organized trade unions overtly articulating concerns regarding ecological destruction, resource misuse and industrial pollution. In the 1970s and the 1980s, the organized working-class movement frequently clashed with concerns raised by environmental groups. When the controversy over the iron mining in the Kudremukh National Park erupted, the workers stood solidly behind the mining company, opposing any move to stop the mining activity in spite of the obvious devastation that the mining was causing to the fragile ecosystem.<sup>35</sup>

<sup>33</sup> John Kurien and T.R. Thankappan Achari, ‘Overfishing the Coastal Commons: Causes and Consequences’, in Ramachandra Guha (ed.), *Social Ecology* (New Delhi: Oxford University Press, 1994), 219.

<sup>34</sup> Ibid.

<sup>35</sup> See Muzaffar Assadi, ‘Kudremukh: Of Mining and Environment’, *Economic and Political Weekly*, 7 December (2002), 4901.

Workers under the Anuppur CPI unit in Madhya Pradesh claimed that environmental issues were responsible for the closure of the bauxite mines in the area, and were “essentially part of a much larger imperialist design”.<sup>36</sup> Local researchers documenting the environmental damage due to mining activity were accused of being hidden “CIA agents”.

Not all instances of working-class solidarity took the shape of protests and strikes and neither were all of them confined to the factory floor. The Self-Employed Women’s Association (SEWA) which was formed in Ahmedabad in December 1971 worked with home-based garment workers and street vendors.<sup>37</sup> SEWA’s focus was to ensure full employment and self-reliance, rather than to fight for wages and better working conditions. SEWA was also different from other trade unions in its choice of activities. It provided financial services (savings, loans and insurance), social services like healthcare, childcare and education as well as infrastructure like housing, water, sanitation, electricity and transport. The 1970s and the 1980s, therefore was a period of a variety of working-class mobilizations with contrasting demands and articulations.

### ***Adivasi* Mobilizations: Asserting Identity, Representation and Control**

*Adivasi* movements in India have been the subject of much scrutiny. As existing scholarship informs us, *adivasi* assertion has grappled with several issues – of identity, of representation and political assertion, of control over natural resources, of participation in the decision-making process. Roy Burman points out that the *adivasi* movement also responded to disruption of traditional roles as well as new relationships between man and nature, and between the

<sup>36</sup> Dunu Roy, ‘Environment and Politics’, *Economic and Political Weekly*, Volume 21 Issue No. 46 (1986), 1980.

<sup>37</sup> For an account of SEWA’s establishment, growth and activities, see Martha Alter Chen, ‘The Self-Employed Women’s Association’ in T.K. Oommen (ed.), *Social Movements Part II: Concerns of Equity and Security* (New Delhi: Oxford University Press, 2010), 221-236.

individual and society.<sup>38</sup> These diverse issues have at times reinforced and complemented each other in the course of movements, and at times have been antagonistic to each other.

*Adivasis* have had to face the brunt of the capital and technology-intensive development process. As the first *State of the Environment* report published by the Centre for Science and Environment pithily puts it, they were the “human cannon fodder” for the country’s modernization process.<sup>39</sup> On the one hand, they remained at the periphery of the democratic decision-making process, and on the other they suffered the most from displacement, alienation and loss of access to land, forests and water. It is no wonder that the resentment of the ‘*Diku*’, the outsider, only increased in post-independence India. *Adivasi* communities traditionally depended on community owned and controlled resources. Therefore, when the State started encouraging mines in *adivasi*-dominated mineral-rich areas, and started building dams and various industrial projects like iron and steel as well as thermal power plants, it was not surprising that *adivasis* reacted to the loss of access and control over resources. Modern ‘scientific’ forestry which promoted monocultures of commercially viable tree species, and the ‘scientific’ animal conservation policies of the State which saw *adivasis* as ‘threats’, ‘poachers’ and ‘trespassers’ were strongly opposed. The frequent and often violent conflicts between the State and *adivasis* in Madhya Pradesh, when the latter tried to cultivate small plots of lands (known as ‘*nevad*’) in the ‘reserved’ forests, is an apt marker of the contentious relationship between the two. Jharkhand, carved out of Bihar, has arguably seen the most sustained and militant *adivasi* assertion in India. All the issues we have flagged off – from the uncomfortable relationship to ‘development’ policies to a sense of alienation and loss of dignity – were strongly articulated here. As Gail Omvedt points out:

<sup>38</sup> See B.K. Roy Burman, ‘Challenges and Responses in Tribal India’ in M.S.A. Rao (ed.), *Social Movements in India, Volume I* (New Delhi: Manohar Books, 1992), 319-340.

<sup>39</sup> Anil Agarwal et.al., *State of India’s Environment: The First Citizens’ Report* (New Delhi: Centre for Science and Environment, 1982), 114.



...this 'Jharkhand' or 'forest area' was thus quite visibly a symbol of the way in which the realm of capitalist production and accumulation was extracting resources and exploiting labour drawn from outside the realm of commodity exchange, destroying natural resources and dominating and marginalizing whole communities in the process.<sup>40</sup>

The formation of Jharkhand in 2000 was itself the result of a long struggle for *adivasi* self-determination and control. The trajectory of the Jharkhand Mukti Morcha (JMM), formed in 1972 and one of the main forces in the Jharkhand movement is an indication of the challenges before the *adivasi* movement. In Gail Omvedt's analysis, the formation of the JMM was "almost a direct result" of nationalization of coal mines in 1971. In Jharkhand, nearly 50,000 local mine workers lost their jobs and were replaced by North Biharis. Initially, the JMM-led militant movements to forcibly recover land deceitfully taken away from *adivasis*, against money lenders' exploitation, high-handedness of forest officials and police excesses, for employment of *adivasis* in mines and for better working conditions and higher wages. It also articulated the long-standing demand for the separate state of Jharkhand and political representation of *adivasis*.

In 1978, there was a major movement in the Jharkhand region against acquisition of land for development projects, against survey and settlement operations, against collection of loans and cooperative dues, demanding nationalization of forest produce and collection of *tendu* leaves as well as boycott of panchayat elections. Soon afterwards, the JMM took up a campaign against a World Bank sponsored social forestry project. As part of this campaign, known as *Jungle Kato* [cut the forests], *adivasis* cut down teak trees which had been planted by the forest department at the expense of *sal* plantations which sustained the *adivasi* economy. A *Hindustan Times* report called this battle a "tree war".<sup>41</sup> This battle climaxed in police firing and repression in Singhbhum in 1980. The government had

<sup>40</sup> Gail Omvedt, *Reinventing Revolution: New Social Movements and the Socialist Tradition in India in India* (New York: M.E. Sharpe, Inc., 1993), 127.

<sup>41</sup> Darryl D'Monte, 'Pine for the Forest?', *The Hindustan Times*, New Delhi, 4 January 1982.

to abandon its project and probably for the first time, a World Bank project was brought to a halt. At around the same time, there were also protests against the Koel-Karo dam in Ranchi and the Icha dam in Singhbhum. These conflicts over forest resources in Jharkhand (then Bihar) were often covered by newspapers based in New Delhi.<sup>42</sup>

Though it started with the aim of capturing state power, the JMM later on largely involved itself with ensuring better implementation of 'welfare' policies of the state. Given the majority of non-*adivasi* population in the area, the JMM began to pose the Jharkhand issue as a 'regional' one and there was consequently a transition from ethnicity to regionalism (more of this in a subsequent chapter). Besides, as Omvedt reminds us, the Jharkhand movement was ideologically ambivalent, representing a clearly eclectic mixture of ideas and visions. Its list of demands included the promotion of high-yielding varieties of crops, the use of chemical fertilizers, as well as sewing and knitting classes for women. It has therefore been argued that in the 1970s, "there was little appreciation of the attempt at alternative development" in the Jharkhand movement.<sup>43</sup> This analysis could perhaps be usefully applied to a range of *adivasi* movements in the 1970s.

However, a shift was occasionally seen in the *adivasi* movement's engagement with 'development'. In the late 1980s, in addition to challenging the capital and technology-centred development model through militant protests, the *adivasi* movement also began to articulate alternative visions for development. After a drought in Maharashtra, when *adivasis* fought for proper implementation of Employment Guarantee Schemes (EGS), they did not confine themselves to simply demanding some work from the government. Instead, they demanded that EGS schemes include programmes

<sup>42</sup> Janak Singh, 'Law of the Jungle in Jharkhand', *The Times of India*, New Delhi, 11 February 1982; Janak Singh, 'Adivasis Struggle for Survival', *The Times of India*, New Delhi, 11-12 February 1982. Struggles in other states were also reported – see N K Singh, 'Parallel Authority by Bastar Tribals', *Indian Express*, New Delhi, 6 February 1982.

<sup>43</sup> Gail Omvedt, *Reinventing Revolution: New Social Movements and the Socialist Tradition in India in India* (New York: M.E. Sharpe, Inc., 1993), 130.

to restore the ecological balance and ensure that drought never happens. A resolution passed in 1986 by the *Adivasi Jungle Parishad* in Maharashtra clearly targets the causes, rather than the effects of adivasis' problems and indicates that the challenge to the development model of the State was being articulated in fresh ways:

As long as the drought continues, all work such as breaking rocks and building roads should be stopped, and drought eradication projects such as building irrigation banks, bundings, percolation tanks, public wells, etc. should be taken up.<sup>44</sup>

Thus, we see that the 1970s and 1980s was a period of resistance, of the assertion of diverse voices and of questioning. 'Democracy' and 'development' were no longer easy terms that could be bandied about with unthinking abandon. It would however be incorrect to read an indictment of modern technology or the promotion of industry in all these dissenting voices. Even the *adivasi* voice, which had arguably emerged as the most vocal opponent, often tended to couch its dissent as an issue of 'identity' and 'control'. Many of these movements nevertheless revealed an underlying, and even unconscious, acknowledgement of the problems of technology and capital-intensive development. The peasant movement articulated the demand for establishment of agro-based small and medium-sized industries and for bringing industrial development in harmony with the development of agriculture. The growth of *kulak* movements and a powerful middle peasantry demanding lower input and higher output prices in the agricultural sector has been traced to the Green Revolution and its contradictions.<sup>45</sup> The workers' movement too occasionally acknowledged the impact

<sup>44</sup> 'Resolutions of the Adivasi Jungle Parishad, Bhute-Akashpur (Dhule District, Maharashtra) March 12 1986', *South Asia Bulletin*, Vol. 6, No. 1, Spring 1986, 49. This is the text of a resolution passed by the *Adivasi Jungle Parishad* at a conference of tribal agricultural labourers and poor peasants held in Dhule district of Maharashtra in March 1986.

<sup>45</sup> For instance, the Rudolphs have asserted that the growth of what they call the 'bullock capitalists' – small to medium sized self-employed independent agricultural producers operating between 2.5-14.5 acres of land – is the result of the Green Revolution. See L.I. Rudolph, and S. H.

of technology, as is evident from the textile workers' strike in Bombay and the fisherpeople's movements in Goa and Kerala. This was also a period when environmentalists, in the backdrop of the Bhopal gas tragedy, were bringing labour to the debate – arguing for stronger workplace legislations related to occupational health and safety along with pollution.<sup>46</sup> It was in fact a moment where different voices were consciously or otherwise seeking solidarities and similarities. Arguably, it was the growth of the environmental movement which provided much of the ideological support required to forge this coming together of varying voices. In the next section, therefore, we will trace the trajectory of the rise of 'environment' in the development discourse.

### **Environmental Movements: Emergence of an Alternative Agenda**

Ecological and environmental movements are relatively recent in origin – Oommen points out that they are “offshoots of the latent functions of the models of development that are adopted”.<sup>47</sup> Several historians argue that Rachel Carson's *Silent Spring* written in 1962 “began modern environmentalism”.<sup>48</sup> Ten years after this epoch-making work which talked about the impact of chemical pesticides on the environment, the *Limits to Growth* study was published by the Club of Rome. The study predicted that the world was in danger of running out of its resources unless technology changed its course. In the backdrop of these debates on the ecological repercussions

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Rudolph, *In Pursuit of Lakshmi: The Political Economy of the Indian State* (Chicago: University of Chicago Press, 1987).

<sup>46</sup> For a hilariously written account of these developments, see Dunu Roy, ‘Legal Eye’, in *Economic and Political Weekly*, December 1-8 (1990), 2646-2648; Dunu Roy, ‘Legal Eye’, in *Economic and Political Weekly*, December 15 (1990), 2709-2712.

<sup>47</sup> Oommen, ‘Ecological and Environmental Movements’, in T.K. Oommen (ed.), *Social Movements Part II: Concerns of Equity and Security* (New Delhi: Oxford University Press, 2010), 271.

<sup>48</sup> Ramachandra Guha, *Environmentalism: A Global History* (New Delhi: Oxford University Press, 2008), 69.

of 'development' and technology, the United Nations (UN) held a conference on environment at Stockholm in 1972.<sup>49</sup> The World Commission on Environment and Development (known as the Brundtland Commission) was established in 1983, and submitted its report *Our Common Future* in 1987. Clearly, environment, globally, was an issue whose time had arrived. Within the emerging environmental consciousness, however, there existed markedly varying perceptions. If on the one hand there were attempts to see environment through an economic lens as an 'external commodity' which was consequently assigned a 'value', there were also attempts to draw linkages between ecological degradation, poverty, resource alienation and loss of livelihoods. The latter approach refused to see environment as merely an 'economic' issue; proponents of this approach in fact sought to frame it also as a political, social and cultural concern that was strongly linked to an understanding of what constituted 'development'.

In the 1970s and the 1980s, the environmental movement in India emerged in the shape of the myriad voices against industrial pollution, deforestation, loss of livelihoods due to resource alienation and water scarcity. It was a period when nature-based conflicts increased in frequency and intensity in India. As two historians of India's ecological movement – Madhav Gadgil and Ramachandra Guha – point out, these conflicts “revolve around competing claims over forests, land, water and fisheries .... and have added a new dimension to Indian democracy and civil society”.<sup>50</sup> The responses to the emerging concerns of ecological destruction and environmental pollution have been varied and in analysing the ideological trends in Indian environmentalism, Guha and Gadgil have identified three

<sup>49</sup> See David Simon, 'Development Reconsidered: New Directions in Development Thinking', *Human Geography*, Vol. 79, No. 4 (1997), 183-201. There is a good account of debates happening worldwide on environmental issues in page 188 of this article.

<sup>50</sup> Madhav Gadgil and Ramachandra Guha, 'Ecological Conflicts and the Environmental Movement in India' in Mahesh Rangarajan (ed.), *Environmental Issues in India: A Reader* (New Delhi: Pearson Longman, 2008), 385.

main strands: the Crusading Gandhians, the Ecological Marxists and the Appropriate Technologists.<sup>51</sup>

The *Chipko* movement, which began in Reni village of Uttarakhand in 1974 against felling of trees, is arguably the most widely discussed environmental movement in India. As Guha points out, the Kumaon region has seen a series of protests against commercial forestry, dating back to the earliest days of State intervention. One only has to note the rebellions of 1917 and 1921 against the British to see that the *Chipko* movement was no aberration. If before Independence, the British Raj was seen as a “rapacious *bania*” and a “demon” like *Ravana*, these sobriquets were now reserved for the Indian state.<sup>52</sup> Some villagers of Uttarakhand would probably agree with Ashis Nandy’s assertions that State power has been used to destroy ethnic science and technology, “defining resistance to development as ‘cultural lag’ or false consciousness”.<sup>53</sup>

The devastating floods in the Alaknanda valley in 1970, which Guha claims marked a “turning point” in the “ecological history of the region”, underlined the links between deforestation, landslides and floods.<sup>54</sup> Not surprisingly, the *Uttarakhand Rajya Sammelan* organized in 1972 stressed opposition to looting of natural resources from the hills, to commercial forestry and forest management, as well as to the growing unemployment. As in Jharkhand, we saw

<sup>51</sup> Ibid., 416-420. See section ‘*Ideological Trends in Indian Environmentalism*’ of the same article for Guha and Gadgil’s analysis of the ‘ideological expression’ of the Indian environmental movement. In the absence of any other classification of the Indian environmental movement, this analysis remains the sole authoritative benchmark to identify any voice raising environmental or ecological concerns.

<sup>52</sup> Ramachandra Guha, ‘Colonialism and Conflict in the Himalayan Forest’, in in Ramachandra Guha (ed.), *Social Ecology* (New Delhi: Oxford University Press, 1994), 301.

<sup>53</sup> Ashis Nandy, ‘Culture, State and the Rediscovery of Indian Politics’, *Economic and Political Weekly*, Vol. 19 No. 49 (1984), 2080.

<sup>54</sup> Ramachandra Guha, ‘Chipko: Social History of an Environmental Movement’, in in Ghanshyam Shah (ed.), *Social Movements and the State: Readings in Indian Government and Politics – 4* (New Delhi: Sage Publications, 2002), 426.

a movement in defence of traditional forest rights for subsistence agriculture and livelihoods. Along with militant resistance to tree felling for commercial purposes, this period also saw strong anti-liquor campaigns and protests against mining led by the *Uttarakhand Sangharsh Vahini* (USV). Commercial felling was finally banned for ten years, a 'Van Nigam' [Forest Corporation] was set up, auctions for timber were abolished and forest labour cooperatives (FLCs) were allotted forest lots in many areas.<sup>55</sup>

*Chipko* essentially highlighted what has been called the "fortress forestry model" put in place by the British and continued by the Indian government; a model that encouraged certain commercial industries, and promoted "scientific management" of forests as part of a strong "protectionist" agenda of the state.<sup>56</sup> Movements similar to *Chipko* were seen in other parts of the country too. In Uttar Kannada district of Karnataka, the *Appiko* movement was launched.<sup>57</sup> There were also struggles in the Western Ghats in 1983-84 (Save the Western Ghats movement), in the Vindhyas and in the Nilgiris in Tamil Nadu (Save the Nilgiris campaign to protect the *kurunji* flower). In Jharkhand too, the *Jungle Bachao Andolan* gained strength and even spread to parts of Odisha.

In 1987, peasants in Dharwad district of Karnataka launched a 'Pluck-and-Plant' *satyagraha* against the allotment of village pasture land to Harihar Polyfibres – eucalyptus saplings planted by the

<sup>55</sup> The FLC system was meant to encourage local control over resources, and to provide local employment. However, this system soon broke down, and outsiders were allotted grants and contracts for felling.

<sup>56</sup> Piers M. Blaikie and Joshua S.S. Muldavin, 'Upstream, Downstream, China, India: The Politics of Environment in the Himalayan Region', *Annals of the Association of American Geographers*, Vol. 94 No. 3 September (2004), 530.

<sup>57</sup> See Madhav Gadgil and Ramachandra Guha, 'Ecological Conflicts and the Environmental Movement in India', *Development and Change*, Institute of Social Studies, Vol. 25 (1994), 101-136; also see Kusum Karnik, 'People's Movement for Natural Resources' in S.N. Pawar et.al. (ed.), *Environmental Movements in India* (New Delhi and Jaipur: Rawat Publications, 2005), 27-35 for an account of struggles against commercial forestry.

company were uprooted, and local species were planted instead. A similar movement took place in 1988 in Chamba district of Himachal Pradesh. In Kerala, Karnataka and Uttarakhand, reed workers, bamboo workers and rope makers protested against the forest department's policy to hand over local resources to the paper industry. In 1982, the government tried to bring in a Draft Forest Bill, which envisaged more punitive powers to the state and the Forest Department. It was met with huge country-wide protests, and was ultimately withdrawn. Incidentally, it was in the same year that the first environmental *padayatra* in India was organized, when Sunderlal Bahugana walked across the Himalayas from Kashmir to Kohima.

It was also a period when the State's wildlife 'conservation' efforts were being scrutinized, interrogated, and even resisted. In the official discourse, 'conservation' was most often equated with the creation of exclusive enclaves for the 'protected' tigers, lions, and birds: in the process, villagers living near forests (which were now designated as 'parks' and 'sanctuaries') became 'intruders', poachers and the prime enemies of the wildlife conservation project. This model was, thus, contested not just by conservationists in Delhi but in the new sites of 'conservation'.<sup>58</sup> If the conservation project was running into trouble in the 1970s and the 1980s, opposition to several large-scale dams too gained momentum – Tehri in the north, Koel Karo in Jharkhand (where the JMM and the CPI were actively involved) and the Silent Valley project in Kerala for instance. In Hoshangabad, farmers launched the *Mitti Bachao Andolan* [Save the Soil campaign] in 1977 against soil erosion from the Tawa dam. The *Narmada Bachao Andolan* [Save the Narmada Movement] against the Sardar Sarovar project, which continues till date, began way back in 1977 in the Nimad region of Madhya Pradesh. Ecological overtones could also be seen in the fisherpeople's movement in Kerala as well as in the

<sup>58</sup> See Vasant K. Saberwal et. al, *People, Parks and Wildlife: Towards Coexistence* (New Delhi: Orient Longman, 2000) for an account of this debate. Also, the report of the Government of India's 'Tiger Task Force', *Joining the Dots*, recounts the tensions and contradictions in the wildlife conservation project.



movements in Bastar and Singhbhum against commercial forestry (which we have noted earlier).

In Bhagalpur, Bihar, the *Ganga Mukti Andolan* struggled against the feudal control of two families over a long stretch of the Ganga (these water lords levied taxes on the fisherpeople living along the river); this movement also raised the issue of industrial pollutants in the river.<sup>59</sup> There were numerous protests against industrial water pollution in different parts of the country, including protests against the Orient Paper Mill in Shahdol, Grasim Rayons in Kerala and against tanneries in Tamil Nadu. Also, in the 1970s, damage from the toxic fumes emitted by the Indian Oil Corporation's refinery in Mathura to the Taj Mahal caused a furore, with several newspapers, including the *Times of India*, regularly covering it. Numerous movements against displacement by 'development' projects surfaced during this period, voices which often simultaneously expressed concerns over ecological damage and pollution. The resistance of peasants and fisherpeople to a proposed missile testing range in Baliapal, Orissa, in 1986 is a case in point. Mineral extraction was also a bone of contention: mining in the Doon valley and by the Bharat Aluminium Corporation in Gandhamardhan forests in Orissa for instance faced massive protests, leading to bans on mining activity in these areas.

The environmental discourse and the impact of such voices against deforestation, monocultures and big dams were to leave an imprint on the 'development' discourse. Economists and policy-makers occasionally felt constrained to engage with the contradictions that these myriad voices were highlighting (as the debate, for instance, on social forestry indicates). Moreover, what is even more imperative to note are the repercussions and the intersectionalities of the environmental discourse with other dissenting voices. The

<sup>59</sup> The pollution in Ganga was no new phenomenon in the 1980s: in 1968 itself, a fire had broken out in the Ganga at Monghyr because of the effluents from oil refineries. For an account of the *Ganga Mukti Andolan*, see Abhay Kumar, 'Ganga Mukti Andolan: A Study', in Shibani Chaube and Bidyut Chakraborty (ed.), *Social Movements in Contemporary India* (Calcutta: K P Bagchi and Company, 1999), 21-32.

environmental movement, in a sense, was possibly pushing various social movements to reconsider and rework their tactics and strategies. The response of the peasant movement is an indicator of these possibilities. In the 1970s, the state pushed through the Green Revolution package, arguing that this would be the only solution for the resource crunch, pressure on land and the need to sustain more people on existing land. M.S. Swaminathan's defence of the Green Revolution package, presented as the Coromandel Lecture on 26 February 1973 (organized by Coromandel Fertilizers Ltd.) was a classic example: after summarizing the environmental debate happening worldwide, with its focus on reducing the use of resources and pesticides, and referring to the *Limits to Growth* study, he builds a case for increasing agricultural productivity through high yielding varieties:

The environmental policy advocated in the richer nations...is of necessity a policy based on a series of Dont's. This is inevitable since the aim is to undo some of the damage already done or to protect further damage along the same lines. Thus there is an outcry against some of the potent agents of improved agricultural productivity such as fertilizers and pesticides...the poorer nations, however, are forced with the desire and need to produce more food from hungry soils, more clothing and more housing...we must shun the 'band-wagon' and aping approach and graduate to a 'do' atmosphere. We must help farmers to apply fertilizer, pesticide, water and other inputs wisely and should not try to create confusion about the basic truth that inputs are needed for output.<sup>60</sup>

When the Green Revolution was implemented, and its impacts experienced, how did the peasant movement react? Omvedt asserts that "the 'land question', in the era of environmentalism was revealing itself as more than that of giving land to people; it was also one of what was to be done with the land once it had been won".<sup>61</sup>

<sup>60</sup> M.S. Swaminathan, 'Agriculture on Spaceship Earth' in Mahesh Rangarajan (ed.), *Environmental Issues in India: A Reader* (New Delhi: Pearson Longman, 2008), 181-183.

<sup>61</sup> Gail Omvedt, *Reinventing Revolution: New Social Movements and the Socialist Tradition in India in India* (New York: M.E. Sharpe, Inc., 1993),

Analysing the tactics of the People's War Group (PWG) amongst agrarian labourers, she points out:

traditional subsistence agriculture, without political and technological support, and measures to restore the environment that had made it possible in the past, was no longer a viable prospect, and both peasant awareness of the ambiguities of GR technology and the environmental critique were becoming widespread enough to make left programs of simply 'providing inputs' look a bit dated.<sup>62</sup>

Therefore, the PWG was "being confronted with the new dilemmas of development and changing aspirations of the rural poor".<sup>63</sup> In fact, by the late 1980s, the very issue of how to carry forward land struggles began to be questioned. As the agrarian programme adopted by the fourth Party Congress of the CPI (ML) Liberation group put it, "our persistent effort to direct every struggle against the landlords and towards land-seizure often turned into a futile search for big landlords and large-scale concentration of land".<sup>64</sup>

The workers' movement as well as the *adivasi* movement also began to deal with environmental issues, in their own ways, as we have seen. As the *Adivasi Jungle Parishad* in Dhule pointed out, the rural poor in Maharashtra were not just demanding implementation of EGS, but also that EGS funds should be used to construct small irrigation projects that would help to rejuvenate the land and stall the cycle of frequent droughts. An environmental focus could be seen in other movements too. After the textile workers' strike in Bombay, several workers returned to their villages in Sangli, Satara and Kolhapur and led movements to counter the consequences of drought. In Khanapur, a drought-ridden area in Sangli district, a rural labourer-peasant organization – the *Shoshit Shetkari Kashtakari Kamgaar Mukti Sangharsh* – was formed. This organization demanded free fodder for animals during the drought, raised issues of water management and

234.

<sup>62</sup> *Ibid.*, 235.

<sup>63</sup> *Ibid.*, 235.

<sup>64</sup> 'Immediate Agrarian Programme', adopted at the Fourth All-Party Congress, 1-5 January, 1988.

health, and even tried to draw an alternative development model for the area.<sup>65</sup> In 1986, they mooted the idea of peasants themselves building a small dam from locally available materials to ensure water for their own use to eradicate droughts – this dam, known as the *Bali Raja* Memorial dam was finally completed in 1990.

The *adivasi* movement in particular began to articulate environmental issues as concerns of *adivasi* self-assertion and control, and that of community management. A.K. Roy, thus, says in an article published in 1979 in the *Sunday* magazine, that the demand for retaining the indigenous *sal* plantations against the onslaught of monoculture plantations was essentially a struggle for an independent, *adivasi*-controlled, Jharkhand.<sup>66</sup> Similarly, the *adivasis* of Dhule talked of “grabbing” forest land and bringing it under their control; expressing opposition to the Sardar Sarovar Dam project, they asserted that the “state does not have a whisper of a right to keep the toiling people in the dark and make a game of their life and the wealth of the forests”.<sup>67</sup> Also, environmental groups (*Narmada Bachao Andolan* amongst others) began to suggest decentralization as a possible ‘solution’, along with the critique of industrialization and modern technology; or, as an article that appeared in *Seminar* in February 1987 put it:

... the politics of ecology... points to the inevitable and imminent crystallization of alliances and groups amongst those who still live by viable ways, those vast numbers who are beginning to assert their rights in the face of the depredatory system of development being willfully

<sup>65</sup> Gail Omvedt, ‘Ecology and Social Movements’, *Economic and Political Weekly*, Vol 19, No. 4 November 3 (1984), 1867. A detailed account of the work of the *Mukti Sangharsh* can be found in Omvedt’s book titled *Reinventing Revolution*.

<sup>66</sup> A.K. Roy, ‘Sal Means Jharkhand, Saguwani Means Bihar’, *Sunday*, Calcutta, 8 April 1979.

<sup>67</sup> Resolutions of the Adivasi Jungle Parishad, Bhute-Akashpur (Dhule District, Maharashtra) March 12, 1986’, *South Asia Bulletin*, Vol. 6, No. 1, Spring 1986, 49-50.

pursued both by our political elite and the consumer society it wishes to breed.<sup>68</sup>

## Temples or Tombs? Contesting the Role of Science and Technology

On the one hand, if workers, peasants, *adivasis* and farmers were expressing their opposition to the ‘development’ presented to them and in the process discovering commonalities and differences, concepts of ‘science’, ‘technology’ and their applicability were being reworked and debated possibly in response to these voices of dissent. The discourse on science was surely seeing a shift, with even some of its practitioners and proponents seeking to reinvent and redirect its focus.

In the 1960s, policy and planning was focussed on heavy industrialization, in the official parlance, ‘development’ was often simply equated with industrialization, using primarily non-renewable fossil fuel resources. Science was, in turn, a force meant to redeem us from our ‘backwardness’. One can find an indication of this in the coverage of the academic journal, *Seminar*. The March 1964 edition of *Seminar* was on “Scientific Attitude”; on “irrational beliefs of our people and how to change them”.<sup>69</sup> In 1966, the June edition focussed on “utilization of science and technology”, and expressed a hope that developing countries “would ... follow the path taken by Japan, which has in recent years outstripped, in some fields of technology, the more advanced countries by a careful direction of its relations in science and technology with advanced countries”.<sup>70</sup> The focus, as Nehru had put it, was to “catch up” with the ‘more developed’, scientifically advanced countries.<sup>71</sup>

<sup>68</sup> Sanjeev Prakash, ‘The Problem: The Politics of Ecology’, *Seminar* No. 330, February 1987, 13.

<sup>69</sup> S Dhawan, A. Rahman and P.M. Bhargava, ‘The Problem’, *Seminar* No. 55, March 1964, 10-11.

<sup>70</sup> S. Hussain Zaheer, ‘The Problem’, *Seminar* No. 82, June 1966, 12.

<sup>71</sup> Jawaharlal Nehru, ‘Inaugural Address at the 46<sup>th</sup> Session of the Indian Science Congress held at Delhi, 21 January 1959’, in Baldev Singh

However, we can locate a clear shift in priorities in the coming decades. If in the 1960s, the focus was on “changing the outlook” of the people, on creating a scientific temper, this was clearly not enough by the late 1970s and in the 1980s. Therefore, by the end of the 1970s, we find references to the explosion of the myth of “perpetual progress” and “end of scarcity”, and also to the inequities which technology has given rise to.<sup>72</sup> In an article written in 1979, Rajni Kothari traced the roots of the environmental crisis to the change from man’s reliance on nature to man’s dependence on machinery – a crucial change which he claimed was responsible for growing demands of resources and energy and for rendering man “marginal”, “superfluous” and even “obsolescent”. For Kothari, “man-in-technology” had created a “massive system of dominance, exploitation, inequity and repression”, while also destroying nature and organic bonds with other species.<sup>73</sup>

In an article titled ‘Can we salvage Indian science?’ G.N. Ramachandran, then professor of Mathematical Biology at the Indian Institute of Science (IISc), bemoaned the fact that scientific research “has not produced much good”; that scientists “do not appreciate the purposeful role of science and have converted their aims and ambitions to something far removed from the needs of society”.<sup>74</sup> The establishment however, was essentially tracing its ‘failure’ in terms of inadequate training, infrastructure, or lack of ‘innovation’. The *Seminar* issue of February 1981 asked: “What has gone wrong? What are our scientists actually capable of? How innovative are our industries? Are our institutions of higher learning doing what they set out to do? Why do we need foreign aid for appropriate technology? Have our scientists failed us? Or have we failed them?”<sup>75</sup>

(ed.), *Jawaharlal Nehru on Science: Speeches Delivered at the Annual Session of the Indian Science Congress* (New Delhi: Nehru Memorial Museum and Library, 1986), 71.

<sup>72</sup> Rajni Kothari, ‘The Larger Question’, *Seminar No. 237*, May 1979, 35.

<sup>73</sup> *Ibid.*, 36.

<sup>74</sup> G.N. Ramachandran, ‘Can We Salvage Indian Science?’, *Science Today*, October (1979), 10-12.

<sup>75</sup> ‘The Problem’, *Seminar No. 258*, February 1981, 11.

It was left, therefore, to some scattered voices, however marginalized in the establishment, to push the discourse in new directions. In the process, new terms and new ideologies of technology made an entry in the development discourse: recycling, renewables, local self-reliance, “alternative”, “appropriate” technologies and the like.

In the early 1970s, some technologists raised questions regarding the choice of ‘correct’ technologies, the role of ‘appropriate’ technologies and the need to ‘change the model’. With the realization that “every pattern of technology is socially conditioned”, Amulya Reddy argued in 1972 that western technology patterns lend themselves to inequality, alienation and environmental damage.<sup>76</sup> Critiquing a document prepared by the National Committee on Science and Technology (NCST), titled “An Approach to the Science and Technology Plan”, K.R. Bhattacharya castigated the NCST’s concept of science for being “fallacious” and “unscientific”, for leading to an “elitist” and “perhaps self-serving” and “illusionary” science plan for the country.<sup>77</sup> Bhattacharya, who was then the general secretary of the C.S.I.R. Scientific Workers’ Association, argued that the emphasis should be “on village rather than on city, on people rather than experts”.<sup>78</sup> He further advocated that “intermediate technology” should be the “basic pillar” of our approach – with priority to dispersed, small-scale, low-capital, labour intensive industries.<sup>79</sup> “The ‘growth’ model of development is nothing but a model for development of underdevelopment and a continuation of colonialism through the backdoor,” he added.<sup>80</sup>

Reddy echoed these views, arguing for technologies which could use the skills of traditional craftsmen like potters, weavers, tanners

<sup>76</sup> See Amulya Reddy, ‘The Nature of Western Technology: Why Does it Inevitably Produce Alienation, Unemployment and Environmental Damage’ in Ravi Rajan (ed.), *Amulya Reddy: Citizen Scientist* (New Delhi: Orient Blackswan, 2009), 59-66. This article was originally published in 1972.

<sup>77</sup> K.R. Bhattacharya, ‘Changing the Model’, *Seminar No. 169*, September 1973, 16.

<sup>78</sup> *Ibid.*, 17.

<sup>79</sup> *Ibid.*, 17, 20.

<sup>80</sup> *Ibid.*, 20.

and oil millers.<sup>81</sup> Reddy also advocated technologies that use local materials and local sources of energy; that are not energy-intensive; that “promote a symbiotic and mutually reinforcing rather than parasitic and destructive, dependence of metropolitan industry upon rural population”.<sup>82</sup> As Reddy puts it, the core of approach should be inequality reduction and meeting minimum needs, and this could be done by moving from ‘*machinofacture*’ to ‘*manufacture*’. Within this albeit limited realm, the discourse therefore shifted to self-reliance, and ‘appropriateness’ of technology.

Asking fundamental questions on the role of science and scientists in society, Dunu Roy argued for a new understanding of science as a “*method of understanding*”.<sup>83</sup> Delivering the Vikram Sarabhai Memorial Lecture in 1981, Dr. Anil Sadgopal identified five main obstacles for the scientific establishment to ponder upon: information gap, the tendency to follow traditions, fatalism, fear of reprisals by the vested interests, and the inability for abstraction.<sup>84</sup> In the same lecture, Sadgopal flagged other important issues: how the scientific establishment chose to ignore and underplay clear scientific evidence of drug-resistance (ultimately leading to the failure of the malaria eradication programme), how some technologies which increase the gap between the rich and the poor were deliberately chosen for implementation and how scientists conspicuously avoid discussing the question of distribution of resources. He was, in a sense, pointing out that behind the purported ‘value-free’ and ‘neutral’ nature of science, there operated a dynamics, defined by politics and power.

In this rethinking and reshaping that was taking place, scientists were being told to reject the idea that they had solutions to all possible problems; that all “unmediated” needs had to be addressed

<sup>81</sup> A.K.N. Reddy, ‘Alternative Technologies’, *Seminar No. 169*, September 1973, 28.

<sup>82</sup> *Ibid.*, 28-29.

<sup>83</sup> Dunu Roy, ‘A Search for the Meaning of Science’, *Science Today*, October (1979), 33-36.

<sup>84</sup> Anil Sadgopal, ‘Beyond Question and Clarity’, *Science Today*, October (1981), 29. Originally presented as the Vikram Sarabhai Memorial Lecture delivered at New Delhi on 12 August 1981.



by science and technology.<sup>85</sup> Some voices of dissent, though admittedly muted, demanded “de-learning”, “relearning”, and even “de-professionalization”. Questions were being raised about how science and technology could be ‘subordinated’ to the real needs of society; of how “illegitimate” power of those in control of technology could be curbed. Moreover, the scientist was told to drop his/her obsession with the laboratory and make a beeline to the village, and forge partnerships with the villager in order to develop ‘useful’ technologies. This shift found a reflection in the setting up of “alternative” departments in the best institutions of science and technology in the country – including the Indian Institutes of Technology and the Indian Institute of Science. In 1974, ASTRA (Application of Science and Technology for Rural Areas) was established in IISc, Bangalore, and in 1978-79, a new centre called Rural Development and Technology (RDAT) was set up in IIT Delhi. ASTRA’s original vision statement reads:

...a valid development strategy should be based, not wholly on the technologies of the advanced countries, but on alternative technologies that facilitate low capital investment, employment generation in rural areas, dispersal of mini-production units to villages...despite the vital need of developing these alternative technologies, it is unfortunate that the challenge has not been taken up by more than a few institutions... alternative technologies cannot be...confused with primitive technologies. In fact ...they may require sophisticated scientific and engineering thinking...Institutions have been engaged in a desperate quest for relevance, but this relevance has been almost universally interpreted to mean relevance to large-scale industry and urban problems. The possibility of relevance to rural problems has been scarcely considered...it is amidst this background that the Indian Institute of Science has created ASTRA.”<sup>86</sup>

<sup>85</sup> P.R.K. Rao et.al., ‘Science and Technology as an Ideology’, *Seminar* No. 269, January 1982, 66.

<sup>86</sup> Quoted in Amulya Reddy, ‘Problems in the Generation and Diffusion of Appropriate Technologies’ in Ravi Rajan (ed.), *Amulya Reddy: Citizen Scientist* (New Delhi: Orient Blackswan, 2009), 156-157.

As the vision statement reveals, the scientific community was trying, albeit in a small way, to overcome its urban bias, to become more 'relevant', and more conversant with rural reality. 'Transfer of technology' now no longer automatically meant a transfer from the 'developed' West to India; it could also mean an exchange of ideas between Indian scientific institutions with its engineers and laboratories and the village. And, the engineer/scientist was also told that he/she was simultaneously learning from the villager. In early 1989, the *Lokayan Bulletin* published 28 'lessons' learnt by ASTRA from working in rural Karnataka – this article debunked the idea that rural people were 'irrational'; it implored technologists to "first be students" gathering information from people.<sup>87</sup> In the process of this search for new ways of engagement with science, there was also a search for an 'emancipatory' model of its practice:

Current development can, in fact, be described as the process by which the rich and the more powerful reallocate the nation's natural resources in their favour and modern technology is the tool that subserves this process...Our growing capabilities in science and technology have helped us acquire a technological literacy that allows us to converse with the rest of the world as equals ...But, science and technology cannot be allowed to impose their own value system on society.<sup>88</sup>

This 'Statement of Shared Concern' released in 1982 by several individuals from diverse backgrounds sought to comment on the role of science and technology. The 1970s in fact saw the emergence of several groups who broadly highlighted these concerns, specifically the anxiety that science "was not meeting the needs of our people". Introducing Dunu Roy's article 'A Search for the Meaning of Science', *Science Today* wrote, "Science is not for science's sake, it is for the people. Scientists themselves should realize that they are socially accountable... People's science movements seek to question

<sup>87</sup> Amulya Reddy, 'Lessons from ASTRA's Experience of Technologies for Rural Development', *Lokayan Bulletin*, Vol. 7 No. 1 January-February (1989), 27-36.

<sup>88</sup> Anil Agarwal et.al., 'A Statement of Shared Concern', *State of India's Environment: The First Citizens' Report* (New Delhi: Centre for Science and Environment, 1982), 190.

the direction that science is taking in India, even as they try to provide alternatives".<sup>89</sup> Set up in 1962, the *Kerala Shastra Sabitya Parishad* (KSSP) for instance saw science as a means to 'revolution'. For probably the first time in India, science was literally taken to the streets. KSSP developed a strong organizational structure during 1967-72, and from the early 1970s took a decisive turn to the countryside, organizing several rural science forums. Similar movements cropped up in other parts of the country – in 1974, Anil Sadgopal left the Tata Institute of Fundamental Research to set up *Kishore Bharati* in Hoshangabad; the PPST was formed in 1979, the *Lok Vigyan Sanghatana* (LVS) was set up in Maharashtra in 1980. The first all-India convention of People Science Movements (PSMs) was held in November 1978, followed by the second one in February 1983. As many as twenty organizations across the country participated in the second convention – including the USV, KSSP, LVS, *Kishore Bharati*, PSSP, the Karnataka-based *Rajya Vigyan Parishad* and Eastern India Science Club Association from Calcutta.

There were, however, ideological as well as tactical and programmatic differences between various groups in the people science movements. Achin Vanaik identified three distinct trends: first, there was a 'conservative' trend which confined itself to "providing scientific information" and was not keen on mobilizing themselves.<sup>90</sup> Secondly, we saw some groups (like the KSSP and the USV) explicitly placing the people science movement as an integral part of a larger struggle for social change and transformation. These groups often focussed on man-man, as well as man-nature relationships and the linkages between the two. K.P. Parameshwaran, who was a leading KSSP activist, expresses the predilections of this trend: "without 'scienciteracy', democracy becomes meaningless".<sup>91</sup> Thirdly, we had groups like the PPST who focussed on indigenous knowledge and

<sup>89</sup> *Science Today*, October (1979), 33.

<sup>90</sup> Achin Vanaik, *The Painful Transition: Bourgeois Democracy in India* (London and New York: Verso, 1990), 189.

<sup>91</sup> Quoted in G. Sivaramakrishnan, 'S&T: Road to Utopia', *Seminar* No. 355 March 1989, 31.

traditions and tended to reject western intellectual traditions.<sup>92</sup> For Ramachandra Guha, PSMs were essentially “bringing to the fruition the ideals of the French Revolution – democracy, equality and fraternity”. These movements were highlighting the ‘distortions’ of science by capitalist and imperialist systems, and in the process were attempting to “free it from those chains of domination”.<sup>93</sup> Part of this search for making science ‘work’, can be also seen in several initiatives: in 1983, Ashok Khosla set up the ‘Development Alternatives’ “to create sustainable livelihoods in large numbers...in harmony with nature”; Vilasrao Salunkhe (a Pune-based bureaucrat) sought to counter the devastation caused by drought in Maharashtra through setting up a community-managed life irrigation system; Balkrishna Renake experimented on small-plot intensive cultivation. It was in this backdrop of contestations over resource use, industrial policy, technology and its interface with society that the CMM began its operations in the Dalli Rajhara mines.

### **CMM in the 1970s and the 1980s**

In the Chhattisgarh region, which was then part of Madhya Pradesh, the *Chhattisgarh Mukti Morcha* (CMM) emerged and grew as a vocal part of the process of dissent that characterized the 1970s and the 1980s. The Bhilai Steel Plant in Chhattisgarh, which was in many ways an epitome of the Nehruvian project of transforming the Indian economy and rural landscape, had been set up in 1959. In the hills and plains of the region, this industrial behemoth shifted livelihoods and landscapes and led to new work ethics and paradigms. Moreover, the land, rivers and forests of the region were enlisted to power one of the largest manufacturing units in the country in the 1960s and the 1970s. The iron-rich hills of Dalli Rajhara were selected to

<sup>92</sup> Note, this is not the only available analysis of trends in the people science movement. See *Ibid.*, 29-33 for a slightly different analysis. Sivaramakrishnan saw groups like ASTRA as part of the people science movement; personifying an ‘Appropriate Technology’ focused trend.

<sup>93</sup> Ramachandra Guha, ‘The Alternative Science Movement: an Interim Assessment’, *Lokayan Bulletin*, Vol. 6 No. 3 (1988), 8.

provide ore to the plant, and the CMM's work amongst the contract labourers in mine pits led to a process of engagement with the changing economic and ecological scenarios.

Across the country, textile mill workers, fisherpeople, *adivasis*, farmers and peasants were dealing with the impacts of industrialization, mechanization and the introduction of new technological regimes. In Chhattisgarh too, the CMM emerged as the voice of the worker, peasant and the *adivasi* struggling to cope with new challenges. It was not surprising therefore, that in the CMM's campaigns we find echoes of these varied voices of contestation. An anti-dam sentiment, the passionate struggle to defend forests against monocultures, the anger against retrenchment caused by mechanization, the alienation from land and rivers – we can discern reflections of all these moods in the CMM's various campaigns. Moreover, at a time when there were attempts to reinvent technology and to set a different roadmap for the application of science, in Chhattisgarh the CMM can clearly be identified as one of those voices of rethinking and reinvention. If Amulya Reddy was attempting to move from “*machinofacture*” to *manufacture*, in Dalli Rajhara the CMM was mooted a plan for semi-mechanization of iron ore mining to defend human labour; it was working out ideas to reconcile industry with employment, livelihoods with ecology. In the following chapters, we seek to discover the *Chhattisgarh Mukti Morcha* and its connections with the larger processes of dissent and contestation in India.

Chapter 2 looks at the CMM's initiatives in the broad domain of the ‘environment’. We look at the nature and the implications of the CMM's attempts to navigate the human-nature interface. As the organized voice of industrial workers, how was the CMM envisaging human relationships with nature? We also ask, what are the limitations and potentials of such an intervention? In particular, this chapter studies the possibility of the emergence of a political viable, effective ‘Green’ Party in India. We ask: does the CMM qualify as a ‘Green’ Party? How does it intervene in the electoral arena? How does it compare with the *Jharkhand Mukti Morcha* [Jharkhand Liberation Front, JMM] in the neighbouring state of Jharkhand? What are the similarities and differences in the CMM and the JMM's political and electoral interventions, successes and failures?

Chapter 3 looks at the CMM's attempts to navigate the technological changes brought in by the industrial project. After a brief overview of the CMM's initiatives to steer technological trajectories in the Bhilai Steel Plant, we ask: why should a trade union intervene in the technological domain to influence technological choices? Should these choices be left to policy-makers and technologists alone? What are the implications of building strict boundaries between the user and the design domains of technology? The logical corollary of this question is, of course, to ask, what are the implications when these boundaries blur, as when the CMM attempted to reshape the factory floor? In other words, Chapters 2 and 3 are attempts to raise broader questions regarding the role of organized labour in India. The CMM's rich experiences, we argue, allow us to explore, rethink and reconfigure our ideas of what and how a 'trade union' should look like. The concluding chapter places the CMM's initiatives in broader context. Shankar Guha Niyogi was assassinated in September 1991, thus plunging the CMM in political and organizational chaos. Effectively, this murder posed massive challenges to the incipient experiments that the CMM was engaging in. We ask, what did the CMM mean to the broader workers' movement in India, and how did Niyogi's murder put an end, perhaps, to several possibilities for organized labour?

## CHAPTER 2

# Green and Red: Envisioning Workers' Struggles in Chhattisgarh

The decades of the 1970s and the 1980s were a period of social and political turmoil and churning in India. We saw in the previous chapter that this was characterized in many ways by intense contestation of the reigning notions of 'development', 'technology' and progress. We saw that workers, peasants and *adivasis* were laying new claims; new social forces were emerging and attempting to shape new narratives. This period saw a variety of working-class mobilizations; for instance apart from factory and workplace-based trade union struggles for wages and better working conditions, there were also attempts to mobilize workers in the unorganized sector (such as home-based garment workers and street vendors) and protracted militant struggles by fisherpeople in Kerala, Orissa, Goa and elsewhere. In the context of the larger churning that was happening, one is, however, also prompted to ask: how was organized labour responding to new issues that were emerging? The environmental movement was taking shape in India and raising new issues, new concerns, pleading for a changed relationship between human communities and nature. How, after all, was the working class responding to this? It is precisely in this context that the experiences, experiments and campaigns of the *Chhattisgarh Mukti Morcha* [CMM] need to be examined.<sup>1</sup>

1 The CMM is no longer a unified movement – after the murder of Shankar Guha Niyogi, the original organization split into three factions. The three factions of the CMM are led by Sudha Bharadwaj, Bhimrao Bagde and Janaklal Thakur respectively. Janaklal Thakur's group continues to work from the original office in Dalli Rajhara. Bhimrao Bagde's faction is predominantly based in Rajnandgaon, while the Sudha Bharadwaj faction

We seek to study these mobilizations to identify underlying patterns as well as significant aberrations, if any. The question we ask is this: What are the ways in which environmental issues figure on the political and electoral landscape of the country? Do they appear at all as part of the electoral agenda of various political and ideological formations? If so, in what form? We examine, briefly, how similar environmental issues take on crucially different and politically significant forms when taken up by different political actors across the ideological spectrum. We will analyse the (undoubtedly limited) electoral performance of the CMM, with the intention of drawing somewhat more ambitious conclusions on the potential of environmental mobilizations in India. The main issue here is to understand the absence of avowedly 'Green' Parties in India's political spectrum. Why, for instance, did the CMM not become the equivalent of Germany's *Die Grünen* (Green Party)? If we are to agree that the CMM indeed articulated environmental concerns emerging from the forests and mines in Chhattisgarh, why did not these concerns translate into a more sustainable political and electoral form? These questions are surely significant if we are to understand the larger potential of combined red-and-green mobilizations in India.

### **CMM and the Environmental Question**

In the 1970s and the 1980s, the CMM's campaigns in Chhattisgarh against the BSP management and the private companies in and around the Bhilai-Durg area, and against the Madhya Pradesh government, highlighted several demands. Abolition of contract labour, fair wages, enhanced bonuses, provident funds, gratuity, leaves, better working conditions and more facilities for workers and their families – all these figured in the CMM's campaigns. But this was by no means their only focus. The 'red and green' flag of the CMM perhaps indicates how Niyogi and the CMM chose to frame

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operates in Raipur as well as Bilaspur. All three groups claim to follow the ideology and principles of the original CMM, and we will include the campaigns and initiatives of all three in our analysis.



their response to the industrial and technological regimes that the BSP stood for. For the CMM, basic needs of the worker could no longer be ensured merely through militant struggles for industrial employment, wages and bonuses. Implicit in the CMM's campaigns was an understanding that one also needed to confront managements for ruining local economies, for destroying rural livelihoods and endangering local resources.<sup>2</sup> This author has detailed the CMM's varied initiatives on the environmental question elsewhere. However, it would be a useful exercise to understand the nature of these interventions as we study the implications and the limitations of the CMM's work.

The narrative of how the CMM began its engagement with the environmental question is fascinating, even as it is instructive for those concerned with the theory and practice of the battle against 'economism'. Headloads of timber collected by villagers in the Dondi Lohara forests surrounding the Dalli Rajhara iron ore mines had been confiscated by the local forest department and removing of timber by peasants was deemed "illegal" by the State's fiat. A disgruntled peasant came to the Union office asking for help. As the CMM sought to intervene, it found itself searching for a response to questions of ecological balance, resource use and misuse, and human interventions within local ecosystems. Gradually, the debates and discussions that followed led to the articulation of an official "environment policy". We find in this narrative an intriguing story of how a 'trade union' came to realize that its members were not only mineworkers. Even as workers dug iron ore from the bowels of the earth, they were simultaneously members of a community which had to deal with water rendered bloody-red as a result of their toils; their neighbours and families were being hounded by the police, declared "trespassers" of the nearby forest; agricultural inputs in their village were getting more expensive by the day. The demands they began to

2 For a description and analysis of CMM's multifaceted environmental engagement, see Radhika Krishnan, 'Red in the Green: Forests, Farms, Factories and the Many Legacies of Shankar Guha Niyogi (1943–91)', *Journal of South Asian Studies*, Vol. 39 No. 4 (2016), 758-772.

articulate underwent a gradual metamorphosis in an expression of this changed understanding of the role of a “trade union”.

For the CMM, the “eminent domain” policy of State control over forests went against the traditional *adivasi* culture and custom of community ownership and community responsibility over resource use and resource protection. The CMM thus argued that forest dwellers themselves were best suited to look after and protect forests from “thieves” and poachers, rather than forest rangers employed by the State. It came up with a proposal to convert the ubiquitous police stations in the forests with *paryavaran thanas* (environmental stations), replacing the figure of the police and the much-hated forest ranger with the forest-dweller. It was a move which the CMM felt would simultaneously help in ensuring proper protection of the environment and providing employment opportunities.<sup>3</sup>

Flowing logically from this criticism of forest policy was the CMM’s opposition to the idea of captive plantations and monocultures.<sup>4</sup> The CMM started the “*Apne Jungle ko Pehchano, Apne Parivaar ko Pehchano*” [know your forest, know your family] campaign, to rethink connections with the local forest; in the process local forest ecologies were recognized for their ability to sustain and nurture. The CMM’s somewhat romantic equation of the ‘forest’ with the ‘family’ apart, the actual nature of the campaign however was not quite within the same idealist frame, grounded as it was in an attempt to discover and reclaim material connections with the forest. Use and misuse of water and forests as an industrial resource also entered the CMM’s agenda. Rejecting economistic “common sense” that would possibly argue that a trade union should defend workers’ jobs by demanding an assured water supply for industries, the CMM opposed excessive water extraction as well as industrial water pollution.

3 Shankar Guha Niyogi, ‘Hamaara Paryavaran’, in Anil Sadgopal and Shyam Bahadur (eds.), *Sangharsh aur Nirman: Shabed Shankar Guha Niyogi aur Unka Naye Bharat ka Sapna* (New Delhi: Rajkamal Prakashan, 1993), 232.

4 Captive plantations are vast tracts of forestland hand over to industries, mostly paper mills, for a long period of time for their exclusive use.

Opposition to the big-dam project – an opposition equally based on displacement of lives and the ecological destruction caused – was a central part of the CMM's ecological framework. '*Baandh nahi banega*' [the dam shall not be built] was one of CMM's slogans, as it launched campaigns against large dams, and built a critique to bolster its arguments for construction of small-scale stop dams, lift-irrigation systems and borewells. Besides, the 'Green Revolution' package came in for criticism with the CMM predicting that it would lead to "failed dreams", farmers' woes and ecological destruction.<sup>5</sup> Thus, what began as a response to an indigenous peasant's problems with the local forest ranger, gradually developed into a larger perspective.

As we seek to understand the implications of the CMM's ecological interventions and as we try to analyse the potentials as well as weaknesses of the CMM emerging as a 'Green' political and electoral formation in India, we surely need to place these interventions in a broader context. The following sections look at the broader contours of environmental mobilizations in India and their electoral potential or lack thereof. We then look at the nature of Indian politics, which is followed by an analysis of the potential of environmental mobilizations in the specific context of the dynamics inherent in Indian politics.

### **Environmentalism as an Electoral Agenda**

Conflicts over forests – on use and misuse, decision-making and control – have a long and turbulent history in India. Much has been written on the subject, and any reading of these conflicts will rest on the foundation of previous research by an array of scholars from an impressive gamut of disciplines. The Chipko movement, which began in the early 1970s, and went on to achieve a near-iconic status in Indian environmentalism, is a useful case in point. Guha and Alier would for instance term this revolt as "environmentalism of the poor", yet another instance of the "empty-belly" environmentalism of

<sup>5</sup> Green Revolution refers to an agricultural scheme characterized by the increased use of various technologies such as chemical pesticides, herbicides, and fertilizers as well as new breeds of 'high yielding'.

the South, originating in “social conflicts over access to control over natural resources”.<sup>6</sup> Guha has further seen the Chipko movement as an extension of a long chain of peasant rebellions in the Kumaon region.<sup>7</sup> In a similar vein, the movement has been analysed as a war-cry against the “fortress forestry model”; a model which encourages commercial industries and “scientific management” of forests, even as it disempowers traditional users and uses of the forest.<sup>8</sup> Shiva, on the other hand, would frame the Chipko movement as equally ‘ecological’ and ‘feminist’.<sup>9</sup>

Be it environmentalism of the poor, peasant rebellion, feminist resistance, or a call-to-arms against State control of natural resources, conflicts over forest use indeed provide much food for thought. As we noted earlier while mapping out contours of the ideological world unfolding in the 1970s and 1980s, the Chipko movement was followed by similar insurrections across the country, many of which took the shape of mass resistance against state-sponsored commercial logging. The sheer geographical spread of these myriad voices of revolt, ranging from the hills of Uttarakhand in the north to the western ghats and Uttar Kannada in the south, from Jharkhand, Odisha and parts of Madhya Pradesh in the east to Maharashtra towards the west, tells us of the enduring significance of the message that was sought to be conveyed. Forests were deeply contested

6 Ramachandra Guha and Joan Martinez Alier, *Varieties of Environmentalism: Essays North and South* (London: Earthscan, 1997), xxi. Alier in fact uses the Chipko movement as a case study in her book which took forward the ‘environmentalism of the poor’ thesis. See Joan Martinez Alier, *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation* (New Delhi: Oxford University Press, 2004).

7 Ramachandra Guha, ‘Colonialism and Conflict in the Himalayan Forest’, in Ramachandra Guha (ed.), *Social Ecology* (New Delhi: Oxford University Press, 1994), 301.

8 Piers M. Blaikie and Joshua S.S. Muldavin, ‘Upstream, Downstream, China, India: The Politics of

Environment in the Himalayan Region’, *Annals of the Association of American Geographers*, Vol. 94 No. 3, September (2004), 530.

9 Vandana Shiva, ‘Women in the Forest’, in *Staying Alive: Women, Ecology and Development* (London: Zed Books, 1989), 55-95.

territories, with the State no longer being able to claim sovereign control with relative ease that perhaps marked the earlier decades following independence. Moreover, these battles over forest resources often morphed into expressions of regional, ethnic and overtly political autonomy.

At this juncture, we need to understand the specific manner in which these concerns manifest themselves in the political, and more specifically in the electoral arena. The issue here is this: is it possible that mobilizations over forest use (and misuse) are intensely political, and yet exhibit their potential in the electoral area only when couched in the language of 'rights' and livelihoods? The trials and tribulations of the draft Forest Bill allow us to explore these tentative assertions. In 1976, the National Commission on Agriculture (NCA) advocated a complete rethink of forest policy. For the NCA, the pivot of forest policy should be 'protection' of the forest space, though on the lines of commercial forestry. It saw production of industrial wood (for defense and forest-based industries), and to a far lesser extent provision of small timber wood and fodder for rural communities, as the "raison d'être" for the very existence of forests.<sup>10</sup> Hence, forest 'preservation' was essentially framed as the quest for ensuring that forests remain capable of providing for their multiple (read commercial) users.

In this policy framework, forest dwellers and their largely non-commercial engagement with the forest-space was seen as an unnecessary, irrational and even 'disturbing' aberration in the forest.<sup>11</sup>

10 National Commission on Agriculture, *Report of the National Commission on Agriculture* (New Delhi: Ministry of Agriculture and Irrigation, 1976).

11 Here is what the NCA said about the forest-dwellers role in the forest: "Free supply of forest produce to the population and their rights and privileges have brought destruction to the forests and so it is necessary to sever the process. The rural people have not contributed much towards the maintenance or regeneration of the forests. Having over exploited the resources they cannot in all fairness expect that somebody else will take the trouble of providing them with forest produce free of charge". In essence, any transaction in the forest space was to be a commercial one, based on an economic valuation of the product being exchanged.

The tone and tenor of the NCA recommendations set a certain narrative in place – a narrative that the government wanted to extend control over forest spaces, at the cost of the existing (and often precarious) rights of forest-dwelling communities. This perceived threat to access to ecological spaces, and perceived (and real) curtailments to sources of food, fodder and shelter, drove public responses to the NCA recommendations and subsequently to the draft Forest Bill which attempted to provide legal sanction to the NCA recommendations. Public debates around the recommendations as well as the Bill rarely focused on the ecological consequences (such as possible loss of forest cover, or loss of biodiversity) of these policy initiatives. Coming back to where we began this discussion on nature as political agenda, 25 years later responses to the FRA once again highlighted the relatively stronger influence of arguments framed within the discourse of rights. The Panchayat (Extension to Scheduled Areas) Act (PESA) and later on the FRA, both aimed at eroding the eminent domain principle, emerged as formidable political agendas. Speaking as they did to a specific social constituency, these legislations proved to be politically viable. As a result, forest conservation (arguably wildlife conservation too) in India as a legislative and political subject is now irrevocably linked to ‘tribal development’.

Mobilizations around water – highlighting pollution, lack of access or excessive industrial extraction for instance – have similarly tended to focus on the question of livelihoods, rather than ‘purely’ on water as an ‘environmental’ resource. The *Ganga Mukti Andolan* [Save the Ganga Movement, GMA] in the early 1990s spoke of excessive siltation caused by the Farakka barrage and pollution caused by industrial effluents. In addition was, however, a question that was unmistakably ‘social’. The GMA, with its mass base consisting primarily of fisherfolk, peasants and boatpersons (and thus predominantly from castes who occupy lower rungs in the hierarchical social order which characterizes the rural economy), could hardly afford to ignore caste-based structures. The 80-kilometer stretch from Sultanganj to Pirpainti in Bhagalpur was virtually controlled by Musharraf Hussain and Mahashey Ghosh, who together owned complete rights over boating and fishing in this

territory. The GMA thus demanded *panidari* [water rights].<sup>12</sup> The 'ecological' thus coalesces into the 'social' and the 'economic', with the latter assuming more prominence in the electoral and 'political' arena.

If struggles around water and forest use appear in their 'social' forms, what of mineral extraction? What is the nature of the dynamics of large-scale mining activity in India? One can get useful pointers from studying, for instance, the trajectory of the Pohang Iron and Steel Company's (POSCO) trajectory in the state of Odisha in eastern India. In 2007, an independent fact-finding team which visited Jagatsinghpur in Odisha to document the resistance to land acquisition for POSCO's ambitious steel and mining project in the area reports the response of a local woman from Nuagaon, Tilottama Raut:

They are asking us to leave from here... what do they mean? We leave this soil, this wind, this sky and the peace we enjoy here...no we will not leave, this is our motherland...We have many examples of the families who were displaced in Trilochanpur by the IOCL plant. Those families are today in a state of misery. They have spent their compensation money and the women have suffered the most – having to do hard labour all day to support the family.<sup>13</sup>

Clearly, issues of displacement and lack of access to subsistence resources assume centre stage, while the ecological impacts tend to receive lesser attention. This concern appears in several forms. For instance, in the hills where tourism is a critical component of the local economy, conservation and protection of the environment

12 See the section 'A Right to the River in South Bihar: Ekalavya as Eco-Hero' in Mukul Sharma, 'Dalit Memories and Water Rights', in *Caste and Nature: Dalits and Indian Environmental Politics* (New Delhi: Oxford University Press, 2017), 196-204 for a good account of GMA's battles and the embedded nature of caste in local struggles over water.

13 Report by the Independent Fact-Finding Team on Issues Related to the Proposed POSCO Project in

Jagatsinghpur, 19th to 22nd April 2007. POSCO refers to the Korea-based Pohang Iron and Steel Company.

is seen as a means of protecting livelihoods. Just as in the Chipko movement, in the Doon valley in Uttarakhand there was a strong articulation of ‘subsistence environmentalism’, if you may, showcasing the relationship between the beauty of the hill ecosystem and local livelihoods:

A fight for truth has begun  
 at Sinsyaru Khala  
 A fight for rights has begun  
 in Malkot Thano  
 Sister, it is a fight to  
 protect our mountains and forests  
 They give us life, Hug the life  
 of the living trees and  
 streams to your hearts  
 Resist the digging of mountains which kills  
 our forests—and our streams  
 A fight for life has begun at Sinsyaru Khala.<sup>14</sup>

If mining is framed by its opponents as a destroyer of livelihoods, counter-narratives are equally, if not more, powerful. Dominant discourses around development tend to see mining as a cornerstone of national economic policy, and any effort to stall or slow down the juggernaut of the mineral extraction driven development model is viewed with askance. Merely pointing out violations of existing legislations and regulations could invite trouble, as Greenpeace India’s activist Priya Pillai for instance discovered. Early in 2015, Pillai was deplaned and offloaded by the Government of India as she attempted to travel to London. Pillai was to depose before some British members of Parliament regarding alleged violations of India’s forest rights laws by Essar, a multinational company headquartered in Britain and engaged in coal mining in central India. When asked for an explanation for this action against Pillai by the Delhi High Court, the government’s chief advocate, Additional Solicitor General Sanjay Jain, explained that this was because of the “*doodh mein*

14 Bandopadhyay and Shiva, ‘The Chipko Movement Against Limestone Quarrying in Doon Valley’, 25.



*makkhi*" [fly in the milk] theory; suggesting of course that Pillai was the fly ruining the 'milk' of 'development'.

The situation had "potential for mischief" against India's economic interests, he argued: "We are at least two decades behind advanced countries in the energy sector. The advanced countries may not be interested in our advancement...Greenpeace International and Greenpeace India [Pillai's employers] were indulging in activities that impact our advancement in the energy sector".<sup>15</sup> Jain's arguments are no aberration. Just as anti-dam voices of all hues were labelled 'anti-development' in Gujarat, opposition to a nuclear power plant in south India was branded as politically motivated and funded by NGOs "which are not fully appreciative of the development challenges".<sup>16</sup> International NGO Global Witness, in its 2017 report 'Defenders of the Earth', maps out this ideological universe which environmental activists have to contend with.<sup>17</sup> According to the report, India is the fourth deadliest country for activists, where they are labeled 'anti-development' criminals, Maoists and extreme leftists, anti-democratic, anti-State, threats to law and order. Clearly, the nature of political discourse in India ensures that environmental articulations have to contend with the powerful imagery of 'development' being ushered in through an earnest harvesting of coal, iron ore and other riches that nature provides.

15 Aneesa Mathur, 'HC asks why Greenpeace Pillai stopped, Govt says 'doodh mein makkhi'', *Indian Express*, 19 February (2015), <http://indianexpress.com/article/india/india-others/hc-asks-why-greenpeace-pillai-stopped-govt-says-doodh-mein-makkhi/> (Website accessed on 24 March 2018).

16 N. Gopal Raj, 'Manmohan criticizes NGOs for protests in Kudankulam', *The Hindu*, 24 February (2012), <http://www.thehindu.com/news/national/manmohan-criticises-ngos-for-protests-in-kudankulam/article2924905.ece> (Website accessed on 24 March 2018).

17 The Wire, 'India Fourth Deadliest Country for Environmental Activists, Says Report', *The Wire*, 14 July (2017), <https://thewire.in/environment/environmental-activists-deaths-global-witness> (Website accessed on 24 March 2018).

## Shades of Environmentalism and the Politics of Representation

In tracing what she refers to as the “dark side of indigeneity”, Alpa Shah points out that an influential framework of ‘cultural difference’ sees beleaguered, colonised and marginalised indigenous peoples as suitable subjects for conservation, protection and even veneration.<sup>18</sup> “Whereas once the primitive was our savage other, today the native is the bearer of an alternative future”, she adds.<sup>19</sup> Shah is pointing out an influential feature of current political (and academic) discourse, wherein the ‘primitive’ *adivasi* is not just the well etched out, cultural “Other”, but equally the flag-bearer of the crusade against the ecologically destructive industrial project.<sup>20</sup> In this imagination, the ideological universe of the *adivasi* is characterized by enforced frugality, a refreshing escape from vulgar consumerism and an enduring respect for the “web of life”, all of which make for an “essentially ecological” outlook.<sup>21</sup> This shaping of the *adivasi* identity as “repositories of community, equality, spirituality and worship of nature” then inexorably leads the *adivasi* to be cast as the ideal ‘ecological warrior’.<sup>22</sup> Amita Baviskar similarly points out that the environmentalist discourse in India has a greater affinity for certain forms of claims than their alternatives.<sup>23</sup> Within this framework, the

18 Alpa Shah, ‘The Dark Side of Indigeneity?: Indigenous People, Rights and Development in India’, *History Compass*, Vol. 5, no. 6 (2007), 1807.

19 Alpa Shah, ‘Eco-Incarceration?: “Walking with the Comrades”’, *Economic & Political Weekly*, Vol. XLVII, no. 21 (26 May 2012), 32.

20 See for instance Felix Padel, Ajay Dandekar and Jeemol Unni, *Ecology and Economy: Quest for a Socially Informed Connection* (Hyderabad: Orient BlackSwan, 2013).

21 *Ibid.*, 14.

22 Shah, ‘Eco-Incarceration?: “Walking with the Comrades”’, 32.

23 Amita Baviskar, ‘Red in Tooth and Claw? Searching for Class in Struggles over Nature’, in Raka Ray and Mary Katzenstein (eds), *Social Movements in India: Poverty, Power, and Politics* (Lanham, MD: Rowman and Littlefield, 2005), 172.

*adivasis'* 'natural' and exclusively 'traditional' way of life is thus the only ecologically conscious possibility.

The trajectory of the decades-long struggle against bauxite mining in the Niyamgiri hills in Odisha in eastern India, alerts us to the myriad ways in this discourse could impact movements and environmentalist representations. Ever since the UK-based Vedanta put forward a proposal in 2003 to mine bauxite in the Niyamgiri hills in order to feed its proposed alumina refinery, its plans were met with considerable and consistent opposition fronted undeniably by Dongria Kondh *adivasis* living in the hills. A slew of environmental and human rights violations were documented in several reports, some of them endorsed by various government departments and Ministries.<sup>24</sup> Subsequently, the Supreme Court of India paved the way for what has been termed as the country's "first environmental referendum", when in 2013 it placed the future of the project in the hands of the Dongria Kondhs and held that the rights of the *gram sabha* (village assembly) over forest management and over any matter 'affecting their cultural and natural heritage' were inalienable and sacrosanct.<sup>25</sup>

The political response to the Dongria Kondh protests has on the other hand hardly been consistent. Even as the Biju Janata Dal (BJD)-ruled state government in Odisha continues to see the Vedanta project as a harbinger of progress, the central government's response has seen significant shifts. Then headed by the Congress-led United Progressive Alliance or UPA, the central government was initially far from keen to lend credibility to the protests against the mining and refinery project. In 2010 however, the UPA finally withdrew its support, and the then Vice-President of the Congress, Rahul Gandhi, publicly congratulated the Dongria Kondhs for "saving their land"

24 See for instance N.C. Saxena, S. Parasuraman, Pramode Kant and Amita Baviskar, 'Report of the Four Member Committee for Investigation into the Proposal Submitted by the Orissa Mining Company for Bauxite Mining in Niyamgiri' (Ministry of Environment and Forests, Government of India, August 2010).

25 See Sayantan Bera, 'Niyamgiri Answers', *Down to Earth*, Centre for Science and Environment (31 August 2013).

(more on this later). Political support from the Congress apart, the Dongria Kondhs' struggle has received much global attention. It is for instance the chief subject of the NGO Survival International's global campaign against Vedanta's alumina and bauxite project, and of the adulatory and influential documentary '*Mine: Story of a Sacred Mountain*'.<sup>26</sup> It needs to be pointed out at this juncture that much of the response to the Dongria Kondh resistance saw a clear binary between 'two lifestyles' (one short-term, unsustainable and destructive, the other based on long-term co-existence with nature).<sup>27</sup> Together with this construction of an ecological binary between 'us' [i.e. the 'mainstream'] and the *adivasis*, one could also witness a cultural binary being constructed. The blurb for *Mine*, which states that the film is about the Dongria Kondh's resistance against the destruction of the "tribe's sacred mountain and with it everything they know", possibly sets the stage for this narrative. It is instructive to read Prakruti Ramesh's analysis:

*Mine*...showed the Dongria Kondh as a haplessly endangered community living off the forest. It thus made explicit parallels between the story of Niyamgiri and the story of James Cameron's Hollywood blockbuster *Avatar*. The film depicts the Dongria Kondhs as fierce and exotic savages: Climbing trees, tapping toddy, brandishing axes when threatened, and speaking in a strange tongue whose meanings are nevertheless easily rendered into English. *Mine* paints 'in' the Dongria Kondhs, as if the entire Niyamgiri Hills were their exclusive property, as if the Niyamgiri Hills existed in isolation from nodes of urban and peri-urban access, as if the Dongria Kondhs lived in a self-sufficient, untroubled and bountiful natural bliss with no desire, for example, to visit a city, to have children engage with world history, or to learn some

26 Survival International, '*Mine—Story of a Sacred Mountain with Joanna Lumley (short version)*' (2009), <http://vimeo.com/3938756> (Website accessed on 15 April 2017).

27 Survival International, '*Mine—Story of a Sacred Mountain with Joanna Lumley (short version)*'; Felix Padel and Samarendra Das, *Out of this Earth: East India Adivasis and the Aluminium Cartel* (New Delhi: Orient BlackSwan, 2010); Vandana Shiva, 'A Life-Giving Hill', *Deccan Chronicle*, 8 September (2010), <http://www.deccanchronicle.com/dc-comment/life-giving-hill-798> (Website accessed on 20 July 2017).

kinds of scientific forestry to better harness the forest produce they routinely harness.<sup>28</sup>

These “vocabularies of contrast”, as Rycroft and Dasgupta call them, show up in multiple ways in responses to the industrial project.<sup>29</sup> It is visible, possibly, when Rahul Gandhi triumphantly informs the Dongria Kondhs in 2010 that their voice (and message of being ‘different’) has “reached Delhi”.<sup>30</sup> Gandhi termed the Dongria Kondhs’ battle against Vedanta as their *dharma* [duty], fighting as they were to defend their God and their spiritual being.<sup>31</sup> The Vedanta project was stalled, and the “Other” had finally managed to get “us” to acknowledge their deep connections with land and *Niyam Raja* [literally the King of Law], with the mountain/God. As I have argued earlier, the Supreme Court too, as it adjudicated in favour of the Dongria Kondhs, responded positively to petitions defending the “identity, culture and other customary rights of Dongria Kondhs”.<sup>32</sup>

I have earlier explored the political potential of the Niyamgiri resistance, some elements of which merit a brief summary here.<sup>33</sup>

28 Prakruti Ramesh, ‘Rural Industry, the Forest Rights Act, and the Performance(s) of Proof’, in Kenneth Bo Nielsen and Patrik Oskarsson (eds), *Industrialising Rural India: Land Policy and Resistance*, (London/New York: Routledge, 2017), 173.

29 Daniel J. Rycroft and Sangeeta Dasgupta, ‘Indigenous pasts and politics of belonging’, in Daniel J. Rycroft and Sangeeta Dasgupta (eds), *The Politics of Belonging in India: Becoming Adivasi* (London/New York: Routledge, 2011), 4.

30 ‘Rahul Gandhi to Orissa Tribals: You Have Saved Niyamgiri’, *NDTV*, 26 August (2010) <http://www.ndtv.com/india-news/rahul-gandhi-to-orissa-tribals-you-have-saved-niyamgiri-428884> (Website accessed on 28 December 2016).

31 *Ibid.*

32 Siddharth Nayak, Writ Petition No. 549/07 filed in the Supreme Court of India. See Radhika Krishnan and Rama Naga, “Ecological Warriors” versus “Indigenous Performers”: Understanding State Responses to Resistance Movements in Jagatsinghpur and Niyamgiri in Odisha’ for more a more detailed reading of this argument.

33 See section ‘Your voice reached Delhi and you saved your land...’ in Radhika Krishnan and Rama Naga, “Ecological Warriors” versus

For the Congress, these vocabularies of contrast presented political opportunities as well as dilemmas. Unlike its rival, the Hindu nationalist BJP, the Congress' electoral fortunes were built around its ability to prove its responsiveness to concerns of the poor and the marginalized. The mainstay of its successful bid to power in the 2009 *Lok Sabha* elections was a campaign highlighting the National Rural Employment Guarantee scheme (NREGA), the Right to Information, and the Forests Rights Act. The Dongria Kondhs, whose sustained protests also saw the clear 'performance' of indigeneity, and the reworking and '(re)production' in a sense of traditions in order to highlight indigeneity and collective reverence for the mountain/god Niyamraja, appeared as useful candidates for a community which needed to be both protected and revered.

The Dongria Kondhs' successful portrayal as a community under siege, as authentic nature-loving *adivasis* who have a deep and spiritual bond with the mountain eco-space thus provided the Congress with the opportunity to build on its political image as a party 'concerned' with *adivasis* and their lives. The dilemma, on the other hand, was whether or not to crush the resistance of the visibly 'primitive' Dongria Kondh world. The Dongria Kondh experience moreover reminds us of the power of stereotypes around the 'primitive', nature-loving *adivasi*, of the political potential of harnessing these stereotypes, and also of the possibilities of 'performing' indigeneity. We are made aware, in other words, of how 'ecological warriors' in order to be recognized as such in the political arena, might well have to actively 'perform' indigeneity, even inventing 'tradition' and reshaping rituals in the process. Equally, these vocabularies of contrast have the potential to delegitimize environmental representations which fail to highlight their 'primitiveness' and deep, spiritual links to nature. Arguments couched in the language of environmental (as well as social and economic) costs and benefits could as a consequence be pitted unfavourably against arguments framed in 'cultural' and religious terms. In the same vein, we also need to take note of other forms of environmentalist representations which have the potential

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"Indigenous Performers": Understanding State Responses to Resistance Movements in Jagatsinghpur and Niyamgiri in Odisha' for more details.

to radically alter both political articulation as well as widespread reception of environmentalism. Surely an exploration of Hindu nationalism and Indian environmental politics is in order here.

Mukul Sharma, as he explores some of the iconic moments (and figures) in Indian environmentalism, urges us to map the larger ideological universe that informs environmental movements. He warns us that one can hardly escape the political import of varied environmental expressions, since any articulation of environmental concerns inevitably involves drawing images of an ideal "space", and perhaps even of an ideal "culture" or "community". Sharma makes a strong case against a somewhat persuasive and prevalent narrative that environmental politics is "beyond Left and Right, nationalism and communalism, Brahmin and Dalit, authority and democracy, nationalism and ultra-nationalism".<sup>34</sup> Through his study of various environmental movements, he states that environmental politics, while it can exist independently, can equally be transformed by these categories. "Consciously or unconsciously, overtly or covertly [certain environmental movements] have expressed themselves in ways that aid articulations of revivalist and nationalist Hindu thought", he argues.<sup>35</sup>

Sharma further makes a distinction between what he terms the 'Greening of Saffron' and "Saffronizing of Green".<sup>36</sup> The former is the addition of visibly 'environmental' issues in the overall demand set of right-wing cultural nationalist organizations, a process which seeks more legitimacy for its wider ideological agenda. The Shiv Sena's campaign against a nuclear project in Ratnagiri or support for demands raised by the coastal fishworkers' movement in Mumbai, examples of 'greening' of the saffron agenda, can be seen as designs to further mass support and build new mass bases. Sharma underlines the inherent limitations of this process, devoid as it is of a strong ecological rationale. It tends to show its contradictions, such as when the Hindu Right opposes construction of the Tehri dam and

34 Mukul Sharma, *Green and Saffron: Hindu Nationalism and Indian Environmental Politics* (Ranikhet: Permanent Black, 2012), 11.

35 *Ibid.*, 6.

36 *Ibid.*, 12-17.

simultaneously appears as vociferous supporters of the Sardar Sarovar dam.

The Saffronizing of Green, on the other hand, is a consistent attempt to actively shape and reshape the environmental agenda in order to further the Hindu Right's cultural nationalist worldview. Sharma usefully shows us how the movement against the construction of the Tehri dam gets strongly molded as a defense of Hinduism, *Hindutva* and the *Hindu Rashtra* [Hindu Nation]. The Vishwa Hindu Parishad poses the Tehri dam as a threat to the 'nation' from 'Red' China, Muslim Pakistan, Communist Russia and the 'western' world which has wreaked havoc on 'Indian' cultural ideals and values.<sup>37</sup> From debating costs and benefits of the dam, the discourse shifts to defending religion and culture from a clearly identified 'enemy' in the shape of the unwanted 'intruder' in the cultural and political world of the 'nation'. Yet another heavily feted environmental model, Ralegan Siddhi in Ahmednagar district in Maharashtra, can help us unpack more dimensions of this 'saffronizing' project, Sharma tells us. Well-recognized in environmental narratives as a "green village", the *modus operandi* which forms the backbone of the project is hardly based on principles of freedom and democratic participation.<sup>38</sup>

Both saffronizing of the green and greening of saffron, in other words, have clear political implications. One allows for a wider range of political actors to espouse the environmental question, and in process perhaps provide greater traction and even legitimacy) to environmental issues. Greening of saffron, with all its limitations, could possibly provide wider audiences and more access to corridors of power to the environmental movement. On the other hand, saffronizing of green, while creating a platform for promoting environmental issues, fundamentally alters environmental narratives. Be that as it may, accounting for the possibility of 'environmental'

37 See Mukul Sharma, 'Passages from Nature to Nationalism: Sundarlal Bahuguna and the Tehri Dam Opposition in Garhwal', *Green and Saffron: Hindu Nationalism and Indian Environmental Politics*, 95-145.

38 See Mukul Sharma, 'The Making of an Authority: Anna Hazare and the Watershed Management Programme in Ralegan Siddhi', *Green and Saffron: Hindu Nationalism and Indian Environmental Politics*, 48-94.



concerns appearing as social and economic ones, we simultaneously need to factor in the politics of representation, of indigeneity and its performances, as well as the implications of 'saffronizing' of the environmentalist agenda.

The politics of representation, and indeed complex political and cultural mediations, play a role in establishing (or not) communities and individuals as 'ecological defenders'. Baviskar urges us to keenly observe the discourse around natural resources through the lens of "cultural politics".<sup>39</sup> Cultural politics, she suggests, could explain how discourse(s) emerge, how the symbolic fuses with the material to create narratives around resource use. This, Baviskar reminds us, is a crucial complement to existing studies on the interplay between resource use and structures of power. Bringing in cultural parameters is by no means a process of excluding or undermining the existence of power structures; rather it is a means to identify fresh ways in which power seeks to exercise itself within environmentalist discourses. New environmental narratives are created, fresh parameters are in the process used to selectively legitimize (and delegitimize) various environmentalist expressions.

Environmentalist representations contend with certain intuitively persuasive binaries: 'nature' *versus* 'production', economic rationality *versus* ecological sustainability and industrial worker *versus adivasi*. Establishing environmental credentials is, thus, by no means a given, even as individuals, communities and movements seek to highlight issues of resource alienation, ecological degradation and loss of livelihoods. Cultural narratives of the 'sacred' and the 'traditional' are brought into play, 'vocabularies of contrast' appear as the proverbial elephant in the room, shaping and reshaping not just environmentalist articulations but responses to these articulations. As the trajectory of the protests in Niyamgiri suggests, the identity of protagonists mediates the message and informs specific performances and responses. As Naga and I ask: "Do ecological warriors occasionally need to 'perform' their indigeneity in order

39 Amita Baviskar, 'Introduction', in Amita Baviskar (ed.), *Contested Grounds: Essays on Nature, Culture and Power* (New Delhi: Oxford University Press, 2008), 1.

to be recognised as such? Do ecological claims articulated by non-*adivasis* need to be pitted against *adivasi* lifestyles and cultures?"<sup>40</sup> What are the implications thereof, for environmental representations and discourses? Alternatively, as Prathama Banerjee argues, would environmental discourses be strengthened if we raise concerns related to "land, ecology, territory, sovereignty, representation and language" as issues of "general import", instead of remaining confined to "restrictive" categories of tribe and *adivasi*?<sup>41</sup>

The 'sacred' has frequently been invoked in Indian environmentalism, Murlidhar Devidas (Baba) Amte and his proffered rationale for opposing the Sardar Sarovar dam being a useful case in point:

Today I have become part of the battle to save the Narmada, one of the most sacred rivers in India, from massive dams which would destroy a whole way of life that depends on the river and its life-sustaining water...the battle is for the whole earth, to stop the immorality of destructive 'development'...we must seek a path of greater kindness, tolerance and respect for all forms of life.<sup>42</sup>

A social activist known for his work with leprosy patients, Amte moved to the banks of the Narmada River to resist construction of the dam. He invokes, as we see, the sacred, the 'spiritual', the 'moral' and the traditional, framed as they are in the larger cultural world of compassion and respect. As Mukul Sharma usefully points out, this phenomenon can take on more contemporary – and politically far more significant – forms. The harnessing of environmentalist expressions within the Hindu nationalist framework (and vice versa) thus forces critical reflection. "Indigenism" and "obscurantism meet to influence environmental narratives; "purity and pollution, the

40 Radhika Krishnan and Rama Naga, "Ecological Warriors" versus "Indigenous Performers": Understanding State Responses to Resistance Movements in Jagatsinghpur and Niyamgiri in Odisha', 894.

41 Prathama Banerjee, 'Writing the Adivasi: Some Historiographical Notes', in *The Indian Economic & Social History Review*, Vol. 53, no. 1 (2016), 151.

42 Cited in Roger S. Gottlieb, *This Sacred Earth: Religion, Nature, Environment* (New York: Routledge, 2006), 631.

sacred and the non-sacred, the holy and the unholy, the indigenous and the foreign, and in some cases the local and the migrant” become the frames of reference.<sup>43</sup> Natural resources, as they become the subject of ‘environmental’ movements, get undeniably embedded in the larger framework of religious and nationalist mobilizations.

The river, for instance, shifts from being an endangered source of livelihood to being a symbol of an endangered nation, under attack from well-defined internal and external enemies. The symbolism and political messaging are hard to miss: the river is now a metaphor for a defeated people seeking to rewrite their destiny. Capturing and building as it does on long traditions in India of framing the river as the “Mother”, this emotive narrative calls upon her “sons” to avenge the insult on her dignity. In this ideological universe, environmental ‘protection’ and ‘conservation’ become synonymous with cultural wars, deeply enmeshed they are in metaphors of revenge, retaliation and collective loss. These shifting cultural landscapes are of significant import in current Indian politics and Indian environmentalism, since they fundamentally reshape notions of polity as well as ecology.

### Exploring the Possibility of a ‘Green Party’

In the previous sections, we saw how environmentalism in India gets entangled in and within various narratives. The CMM, as we have noted in detail in earlier chapters, emerged and operated in central India. Beginning with organizing mineworkers in Dalli Rajhara, the CMM expanded its operations as well as mass bases. Several authoritative accounts have seen distinct elements of environmentalism in the CMM’s efforts. In Omvedt’s reading, the CMM “consciously” built worker-peasant unity, and was “moving to give a new meaning to ‘green’ itself”.<sup>44</sup> Baviskar speaks of CMM’s “sustained engagement with ecological issues in agriculture and

43 Mukul Sharma, *Green and Saffron: Hindu Nationalism and Indian Environmental Politics*, 17.

44 Gail Omvedt, ‘Search for Alternatives’, in *Reinventing Revolution: New Social Movements and the Socialist Tradition in India* (New York and London: M.E. Sharpe, Inc., 1993), 236.

industry”, even as she points out that it has not been perceived as an environmental movement.<sup>45</sup> The CMM, even as it entered the messy world of electoral politics early on in its political journey, never built itself on the lines of the European Greens. In the Dalli Rajhara area, the CMM was arguably a political force to reckon with in the 1970s and the 1980s.

As Omvedt and Baviskar indicate, an attempted “worker-peasant” unity, when it manifests itself in the electoral arena, is likely to highlight markedly different concerns from those which preoccupy middle class environmental activists in the city space. Besides, it would not come as a surprise to see common ‘environmental’ concerns being articulated in markedly different cultural and political forms. Nevertheless, if as Omvedt puts it, the CMM was articulating a new “green” agenda, a position that this research too substantiates, the CMM is definitely a candidate in a study of ‘green’ political and electoral articulations in India. In our quest to study the political difficulties of formulating and popularizing the ‘green’ agenda in Indian politics, the CMM’s electoral trajectory has the potential to provide some insights. The CMM has been in the electoral fray in Madhya Pradesh (and later in Chhattisgarh when several districts in the south-eastern parts of MP were declared a separate state) since 1977, when it contested two of the total of 320 constituencies in the state. The CMM has since then consistently been participating in the Assembly elections, even as it went through several political and organizational upheavals. Over the years, the political fortunes of the CMM have fluctuated in response to internal and external crises that have rocked it. In the early 1990s, the CMM broke into several factions, as a result of both ideological and personal differences in its leadership. Following the murder of Shankar Guha Niyogi in September 1991, the CMM went through a phase of political disarray, accentuated by the vacuum in organizational leadership caused by the murder.

45 Amita Baviskar, ‘Red in Tooth and Claw?: Searching for Class in Struggles over Nature’ in Raka Ray and Mary Katzenstein (eds.), *Social Movements in India: Poverty, Power, and Politics* (Lanham, MD: Rowman and Littlefield, 2005), 172.

These political vicissitudes apart, the CMM has maintained a somewhat consistent electoral performance in one constituency – Dondi Lohara in MP/Chhattisgarh, which is a seat reserved for candidates belonging to tribes recognized as ‘Scheduled Tribes’ by the State (see Table: *Chhattisgarh Mukti Morcha's Electoral Performance*). Any electoral analysis obviously has to take note of several broad political trends, such as the nature of the electoral system and political discourse, and the nature of the ‘Party system’ within which various contestants operate. Within constitutional democracies, as we know, various models of electoral systems exist. The first-past-the-post (FPTP) or winner-takes-all system (operational in the UK, Canada, US, India and Pakistan for instance) allows the candidate with the maximum number of votes to win, even if this is not the majority of the total votes cast. In proportional representation on the other hand, the political divisions in the electorate are completely reflected in the elected body.<sup>46</sup> Clearly, the nature of the electoral system will have a substantial impact on electoral fortunes as well as political efficacy of organizations. It can, for instance, be inferred that the FPTP system will disincentivize the existence of multiple parties in the electoral fray, given that it allows for relatively limited potential for smaller parties to intervene actively in elected bodies.

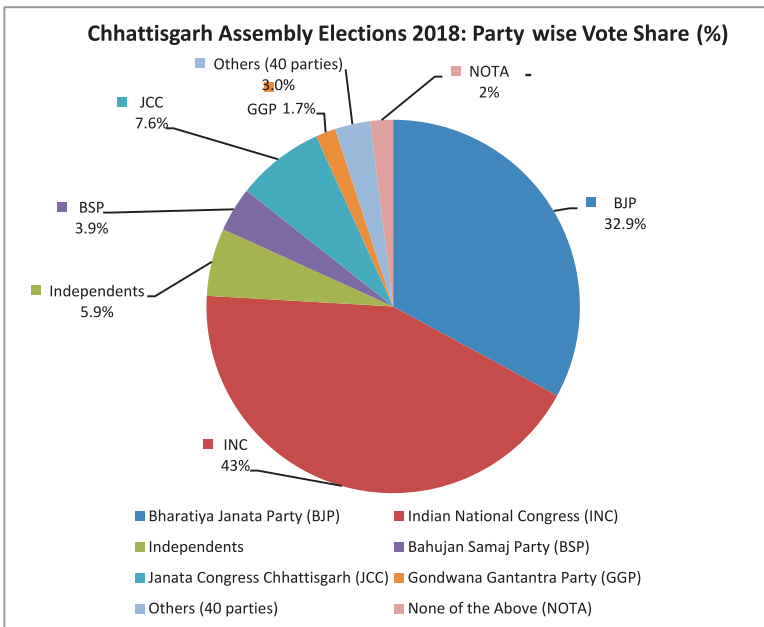
Similarly, the nature of Party systems can have an impact on electoral fortunes.<sup>47</sup> Much has been written on the characteristics of Party systems, and the potential (or lack of it) hence offered for various political actors to utilize the electoral arena. Mair, for instance argues that there are four main Party systems (based on political efficacy of small parties): ‘large party systems’ where small parties have no relevant impact; ‘small party systems’ where small parties have an important influence and where vote for the ‘small

46 If n percentage of the electorate support a particular political party, then roughly n percentage of seats will be won by that party.

47 Read section *Classifying the External Environment: the Role of Party Systems* in John Burchell, ‘Placing Green Politics in a “Party” Environment’, in *The Evolution of Green Politics: Development and Change within European Green Parties* (London: Earthscan, 2002), 33-36 for a useful account of the various categorizations of party systems.

parties' block is more than 50 per cent; 'intermediate systems' where the small parties' vote amounts to around 35 per cent, but where small parties have slightly less influence within the system, and finally 'transitional systems' where there has been a change from a large to a small party system or vice versa.<sup>48</sup> These overall parameters of reference and analysis will naturally come into play in our study of the CMM's performance.

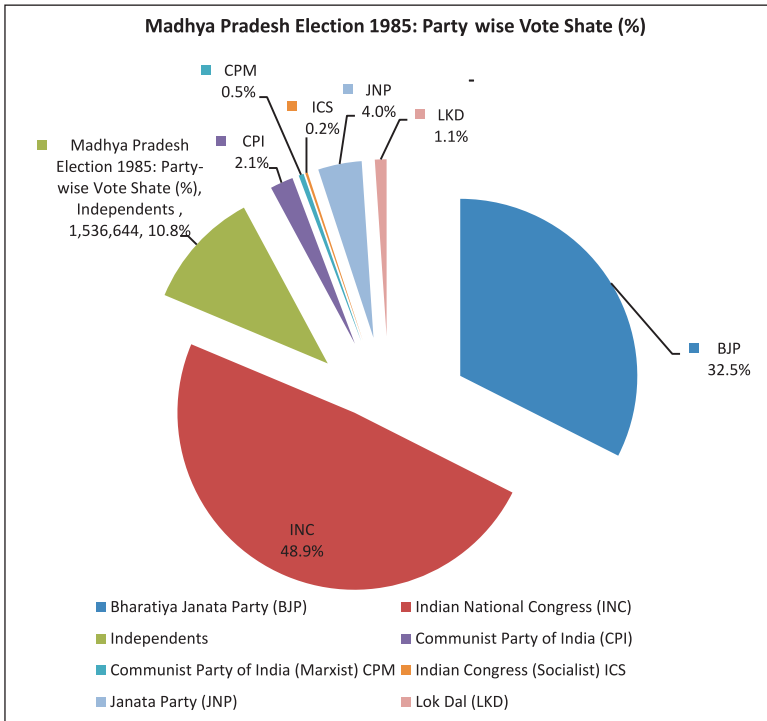
The electoral landscape in both Madhya Pradesh and Chhattisgarh is characterized by two parties accounting for a substantial share of the votes (between 75-80 per cent). In 2018, the BJP and the Congress together between them accounted for 75.9 per cent of the total votes (in the Chhattisgarh Assembly elections), while this figure was 81.4 in the 1985 Madhya Pradesh elections, indicating



Source: *Statistical Report on General Election, 2018 to Legislative Assembly of Chhattisgarh* (New Delhi: Election Commission of India, 2018).

48 Peter Mair, 'The Electoral Universe of Small Parties in Postwar Western Europe', in G Pridham and F Muller-Rommel (eds.), *Small Parties in Western Europe* (London: Sage, 1991), 47.

a reasonably consistent electoral pattern. The 1977 elections, as we know, conducted in the aftermath of the Emergency, saw an unprecedented oppositional unity and anti-Congress mobilization. In MP, the Janata Party (with 47.3% votes) emerged as the single largest electoral force, and together with the Congress accounted for 83.4 per cent of the votes. The *Bharatiya Jana Sangh* [Indian Peoples' Party] founded in 1951 and essentially the predecessor of the BJP had merged with the Janata party in 1977. We can then safely assume that the regional political landscape in MP/Chhattisgarh shows a strong prediction for a large party system.



Source: *Statistical Report on General Election, 1985 to Legislative Assembly of Chhattisgarh* (New Delhi: Election Commission of India, 1985).

Another notable feature is the existence of an entire plethora of small parties (see Table: *Party Performance – Chhattisgarh Assembly*

Table: Chhattisgarh Mukti Morcha's Electoral Performance

YEAR	No. of Seats Contested	Votes	Total Votes cast	% Vote Share	
1977 (MP)	2	3683	11708036	0.03 (4.2)	(Forfeited deposits in both seats)
1980 (MP)	1	13923	12082304	0.12 (29.2)	(Came runner up in Dondi Lohara ST seat)
1985 (MP)	1	27301	14195617	0.19 (45.1)	(WON Dondi Lohara ST seat)
1990 (MP)	8	29013	19876907	0.15 (5.4)	(Forfeited deposits in 7, came runner up in Dondi Lohara ST seat)
1993 (MP)	23	95833	23671840	0.40 (5.2)	(Forfeited deposits in 22, WON Dondi Lohara ST seat)
1998 (MP)	13	51546	26553385	0.19 (4.1)	(Forfeited deposits in 12, came runner up in Dondi Lohara ST seat)
2003	8	37335	9653571	0.39 (4.1)	(Forfeited deposits in 7, came 3rd in Dondi Lohara ST seat)
2008	3	36238	10745187	0.34 (7.2)	(Forfeited deposits in 3, came a close 3rd in Dondi Lohara ST seat)
2013	1	19577	13073833	0.15 (12.7)	(Forfeited deposit, BUT came 3rd in Dondi Lohara ST seat)
2018	1 (plus 1 as Independent)	19434	13993517	0.14 (6.02)	(Forfeited deposit, BUT former CMM leader Janaklal contested as Independent and came 4th in Dondi Lohara ST seat)

\*Number in brackets refer to the percentage vote share in seats contested

Source: Analysis done on the basis of data published by the Election Commission of India in its state-wise reports



*Elections 2018*). Apart from the BJP and the Congress, the Bahujan Samaj Party (BSP), the Janata Congress Chhattisgarh (JCC) and the Gondwana Ganatantra Party (GGP) appear as relevant players in regional politics, garnering enough support to influence the results in some constituencies. Espousing as they do specific agendas and aspirations, they also represent the potential to shift political discourse. Parties such as the Chhattisgarh Swabhiman Manch (CSM) and the GGC are founded primarily on an agenda of regional chauvinism, their manifestos and demands forwarding an aggressive *Chhattisgarh Chhattisgariyon ka* [Chhattisgarh for Chhattisgarhis] discourse, on the lines of similar articulations by the Shiv Sena and the Maharashtra Navnirman Sena in Maharashtra. Forty other parties contest elections, even as their performance does not lead to representation. The electoral dynamics of Chhattisgarh, in other words, allows for the presence of multiple political voices, even as they fail to register a presence in the elected Assembly.

**Table: Party Performance – Chhattisgarh Assembly Elections 2018**

<i>PARTY</i>	<i>Votes Polled</i>	<i>No. of Seats</i>
Bharatiya Janata Party (BJP)	47,06,830	15
Indian National Congress (INC)	61,43,880	68
Independents	8,39,041	0
Bahujan Samaj Party (BSP)	5,52,313	2
Janata Congress Chhattisgarh (JCC)	10,86,514	5
Gondwana Gantantra Party (GGP)	2,47,428	0
Others (40 parties)	4,35,792	0
None of the Above (NOTA)	2,82,738	0

*Source: Statistical Report on General Election, 2013 to Legislative Assembly of Chhattisgarh* (New Delhi: Election Commission of India, 2013).

Over the years, the CMM has adopted different electoral strategies. Most often, it has decided to contest on a couple of seats in its core area of operations, where it hopes to register a respectable performance. In 1993 and 1998, the CMM sought to expand its electoral presence, an experiment that was decidedly not successful.

In fact, whenever the CMM has moved out of the very limited region of Dondi Lohara, it has ended up receiving less than a sixth of the total votes, thus forfeiting its deposit as per rules set by the Election Commission of India (ECI). Regulations in India require a candidate to make a minimum monetary deposit with the ECI at the time of filing nominations, a deposit that will be forfeited if the electoral performance falls below a previously stipulated level. This rule, designed to dissuade small players from contesting, is recognized in the public sphere as an informal marker of political relevance. The CMM's performance thus sends out the clear message that outside of Dondi Lohara, it has visibly failed to affect the political discourse.

The failure of the CMM to expand its political base beyond Dondi Lohara, a region where the CMM began its turbulent political journey organizing contract labour, could perhaps indicate certain trends. The CMM in fact won this seat twice (in 1985 and 1993), with Janaklal Thakur being elected as the local Member of Legislative Assembly (MLA). In an essentially bi-polar state-level contest, this is indeed an interesting phenomenon. In trying to understand the reasons and import of the CMM's performance in Dondi Lohara, some analysts have argued that this win is at least in part attributable to factional-fighting in the Congress Party in Madhya Pradesh.<sup>49</sup> In the 1990s, the Chhattisgarh region was recognized as a stronghold of the influential Shukla family. The sons of the veteran Congress leader Ravishankar Shukla, Vidyacharan and Shyamacharan Shukla, had established formidable political control over the region. Arjun Singh, Congress leader and a powerful force in the rest of MP, covertly supported *adivasi* leaders in the region against the Shukla brothers, in order to build a parallel power centre in Chhattisgarh. Janaklal Thakur's opponent Jhumaklal Bhedia was one of the known rebels to the Shukla's political fiefdom. When Bhedia was given the Congress ticket, Thakur in turn received covert political support from the Shukla faction of the Congress.

49 See for instance EPW, 'NSA to Crush Dalli-Rajhara Mine Workers', *Economic and Political Weekly*, Vol. 16, No. 13 (28 March 1981), 559+561+563-565.

The CMM's performance in Dondi Lohara speaks of the potential to convert an organized workforce into an electoral base, even as it indicates the inherent limitations of this potential in India's complex political landscape. Given its visible base in Dondi Lohara and its record of raising local concerns, it could tap significant support. While CMM's political base has eroded over years, it polled nearly 20,000 votes here even in the 2013 and 2018 Assembly elections. The CMM's failure to move beyond Dondi Lohara in its quest for electoral success is equally significant. Much like the Marxist Coordination Centre, a similar labour-based political experiment in Jharkhand, its electoral forays were distinctly limited. Clearly, breaking a strong two-party discourse is far from easy in Chhattisgarh; particularly on an electoral platform emphasizing workers' and farmers' rights. A combination of factors, including the nature of India's electoral democracy and existing ideological divides as well as the FPTP system, influences the opportunities available for new entrants in the political system.

### **Chhattisgarh Mukti Morcha versus the Jharkhand Mukti Morcha**

If the CMM was struggling to carve out an electoral space for itself in Chhattisgarh's political arena, in the neighbouring region of Jharkhand, another political formation was faring remarkably better. The *Jharkhand Mukti Morcha* [Jharkhand Liberation Front, henceforth referred to as the JMM], established in 1972, was the product of ethnic and regional aspirations in the *Adivasi*-dominated regions of eastern India. The JMM, in a sense, is the most powerful political form of existing regional and ethnicity-based aspirations in eastern India. Since its inception, the JMM has seen considerable success in terms of its ability to influence regional politics where it has emerged as a significant political force. While its electoral clout has been limited to Jharkhand, it has demonstrated the ability to win elections, influence narratives and steer political debates in the state.

Social and political chronicles of the region point out that there is a long and rich history of a demand for separate, *Adivasi*-based, statehood in this region. The specific demand for an autonomous

state for Jharkhand can be traced back to 1920, when the *Chhotanagpur Unnati Samaj* was formed. Soon after, in 1938, the *Adivasi Mahasabha* was formed with the intention of uniting tribes across denominational and geographical differences and towards the goal of intensifying the movement for an autonomous Jharkhand. By 1951, *Adivasi Mahasabha* had emerged as a full-fledged political party. However, the *Mahasabha* was renamed the 'Jharkhand Party' and membership was extended to *sadaans*, the non-*Adivasis* who had settled permanently in Chhotanagpur and the Santhal Parganas. In the 1952 assembly elections, the Jharkhand Party did remarkably well – winning 32 seats in the Bihar legislative assembly and thus becoming the largest opposition party.

The efforts of the Jharkhand Party to remain politically relevant and to establish electoral hegemony, however, continued to be subverted. Several commissions constituted in independent India to look into various demands for reorganization of states refused to endorse its demands for Jharkhand's separation from Bihar and for a separate autonomous state. The Jharkhand Party nevertheless continued to hold sway in the region, winning between 23–32 seats in the Bihar legislative assembly till 1962. After the States Reorganization Committee failed to accede to the demand for a separate state, a demoralized Jharkhand Party merged with the Congress in 1963. Jaipal Singh Munda, its best-known leader, became a minister in the Congress-led government in Bihar. In the process, the Jharkhand Party subsumed its core principles and identity within the broader Congress umbrella. Many factions of the Jharkhand Party subsequently emerged in the aftermath of this political and electoral disaster, each claiming to uphold the legacy of the struggle for Jharkhandi identity. N.E. Horo led one faction; yet another was led by Naren, while the All India Jharkhand Party led by Bagun Sumbrai as well as the Hul Jharkhand Party led by Justin Richard emerged. Another faction was the Bihar Progressive Hul Jharkhand Party, led by Shibu Soren.

The trajectory of the Jharkhand Party laid the foundation for the Jharkhand Mukti Morcha which emerged approximately a decade after the Jharkhand Party ceded its identity and its existence to the Congress. The JMM was formed in 1972 and is often seen as having

revived the Jharkhand movement. Its election symbol in Jharkhand is a green flag with a 'Bow and Arrow', an indication surely of the JMM's primary mass base (*Adivasis*) and its ideological predilections. While the JMM has refashioned itself as a defender of regional aspirations, as the bulwark against political machinations in Patna and New Delhi, its primary identity as an *Adivasi* party remains unassailable. Fittingly perhaps, the JMM was officially created on a day that marked the anniversary of the birth of the legendary *Adivasi* leader Birsa Munda. Munda, an iconic figure in the region, idolized for his unrelenting battles to defend the rights of *adivasis* against British colonialism, also became an important symbol of Jharkhandi identity, of Jharkhandi pride and of regional aspirations.

Having a *Santhal* (Shibu Soren) as its most prominent face, the JMM right from the beginning had non-*Adivasi* leaders such as Binod Bihari Mahto for instance. A.K. Roy and the Marxist Coordination Committee (MCC), actively working amongst mineworkers in Singhbhum and Dhanbad, were also initially part of the JMM. The three leaders – Soren, Mahato and Roy – represented in a sense three prominent political mass bases in the region. Mahato had founded *Shivaji Samaj* in 1967, an organization focusing on social reform amongst the Kurmi community in Jharkhand. Soren was a prominent Santhal leader and had founded the *Sanat Santhal Samaj* in 1969 to work amongst and organize Santhals in the region. The MCC had a significant following amongst mineworkers in the region, and given that Jharkhand's economy was heavily dependent on mineral extraction, this was a crucial mass base. Mahato became the President and Soren the General Secretary of the JMM soon after it was formed. Therefore, in its early years, the JMM brought together industrial and mining workers who were mainly (Dalit and OBC) non-tribals, OBC groups such as the Mahatos as well as *Adivasis*.

In its initial days, the JMM ran campaigns which catered to these diverse mass bases. Its *Maaro Mahajan*, *Maaro Daroga* campaign targeted village-level institutions which were seen as tools employed by the state to oppress *adivasis* and deprive them of their rights. The *Fasl Jabt*, *Zameen Jabt* as well as the *Jungle Kato* campaigns fought back against tribal alienation from land, and targeted feudal social structures and social relations in the village. The JMM talked about

control over forests and water resources; it opposed displacement caused by 'development' projects; it pushed for local participation in decision-making and demanded jobs for locals. In other words, the JMM's initiatives reflected a range of issues emerging from the villages, forests and mines in the region. This approach, however, saw shifts over time, shifts that would impact the JMM's electoral trajectory.

While the Jharkhand Party's merging into the Congress provided the impetus for the formation of the JMM, the underlying political dynamics of the region did not change substantially. Independent political and electoral assertion remained a difficult process. Smaller parties attempted to build a narrative of regional and ethnic discrimination. However, translating this into a powerful electoral performance proved as difficult as ever. Given this situation, the urge to merge their fortunes with larger parties such as the Congress (and later the Bhartiya Janata Party, BJP) remained, and showed up in shifting political and electoral alliances. Here again, the JMM's experience is a useful case study. The JMM, as we saw, had three specific ideological and social strands within it. However, Shibu Soren's growing (and perceived) closeness to the Congress rocked this political coming together of mineworkers, *Adivasis* and OBCs such as Kurmis. This closeness led to Roy and Mahato's growing distance from the JMM and their subsequent exit. In addition, JMM's closeness to the Congress led to the emergence of new political formations such as the All Jharkhand Students' Union (AJSU). Younger members of the JMM, wanting to chart a path independent of the Congress, set up AJSU. Though the AJSU failed to be a significant player in its initial days, it has remained a political actor in the region over the years.

At this juncture, it would be useful to compare the electoral performance of the JMM with that of the CMM. We need to see the similarities and the differences in the electoral landscape, in the challenges faced by smaller players and in possibilities presented for brining environment-based narratives to the mainstream. The state of Jharkhand came into being in 2000, and has 81 Vidhan Sabha constituencies and 14 Lok Sabha constituencies. Prior to the formation of Jharkhand too, the JMM contested elections to the

Bihar State Assembly. Just as in Chhattisgarh, the Congress and the BJP have been formidable players in Jharkhand and in neighbouring Bihar. However, the political landscape in Jharkhand is somewhat different from Chhattisgarh. The JMM has been a prominent force in Jharkhand since 2000, along with the BJP. While the Congress remains a force to reckon with in the state, other parties too (such as the Rashtriya Janata Dal, the Jharkhand Vikas Morcha, the All Jharkhand Students' Union and the CPI-ML) exercise various degrees of influence in different parts of the state.

It is therefore clear that unlike Chhattisgarh, parties other than the two main national parties (Congress and the BJP) exercise influence in Jharkhand and are surely central to the electoral dynamics in the region (See Table: *Party-Wise Performance in 2020 Jharkhand Assembly Elections*). If one looks, for instance at the most recent elections conducted in the state – Assembly elections conducted in 2020 – the JMM accounted for 19 per cent of the votes. One needs to take into account that the JMM had contested in alliance with the Congress. The Congress accounted for 14.1 per cent of the votes, and therefore the JMM-Congress alliance easily rode to power in the state. At the same time, parties such as the JVM and the AJSU garnered 5.5 and 8.2 per cent of the votes. The JMM has been part of the ruling alliance two times in Jharkhand out of the five elections conducted in the state's history, and has recorded creditable performances even when it has been forced to remain the opposition (see Table: *Analysis of Party-wise Performance in Jharkhand Assembly Elections*). Even in the Lok Sabha Elections, where national parties tend to hold greater sway, the JMM has consistently won seats, often outperforming national parties such as the Congress and the BJP (see Table: *Analysis of Party-wise Performance in Lok Sabha Elections, Jharkhand*). In 2014 for instance, it won 2 Lok Sabha seats in Jharkhand, while the Congress could not win a single seat.

If one looks at the JMM's performance in Lok Sabha Elections, we can see that in terms of total vote percentage, it could never make a mark. While the JMM fielded candidates in multiple states (including in Jharkhand, Bihar, West Bengal Chhattisgarh and Odisha), its vote percentage remained low, despite the fact that it fielded candidates in *adivasi*-dominated constituencies in multiple

**Table: Party-Wise Performance in 2020 Jharkhand Assembly Elections**

<i>Party</i>	<i>Seats</i>	<i>Votes %</i>
Jharkhand Mukti Morcha	30	19
Bhartiya Janata Party	25	33.8
Indian National Congress	16	14.1
Jharkhand Vikas Morcha	3	5.5
All Jharkhand Students' Union	2	8.2
Independents	2	6.6
Others	3	12.8

**Table: Analysis of Party-wise Performance in Lok Sabha Elections, Jharkhand (Total Seats: 14)**

<i>Election Year</i>	<i>Party-wise Performance</i>
2004	Congress: 6; JMM: 4, RJD: 2, BJP: 1, CPI: 1
2009	BJP: 8; JMM: 2; Congress: 1, Jharkhand Vikas Party: 1; Independents: 2
2014	BJP: 12; JMM: 2
2019	BJP: 11; AJSU: 1, Congress: 1; JMM: 1

**Table: Analysis of Party-Wise Performance in Jharkhand Assembly Elections (Total Seats: 81)**

<i>Year</i>	<i>Party-Wise Performance</i>
2000	NDA:40 (BJP: 32, Samata Party:5, JD(U): 3) JMM:12, Congress:11, RJD: 9, CPI:3, Others:6
2005	NDA: 36 (BJP: 30, JD(U):6) UPA: 26 (JMM: 17, Congress:9), RJD:7, Others: 12
2009	UPA: 25 (Congress: 14, JVM(P):11) NDA: 20 (BJP: 18, JD(U):2) JMM:18, RJD:5, AJSU:5, Others: 8
2014	NDA: 42 (BJP: 37, AJSU: 5) JMM:19, JVP(P): 8, Congress:6, Others:6
2019	UPA:51 (JMM: 30, Congress: 18, RJD: 1, CPI(ML): 1, NCP: 1) NDA: 28 (BJP:26, AJSU:2) Independents: 2



Table: Performance of the JMM in Lok Sabha Elections

Year	Contestants	Won	FD	Total Votes	Party Votes	Party Votes %
1984	10	0	8	24,95,85,334	3,32,403	0.1 %
1989	12	3	6	30,07,76,423	10,32,276	0.3 %
1991	14	6	8	27,82,23,387	14,81,900	0.5 %
1996	29	1	24	33,48,73,286	12,87,072	0.4 %
1998	16	0	10	36,83,76,700	13,24,548	0.4 %
1999	23	0	20	36,44,37,294	9,74,609	0.3 %
2004	2	5	3	38,97,79,784	18,46,843	0.5 %
2009	42	2	36	41,71,59,281	16,65,173	0.4 %
2014	21	2	18	54,78,01,604	16,37,990	0.3 %
2019	13	1	0	60,72,03,159	19,01,976	0.3 %

\*FD: Forfeited Deposit

Source: Data collected and analyzed by [www.indiavotes.com](http://www.indiavotes.com)

Table: Performance of the JMM in Jharkhand Assembly Elections

Year	Contestants	Won	FD	Total Votes	Party Votes	Party Votes %
2020	43	30	0	1,48,43,858	28,17,442	19.0 %
2014	79	19	35	1,36,33,131	28,32,727	20.8 %
2009	77	18	46	1,01,95,028	15,39,035	15.1 %
2005	49	17	18	1,01,28,820	14,47,774	14.3 %

\*FD: Forfeited Deposit

Source: Data collected and analyzed by [www.indiavotes.com](http://www.indiavotes.com)

Table: Performance of the JMM in Bihar Assembly Elections

Year	Contestants	Won	FD	Total Votes	Party Votes	Party Votes %
1995	63	10	46	3,45,64,463	8,03,132	2.3 %
1990	82	19	52	3,20,63,793	10,08,174	3.1 %
1985	57	9	39	2,43,23,868	4,43,822	1.8 %
1980	31	11	13	2,24,88,908	3,80,891	1.7 %

\*FD: Forfeited Deposit

Source: Data collected and analysed by [www.indiavotes.com](http://www.indiavotes.com)

states. In the 2009 elections, it forfeited its deposits in 36 out of the 42 seats it contested. While it continued to win from some seats (such as Dumka) where it has traditionally been a powerful force, its performance elsewhere has been poor. On the other hand, the JMM has consistently accounted for 14-19 per cent of the total votes in the Jharkhand Assembly elections. When Jharkhand was still part of Bihar, the JMM accounted for 1.7-3.1 per cent of the total votes in the Bihar Assembly elections.

The Jharkhand Mukti Morcha (JMM) provides an interesting case study in this regard. Riding as it did on a specifically ethnic and regional agenda, the JMM surely brought to the fore some of the social and economic elements of environmentalism. We need to ask: how then can we explain the arguably substantial political influence JMM enjoys in Jharkhand? The JMM, even as it highlighted issues of displacement, resource alienation and poverty, was perceived by its audience as a champion of regional and ethnic concerns. It was, in a sense, the 'local' David-like resistance against the hegemonic machinations in Patna and New Delhi. This clear and unambiguous articulation of identity, ethnicity and regionalism in fact marks its differences with the CMM in terms of narratives and strategies. Positioning itself as the electoral voice of the *adivasi*, the JMM probably succeeded where the CMM could not.

Environmentalism in India struggles with several challenges as it attempts to carve an independent political and electoral space for itself. More often than not, social and economic concerns appear as useful and relevant proxies for the environment. Besides, political structures and processes present themselves as formidable obstacles. The CMM's electoral trajectory speaks eloquently of these obstacles. Representing, as it did, concerns and interests of the working class, the particular brand of environmentalism it espoused attempted to shape the industrial wage labourer and the farmer as a defender of the environment. This attempt, as we saw, is bound to clash with overwhelming cultural notions around the *adivasi*. In a cultural universe where the 'primitive' *adivasi* is feted as a green warrior and a bulwark against modernity, the worker saddled with her inevitable association with the polluting factory struggles to prove

her environmental credentials. The CMM's electoral trajectory has to be seen in this larger context.

“Our Western aiders and advisors did not wish us to become men of steel. They would prefer us to grow timber, bamboo or even weak stalk like jute and mesta. What we should do is engineer a big change from trading to manufacturing. That's what planning is all about – getting out of the jute swamps”

–T.T. Krishnamachari<sup>50</sup>

“It matters a great deal, in terms of what actually gets designed, whether or not the designers and users are the same people, whether or not they know each other, whether or not they view each other as equals, whether or not they have power over each other, whether or not they are friends”

–David F. Noble<sup>51</sup>

50 This quote, ascribed to T.T. Krishnamachari, is extracted from an interview he gave to K. Krishnamoorthy, quoted in K. Krishnamoorthy, *Engineering Change: India's Iron and Steel* (Madras: Technology Books, 1984), 211. 'Mesta' is a variety of jute grown in West Bengal, Assam and Odisha.

51 David F. Noble, *Forces of Production: A Social History of Industrial Automation* (New Jersey: Transaction Publishers, 2011).

## CHAPTER 3

# Reworking Notions of the ‘Trade Union’ and Organized Labour

India’s first minister for Commerce and Industry and former finance minister T.T. Krishnamachari’s acerbic observations, that India needs to “move out of the jute swamps” that our colonial rulers and Western advisors wanted us to wallow in, indicate the predominant predilection of policymaking in India in the decades following freedom from colonial rule. The Bhilai Steel Plant, as we have earlier noted, was a crucial pillar in this model of development. Workers and trade unions in the BSP had to grapple with the overarching narrative of technology ushering in growth, progress, well-being and prosperity to a country rendered economically crippled by centuries of colonial rule. The dilemma for them, in a sense, was this: Were they to engage with technological choices of the nation in a meaningful manner? Would that engagement fall within the remit of ‘trade union practice’? How would the contours of this engagement be shaped, and who would be the actors and stakeholders in this engagement? This chapter attempts to begin a conversation on these questions. I argue that experiences of the *Chhattisgarh Mukti Morcha* allow us to imagine the possibilities (and limitations) of such an engagement. The chapter begins with a brief description of the CMM’s initiatives in the technological domain. We then place this engagement in the backdrop of other civic engagements with technology. In the process, we attempt to see broad patterns in such engagements and use these patterns to understand the nature of the technology-society interface. We see the CMM – with its multiple interventions in the environmental as well as technological domains – as a part of a broader phenomenon of alternative trade unions that emerged in the 1970s and 1980s, wherein trade unions were

reworking their structures, their agendas and their practices. This chapter is essentially a mere starting point of a broader discussion on the vexed question of organized responses to technology and technological choices.

### **Exploring Technological Choice: Addressing Production, Employment and Technology**

At the CMM office, close to the now abandoned mines, one is confronted with multiple narratives of how and when the “red and green” came together in the local imagination to frame a fresh ecological engagement with the industrial project. At another level, however, the story of Dalli Rajhara is simultaneously a narrative of skills, learning, systematic deskilling and relearning. The introduction of capital-intensive technology and industry in a predominantly agrarian, subsistence economy is rarely an uncontested process. New technological regimes and knowledge systems often collide with existing ones, and this process can result in the creation of new structures, knowledge and methods of interaction. The manner in which this played out in the Dalli Rajhara mines has been explored in some detail elsewhere.<sup>1</sup>

One has to point out that the CMM was operating in a context where large-scale mechanization and subsequent mass retrenchment were an ever-looming spectre as far as organized labour was concerned. When the CMM started operating in the Dalli Rajhara mines, manual mining was employed to extract the iron ore. The manual mining operations were to be subsequently replaced, after some decades, by completely mechanized operations. In between however the CMM – working with some engineers who volunteered to make the Dalli Rajhara mines office their home and assist the workers in working out fresh technological choices –

1 For an account of the challenges faced by the CMM in the Dali Rajhara mines, see Krishnan, Radhika, ‘Rethinking Technological Choices and Knowledge Production in the Mines and on the Factory Floor’, *African Journal of Science, Technology, Innovation and Development*, Special Issue on Informal Innovations, 2014, 6(3): 213-221.

came up with the idea of '*ardh-mashinikaran*', semi-mechanization. What was this option of "semi-mechanization"? It was essentially an innovation in the industrial process, a reordering of the process in order to ensure more participation of human labour. It involved a restructuring of the production lines, replacement of machinery, as well as a reallocation of duties performed by labour. In this semi-mechanized process, it is the jaw crusher rather than human labour which is now rendered obsolete.

Some details are pertinent here. To fully appreciate the dynamics of the discourse around mechanization, it is useful to understand the implications of different mining processes. Fully mechanized mining activity consists of the following steps: (1) Prospecting of ore to identify the quality and quantity of ore present (2) Quality blocking (3) Construction of roads to allow movement of shovels (4) Preparation of mining 'blocks', each around 8-10 feet deep (5) Drilling of holes using Ural 61 as well as SBSH machines (6) Blasting of ore with dynamite (7) Excavation of the blasted ore using shovels (8) Transportation of ore by dumpers (9) Crushing and sizing of large ores measuring around 1,000 mm, in jaw crushers (10) Resizing of ore in cone crushers (11) Screening, sorting and washing.

In the manual mines, many of these steps were done away with by the use of human labour power. After prospecting and quality blocking, drilling and blasting, teams (each typically consisting of one man and one woman) are assigned the task of excavating ore using pickaxes or spades and subsequently transporting the ore to collection sites located some distance away, near the screening yards. More of the ore-processing – from sorting and screening to stacking of ore – is done manually. Crushing is thus absent, and raising (excavation and loading) of ore largely depends on human labour. The shift of mining operations from manual mining to fully mechanized mining would therefore essentially involve not just loss of jobs, but the loss of skills and the need to acquire fresh ones as workers adjust to new equipment and mining processes.

In this debate on mechanization with the Bhilai Steel Plant management, mineworkers had to deal with the somewhat alien vocabulary of 'efficiency', 'productivity' and 'quality'. The workers moreover saw an essential and interesting difference between

technique/technology and the machine, stating that ‘taknik’, technique or technology was not solely resident in the machine, and in fact human labour was the primary repository as well as keeper of ‘taknik’, technique and technology. In dealing with shifting technological paradigms, the mineworkers and the CMM articulated a curious and perhaps nebulous desire to ‘internalize’ technology. Labour cooperatives, workshops and garages were opened; workers assured the management they would handle part of the mining cycle themselves through their labour cooperatives and without the intervention of labour contractors. The cooperatives faced various challenges, and had to constantly improvise, innovate and create technological solutions to keep production going.<sup>2</sup> In the process, a counter-culture of cooperation was sought to be created, where competition would be replaced with collectivity and constructive activity. It was, moreover, a dialogue that refused to see “technology” as a static entity that had to be “received” passively by labour.

Rather than an uncritical acceptance of technological choices presented to the working class as *fait accompli*, the CMM thus attempted to change the frame of the debate by posing an alternative model of technology and industrialization. For the CMM, genuine needs could be met by protecting the livelihoods of farmers and workers in various small-scale industries – the potter, the weaver, the ironsmith and the manual mineworker were to be the mainstay of economy in the CMM’s framework.<sup>3</sup> Industrial development was, thus, sought to be seen as a seamless part of a larger project which included rural and agricultural development, a project whose complex contours were articulated in several ways. Moreover, the CMM rejected the notion that technology could be “value-neutral”; it identified two kinds of technologies: *deshpremi* [patriotic] and *deshdrohi* [anti-national] while choosing the employment-generating capacity of technology to be one of the important benchmarks to

2 For an account of the challenges faced by the CMM in the Dali Rajhara mines, see Radhika Krishnan, 2014, pp. 213-221.

3 ‘Chote aur Sundar Chhattisgarh ki Or’, in Anil Sadgopal and Shyam Bahadur (eds.), *Sangharsh aur Nirman: Shabeed Shankar Guha Niyogi aur Unka Naye Bharat ka Sapna* (New Delhi: Rajkamal Prakashan, 1993), 64.



identify its suitability and “patriotic” content. Unlike the All India Trade Union Congress (affiliated to the Communist Party of India), which tended to see inherent “socialist” benefits accruing to labour due to technology imported from the then USSR, the CMM sought to evaluate technology through the prism of workers’ experiences.

There are several questions that arise from the CMM’s interventions in the technological domain. To begin with, how does one understand the role of the trade union in the domain of technology and technological choice? Within Indian trade unionism, the responses of organized workers to the question of technology fall within two broad streams. On the one hand, trade unions, while being skeptical of technology, have focused on the impact of technological changes on daily working lives in the shop floor. In other words, technology is primarily viewed as another tool in the hands of yielders of power (factory managements, capital, the state, and the like). But this understanding of technology as a handmaiden, if you may, of power, rarely manifests itself in the form of a sustained intervention in the process of technological design and technological choice. The focus, rather, is on what technology does to workers’ lives and livelihoods. What are the questions and concerns that emerge from this engagement? New technological regimes could spawn issues of changed (and worsened) working conditions, of retrenchment, of radical deskilling and forced reskilling. Authoritative accounts of the workers’ movement in India reveal that these concerns often figure in workers’ pamphlets, in negotiations, and in oral narratives. Within these narratives, technology is shaped by political and social dynamics within society; structures of power dictate the impacts wrought by technological changes. Technology per se has little autonomous control. Decisions on its introduction, its design, its implementation and consequent impacts are driven by humans and human societies, therefore negating any efforts on the part of trade unions to participate in technological design that happens in the ‘developer’ environment of technology.

There is, on the other hand, another trend to be seen in trade union responses to technology. Here, technology is framed primarily as a social good, as an exemplar of modernity and as a harbinger of better times. Technological advance is a juggernaut that is not

just inevitable, but desirable, in this reading. While this ideological strand is defined by the lack of skepticism towards technology and what is seen as the inevitable advancements engendered by technology, there are crucial commonalities in these two response patterns. Both showcase a hesitance to engage with technological design and the 'developer' environment of technology in a sustained fashion. Neither attempts to enter into the realm of analyzing or reworking technological design. This is precisely where the CMM's interventions break away from established trends. CMM clearly gave itself the mandate of critiquing and engaging with technological designs, and in the process inserted itself into the 'developer' environment of technology.

Once trade unions enter into an engagement with technology, a related set of questions emerge. How and why should trade unions engage in this process? Does this engagement fall within the purview of 'workers' rights' espoused by trade unions? What are limitations and challenges in this engagement? The domain of science, technology and society studies (STS) has indeed spent considerable energy in locating the various dimensions of the technology-society interface. While there are arguably serious differences of opinion on the matter, there have been attempts to identify the specific nature of science and technology, and concomitantly to access the potential for the social construction of technology. The field has evolved significantly from broad dichotomies of technological determinism *versus* social construction. In the process, we now have a rich body of research which gestures towards a more nuanced reading of the technology-society relationship. Even as STS scholars help us to understand, for instance, the myriad ways in which social movements engage with and influence (or not) the process of constructing scientific knowledge and 'fact', philosophers of technology have compelled us to reflect on the connections between technology and democracy.

### **Civil/Public Engagement(s) with Technology**

In the modern industrial world, technology is a ubiquitous presence; an all pervasive phenomenon modulating, regulating and even controlling the daily world of industrial wage labour. For workers in

the mine pit and in the shop floor, the option to ignore technology (and attendant impacts) and technological changes hardly exists. Given this reality, it should perhaps not be seen as an aberration for a trade union to engage with technology, even as we recognize that Indian trade unions rarely do. The question for us is to understand the nature of this engagement. STS scholars have looked at how 'counter-expertise' – claims and conceptions of practice from outside the established realms of knowledge production – can be accommodated in the domains of both science and technology. The course of the big dam project for instance offers us some scope to explore the potential of counter-expertise, as Sanjeev Khagram shows.<sup>4</sup>

In India, the Sardar Sarovar Project (SSP) initiated in 1978 and involving several thousand 'small' dams and 165 'big' dams was a truly ambitious project, involving a multitude of actors. Apart from planners, policy makers and technocrats involved in the initial stages of the project, several donors from across the world (including the World Bank, the United Nations Development Program and other foreign bilateral donors such as Japan) emerged as important stakeholders. Fifteen years after its initiation, the project was far from completion. It had invited mass protests highlighting a wide set of concerns. Following a transnational campaign by non-governmental organizations (NGOs) and social movements, Japan and other foreign donors withdrew support. In 1991, the World Bank conducted an independent review of the SSP, the first ever since its establishment. Following a particularly critical report, the World Bank withdrew its funding. Soon after in 1995, the Supreme Court halted implementation of the project. The SSP, as we know, eventually did manage to navigate these obstacles. However, as Khagram points out, an important question we need to ask is this: Why were historically weak and marginalized groups able to prevent

<sup>4</sup> Sanjeev Khagram, 'Restructuring the Global Politics of Development: The Case of India's Narmada Valley Dams', in Sanjeev Khagram, James V. Riker and Kathryn Sikkink (eds.), *Restructuring World Politics: Transnational Social Movements, Networks, and Norms* (Minneapolis and London: University of Minnesota Press, 2002), 206-230 for a good historical account of the movement against the SSP.

far more powerful interests and organizations from completing the SSP in the 1990s?

Answering this pertinent question, Khagram identifies the crucial role of what he calls “transnational networks”. A cursory look at the history of resistance to the big dam project would tell us that anti-dam movements have a global presence. Khagram tells us that transnational networks of solidarity developed between these various (and occasionally disparate) voices of protest across the globe. Subsequently, there was a concerted push for international norms on protection of indigenous peoples’ rights, on human rights and on environmental preservation. The United Nations Declaration on the Rights of Indigenous Peoples came into being, and in several ways, we saw an institutionalization of norms and structures. For Khagram, this signified a “restructuring of global ‘development’ practices and policies”. There was consequently a greater role for historically weak NGOs and social movements.

This, however, does not indicate the potential that social movements have to intervene in the process of making technological decisions and developing technological designs. Scholars of social movements will inform us that multiple factors play a role in allowing movements and civic institutions a space in the decision-making process. A crisis of legitimacy could encourage powerful institutions such as the state or corporations to include those hitherto kept away. New narratives and public discourses could emerge, propelled by the coming together of new social actors and/or a conducive political climate. This could in turn lead (as the trajectory of the public discourse on big dams suggests) to new institutions, new norms and structures. However, we need to ask more questions in our quest for understanding the nature of the technology-society interface. What is the nature of the space wherein technical design takes place and technological decisions are taken? Is it so overwhelmingly dominated by the scientific expert, the technocrat, and the influential policy-maker? Is the military-industrial complex, as Dwight Eisenhower put it, so powerful that none outside of it stands the chance of shaping and reshaping the trajectory of technological development? These questions have undeniably vexed a host of stakeholders, ranging from ‘outsiders’ and those marginalized by the ‘military-industrial’

complex to scientists well entrenched within the system. As we try and understand the CMM's initiatives, we need to ask these questions in the specific context of trade unions, organized industrial wage labour, and the dynamics of the industrial shop floor.

Mondli Hlatshwayo's work on trade unions in South Africa can leave us with useful insights. Hlatshwayo tells us that organized labour faces specific structural constraints and systemic obstacles.<sup>5</sup> To begin with, Black workers encountered a workspace palpably imbued with the spirit of racism and apartheid. The labour regime placed white workers in "strategic" positions as artisans and technicians, consequently "enjoying better working and living conditions and earning higher wages compared to their black counterparts".<sup>6</sup> Unions such as Solidarity responded (much like the CMM's interventions amongst the largely Chhattisgarhi contract workers, we might add) by actively targeting and mobilizing Black workers, setting up training schools and social programmes specifically designed to counter this structural obstacle. Secondly, as Hlatshwayo shows in his study where he differentiates between a "proactive" and "reactive" approach to technological change, many factors sway the choice the approach.

Various scholars have described the "reactive" approach, characterized as it is by a near exclusive focus on safeguarding jobs and wages. Technological change is seen as "business as usual" at best, as *fait accompli* perhaps, and trade union bargaining focuses on merely reducing its adverse impacts.<sup>7</sup> It has been pointed out that unions across the globe tend to respond in a "reactive" fashion, British and American trade unions in the steel industry being an illustrative example. There is little emphasis on trying to enter the debate on technological choice at an earlier stage when larger blueprints and

5 Hlatshwayo, Mondli, 'A reactive approach to technological changes: Solidarity's responses to ArcelorMittal Vanderbijlpark Plank, 1989-2012', *Transformation* (85) 2014, 43-63.

6 *Ibid.*, 43.

7 Nicolas Bacon, Paul Blyton and Jonathan Morris, 'Among the ashes: Trade union strategies in the UK and German steel industries', *British Journal of Industrial Relations*, Vol. 4, No. 1 (1996).

designs are discussed. As a result of this delayed entry into the decision-making space, an opportunity is thus lost to intervene in a fundamental manner to change the technological trajectory. Trade union interventions then threaten to become negotiations over “funeral arrangements”.<sup>8</sup> In India too, we have seen ample instances of this reactive approach.

It would be unhelpful to read this divide between approaches as if they were divorced from the material features and social relations within which they operate. The choice of adopting a proactive approach can be an elusive mirage, an ‘option’ which is technically ‘offered’ (or not) but far more likely to be conspicuously absent. The actual functioning of industrial establishments could offer several impediments which scuttle the exercise of this choice. Industrial managements inform workers about impending technological change at a stage when decisions are already taken and in the process of being implemented. Apart from being kept out of important decision-making processes, workers are doubly constrained because they lack access to knowledge and structures which could help them analyze and respond to tectonic shifts in the workspace. These constraints of time and resources can without doubt be debilitating. And hence it would be more constructive to view these ‘choices’ within context.

### **Technological Change: Lessons from Labour History in the US**

After being left with a healthy dose of optimism about the possibilities of technological intervention by the marginalised ‘non-expert’, it would appear to be a good moment to look at how the worker-technology interface has played out in the real world. David Noble’s detailed social history of automation in the US allows us an entry point in this regard. Noble’s *Forces of Production* is meticulous and even painstaking in its detail. It takes us through University spaces

<sup>8</sup> Scannell, ‘Adversary participation in the brave new workplace: technological change and the Bakery, Confectionery, and Tobacco Workers’ Union’, in Glenn Adler and Doris Suarez (eds.) *Union Voices: labor’s responses to crisis* (Albany and New York: Suny Press, 1993), 115.

and corporate boardrooms, through laboratories, government offices and shop floors to introduce a range of stakeholders.<sup>9</sup>

Noble makes several counter-intuitive arguments which fly in the face of contemporary economic theory. In laying the grounds for the book, which is about post-War automation in the US, he reminds us of the backdrop: militant (and eminently successful) trade union struggles, Cold War dynamics, increasing militarization and fetisization of national security, early and deep connections between elite University spaces and military decision-making spaces. Trade unions won impressive battles at a time when industry was hitting back with attempts to curb the right-to-strike, to get rid of more radical union leaders and dismantle workers' struggles:

The unions now attempt to make management's decisions on prices, on profits, on production schedules, on depreciation reserves and on many other phases of industrial operation...Unions are already influencing hiring, the size of the workforce, layoffs, promotions, discipline, wages, and hours – albeit far from decisively – and they had begun to move into the areas of health and safety, outside contracting, and even production itself, meaning job content as well as production and wage rates...focusing attention on types of machinery and equipment and methods of production.<sup>10</sup>

Workers, dealing with intensification of work, deskilling as well as downgrading of jobs, were clearly focussing their attention on production. This, for industrial managements, was disturbing, because it clearly held out the spectre of loosening control over the workspace. Noble asserts that this fear of workers dominating the workspace and “taking over” from the management played a decisive role in the history of automation. He suggests that the mainstream narrative around automation is flawed, precisely because it tends to overlook the backdrop in which these momentous changes took place and the main reasons thereof. The elephant in the room, for Noble, is the management's need for close surveillance, control and

9 David F. Noble, *Forces of Production: A Social History of Industrial Automation* (New Jersey: Transaction Publishers, 2011).

10 Quoted in *Ibid.*, 30.

monitoring.<sup>11</sup> To deal with this “labour problem”, managements came up with two solutions: “detailed division of labour and work simplification, on the one hand, and mechanization and automation on the other”.<sup>12</sup> These strategies, which “neatly complemented and reinforced each other” each other, were designed to deny workers “mental control” over production and job content. The allure of “Machines without Men” was essentially driven not so much by economic considerations as by the appeal of a workspace which could be centrally controlled with the help of a few highly skilled technicians.

Besides, established institutions which yielded tremendous political, military and economic power, served to normalise a discourse around high-technology wherein “often fantastic ideas” were “rendered viable” and “unwieldy and expensive inventions” came to be termed as “practical”.<sup>13</sup> In other words, disproportionate power exerted by certain social forces and institutions played a significant role in shaping technological trajectories. Within this narrative, the scientific community (in the best technical schools and research laboratories) too is seen as somewhat complicit. The intellectual enthusiasm for participating in ‘cutting-edge’ technological developments and being at the frontiers of technology did play a part in ensuring the willing cooperation of institutions such as the Massachusetts Institute of Technology (MIT). This intellectual enthusiasm and desire for academic advancement was bolstered of course by the ample funding available with these established institutions. In this backdrop, contentious dissenters such as the MIT mathematician Norbert Wiener who chose not to cooperate with the political agendas of the State after the Second World War were excluded from the rarefied realms of decision-making within Universities and research laboratories too.

11 *Ibid.*, 32-33. He mentions, for instance, managements’ ire with “idle time” and “outright loafing”, and the subsequent efforts to record every minute of “lost time”. The six-minute “grace period” allowed to workers was eliminated, for example.

12 *Ibid.*, 36.

13 *Ibid.*, 56.



Noble thus paves the way for a nuanced reading of the world of technological choice, “the drive behind...automation was complex, encompassing a range of economic, technical and political motives”.<sup>14</sup> In tracing the trajectory of automation in the US, Noble tells us that the choice of machinery and technology was actually far less driven by economic considerations. Various economic factors – considerable initial capital investment, cost of programming and reprogramming to suit the needs of diverse customers in the business of manufacturing, expenses of training and hiring skilled technicians – were underwritten, ignored or glossed over. Technologies that amounted to partial automation (and hence only partial control over the workspace for the management) were rejected over technologies that were far more expensive and complicated. To make this point, Noble shows how the technology of numerical control (N/C) gained a definite upper hand in technological narratives despite its obvious limitations in terms of economics and its efficiency in the manufacturing sector.<sup>15</sup> N/C was an “automatic machinist” capable of providing the managements’ much-needed model of factory without workers. It met the military requirements for greater quality control; the levels of precision it was capable of was not a serious requirement in industries manufacturing for commercial purposes.

Noble, moreover, shows that scientists with an understanding of industrial economics (such as the electrical engineer F.P. Caruthers who worked for the Thompson Equipment Company, a metalworking factory in Long Island), found their concerns systematically undermined even within academic spaces like the MIT. Caruthers, as he worked on the N/C technology, began to see many defects in its applicability on the shop floor. He, thus, pioneered the ‘Specialmatic’ approach, which allowed for far more versatility and control by the operator on the shop floor. For Caruthers, this meant “better work, cheaper and simpler machines, more reliable production and more jobs”.<sup>16</sup>

14 Ibid., 61.

15 See chapter ‘By the Numbers I’, in Ibid., 79-105 for the detailed argument.

16 Ibid., 94.

Yet, as the history of automation tells us, this was not to be. Caruthers and his agenda were systematically diverted and undermined in the MIT and through the overt and covert agenda-setting strategies of the US Air Force. This history also tells us how the most renowned educational and technical institutions too, over time, began mirroring agendas of their funders – the MIT being a useful case in point. As contracts with the Department of Defence emerged as the mainstay of MIT's financial health, the nature and specifications of government contracts soon began to dictate the research agenda of the institute. There were other individuals too, including John Parsons of the Parsons Corporation (one of US' largest manufacturer of helicopter rotor blades), whose technological inputs ultimately succumbed to the onslaught of more powerful established interest groups. Any account of Parson's work can hardly afford to bypass an interesting fact: the two main interest groups with any say in the N/C debate were the Air Force and the manufacturing industry. Parsons, Caruthers and others who enjoyed an intricate knowledge of the shop floor in fact put forward purely economic arguments hinged on the idea of ensuring profits, reliability and efficiency for industry. It was, perhaps, coincidental that the technological choices they espoused were also more likely to be in tune with workers' demands, these designs not being obsessed with ideas of precision, complete managerial control, and workerless spaces.

There were, as Noble puts it, several "roads not taken". The road that was taken was indisputably charted by three communities – the military, the technical community which lent scientific sanction to a chosen path of development, and industrial managements. The first community provided crucial funding (and ideological backing), without which any technology struggled to make its way in the market. The second community, depending heavily on the first for its funding, provided the much-needed academic credentials. The third community, which did have specific ideological interests, however also found its concerns for profits and efficiency undermined by the other powerful communities. We might ask, as Noble does, does labour then find no space at all for leverage in this framework? His study and his analysis of the overall dynamics of technological choice portray too the potential of workers' engagement. Apart from the

potential of organized labour to demand for technologies that are more efficient while being more labour-friendly, Noble speaks of the utter indispensability of labour even in highly automated workspaces.

When the N/C technology was deployed on the shop floor, it was plagued with multiple problems. Profits plummeted, as did efficiency. Shop floor production-related wastages increased noticeably. Noble points out that industrial managements then learnt an important lesson. Their paranoid obsession for a workerless factory could find little space in a scenario when workers alone, with their intimate knowledge of the industrial process, could manage the new automated technologies efficiently. Noble's portrayal of the General Electric's (GE) 'Pilot project' is particularly illuminating. To briefly summarise Noble's narrative of the Pilot project, in order to address growing problems with the N/C technology, GE attempted to enlist the help of workers. The pilot project was initiated, which left workers free from minute supervision, and free to organize work around the new technology in the manner best suited for production. The experiment worked, at least as far as the workers were concerned. Workers believed that they had amply demonstrated improved efficiency and reduced losses and wastages. More crucially, workers were left with a newfound feeling of control over the workspace. The management, perhaps naturally, refused to share this optimistic assessment of the project. At the end of a 10-year long period of experimentation during which the workers presented the management with the best possible technical solution for using the N/C technology, GE instituted far-reaching changes in the production line based on workers' recommendations. The project ended, however, without the management conceding workers' demands related to wages, remuneration and control over the workspace.

The management refused to credit the workers for the changes they had brought to the shop floor. A denial of their contribution to technological choice apart, the management was loath to agree to a free workspace with minimal supervision, something that was a key element of the Pilot project. The Pilot project died a slow and painful death, with workers learning that while they could enter and even shape the domain of technological choice, their participation in this domain was contingent upon several political and ideological

factors. As they demonstrated their capability to enhance production and efficiency, they would still be denied their desire to control the workspace and avail themselves of higher wages. In Noble's entire analysis, therefore, technology and technological choice appears as a deeply social project. He argues that technological choices are conditional upon a complex matrix of concerns – social, political, military, ideological and economic. In the final run, technological decisions are hardly driven solely by the cold economic logic of the market. The domain of technological choice thus remains as open as any other to myriad processes of negotiation, contestation and even class war.

Langdon Winner's insightful piece on the politics of technological artifacts, published in 1982, asks a pertinent question.<sup>17</sup> Where exactly and how do we locate the politics of technology, if we do agree that technology indeed has inherently political elements and repercussions? In Lewis Mumford's characterization, two varieties of technologies exist side by side: Authoritarian (system-centred, powerful, inherently unstable) and Democratic (man-centred, relatively weak, resourceful and durable). In a backdrop where an entire gamut of technologies (from the factory system, automobiles, telephones, fertilizers, radios, TVs and the space program to nuclear power) get described as "democratizing, liberating forces", Winner urges us to assess whether the nature and hardware of technology is authoritarian or democratic.<sup>18</sup>

In Winner's analysis, the first way of understanding the relationship between politics and technology is to think of technical arrangements as 'forms of order'. In other words, how do technologies (along with the structures inherent to them) lead to particular social and economic orders? During the various stages of a technology, ranging from its invention and design to its active functioning in society, the "arrangement of a technical device" becomes a way of

17 Langdon Winner, 'Do Artifacts Have Politics?', *Daedalus*, Vol. 109, No. 1, Modern Technology: Problem or Opportunity? (Winter 1980), 121-136.

18 Quoted in *Ibid.*, 121.

“settling an issue in a community”.<sup>19</sup> Winner uses the example of the overpasses built on Long Island, New York to make his point. These overpasses, low-hanging and designed so that buses and trucks cannot pass under them, are for Winner means of social engineering. Technology in this case has the inherent characteristic of excluding public transport, a characteristic that would continue to shape the influence of the technology irrespective of the political and social forces that exist outside of it. The particular nature of the technology can, thus, be embedded in its design, just as a bias against race and class is embedded in the design of the bridges in New York. Similarly, Cyrus McCormick’s pneumatic molding machine designed in the 1880s to be used in a reaper manufacturing plant, shows Winner, had an inherent characteristic of requiring unskilled labour and producing inferior castings at higher costs.

In Winner’s analysis, technical engineering can, thus, seamlessly lead to social engineering. A technical artifact can create an exclusionary space devoid of the presence of the poor without any explicit political or social policy accompanying it; a factory owner can shape the demography of the factory floor and reduce the workforce using the machine as a tool: “What we mostly view as innocuous, “pre-political” objects such as buildings, roads or industrial machines, in fact contain and exercise a form of power...they are ways of building order in the world, not just neutral tools seeking efficiency”.<sup>20</sup> Winner is suggesting that the mere study of the ‘uses’ of technology, or of their ‘intended’ and ‘unintended’ consequences is insufficient. Such a focus is unconsciously based on the rather weak premise that the same technology can be put to different uses under different social and political regimes. He convinces us that designs and arrangements around technology are far more revealing, gesturing as they do towards the presence of influential promoters of the technological regimes. Be it a tomato harvester, a pneumatic molding machine or a low-lying bridge, technologies can act “as an embodiment of an order that rewards some and punishes others”.

19 Ibid., 123.

20 Ibid.

Winner also speaks of inherently political technologies that require, or are deeply compatible with, a kind of political relationship. The factory system, he states to cite an example, has an inherent authoritarianism given that it necessarily requires enforced coordination, discipline and timing. A technical system requires the creation and maintenance of certain social relations and conditions as the operating environment: “If you accept nuclear power plants, you also accept a techno-scientific-industrial-military elite. Without these people in charge, you could not have nuclear power”.<sup>21</sup> There is thus, for Winner, a strong compatibility with a certain kind of social and political relationship. To take this line of thought further, he delineates what he calls “internal” and “external” factors influencing technological trajectories and their impact on society. It is useful to ask: are a pattern of social relations the result of unavoidable properties of technologies, or are they imposed independently by a governing body/ruling class/social institution?

In 1989, a conference of the Society for the Philosophy of Technology discussed this very theme – the relationship between technology and democracy. Notable philosophers of technology such as Langdon Winner, Jacques Ellul, Albert Borgmann and Richard Sclove, amongst others, presented seminal papers at this conference. These papers were thereafter published in a book entitled, *Democracy in a Technological Society*.<sup>22</sup> Writing the introduction for this volume, Winner places the subsequent discussions in context. The backdrop of the Tiananmen Square massacre, the collapse of the Soviet Union and Berlin wall, and the use of a host of ‘new’ technologies in the spread of democracy provided much material for these deliberations. Four primary issues were identified: a) systemic inequality in social, political and economic relations; b) the rise of technocracy and the decline of citizen participation; c) the potential of social movements to support citizen participation in technological policy and d) the effect of technology in everyday civic life and the consequences for

21 Ibid., 130.

22 Langdon Winner (ed.), *Democracy in a Technological Society* (Massachusetts: Kluwer Academic Publishers, 1992).

genuine self-government.<sup>23</sup> These themes and concerns, between them, attempt to lay the philosophical contours of the complex relationship between technology and democracy. Take the first theme for instance. As Winner argues, is it sufficient to more evenly distribute “fruits of the machine”, or do we need to take serious note of the systemic inequality embedded in social and technological design, in economic practices, in our political systems?

The various papers presented at the conference offer the much-needed tools to understand the implications of any foray into the terrain of technological choice. Marx Wartofsky, as he highlights the deep linkages between technological regimes and social, political and economic power, speaks of the “two conditions” needed for democratic participation in the control and use of technology.<sup>24</sup> Wartofsky stresses the need for “adequately democratic modes of sharing” and participation in decision-making, as well as “adequately informed understanding of scientific-technical questions”, concerns which organized labour (and other social movements with a self-avowed interest in democracy) surely needs to address. Jacques Ellul, as he despairs of the utter lack of democratic potential in “western political institutions”, sees promise in “local communities”, “managing committees”, workshops, and “small gatherings of intellectuals”.<sup>25</sup> For Ellul, the “*demos*” has to regulate itself and keep the expert under its thumb, if democracy has to retain its essence. In a similar vein, John Fielder speaks of the gap between the “technosphere” and the “*demosphere*”, and for the need to ensure that the concerns of the *demos* gain precedence over those of the *techné*.<sup>26</sup> Technosphere, as defined by Fielder, is a space devoid of values, while *demosphere*

23 Langdon Winner, ‘Introduction’, in *Ibid.*, 1-10.

24 Marx W. Wartofsky, ‘Technology, Power and Truth: Political and Epistemological Reflections on the Fourth Revolution’, in *Ibid.*, 17, 30.

25 Jacques Ellul, ‘Technology and Democracy’, in *Ibid.*, 40-42. Ellul points out manipulation of the media, the falsification of the political discourse, and the establishment of a political class that “simply negates democracy” in articulating the rationale for his despair. See *Ibid.*, 30 for a detailed account of Ellul’s arguments.

26 John Fielder, ‘Autonomous Technology, Democracy and the Nimbys’, *Ibid.*, 112-113.

is rooted in the need to “humanize, subjectify and contextualize” key issues. Ellul and Fielder flag off the fear of technocracy becoming an oppressive, increasingly opaque, unapproachable and unaccountable social force; a concern once again shared and highlighted by any number of social movements.

Richard Sclove, who urges us to see technologies as social structures, looks for the “nuts and bolts of democracy” in technological design.<sup>27</sup> Just as social structures need explicit designs to exclude systematic hierarchies, technology too needs a “design criteria”, he argues, involving democratic politics, democratic communities and democratic work. This involvement in technological design is for Sclove a crucial part of political education.<sup>28</sup> Paul Durbin’s prognosis regarding “techno-economic injustices” and the concomitant disparities between the haves and have-nots (between socioeconomic classes in high-technology economies or between developed and so-called developing countries) is echoed in concerns of various technological thinkers such as Amulya Reddy in India and in demands of organized labour too.<sup>29</sup> These varied reflections on the technology-democracy interface provide us much scope to understand the dynamics of technological change.

### **Workers as Drivers of Technological Change**

The domain of technological choice appears, from various scholarly works, to be an intensely contested domain. As we began this study of the CMM’s engagement with technological choice, several questions arose. David Noble indicates that technological choices are seldom based solely on ‘economic’ prerogatives; he places ample stress on myriad social, political and ideological factors. Langdon Winner details for us various useful frameworks to understand the relationship between society, power structures, economy, democracy

27 Richard E. Sclove, ‘The Nuts and Bolts of Democracy: Democratic Theory and Technological Design’, in *Ibid.*, 139-160.

28 *Ibid.*, 153-154.

29 Paul T. Durbin, ‘Marxism and Democratic Control of Technology’, in *Ibid.*, 82.



and technology. David Noble reminds us to take note of the design as well as designer of technology, including the relationship between the user and designer of technology. These assorted views surely help us to place the *Chhattisgarh Mukti Morcha's* interventions in perspective. The nature of the CMM's interventions, while arguably novel for a trade union in India in the 1970s and 1980s, now do not appear to be an aberration, a curious detour from class-based trade union practice.

These discussions provide us with the tools to understand for instance the CMM's response to technology imported from the erstwhile USSR. This technology, the CMM claimed, was hardly 'socialist' because it was designed and manufactured in Soviet Russia. The test for socialism was in its design, in the inherent relationship with labour coded in its design. If we see, as Winner suggests, "technical arrangements" as the means for ordering social and economic relations, we could term the labour-saving nature of mechanization as a clear political tool. This was the rationale, surely, for CMM's emphasis on "internalizing" and "assimilating" the world of technology. We see articulations of these concerns for instance in the CMM's varied experiments of setting up garages, workshops and the like. The debates on democratization of technology have indeed underlined these very concerns.

As far as the potential for shaping technological regimes is concerned, research has indicated the varied ways in which social movements can intervene. As we have seen in previous sections, an entire gamut of movements and issues have been used in the process of addressing this question. Mondli Hlatshwayo flags off the potential (and need) for trade unions to adopt a 'proactive' approach to technological change. Structural limitations apart, David Noble's study of workers in a GE plant in the United States indicates the immense difficulties of this approach. The CMM too encountered similar difficulties in its own experiences in central India. The CMM fought spirited battles before the management of the Bhilai Steel Plant (BSP) agreed to implement its plans for semi-mechanization in the Dalli Rajhara iron ore mines. The successful implementation of these proposals nevertheless proved to be inadequate. By the mid-1990s, BSP had reverted to its original plans for complete mechanization of

the mines despite the CMM's resistance and the proven track record of semi-mechanization. The parallels with Noble's narrative are hard to miss. We need to underline at this juncture that the 'success' of the CMM's approach (or lack of it), hardly takes away the significant import of its avowedly "proactive" approach to technological choice.

'Alternative' trade unionism is hardly an unheard-of phenomenon, even if one concedes its relatively subdued and marginal presence in trade union practice. The *Global Labour Journal* ran a special issue in 2015, carrying several articles on what it termed as "creative and (un) typical campaigns".<sup>30</sup> Unions and labour movements have battled against gender inequality and also run minimum wage campaigns; they have demanded income redistribution, public access to drugs, and access to affordable renewable energy. Trade unions have occasionally raised environmental issues. It would be useful to analyse the CMM's interventions in this backdrop.

The 1970s and the 1980s were indeed decades of reinvention and adaptation of ideas, and within the labour movement, too, there were surely signs of this churning and reinvention. Niyogi and the CMM can possibly be seen within this larger framework. Niyogi, while expressing his concerns over what he saw as "revisionism" and "left wing deviation", was equally critical of notions that saw dialectical materialism and Marxist-Leninist practice as an orthodox, inflexible agenda set in stone.<sup>31</sup> Instead, he argued for a 'creative' engagement with this 'science': "The manner in which this science [dialectical materialism] will be applied or analyzed in various countries will depend on all the social and political circumstances".<sup>32</sup> Alternative trade union models and practices were therefore seen to be in the process of evolving in India, in this search for adaptation to specific social and political conditions.

30 Michelle Williams, 'Transformative Unionism and Innovative Campaigns Challenging Inequality', *Global Labour Journal*, Vol. No. 6, Issue No. 3 (2015), 253.

31 Anil Sadgopal and Shyam Bahadur 'Namr', 'Ek asamapta yatra ke shabdchitra', *Lokayat*, 28 February 2005, 27.

32 Shankar Guha Niyogi, 'Hamaare baad ki peedhi hamaara sthaan swayam hi le legi', in *Samkaleen Teesri Duniya*, December 1991, New Delhi, 8.

Comparisons can be made, surely, between the CMM and other trade unions such as the *Bihar Colliery Kamgaar Union* (BCKU) led by Arun Kumar (A.K.) Roy in the coal belt of Dhanbad. The BCKU, like the *Chhattisgarh Mines Shramik Sangh* (CMSS) in Dalli Rajhara was essentially an effort to bring together unorganized contractual mine workers. Like the CMSS, the BCKU phenomenon – whose roots in the Dhanbad coal belt have been traced to the widespread unrest against the state-owned coal industry and the stranglehold of the coal mafia – was hardly restricted to the coalfields. In Jharkhand, it was indeed a unique moment of coming together of mineworkers, *Adivasis* and peasants: concerns of poor peasants in the countryside aligned with the anti-mafia struggle of unorganized labourers in urban localities, even as *Adivasis* and non-*Adivasis* found common ground. It would therefore be prudent to locate Niyogi and the CMM moment within this larger framework of adaptation, where ideas of caste, class and identity were being re-examined. Remarkable similarities can be read between A.K. Roy and Niyogi, and consequently between the CMM and the MCC.

In choosing a “red *and* green” framework to address what was seen as “backwardness” in Chhattisgarh, “class consciousness” hardly proved to be a deterrent for an engagement with ecology. CMM envisioned labour not just in the factory and the mines, but also in the field and forest. In this imagination, therefore, the categories of the “worker” and the “peasant” were seen as being seamless and intermingling. It is these practical, academic, ideological and deeply productive implications for labour – the culture of a constant engagement with the “worker”, and the subsequent reluctance to ignore any arena of engagement be it “environment” (however defined) or technology, the reframing of the very category of the worker, the foregrounding of identity and dignity, production and livelihood – that existing labour narratives have possibly tended to underplay.

## CHAPTER 4

# Conclusion

Early in the morning of 28 September 1991, a hired assassin Paltan Malla fired through a window in the Chhittisgarh Mines Shramik Sangh (CMSS) office, riddling the body of the sleeping Shankar Guha Niyogi with bullets. The trial court convicted Bhilai industrialists Moolchand Shah, Chandrakant Shah, and Naveen Shah as well as Gyan Prakash Mishra, Avdhesh Rai and Abhai Singh and sentenced them for life, while sentencing the shooter Paltan Mallah to death. The industrialists were from the prominent Simplex and Kedia business groups, and their conviction marked a rare moment when industrialists were convicted in a court of law for killing a labour leader. But the convictions were overturned by the Madhya Pradesh High Court. Eventually in 2005, the Supreme Court upheld all the acquittals except that of Paltan Mallah, whom it sentenced for life. But why did Paltan Mallah assassinate a trade union leader? Who hired him? The apex court left that question unanswered – satisfying itself by convicting the hired gun alone.

More than three decades since his assassination, we can, however, meet Niyogi in his afterlife, if we choose to look for him. Niyogi was one of the pioneers in trade unionizing contract workers, making a break with the labour aristocracy of his times. Today, however, contract work has become the norm, at BSP and other plants owned by the Steel Authority of India Limited (SAIL), and even in the government sector. As trade unions today grapple with the challenges of organizing contract workers, and as contract workers' struggles (such as the one at Maruti Suzuki's Manesar factory) emerge as some of the defining labour movements of our times, they look back to Niyogi for insights and guidance.

Niyogi's legacy – of organizing workers; forcing the world to see and hear Chhattisgarh's *Adivasis*; building a hospital for workers;

speaking up about environmental concerns that are inconvenient to industrialists and ruling politicians alike – was and continues to be a threat to corporate interests and majoritarian politics, not just to local industrialists. Just as Niyogi was seen as a “Naxalite” and thus too seditious to be a BSP employee in the late 1960s, those who walk in his path too have been persecuted and framed under draconian laws. Dr. Binayak Sen, pediatrician and civil liberties’ activist whose work is inspired by Niyogi and the Shaheed Hospital, is out on bail since 2011 after being convicted on sedition charges in 2010. Dr. Saibal Jana, chief physician of the Shaheed Hospital, was arrested in 2016 on charges that he was “absconding” in a 1992 case. The case itself relates to a protest sit-in by CMM workers on railway tracks at the Power House railway station on 1 July 1992, at which the police shot dead 18 workers. Dr. Jana, who treated injured and dying workers at the site of this massacre, was charged with “leading” this “violent” demonstration.

In December 2021, Sudha Bharadwaj, a human rights lawyer and CMM activist, was released on bail after spending three years in prison as an under-trial on draconian UAPA charges. Sudha Bharadwaj, who leads one of the CMM’s factions in the Jamul area of Chhattisgarh, encouraged younger lawyers to work to defend *Adivasis* indefinitely imprisoned as under-trials on charges of being Maoists in Bastar. According to the chargesheet against her, Bharadwaj is accused of being part of a vast Maoist conspiracy to assassinate the Prime Minister. The case itself began by accusing members of an anti-fascist platform that organized a Dalit commemorative event at Bhima Koregaon, Maharashtra, of being “urban Naxal” conspiring to stoke violence. But the case has since morphed to the assassination conspiracy theory. UAPA charges make it all but impossible to get bail, so the process of waiting for trial in prison is a punishment in itself. Bharadwaj secured bail on a technicality. Reading Niyogi and studying his work, then, offers us a pre-history of our present, and perhaps wiser ways to approach our future. But to do so, we must first resist casting Niyogi in our own image.

There is a tendency these days in academia to seek in Niyogi the ideal eclectic “Gandhian Marxist” who can be singled out for approval. Ramchandra Guha has been scathing in his criticism of

the Left, such as when he drew parallels between the current BJP regime and China under Mao.<sup>1</sup> Guha is known to have remarked, “Inside every thinking Indian there is a Gandhian and a Marxist struggling for supremacy”, while making no bones about the fact that he associated Marxists with violence and thus preferred those in whom the Gandhian was supreme. Guha however chose to write a glowing tribute to Niyogi, drawing on writings about Niyogi by Manoranjan Byapari and Rajni Bakshi respectively. He approvingly quotes Byapari, “Neogiji could not be pigeon-holed into any single ideology. That would be a difficult — no, an impossible endeavour. He was beyond all isms”. And Guha himself sees Niyogi as “Marxist, Gandhian, Ambedkarite”, and thus the antithesis of those whom Guha describes in the same essay as “the Naxalites, whose closed minds and murderous methods provoked savage counter-violence by the police and the paramilitary and have pushed the *Adivasis* to the brink”.

To pit Niyogi as a “Gandhian Marxist” against the “murderous Naxalites with closed minds” is to do him a deep disservice. Niyogi’s last message – an audio tape he recorded anticipating his assassination – explicitly hoped for his comrades to join and help form a Marxist-Leninist (‘Naxalite’ is merely a popular term for Marxist-Leninist) party: “Politically, we are closest to the People’s War Group and I.P.F ...I feel the day will come when a correct Marxist-Leninist party will be formed. The day this happens, I appeal to the revolutionary comrades in Chhattisgarh to work with this Marxist-Leninist party to create a new world and a new society (personal translation).<sup>2</sup>

Niyogi’s criticism of the “Naxalites” never reproduced the State’s tropes of them being “murderous” and violent. He had, in a leaflet, expressed his criticism of their emphasis on peasants rather than on industrial workers; and their lack of interest in mass mobilization

1 Ramachandra Guha, ‘The Startling Parallels Between Modi’s BJP and Mao’s Communists’, <https://scroll.in/article/989454/ramachandra-guha-the-startling-parallels-between-modis-bjp-and-maos-communists> (Website accessed on 1 March 2022).

2 Translation of the transcript of the audio cassette recorded in Niyogi’s voice, found in his house after his murder.

and mass politics. The IPF that he mentioned in his final message was the Indian People's Front, which in the 1980s was the mass political front of the CPI(ML) Liberation, which was eventually dissolved when the CPI(ML) itself began to contest elections. It should also be mentioned that CMM activist Sudha Bharadwaj who walks in Niyogi's steps, has helped produce painstaking fact-finding reports that establish the custodial massacres, rapes, and killings of *Adivasis* by state forces: actions that cannot be treated as merely retaliatory.

The descriptor "Gandhian" is also applied to Niyogi too loosely. Gandhian forms of struggle (satyagrahas, fasts unto death, civil disobedience and non-violent mass action) are commonly used by most Left formations in India. But it must be remembered that Niyogi and the CMM considered strikes (hartals) to be a legitimate form of civil disobedience. This is in stark contrast with Gandhi, who was deeply suspicious of strikes, and thus laid down a long list of conditions and prohibitions for the strike form of protest. Gandhi, for instance, held that "I know that strikes are an inherent right of the working men for the purpose of securing justice, but they must be considered a crime immediately the capitalists accept the principle of arbitration."<sup>3</sup> Gandhi was most wary of political strikes, or strikes held in solidarity with other sections of workers or citizens who are fighting for justice, or for political causes like the country's freedom. He wrote, "A pacific strike must be limited to those who are labouring under the grievance to be redressed. Thus, if the match manufacturers, say, of Timbuctoo, who are quite satisfied with their lot, strike out of sympathy for its mill-hands who are getting starvation wages, the match manufacturer's strike would be a species of violence". Niyogi, who led any number of workers' strikes would never describe any variety of strike as "a species of violence". Niyogi, alert to the various forms of direct and indirect violence employers and the state could unleash against workers, never really divided people's struggles into categories of violent/non-violent.

Moreover, Gandhi saw capitalists as "trustees" who would obey the moral imperative to serve as benefactors to workers and society and would thus end capitalism. Niyogi however never wavered from

3 M.K. Gandhi, *Young India*, 5 May 1920, 6.

the Marxist concept of capitalists as exploiters, and capitalism as an exploitative system. His environmentalism too was inseparable from his idea of capitalism as a system incapable of considering the social and collective good above profit. For Gandhi, “shram” (labour) was a moral duty the individual owed to society, and could withhold from society (through a strike) only in certain very exacting conditions. For Niyogi, “shram” was above all a collective that must organize to assert its aspirations and its right to own and control machines, technologies as well as the products of labour. Guha’s stereotypes about Leftists as being close-minded and violent prevent him from seeing Niyogi’s work in continuity with the work of a host of other Left organizers who, true to their Leninist training, resist the pull of economism in trade union work. Niyogi emphasized the need to organize workers, not only on the factory floor or the mine site, but in the *bastis* where they lived, treating every aspect of their social lives (caste, gender, alcoholism, healthcare, education, polluted environment, drinking water and so on) as an arena for class struggle. Such organizing can come as a surprise only to those unfamiliar with the work of Left organizers. Left organizers have the Leninist dictum drummed into them, that the ideal communist “is not a trade union secretary but the tribune of the people”, the one who organizes against every oppression, however small, to demonstrate practically to victims of those oppressions, how socialism represents the liberation of all.

There are countless instances of trade union and peasant organizing on the Left, which emphasize struggles not only for wages at the workplace, but for social dignity, freedom from caste and gender-based violence, for clean drainage, unpolluted water, homestead land, housing, education and healthcare. Niyogi would certainly recognize such organizers as his comrades.



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