
UNIT 13 FOREST BASED MOVEMENT – CHIPKO*

Structure

13.0 Objectives

13.1 Introduction

13.2 The Traditional and New Social Movements

13.3 Forest Based Movement-the Chipko

13.4 The Socio-Cultural Fabric Of Uttarkhand: Mapping the Site of Our Movement

13.4.1.1 Garhwali Culture: Cornerstone of the Peaceful *Chipko Andolan*

13.5 Causes of Protest: Tracing the Steps of the Chipko Movement

13.5.1.1 Two Historical Triggers : Building Railways and Sepoy Mutiny

13.6 From Violence to Peaceful Non-Cooperation: the Forest *Satyagraha*

13.7 The Protagonists of the Movement

13.8 Conclusion: the Way Ahead

13.9 Let Us Sum Up

13.10 References.

13.11 Specimen Answers to Check Your Progress

13.0 OBJECTIVES

After reading this unit, you should be able to:

- Gather a conceptual idea about environmental movements;
- Learn the different kinds of environmental movements;
- Explain the impact, it generated on the general masses; and
- Argue for the different strategies adopted by the different movements and how it electrified popular mobilisation.

13.1 INTRODUCTION

Environmental movements, as you can apprehend, are the protests and upsurges against abuse of the natural resources and their harmful impact on the society and state. However, before going straight in to environmental movements, let's go into the concept of social movements. Social movements, as such, are not new in our country and they are various of its kinds, but generally speaking, social movements are collective oppositions

waged against a specific issue disturbing the usual pace of social life to restore back peace and stability. As you know, our society had been facing large numbers of problems and it had not always been possible to check such anomalies in peaceful and just ways. Therefore, it was almost natural to call for a concerted round of action to avert such a long standing lacunae which had shown no signs of dispersal. Let us see what sociologists Turner and Killian, had to say while trying to conceptualize social movements. According to them, social movement can be taken as a "Collectivity acting with some continuity to promote or resist a change in the society or group of which it is a part" (Turner and Killian, 1972: 246 quoted in Das, 1981: 129) Roberta Ash Garner considers a social movement as a set of actions of a group of people that is 'self- consciously directed towards changing the social structure and/or ideology of a society, and they either are carried on outside of ideologically legitimated channels of change or use these channels in innovative ways (ibid). Thus it is pretty much evident that social movements are actions initiated by massive participation to protest the current social formations and to bring about necessary changes in the society through persistent resistances and hindrances. Most of such popular mobilisations broach upon a social issue which had been plaguing the society for long. Such social movements are the ways of circumventing long repressed fumes and desperations of the people. Social movements as you will see, are not homogeneous, but had changed their dimensions across time, thus the traditional social movements, as many believed had shown sharp lines of distinctions from the new ones.

13.2 THE TRADITIONAL AND NEW SOCIAL MOVEMENTS

The older social movements especially those of labour or working class movements are significantly different from the new forms, in that, their goals, organizational structures, and action repertoires are markedly distinct from the traditional ones (see Pichardo 1997 for an overview). The traditional forms of movements are supposed to be centred around the working classes hewing towards economic re-distributions. Marxist theories were extensively used to reason with the movements that gathered momentum especially, till the 1960s, however things took a drastic turn post 1960s. Large scale student protests were being organised and probably the watershed moment came when student movements were consolidated in France and Berlin in 1968 and in Italy in 1969 and similarly in United States in the mid-1960s. As you know, until now, all social movements were explained by the rationale of the Marxist theories, for the first time in the history of the social movements, such theories fell short in explaining the logic behind the new forms of movements. Therefore, Pichardo said,

In Europe, where Marxist theories of social movements dominated, Marxist theorists were unable to provide a convincing explanation for why students

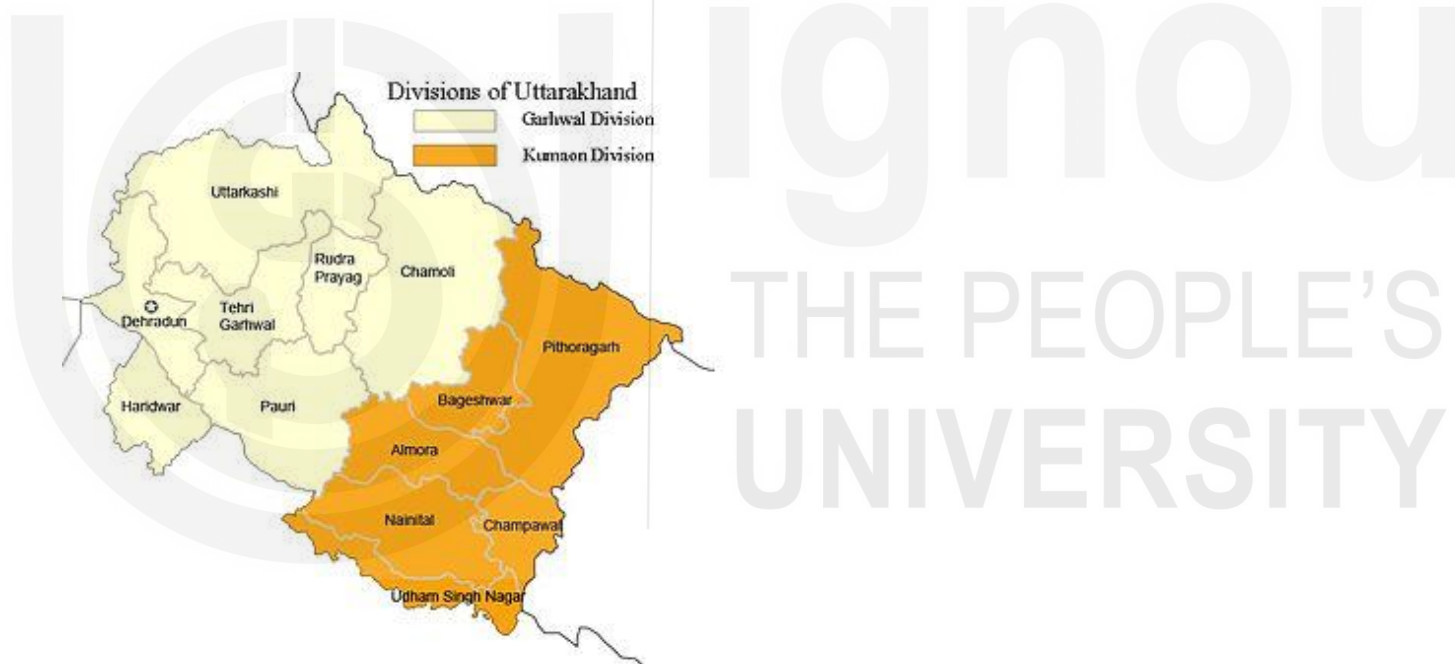
had become the vanguard of protest and why movement demands centred around quality of life rather than redistributive issues (Touraine 1971) (1997:412).

Therefore, time had come to review the deficiencies of the older forms of movements and look for greener pastures elsewhere. Social scientists thus chose to design the new social movement paradigm to legitimatise the varied types visibly noticed by us. The new social movements are indicative of a shift towards the post-industrial economy, and therefore instrumentally very different from the working class movements. Ideologically speaking, these movements claim that instead of being undergirded by utilitarian issues, they are more concerned about qualitative aspects such as the quality of life and ways of augmenting the life chances. These movements show a marked departure from the earlier movements, in that they assert their claims voraciously thus politicising the otherwise apolitical terrains of the movements. The assertion of identity is kept in the vanguard in all such movements. Yet another feature of such movements is the self-reflexive character which presupposes that the participants of the movements are always questioning the goals, strategies and outcomes of the movements. Nothing is taken as final and absolute but all the moments of a movements are reviewed and screened to bring out the best. This mirrors the self-reflexive character of the new social movements, that refuses to yield to the over-arching central temperament that opposes decentralisation and popular choice. As far as the tactics go, these movements remain outside the purview of the institutional garb, thus without taking any refuge to the political bandwagon, they instead want to shoot off public outrage and institutional disruptions to catch the attention of the state and polity. Such movements may include among others, urban social struggles, the environmental or ecology movements, women's and gay liberation, the peace movement, and cultural revolt linked primarily to student and youth activism (Boggs, 1986). Notable amongst these new social movements had been the various environmental movements that had repeatedly caught our attention over demands for environmental conservation and a plea to resume back the ecological symbiosis. Let us now go to one of the most significant environmental movements, viz. the Chipko Movement that unlike the older forms of movement did not concentrate on distribution of wealth but instead focussed on sustainable ecological viability. It is perhaps, one of the most popular form of new social movement. Come, let us study this movement, in detail.

13.3 FOREST BASED MOVEMENT-THE CHIPKO

The conflict over control of the natural resources in our country is not new, but the discord became pronounced with the evolution of the state and the autonomy awarded to its people. There has always been a tension between safe-guarding the rights of the marginal people and spearheading the industrial or commercial development in the country. The tension had

continued over ages and people mostly resorted to various strategies to protect themselves from arbitrary encroachments. The marginal people often found themselves at the receiving ends and struggled hard to rescue themselves from such forceful state sponsored intrusion over resources that they believed belonged to them. Forests, orchards and lands were regarded by the villagers as the common property, well-guarded and conserved by careful and delicate methods of public conservation and forested husbandry, till they came to be pounced upon by the aggressive colonial policies. However, from the very beginning, natural resources all belonged to the community which carefully nourished and replenished them over the generations. The sudden usurpation of these resources by the outsiders posed serious threat to the survival chances of the villagers, who responded quickly to stop such encroachment over their verdant lands and forests. Before going to the crux of the movement, let us study in short, the socio-geographical history of the Garhwali society, to better apprehend the source of the conflict and its course of movement. Given below is the map of Uttarakhand, for you to better map the position of Garahwal, the site of our movement.



Pic 1: The geographical map of Uttarkhand.

Photocredit

https://upload.wikimedia.org/wikipedia/commons/thumb/2/2b/Kumaon_Garhwal.jpg/300px-Kumaon_Garhwal.jpg

Box 1: Uttarakhand

Uttarkhand is one of the richest reservoir of natural resources like forests and lakes. It houses the Jim Corbett National Park (the oldest national park of India) at Ramnagar in Nainital District, along with several others like Valley of Flowers National Park and Nanda Devi National Park in Chamoli District. Together they constitute the UNESCO World Heritage Site.

13.1 THE SOCIO-CULTURAL FABRIC OF UTTARKHAND: MAPPING THE SITE OF OUR MOVEMENT

Do you know Garahwal comprises of how many districts? It is actually made up of eight hill districts of Uttarkhand such as Pauri, Chamoli, Tehri, Uttarkashi, Dehradun, Almora, Pithoragarh, and Nainital. According to D.D Tiwari, "The first five constitute "Garahwal," while the last three form "Kumaon" (Tewari:1995:134). According to him, Uttarkhand was insulated and separated from the rest of the country in the pre-British India. Though it stood alone, its dense forests in *Tera* and Bhabar belt acted as sentinels protecting it from external invasions. It was a state mostly governed by its indigenous royal groups and least mediated by the extraneous power. The kingdom was split up into several chiefdoms to be ruled by various rulers like the Katyuris, Somchand, Ajaypal Pamvar, and Prithvinaryana Sah (ibid). Sah was finally defeated in the hands of the British forces which took over the Garahwali region while the custody of Kumaon was wrested upon the son of the last Garahwali ruler.

Soon the Anglo-Nepalese treaty was signed in 1815 after the Anglo Nepalese war (1814-16), best known as the Gorkha war, in the Indian history, which ceded around a third of Nepal's territory to the [British](#). The British thus occupied the Kumaon region (Almora, Pithoragarh and Nainital) following the Nepalese war. The landscape of the state changed to make way for the colonial masters. The British forces were advancing towards the hills and they readily pounced over the hard-wood forests and fertile lands of Terai. The state sponsored monarchy followed a close exit and the state was literally handed over to an alien group of foreign rulers, who without any knowledge about the culture and ethics of the Garahwali society began to rule these people, who up till now were governed by the rules of common ownership of land and assets. A sudden intrusion by the foreign rulers, armed with their idiosyncratic ideas of extortion and extraction could not befit the collective economy of forest conservation and redistribution which the Garhwalis had followed so intently for ages. Their age old wisdom and ideology could not accept these self-aggrandising and appropriating policies which the imperial rulers exerted on their land, forests and daily living. This eviction from their land and forests, created senses of desperation and pathos, among the Garhwalis which cannot be felt without an understanding of the Garahwali forest economy and the culture undergirding them. Let us have a brief idea of their culture to better understand, what really instigated them to revolt. The Chipko movement actually flourished from the rich cultural legacy that the community wove over the years (ibid:135). The movement was a peaceful one and that it traversed the lines of non-violence to protest the wrongs done on the people of the hills is an exemplary instance of how the culture of a community impacts the forms of public resistance. Thus the culture and the socialisation of the people can influence the way a community repels the state

policies and its draconian programmes to mobilise public opinion. Let us see how this was ingrained in the culture of Garahwal.

13.4.1 Garahwali Culture: Cornerstone of the Peaceful *ChipkoAndolan*

The people of this state had learnt to leave peacefully in the lap of the nature. The social structure of the society though showed factions could not wedge contentious differences between them. The higher castes rarely fought against the lower ones and therefore the strains of belonging to the lower castes were never that scalding. People assimilated together to celebrate their religious and social functions and thereby showed strong tendencies for osmosis or interaction. This in turn generated a sense of fellow feeling or togetherness, a strong character of the communal life observed in primary relationships. The region being geographically isolated by tall hills from outside, this kinship ties glued the men together and bound them within the borders of the state. They merely ventured out, for they were contained with the forests bound verdant pocket on the crest of the hills. The compact social life was in tune with the participatory and collective living they had etched out for themselves. The collective spirit was ushered by yet another spirit of naturism that they had exercised over the decades. This naturism, was yet another source of the movement they had exhorted in order to protect the forests.

In India, worshipping the nature and its sacred grooves had continued for long. The forests were personified as gods and goddesses and revered with ostensible elaborations. Not just the Garahwalis, the practise is followed throughout the country. For instance, assigning a turf of forest to deities is a common practice among the *Meitei* community of Manipur who exercise ancestral practice of animism with the focused around the worship of the forests are regarded as sacred abode of *Umanglais* (Sacred deities or sylan-deities) Kumar, n.d). Similarly, the Garahwalis worshipped forests, that were considered the local deity of the village. Each village had such *Gramdevata* or *Ishtadevata* that were worshipped with much fanfare. The trees were supposed to protect them from the spooky spirits and immune them against the external ravages. They did not seek institutional practices to address their grievances, but rather rested on the non-institutional divine measures to settle their disputes. This gave them an innocuous and innocent persona that helped them sort out their own problems without resorting to ponderous procedures. Thus, you can very well bring out the source of their peace-loving and simple temperaments. Given below is a picture where you can see the village women are busy worshipping a tree with great pomp and devotion.



The village women worshipping the trees with enthusiasm.

(Photo credit: <http://goodwiz.weebly.com/religious.html>)

Box 2 :Tree worshipping in India

There are ample such trees which are worshipped in our country, but the commonly worshipped ones are Neem, Ashok, Peepul, Banayan, Bael, Coconut, Sal and Mango.

Interestingly, amongst these, the Banyan tree is our national tree while the Sal tree is equally worshipped among both the Hindus and the Buddhists.

This amiable and soft heartedness was thus an intrinsic character of the hard working Garahwali people, which time and again had come out in the protest movements organised by them. This was also mirrored in the peaceful movements organized for the demand for a separate Uttarkhand state (tewari, 1995). Can you tell, what Dhandak is? It is actually the silent forms of protest movements waged by the people of Garahwal (Guha, 1989). It was a way of opposing the unfair policies implemented by the monarch of the state. The acts were meant to punish the corrupt officials who thought of reaping the benefits by accruing upon the mass a harmful policy. The people felt by staging such forms of protest, they were actually helping their monarchs to rule them with able-hands. Therefore, the revolt they triggered was not against the state, but against the officials who colluded with one another to defraud the common men and to rob them of their public assets. The movement was often said to have picked up the Gandhian strategy of *Satyagraha* (shiva and Bandyopadhyay, 1986), to protest the commercialisation of the much owned forests, which escaped the collective ownership of the community and fell in the private hands of the greedy entrepreneurs.

13.5 CAUSES OF PROTEST: TRACING THE STEPS OF THE CHIPKO MOVEMENT

The Chipko Movement largely meant embracing the trees to protest their illicit felling. The forests that supported the villages for centuries, were suddenly taken over by the colonial rulers who usurped the forest rights of the common men. The men were obsessed with the forests because they served them as a store house of resources that they could not do without. Besides providing them with a regular supply of fruits, berries, roots, wood and fodder, they indirectly helped in retaining the ground-water level and binding the soil to prevent droughts and famine. The Garahwalis were in praise for the forests and tried hard to conserve them with utmost care and in every sustainable way possible. Not just physically, their ideologies were ingrained with such ecological ethics, that brought conservation to the forefront their communal life. They were wary of the ill effects of deforestation and so strictly forebode tree felling across their landscape. Following the advent of the colonial forces, the changes that followed crunched and smashed this ethics altogether, which the locals had cherished over ages. Let us follow the chronology of the movement, especially the historical entry points that signalled the initiation of the movement.

13.5.1 Two Historical Triggers: Building Railways And Sepoy Mutiny

The colonial forces triggered changes in the forest ecology that was solely piling up discontent in the minds of the hills people. Especial mention must be made of the laying of the railways in 1853 and the Sepoy Mutiny in 1857 that sounded the death knell for the men of Garahwal. The colonial intervention ensured massive transportation of goods and cargo that called for the construction of the railways. Once the laying of railway lines started, large logs of wood were needed for which huge trees were brutally slaughtered. The Himalayas were largely affected especially, the Garahwal region that had harboured tall trees, that were very sturdy and durable and were most suited for making railway sleeper (Tewari 1993:143). The felling of the trees took a drastic form once the Sepoy Mutiny had started. This meant that the British forces felt that more railways were needed to transport troops to quell the revolt. This created a pressure on the trees that were blatantly cut down to build not just railway sleepers but also to power feed the railways. To provide adequate fuel for the railways, the woods were cleared to arrange for the energy supply, especially when the coal supplies tripped (Guha, 1983). Not just the Himalayas, but the other extensive parts of the northern Indian forests were adversely impacted by the expansion of the railways, especially from 1869 to 1884 (Das, 2013). The situation in Garahwal was slowly spiralling out of control when the government decided to install a forest department to take control of the situation. Since the British did not probably have any expertise in this area, they thought of taking advice

from the German foresters to help them design a Forest Act that would keep into account the colonial benefits from the forest and therefore safeguard the forests accordingly, but what possibly the Germans did not have in their knowledge, was the indigenous history of the juxtaposition between the forests and the inhabitants. Ignorant of the micro history of the region, an act was passed that destroyed this coexistence. The legalese imposed restrictions on the forest rights of the common men, who could no longer use the forest products without the permission of the Forest Department of the state.

We have already learnt about the Anglo-Nepalese treaty of 1815 after which Garahwal was transferred to its monarch, Tehri Raja's son who in turn leased large tracts of trees to the British empire. This complicity between the state and the imperial forces kept no leaves unturned to deprive its people of the natural forest products which they had grown up with to think of their own. It took time for the shock to sink in, for the people, especially the women were first to become its victim. With the declining forests, gathering timbers, fruits and berries became an ardent job and since most often women were entrusted with these primary tasks, deforestation meant making their life hassle some clubbed with unending drudgery. This also meant double drudgery as it ensured that women not only have to complete their household chores but also have to travel longer roads to collect resources for sustenance, which earlier were readily available outside their thresholds. All these were enabled by the scientific forest management (Shiva, 1988). The legalese ensured that policies for forests be crafted in a way so that the ways to usurp the forest resources by depriving the common masses be ratified in a way that becomes unquestionable. The forest management and its upkeep was slowly being transferred to the newly appointed forest managers who almost were ignorant of the oral history of soil and forest conservation that were transferred from one generation to the other mostly through oral history with little written records to corroborate this age old bonhomie between man and the forests. The smooth and tranquil life being trespassed by an alien law became the cauldron of boiling fumes. The situation was soon going out of control and it turned violent in December 27, 1906, when two hundred villagers attacked forest officials camping in Tehri. The violence refused to pull up and re-appeared once again in 1907 when the erstwhile forest officer of Tehri, Sadanand Gairola, was roughed up in Khandogi. King Kirti Shah immediately rushed to the spot to pacify the angry mob (Bhaktadarshn, 1976: 228). But as you will now see, Chipko movement soon shredded off its violence to go down the path of peaceful resistance.

13.6 FROM VIOLENCE TO PEACEFUL NON-COOPERATION: THE FOREST SATYAGRAHA

The Chipko movement soon changed its course to embrace peaceful resistance instead of taking a bloody patch. In 1930, the Garhwalis initiated

their non-cooperation movement centring decisively around the agenda of forest and its riches. Satyagraha movement was championed with utmost ardour against the colonial forest rules in the Rawain region. The King of Tehri who was detouring Europe at that time, asked his Dewan, ChakradharJoyal, to repel the movement with force and armed repression. Several unarmed Satyagrahi workers died while crossing the Yamuna River. The movement gained momentum from the anti-colonial struggles that were promenading the British enslaved India at that point of time. The Chipko movement was at an important junction of Indian independence movement which greatly enthused the democratic demands of the Garahwalis. Satyagraha as you all know is a form of movement popularised by Gandhi, the father of nation, as a strategy connived to play down the treacherous tricks of the imperial forces ruling the country.

13.7 THE PROTAGONISTS OF THE MOVEMENT

The Chipko movement evolved gradually as an extension of the Gandhian philosophy of peaceful resistance to combat the evil policies of the British polity. This property of the Satyagraha movement was lent to the ChipkoAndolan by Gandhians, such as Sri Dev Suman, Mira Behn, and SaralaBehn. Sri Dev Suman was inducted into the Gandhian Satyagraha during the Salt Satyagraha. He died a martyr's death championing the rights of the Garhwali people. Both Mira Behn and SaralaBehn worked under the aegis of Gandhiji. Following Gandhi's death they took refuge in the laps of the Himalayas and set up their *ashrams*. Shiva therefore said,

Equipped with the Gandhian world-view of development based upon justice and ecological stability, they contributed silently to the growth of women-power and ecological consciousness in the hill areas of Uttar Pradesh. SunderlalBahuguna is prominent among the new generation of workers deeply inspired by these Gandhians (Shiva and Bhanyopadyay, 1986:137)

SunderlalBahuguna joined nationalist movement at the age of 13. He was elected the General Secretary of the Congress Party in the Tehri sub-division in 1947. It was later in 1956 that he quit politics to work in close association with the rural poor men. That he decided to quit politics to work with commons might have been under the influence of VimalaNautiyal, his wife and a dedicated social worker and a follower of SaralaBehn. Vimala at the same time worked to spread VinobaBhave's message of land grant or Bhoodan, as it was called to empower the rural people. SunderlalBahuguna alongside penned articles in various newspapers and journals, underscoring the ecological damages already done and sensitising the people with the ways of reviving back the lost ecological balance in the Himalayas.



Picture: 3 SunderlalBahuguna, one of the champions of the Chipko Movement along with his wife VimalaNautiyalBahuguna.

(Picture Credit<http://amritfilm.net/2011/09/sunderlal-and-vimla-bahuguna-2/?lang=en>)

13.8 CONCLUSION: THE WAY AHEAD

Chipko definitely was a powerful movement which championed the assertion of the people and their rights over the environment. The transformation of

Box 3: Vimala Bahuguna

VimalaBahuguna and Nautiyalwas socialized in TehriGarhwal, in a strictly patriarchal and insulated princely state which never even had a high school for girls. Since her father had heard of Gandhi's disciple Sarala Devi and her Lakshmi Ashram, she was schooled and trained there; subsequently from a timid girl she grew up to be confident and vocal enough to set up her own ashram and a school. She was the major force behind her husband SunderlalBahuguna, in ushering anenvironmental movement in the hills.Sunderlal is an iconic figure in ecological history but few knows about Vimala.

Chipko from an attempt to control local resource use to a national movement was worth noting. It influenced heavily the growing global environmental crisis enveloping us. However, in transforming itself, Chipko contributed immensely to the national and international ecological movements. It was this movement of Chipkothat for the first time, put forests on the political agenda in the country. The Forest Conservation Act of 1980 and the very formation

of the environment ministry are due to the widespread consciousness created by Chipko. Chipko was successful creating a new wave of understanding among the foresters.

Check Your Progress:

1) What is Chipko movement? What is its significance?

.....

.....

.....

.....

.....

2) Who is Sunderlal Bahuguna? What is his contribution?

.....

.....

.....

.....

.....

3) How did the Garhwali culture help in the growth of the Chipko movement?

.....

.....

.....

.....

.....

13.9 LET US SUM UP

International ecologists consider Chipko as a cultural response of the people's love for their environment. Chipko was later popularised by the feminist movements which pointed out that village women have to walk for long distances to collect fuel and fodder and therefore, they become the first victims of forest destruction. Eco-feminists held that women are closer to mother earth and more ecologically conscious. But undoubtedly, Chipko's biggest contribution probably was the championing the pro-poor environmentalism that it evolved. Chipko movement spoilt the myth that the poor destroy their environment and do not want to shield it. The

Chipkomovement was popular among the activists across the world. Until Chipko happened, people refused to believe the poor could ever live in harmony with their environment. But, it was established that Chipko had a very humane appeal that spread positive vibrations across the society at large (Mitra:1993).

13.10 REFERENCES

- Bhaktadarshan, (1976) Suman SmritiGranth. SunderlalBahuguna, Silyara.
- Boggs C. 1986. Social Movements and Political Power Philadelphia, PA: Temple Univ. Press.
- Das, M. (1981). Social Movements, Social Change, and Mass Communication. *International Review of Modern Sociology*, 11(1/2), 127-143. Retrieved from <http://www.jstor.org/stable/41420783>
- Das, P. (2013). Railway fuel and its impact on the forests in colonial India: The case of the Punjab, 1860–1884. *Modern Asian Studies*, 47(4), 1283-1309. doi:10.1017/S0026749X12000637
- Eggert, Nina and Giugni, Marco, The Homogenization of “Old” and “New” Social Movements: A Comparison of Participants in May Day and Climate Change Demonstrations, Département de science politique et relations internationales, Université de Genève, Uni-Mail, 1211 Genève 4, Switzerland.
- Garner, R.A. 1977 Social Movements in America. Chicago: Rand McNall.
- Guha, (1989) *The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya* (Delhi: Oxford University Press.), pp. 67-68
- Guha, R. (1983). “Forestry in British and Post British India: An Historical Analysis,” in *Economic and Political Weekly*, October 29 and November 5
- http://www.teriuniversity.ac.in/mct/pdf/new/assignment/AMPILI_BHARAT_KUMAR_Sacred_Groves.pdf.
- Kumar, Ampili Bharat n.d*Sacred groves and Conservation*, Terri University.
- Mitra, 1993. <https://www.downtoearth.org.in/coverage/chipko-an-unfinished-mission-30883>
- Pichardo, N. (1997). New Social Movements: A Critical Review. *Annual Review of Sociology*, 23, 411-430. Retrieved from <http://www.jstor.org/stable/2952558>.
- Shiva Vandana (1988). *Staying Alive. Women, Ecology and Survival in India*, Kali for Women, New Delhi, India.

Shiva, V., & Bandyopadhyay, J. (1986). The Evolution, Structure, and Impact of the Chipko Movement. *Mountain Research and Development*, 6(2), 133-142. doi:10.2307/3673267.

Tewari, D. (1995). THE CHIPKO: THE DIALECTICS OF ECONOMICS AND ENVIRONMENT. *Dialectical Anthropology*, 20(2), 133-168. Retrieved from <http://www.jstor.org/stable/29790401>.

Touraine A. 1971. The May Movement: Revolt and Reform. New York: Random House.

Turner, R. and L.M. Killian 1972 Collective Behaviour. New Jersey, Prentice-Hall.



UNIT 14 WATER BASED MOVEMENT – NARMADA*

Structure

14.0 Objectives

14.1 Introduction

14.1.1 locating the Narmada

14.2 Locating the Path of the Struggle

14.2.1.1.1 Emergence Of Medha Patkar

14.3 Assessing The Impact Of The Sardar Sarovar Project On The Ecology And Social Environment

14.4 Swallowing The Villages In A Gulp

14.5 The Pathos Of Tribal Re-Settlement

14.5.1 The Politics of Re-Settlement

14.6 The Present Situation: Inaugurating The Much Awaited Sardar Sarovar Dam

14.7 Conclusion

14.8 Let Us Sum Up

14.9 References

14.10 Specimen Answers to Check Your Progress

14.0 OBJECTIVES

After reading this unit, you should be able to:

- Gather a conceptual idea about water based movements;
- Learn the different problems forming the basis of such movements;
- Discuss the impact of water based movements;
- Argue for the different strategies adopted by the different movements and how it electrified popular mobilisation.

14.1 INTRODUCTION

During independence, the number of dams in India were negligible but they grew exorbitantly since independence. The dams were largely built for multiple reasons like flood control, water supply, hydroelectric power generation, and mostly for irrigation. During independence, there were as less as 300 large dams in India. Therefore the dams were better known as

*Written by Srabanti Choudhuri, Subhas Chandra Bose Open University, Kolkata

Multiple River Valley Projects. By the year 2000, the number had almost swelled to over 4000, of which more than half of the dams were set up between 1971 and 1989. In post-independent India, dams were proudly proclaimed as the *Temples of Modern India* by our first Prime Minister, Pandit Jawaharlal Nehru owing to their sophistication. It was thought that dams would help connect the rural agricultural economy with its urban industrial counterparts. Inaugurating the Bhakra Nangal Dam on river Sutlej in 1955, Nehru coined this new name for the dams in modern India. It was thought that the dams would become pillars of development in new India. However, right from as long as 1980s, public investments made on large dams in India had been mired with controversies and the Sardar Sarovar Project had been the subject of a prolonged controversy that rocked the whole nation. The Narmada *Andolan* would help illustrate a few problems which characterise the water issue in our country. Let us look into these issues for they rightly point out to the swelling environmental problems in the nation.

Firstly, as you know, the water disputes surround around the issue of allocating a resource and the entailing areas of the costs and the profits involved. Secondly, you may be surprised to know that the issue might spiral out of control especially if a federation is in question where two or more states and the central government are jurisdictionally involved. Thirdly, problems equally become complex while sharing water in an upstream-downstream conflict. The gravity of the problems increase while mediating a conflict between the environmental activists on the one hand and the government or the state on the other (Wood, 1993). So as you can easily imagine that distributing a scarce resource like water is really a tricky issue for a third world country like ours.

The Sardar Sarovar Project on the river Narmada was probably one of the mightiest and most expensive multi-purpose river valley projects to be executed in India. As you might know the river is jointly shared by Gujarat, Rajasthan and Madhya Pradesh and therefore conflicts surrounded the project right from its very inception. It was expected that the dam would irrigate large tracts of around 1.8 million hectares of land in Gujarat and Rajasthan and would supply drinking water to over 40 million people. The dam would have an installed capacity of producing around 1450 watt of hydro-electricity for the coming thirty years (Ram, 1993). The dam therefore took off with big promises and bolstered resolutions which were hard to keep. Let us now examine the location of this mighty river on which the dam was built. This will help us to understand its strategic importance as well as trace the source of its contention.

14.1.1 Locating the Narmada

The river Narmada originates from Amarkantak in the Maikal ranges situated in the Shahdol district of Madhya Pradesh (MP). The altitude of the river-bed here is 1,051 metres (3,468 ft). Here on the river travels down to the west and

encounters almost 41 major tributaries on its path. The total catchment area of the river is almost 98,796.8 square km comprising of the Maikal ranges in the east, Vindhya ranges to the north and Satpura ranges to the south. The river crawls down the following districts of Shahdol, Mandla, Jabalpur, Narsinghpur, Hoshangabad, Khandwa (east Nimar), Kargone (west Nimar) districts of MP. The river forms a formidable boundary between the Jhabua district (MP), Dhulia district in Maharashtra and Baroda-Bharuch districts in Gujarat. Traversing through Bharuch district, the river terminates in the Gulf of Cambay (Patel:1994:1957). Therefore, it seems that the river is essentially an inter-state resource which is shared by three neighbouring but contentious states that make it difficult to reach at a unanimous decision. The river takes a long path and zig-zags through multiple areas each carrying its distinctive character. This mighty river, as you see, with its length and breadth covering such a wide but diverse periphery, brings with it important social and political under-currents that politicises the dam building processes even more. The river has a total length of 1312 km and basin area of total 98, 800 km² that constituted about 88% of Madhya Pradesh; 2% in Maharashtra and 10% in Gujarat.

There is an intense pressure of human abuse on the river resulting from which the river basin had been degraded to a terrible extent. Some possible reasons of the mounting pressure on the river basin had been exorbitant population pressure; migration and haphazard settlements; un-organised land usage; agricultural extensions; demand for timber, fuel and fodder; over- grazing; intrusion etc. (Afroz, 1995). Thus it is already evident that the river basin had always been under the siege for all possible reasons. The contentions surrounding the river were thus amplified for these reasons too.

Narmada entered Gujarat through Surpaneshwar which forms roughly 35 km boundary between Maharashtra and Gujarat. The total length of Narmada in Gujarat is 165 km. The catchment area of Narmada in Gujarat is around 10,000 sq km. This particular area lies in the tribal inhabited regions which precisely do not belong to Gujarat (Jashbhai, 1994). It is often claimed that the largest point of discord is that the biggest beneficiary to reap benefits from the Narmada Project will be Gujarat but this will be done at the cost of the two other states, Madhya Pradesh and Maharashtra. You will be surprised to know that these states would be hijacked of large tracts of forests and natural resources. Thousands of people, mostly tribes would be uprooted from the region.

Check Your Progress 1.

- 1) What are Multiple River Valley Projects?

.....

.....

.....

- 2) Where did Narmada originate from? Which are the states it travelled through?

14.2 LOCATING THE PATH OF THE PATH OF THE STRUGGLE

Gujarat proposed its idea to build dams before the Narmada Water Disputes Tribunal in 1969. The state claimed that the dams would build up a corpus of surplus water that could be supplied to the impoverished areas, besides providing clean drinking water, irrigation, and electricity. Challenging the proposal, Medha Patkar organised a thirty-six day march would be a symbol of solidarity among the neighbouring states of Narmada Valley as well as a direct challenge to the government and the World Bank. She organised a march that lasted for thirty six days as a symbol of protest in order to instigate the World Bank and the state to withdraw from such a project. The projects had already been suspended on the behest of the Ministry of Environment because of the non-compliance of basic development Project as a whole (www.womeninworldhistory.com/imow-Patkar).

14.2.1 Emergence of Medha Patkar

Let us learn a little about Medha Patkar. In 1985, as this news was broken to the central and eastern parts of the country, Medha Patkar and a few of her colleagues begun visiting the dam site. She was shocked at the magnitude of



displacement and therefore founded the Narmada Charangrast Samiti (NCS), or the Narmada Oustees Association, which finally developed into the *Narmada Bachao Andolan* in collaboration of the NCS with the Gandhian organisations in the states of Madhya Pradesh and Maharashtra.

Medha spoke to the resident members of the valley to understand their pains and pathos. Most of them did not know what the government was up to and what sort of rehabilitation would be provided to them. In the next year, i.e 1986, the World Bank was pleaded by the state to back the Sardar Sarovar Project. Patkar

realised that in order to suspend the project, the World Bank must be restrained to terminate the construction of the Sardar Sarovar dam. Medha and her colleagues took long marches from Madhya Pradesh to the dam site as a mark of protest against the proposal. The thirty-six day march became a symbol of solidarity among the neighbouring states of

(Photo credit: Payasam (Mukul Dube) <https://commons.wikimedia.org>)

Narmada Valley as well as a direct challenge to the government and the World Bank. In 1993, in association with the Environmental Defence Fund and the International Rivers Network, the Narmada Bachao Andolan or NBA compelled the World Bank to suspend its proposed fund for the dam (Whitehead, 2007). In 1995 the Supreme Court was persuaded to delay the construction process till the further review of the rehabilitation process been done.

Box 1: Medha Patkar

Medha Patkar is an Indian social activist fighting for crucial political and economical issues raised by adivasis, dalits, farmers, labourers and women facing injustice in India. She is an alumna of TISS, a leading institute of India. She was awarded with many awards chief amongst them are, Right Livelihood Award in 1991, Goldman Environment Award in 1992, Human Rights Defender's Award from Amnesty International in 1999 and Mother Teresa Awards for Social Justice in 2014.

CheckYour Progress 2

1) Who is Medha Patkar? How is she associated with NBA?

.....

.....

.....

.....

.....

2) Why did the Supreme Court stall the Sardar Sarovar project?

.....

.....

.....

.....

.....

14.3 ASSESSING THE IMPACT OF THE SARDAR SAROVAR PROJECT ON THE ECOLOGY AND SOCIAL ENVIRONMENT

It is a stunning fact that in the last decades Gujarat had destroyed a major chunk of the forest wealth of the exploited tribal areas right from the Danta state in the north to Dangs in the south. According to the report of the principal of the Forest Rangers College at Rajpipla, "Rajendra Sharma stated that between 1970 and 1990, the forests which extended west of Rajpipla had been decimated systematically.... the systematic and organised forest felling had led to a recession of the forest area by about 60 km to the east of Rajpipla" (Patel:1994:1961). The forested area actually belonged to the tribal groups who had been uprooted from their native places and thrown hitherto. Forested stretches upto the Jhabua district in Madhya Pradesh had been taken over on the presumption that these areas would be submerged under Garudeshwar and Sardar Sardar Reservoirs. The local Bhil tribes who were practically dependent on these forests were literally shunned away from their abodes. The wild life had been utterly disrupted and the ecology was badly tampered with.

14.4 SWALLOWING THE VILLAGES IN A GULP

Do you know how the dams damaged the organic links of the valley with the river, its ecology and its social economy? It is difficult to comprehend that the dam will tear asunder a complex web of physical, ecological, economic, cultural and emotional ties that bind a river and the communities, and the living and non-living entities in the basin (Shripad, 2007). The different categories of the people alongside their occupations would be affected by the dam and its infrastructure. Landless labourers who stayed in the nearby villages and made their ends meet by mining sand collected from the riverbed would suffer a lot. They would soon have no livelihood to fall back on as the river would be translated into a big reservoir. The reservoir was now too deep for them to collect sand from them; and secondly, the perennial flow of the river that recurrently pumped in new sand would be stopped for ever. Such a list of fisherpeople, boatspeople and others who earned their livelihood from the river was infinite. Villages like Bheelkhera were badly destroyed. Village shopkeepers, potters and carpenters were badly affected. They lost their livelihoods and became jobless with nothing else to depend upon. For instance, when the Bargi dam was erected on the river Narmada near Jabalpur, villages located several hundred kilometres downstream had to surrender the lucrative summer riverbed crop of melons and watermelons as the water-flow trends in the river were severely altered. When the Sardar Sarovar was built, and the waters diverted, the rich estuarine fisheries of the downstream area in the Narmada were likely to collapse (ibid).

As dams being built up on the Narmada, water channels were dramatically changed. Several fairs that were held regularly on the riverbanks would have to be shut down. A dip in the river was the most important part of the fairs, and the flow of the rivers had to be resumed for those festive days by reducing the height of the water from the dams. Many riverbank temples that were relocated and 'resettled' far away were badly thwarted. The socio-cultural life that surrounded the fairs dwindled thus affecting the rich fabric that was spun around the river and its people. Since the Narmada is considered one of the most sacred rivers in our country, it entails a custom unique called *parikrama* or circum-navigation that is typically celebrated around the river. In this queer ritual, thousands of people stroll from the starting point of the river to its mouth and back again. The river has to be circumnavigated on foot, and one must bypass the river only at its mouth. The dams—those built and under-construction—have submerged the route of the *parikrama* (ibid). Villages on the river banks have been submerged under the thrust of the water and the reservoir has generated a bunch of new villages on the new banks. However, these villages are devoid of any such tradition now.

Thus, we find that the dam had not only affected the ecological balance of the place but also the social and cultural fabric of a place. The region along with its natural resources would provide a bed rock of wealth for its local men

who would eke out their living from the zone. Along with it would develop paraphernalia of other social and cultural engagements that would also provide the locals with a ready source of employment. However, hell would break loose whenever a dam or a project encroaches on the natural setting of a place that the men had internalized for so long. Along with a disrupted ecological equilibrium even old customs and rituals that had become almost a part and parcel of their daily existence becomes badly punctured. Thus, the Sardar Sarovar Dam with its hungry gulp would massacre the quite villages of Maharashtra and Madhya Pradesh.

Box 2 submerged land under Sardar Sarovar Dam

Chikhaldia, Dharamray and Kakrana villages in Barwani and Dhar districts of Madhya Pradesh have been submerged as levels of water in the Sardar Sarovar Dam on river Narmada arose. The NBA claimed that around 40,000 families in 192 villages in Madhya Pradesh would be uprooted once the reservoir occupies its optimum capacity.

Activity 1

Find out the names of all those villages that have been submerged by the dam. Try to find what had happened to those villagers and how they are recuperating. Figure out their sites of rehabilitation and whether the places are well equipped to provide them with an alternative source of livelihood.

14.5 THE PATHOS OF TRIBAL RESETTLEMENT

Many tribal villages were getting submerged under the river and the local inhabitants had no resort but to relocate themselves often to very uninhabitable sites. According to the agreement of the Narmada Water Disputes Tribunal, for instance, Anjanvara, a small village in Maharashtra, on the bank of river Narmada was accorded the right to decide whether to settle as it is in MP or to re-locate in Gujarat. The MP government tried to oversee that this freedom could never be exercised, for if all of the families of 193 villages in the state to be forcibly evicted by the SSP stay put in MP, it would be a great administrative hassle. The MP government was not ready to bear this headache. It was more eager to depose its tribal evictees to Gujarat. Let Gujarat handle them (Baviskar, 1999). The situation was particularly trying because there was a constant pressure for displacement from Maheshwar, Narmada Sagar, Onkareshwar and all the other dams that were scheduled upstream. The villagers on the other hand do not want to migrate to Gujarat. They have already travelled to the resettlement sites there and experienced the misery. Waterlogged fields, no livestock, fragmented families, hostile neighbours, no commons to collect fuel and fodder - this sums up the experience of most adivasis from MP who were given land in Gujarat (ibid).

The displaced tribal men did not want to move. However, if worst situation comes, they would migrate only if given forest land where the entire village could relocate as a whole. In most cases, neither the state of Madhya Pradesh nor Gujarat could provide them with these basic requirements. The tragic fact remained, even this modest requirement was denied to them by their host state of Madhya Pradesh. It is really unfortunate that for a state with the largest forested area, the MP government was unable to find any proper land on which it could rehabilitate its own tribal population. Instead it had taken a buck-passing tendency to shift its responsibility to the neighbouring state of Gujarat to accommodate its own tribal men.

14.5.1 The Politics of Re-Settlement

While tribal men in Madhya Pradesh did not want to leave their own home state, it was not so for the entire village. There were probably some men who turned out to benefit from this whole process of relocation and facilitating this process for others. Amita Baviskar called them a 'motivator' who earns a commission for every person he delivers to the door of the 'doob' officer (submergence officer) (ibid:2214). Baviskar narrated the story of a man called Dhankia, the ex-sarpanch of nearby Kakadsila, who got reasonable amount of land where his village was resettled as a unit. Dhankia was believed to have profited lucratively from this resettlement drive. He struck a business by illicitly felling teak trees from the Kakadsila forests and selling the timber in Gujarat. He also accrued money from every family that he pursued for relocation and after they finally left the state with their belongings.

The process worked just like the old sterilisation campaign which deploys a 'motivator' who facilitates the resettlement process and finally motivates the local settlers in abandoning the reclamation site in favour of a less habitable one that the state chooses for them. The motivator is usually one of a higher power and status in the village, such as those of a *sarpanch* or an indigenous leader that Baviskar mentioned. Usually such powerful people take an upper hand on the poor villagers and curtail their bargaining capacity even more. Baviskar said, for hustlers like Dhankia, this is both an easy and appealing way to earn money. Nevertheless it must be remembered that most of the locals of the dam site are poor men who can neither manipulate the common mass like huskers nor do they accumulate such wealth through illicit earnings. Therefore surrounding the Sardar Sarovar Project, the task of displacement and relocation had become a muddy affair from which definitely a class of people have skimmed out the cream. It is those people who are reasonably the advantageous people of the community and who can negotiate ably with the government to derive their own benefits. They not only negotiate for their own selves but also negotiate for others whose interests they do not keep in mind. Therefore the poor displaced men could hardly see the light of the day.

Though the dam construction work was suspended in 1994 after NBA activists managed to get a stay order from the Supreme Court on the ground of environmental and relocation issues, the suspension could not be retained for long. The construction was restored after the SC issued an order in 1999 to resume the construction once again. This was done on the pre-condition that the dam height be elevated in phases after regular re-view of the conditions for re-settlement in phases.

After this Narmada verdict by the Supreme Court, the matter had become more complicated and politicised. The people launched the 'Manav Adhikar Yatra', in October 2000 and staged protest in front of the Supreme Court to criticise its verdict. The governments are now using the same verdict to go ahead with the submergence of the valley and displace people without rehabilitation (Sanghvi, 2001). It is not only having a terrible impact on the people in the valley but it speaks of the impartiality rendered on the marginal men such as the dalits, adivasis, workers, farmers and backward classes. The movement had paced down and the protests could no longer keep up with the aspirations of the state.

14.6 THE PRESENT SITUATION: INAUGURATING THE MUCH AWAITED SARDAR SAROVAR DAM

Prime Minister Narendra Modi on September 17 travelled to Kevadia and inaugurated the Sardar Sarovar Dam on river Narmada on his 67th birthday. Mr. Modi performed rituals on the bank of Narmada and offered flowers and prayers at the dam site before inauguration. Modi claimed that the western part of India still lacks sufficient water supply, and there is shortage of electricity and gas supply too in the eastern part which rightly justifies the construction of the dam. He asserted that when the World Bank had denied to fund the building of Sardar Sarovar dam, the saints and seers of Gujarat donated money to enable the grand task. He also thanked Madhya Pradesh chief minister Shivraj Singh Chouhan and his Maharashtra counterpart Devendra Fadnavis for their benevolence for initiating project. The Prime Minister was confident that the Narmada waters would save several lives especially those living on the brim of existence. Modi was quite sure that the project would establish 'New India' by 2022, when we would celebrate 75 years of India's freedom struggle. It was believed that PM Modi fulfilled Sardar Patel's long standing dream with the inauguration of the dam, for which foundation stone was already laid by Jawaharlal Nehru long ago. Water resources and river development minister Nitin Gadkari congratulated the people of four states on the inauguration of Sardar Sarovar dam in Gujarat for he was hopeful that Sardar Sarovar Dam would fetch fresh drinking water to 4 crore people that would accelerate the earnings of farmers many times by 2022. At the same time the government was optimistic that the dam would aid irrigate 22 lakh hectares of land. Sardar Sarovar Project

officials were enthusiastic that the project would irrigate 2,46,000 hectares of land in the dominantly important desert districts of Barmer and Jalore in Rajasthan and 37,500 hectares in the tribal hills of Maharashtra.

On the same day, activist Medha Patkar organized *Jal Satyagraha* in the rising waters of Narmada at Chota Barda Ghat in Barwani district of Madhya Pradesh. Patkar was apprehensive that with the water level of the dam rising to dangerous heights, it would soon submerge around 192 villages in the region will be submerged under water. It would affect around 40,000 families Patkar has alleged that the affected families would soon be rendered homeless and would be deprived of rehabilitated or compensation in spite of the strict orders from the Supreme Court order. Patkar along with 30 women led by organised a [sit-in on the banks of the Narmada river](#) at Chota Barda village in Dhar where she insisted the water level was fatally rising.



Patkar performing her water satyagraha on the dam site.

Photo credit (<https://www.thetricksyscribe.com/multipurpose-projects>)

Box 3 Jal Satyagraha

The **Jal [Satyagraha](#)** protest being organised in the [Khandwa district](#) of [Madhya Pradesh](#), India, was a prolonged protest staged by residents of Gogalgaon village, and neighboring villages that houses the victims of the families about to be submerged by the dam. Especially the villagers of the low lying hamlets fear that they would have to bear the brunt of the upcoming floods. Their grievances had been magnified by the sheer apprehension that not enough assistance for relocation been provided by the state. The protest that began on Saturday April 11, 2015 involved around fifty local residents but is gradually increasing its strength.

14.7 CONCLUSION

The kind of developmental design set up by the Narmada Valley Project was not suitable for a country like India. Sociologists have time and again argued that dams like these would only bring lop sided development in our country where most of the decisions are taken in a top-bottom approach within a highly bureaucratic set-up. Development becomes polarised in absence of any form of decentralisation such that a class benefits at the cost of the others leading to the pauperisation of the masses. The real question was whether the dam could create resources for the society or whether it drained away the already created wealth in the country, making the economy and the society more fragile than before. Thousands of people were uprooted from their native homes and their livelihoods smashed without any prior planning for their alternative modes of rehabilitation and relocation. This unplanned development surely could not benefit the millions living in the country and bring any sort of modernization that the state time and again argued for. This created a scope for an eternal conflict between the state and its people where the underdogs bore the brunt of the massive developmental drives and the state resolved for something it could not fulfil.

Check your Progress 3

- 1) Why did the evictees of Sardar Sarovar Project not willing to settle in Madhya Pradesh?

.....

.....

.....

.....

.....

- 2) Why was the Sardar Sarovar Project a lopsided development?

.....

.....

.....

.....

.....

14.8 LET US SUM UP

Narmada therefore is a river of multiple emotions and sentiments not just a mundane water body. It symbolizes one of the most dynamic peoples' movements in the country. It is truly an indigenous voice personified

that sustained for long refusing ebb out in spite of headstrong resistance. It is one of its kinds in the country for the movement showed the strength of the marginal people and their strength to fight against all odds. The movement was mired in a long legal battle where it though won the support of the World Bank and the Supreme Court could not persist long drawn battle. The global era with its hefty promises for modernisation and beautification often crouches on such projects to make the common men the scrape goats of the post-modern era. Nevertheless, the environmental movements would be remembered not just for generating fire sparks like [Sunderlal Bahuguna](#), [Medha Patkar](#), [Baba Amte](#), [Vandana Shiva](#), [Vijaypal Baghel](#), etc. but even the lesser known senior activists like Alok Agarwal, Vilasrao B Salunke and Rajendra Singh who had started water conserving movements in their small ways in their communities, were born. The movement will therefore be remembered not only for instigating mass struggles but also for garnering local consciousness in one's own individual own ways too.

14.9 REFERENCES

Ahmad, Afroz. "The Narmada Water Resources Project, India: Implementing Sustainable Development." *Ambio* 28, no. 5 (1999): 398-403. [http:// www.jstor.org/stable/4314921](http://www.jstor.org/stable/4314921).

Alka Srivastava and Janaki Chundi. 1999. *Watershed Management: Key to Sustainable Development*. New Delhi: Indian Social Institute.

Amita Baviskar , *Belly of the River: Tribal Conflicts over Development in the Narmada Valley*, Oxford University Press, 1995.

Amita Baviskar. "A Grain of Sand on the Banks of Narmada." *Economic and Political Weekly* 34, no. 32 (1999): 2213-214. [http:// www.jstor.org/stable/4408276](http://www.jstor.org/stable/4408276). pg. 2214.

Anil Patel and Ambrish Mehta. 1997. *The Independent Review: Was it a search for truth?* in William Fisher, ed., *Toward Sustainable Development: Struggling over the Narmada River* .Jaipur and New Delhi: Rawat Publications.

Dharmadhikary, Shripad. "The Narmada—death of a River." *India International Centre Quarterly* 33, no. 1 (2006): 65-78. [http:// www.jstor.org/stable/23005937](http://www.jstor.org/stable/23005937). Pg. 72.

Dharmadhikary, Shripad. "The Narmada—death of a River." *India International Centre Quarterly* 33, no. 1 (2006): 65-78. <http://www.jstor.org/stable/23005937>. Pg. 75.

John R. Wood. 2007. *The Politics of Water Resource Development in India: The Narmada Dams Controversy* , Los Angeles: Sage Publications.

Patel. Jashbhai "Is National Interest Being Served by Narmada Project?" *Economic and Political Weekly* 29, no. 30 (1994): 1957-964. <http://www.jstor.org/stable/4401522>.

Ram, Rahul N. 1993. *Muddy Waters: A Critical Assessment of the Benefits of the Sardar Sarovar Project*. New Delhi: Kalpavriks

Sanjay Sangvai. "No Full Stops for the Narmada: Life after the Verdict." *Economic and Political Weekly* 36, no. 49 (2001): 4524-526. <http://www.jstor.org/stable/4411435>. pg. 4526.

Sardar Sarovar: Report of the Independent Review. 1992. Ottawa: Resource Futures International.

Vandana Shiva, *Ecology and the Politics of Survival: Conflicts over Natural Resources in India*. New Delhi: Sage Publications and Tokyo: United Nations University Press.

Whitehead, Judy. "Sunken Voices: Adivasis, Neo-Gandhian Environmentalism and State—Civil Society Relations in the Narmada Valley 1998-2001." *Anthropologica* 49, no. 2 (2007): 231-43. <http://www.jstor.org/stable/25605360>.

Wood, John R. "India's Narmada River Dams: Sardar Sarovar under Siege." *Asian Survey* 33, no. 10 (1993): 968-84. doi:10.2307/2645096.

14.10 SPECIMEN ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

- 1) The dams were largely built for multiple reasons like flood control, water supply, hydroelectric power generation, and mostly for irrigation. During independence, there were as less as 300 large dams in India. Therefore the dams were better known as Multiple River Valley Projects.
- 2) The river Narmada originates from Amarkantak in the Maikal ranges situated in the Shahdol district of Madhya Pradesh (MP). The altitude of the river-bed here is 1,051 metres (3,468 ft). Here on the river travels down to the west and encounters almost 41 major tributaries on its path. The total catchment area of the river is almost 98,796.8 square km comprising of the Maikal ranges in the east, Vindhya ranges to the north and Satpura ranges to the south. The river crawls down the following districts of Shahdol, Mandla, Jabalpur, Narsinghpur, Hoshangabad, Khandwa (east Nimar), Khargone (west Nimar) districts of MP. The river forms a formidable boundary between the Jhabua district (MP), Dhulia district in Maharashtra and Baroda-Bharuch districts in Gujarat. Traversing through Bharuch district, the river terminates in the Gulf of Cambay (Patel: 1994:1957).

Check Your Progress 2

- 1) Medha Patkar is an Indian social activist fighting for crucial political and economic issues raised by adivasis, dalits, farmers, labourers and women facing injustice in India. She is an alumnus of TISS, a leading institute of India. She was shocked at the magnitude of displacement of tribals due to the construction of dam, called Sardar Sarovar Project over river Narmada and therefore founded the Narmada Charangrast Samiti (NCS), or the Narmada Oustees Association, which finally developed into the *Narmada Bachao Andolan* in collaboration of the NCS with the Gandhian organisations in the states of Madhya Pradesh and Maharashtra.

Medha spoke to the resident members of the valley to understand their pains and pathos. Most of them did not know what the government was up to and what sort of rehabilitation would be provided to them. In the next year, i.e 1986, the World Bank was pleaded by the state to back the Sardar Sarovar Project. Patkar realised that in order to suspend the project, the World Bank must be restrained to terminate the construction of the Sardar Sarovar dam. Medha and her colleagues took long marches from Madhya Pradesh to the dam site as a mark of protest against the proposal. The thirty-six day march became a symbol of solidarity among the neighbouring states of Narmada Valley as well as a direct challenge to the government and the World Bank.

- 2) Narmada Bachao Andolan, under the leadership of Medha Patkar realising the magnitude of displacement of tribals and other marginal communities along with the environmental unviability of the Sardar Sarovar Project made efforts to suspend the project. In 1993, in association with the Environmental Defence Fund and the International Rivers Net work, the Narmada Bachaon Andolan or NBA compelled the World Bank to suspend its proposed fund for the dam (whitehead, 2007). In 1995 the Supreme Court was persuaded to delay the construction process till the further review of the rehabilitation process been done.

Check Your Progress 3

- 1) The evictee villagers did not want to migrate to Gujarat. They have already travelled to the resettlement sites there and experienced the misery. Waterlogged fields, no livestock, fragmented families, hostile neighbours, no commons to collect fuel and fodder - this sums up the experience of most adivasis from MP who were given land in Gujarat.
- 2) Sociologists have time and again argued that dams like these would only bring lop sided development in our country where most of the decisions are taken in a top-bottom approach within a highly bureaucratic set-up. - Most of the locals of the dam site are poor men who can neither manipulate the common mass like huskers nor do they accumulate such

wealth through illicit earnings. Therefore surrounding the Sardar Sarovar Project, the task of displacement and relocation had become a muddy affair from which definitely a class of people have skimmed out the cream. It is those people who are reasonably the advantageous people of the community and who can negotiate ably with the government to derive their own benefits. They not only negotiate for their own selves but also negotiate for others whose interests they do not keep in mind. Therefore the poor displaced men could hardly see the light of the day. This unplanned development surely could not benefit the millions living in the country and bring any sort of modernisation that the state time and again argued for. This created a scope for an eternal conflict between the state and its people where the underdogs bore the brunt of the massive developmental drives.



ignou
THE PEOPLE'S
UNIVERSITY

UNIT 15 LAND BASED MOVEMENTS (ANTI-MINING AND SEED)*

Structure

15.0 Objectives.

15.1 Introduction

15.1.1.1 The Source Of The Mining Problems

15.2 The Private Corporations And the State Working in Close Association To Spark Movements

15.3 The Major Land Movements Around Mining In Our Country

15.3.1 The Oil Refinery Movement (1956-57)

15.3.2 Uranium Mining and The Social Movement in Meghalaya (1970s-1980s)

15.3.3 The Movement Against POSCO For Steel Mining in Orissa (2005-2017)

15.4 The Other Significant Anti-Mining Movements in India

15.5 Seed Movement in India

15.5.1 Monsanto's Round-Up-Ready Gene Agreement: Triggering the Genes of Protest

15.6 The Seeds of Protest: Karnataka Rajya Raitha Sangha, a Pro-active Farmer's Organization (1980s).

15.6.1 *Beej Bachao Andolan* – Save Seed Movement of Uttarakhand (1980s)

15.6.2 Seed Satyagraha (1990s)

15.7 Let Us Sum Up

15.8 References

15.9 Specimen answers to Check Your Progress

15.0 OBJECTIVES

After reading this unit, you should be able to:

- Learn the nature and types of the land based movements in India;
- understand the basis of anti-mining movements in India;
- develop acquaintance with the traditional seeds in the country;
- learn about reasons behind the resistances developed against GM seeds; and
- To develop a world view of the new situations and how they are being characterized by the neo-movements like these.

* Written by Srabanti Choudhuri, Asst. Professor, Netaji Subhas Open University, Kolkata

15.1 INTRODUCTION

You will be surprised to know that the history of mining dates several centuries back when major minerals and precious stones were mined in India. Since antiquity precious minerals and stones like diamonds, gold and iron, lead, zinc, silver and copper ores were mined in different parts of India. There are evidences that active mining for reef gold had been carried out in many gold fields of Southern India such as Bellara, Kabligatti, Wynad and some places else during the regime of Vijaynagar kings (1336-1560) and later during the reign of Tipu Sultan. There is enough circumstantial evidence to establish that copper was found indigenously during 1400-1800 at the time of the Mughal rule.

Box 1 Mining

Mining of lead, zinc and silver reached its peak during this time especially near Udaipur during the reign of Rana Lakhsh Singh of Mewar (1382-97) and continued up till the famine of 1812-13. There were attempts to mine coal in Raniganj coal field in the year 1774. Therefore, it is pretty evident that the art of mining was well known from the medieval ages.

Do you know that mining from the very beginning was mainly carried out in the less developed countries of the world? It was a labor intensive enterprise and still tends to be one and therefore indigenous restlessness centering mining had always been there. One of the primary requirements of the mining industry had constantly been to ensure the supply of adequate crew of mostly unskilled and local laborers. Some have stressed the coercive means employed by the industrial sector in securing a vast supply of miners. All these resulted in degradation of the land and living prompting the local population to cry foul. In order to curtail the costs of production and escape the liabilities of the mining population, workers were not only under paid but even deprived of all legal benefits by the mining companies. These nullified the contracts signed with the workers thus making them jobless and compelling them to return back to their homes far before they attained their retirement age.

15.1.1 The Source of the Mining Problems

Thus mining societies were always at the center of contention with deep illicit enterprises and engagements creeping up the system. Indigenous societies thus had to bear much of the costs of reproducing and maintaining the large mining labor force. The mining communities felt insecure and unstable for they were mired with controversies and doubts surrounding their occupations and livelihoods. The labor unions were continuously pressing for better living and working conditions through collective bargaining with the trade unions and the mining administrations. This created a spiral spring of

migrant issues to and from the mining spots, thus creating a bed rock of crisis and uncertainties in an already frail situation

Some of the other recurring problems plaguing the mining industry are the capital stiffness of the mining industry, continuous harassment of the working class by repeatedly denying them their basic rights and wielding an absolute control over their life. The mining centers are usually located in isolated locals without necessary amenities for civil populace where somehow the mining population live below the average level of subsistence. These conditions combined with abysmally low wages, risks of illicit mining and unhealthy environment add to their already growing apathy. The lethal combination of all these factors had sparked radical social movements that sought to protest the inhuman conditions associated with mining, labor unrest, ecological degradation of the labor and various social disorganization associated with the mining industry. Often the onus had been put on the state to having tacitly colluded with the trans-national corporations in its endeavor to take over the fertile but mineral rich lands of the tribes to set up giant mining industries. Do you know how the bauxite mine in the bauxite rich lands of Kashipur block in Orissa served as a case in point. Let us learn.

15.2 THE PRIVATE CORPORATIONS AND THE STATE WORKING IN CLOSE ASSOCIATION TO SPARK MOVEMENTS

You would be shuddered to know how the rich land of bauxite in the Kashipur block of Orissa was posing serious threats to the homes and livelihoods of the tribal inhabitants. The state had tacitly colluded with the multi nationals to extract minerals from this tribal hinterland leading to the loss of land and occupations of the poor tribes. The Utkal Alumina International (UAIL), a consortium of Norsk Hydro of Norway, ALCAN of Canada and INDAL of India had been trying to initiate a project in the Kashipur Block of Rayagada district for the past several years. They intend to build up a mining and processing unit of alumina with the help of bauxite mined from the Baphli Mali plateau. This plateau was located in the border areas of Rayagada and Kalahandi districts of Orissa that housed about 196 million tons of bauxite. Studies indicate that while disposing the chemical wastes produced from mining, dry red mud stacking would generate huge amounts, about 150 tons of sodium hydroxide everyday, which would be difficult to manage. It was anticipated that at least 11 villages on the downstream to the refinery, with a total population of more than 2,000 would be affected by this discharge.

Reports from the NALCO refinery area in Damanjodi in Koraput district have been severely affected by the pollution of their streams by the chemical effluents. The regular pumping of the effluents causes regular bouts of cattle deaths and crop loss besides causing other natural disasters. Often the dangers emanating from the open cast mining sites would seem so terrible

that villagers would be forced to flee their households at the footholds of the Baphli Mali. But as you know the villagers never wanted to leave their home lands for the fear of displacement but they were always forced to do so. A democratic government does not respect this simple wish of a people. But this time it has not been a cakewalk for the state and the corporate bodies to evict the villagers.

As you can easily assume that movements were therefore inevitable for the tribes despite their frailty did not want to leave their lands without giving a tough challenge to the state and its paraphernalia. The struggle involved 10,000 and even more tribal people from the panchayats of Kucheipadar, Dongasil, Tikiri, Kodipari, Sunger who actively participated in the movement with the people of Maikanch to bolster their spirits to carry on a long drawn battle against the state and its accomplices. After they had an encounter with the police that killed a handful of their comrades, they did not give up the struggle but fought harder. They organized a road blockage on December 20, barely four days after the grisly police attack, by demonstrating at the Rupkona Junction. The tribal people in Kashipur had silently proved that their fight against monstrous mining would itself acquire its own identity without the foliage of much fanfare. Vindhya Das had rightly said, "it is the conviction of a people struggling for the right to survive in dignity and in self-respect" (Das:2001: 2614).

However, you will soon learn that the dangers of mining could not pose the same magnitude of threats everywhere. One instance is the wave of the conflicts gathered in the Ib valley coalfield in the two districts of Orissa - Jharsuguda and Sundargarh - covering an area of almost 1,375 sq km. The coalfield had been named after the river Ib, a tributary of the river Mahanadi. This coalfield was an integral part of the Mahanadi Coalfields Limited (MCL), a subsidiary unit of Coal India Limited (CIL). This coalfield have been distributed among five areas which included Orient, Ib valley, Lakhanpur, Basundhara and Garjanbahal. The residents who had benefited from the mining activities for MCL have been arranging employment for the villagers at a wage rate higher than agriculture. At the same time, they have received compensation for their displaced lands. Despite that conflicts garnered around some dimensions of mining here as Prajna Paramita Mishra had pointed out. She said, "They have some demands, that MCL needs to pay attention to. These demands vary from village to village" (Misra:2009:123). For instance, Bundia district has acute water crisis for mining whereas in Lajkura, Chharla and Ubuda, rehabilitation problem had not yet been solved. Some Ainlapali villagers are still asking for employment. Their main demands are that they be provided with sufficient water and that the blasting and dust to be reduced. According to the villagers, the company attends to some of their complaints, while the others remain unattended.

You might want to know whether the villagers tried opposing the project. They did hunger strike, went to jail and even conducted several road

blockages. But finally they had to yield to the demands of MCL and government of Odisha. Having accepted that they would have to live with such mining conditions for ever, they are now pressing for more stringent demands like back filling of mined out regions, refilling of abandoned mining sites and preparing them for some productive purposes, adequate and regular water supply to all the mining affected villages, reparation of roadways, minimization of air, water and noise pollution, employment opportunity for the landless and appropriate and immediate distribution of compensation packages.

Therefore, it can be inferred that mining activities often bring along with it necessary evils that seemed difficult to revert. The projects are funded by big multi nationals with tacit support from the state, which becomes difficult to resist. The movements are not always as strong as those staged by the vocal activists for long, for not all movements could generate substantial mass protests like those usually heard of. Nevertheless, protests of some kind or other accompany such mining activities and they refuse to die down in spite of scanty public exposure, as seen in the case of Orissa's coalfields.

Activity 1

Try to find out some such movements which created uproar in the society for encountering mining expeditions. Try also to figure out few such movements which died down early despite making substantial protests against mining. Try to distinguish between the nature of the two kinds of movements.

15.3 THE MAJOR LAND MOVEMENTS AROUND MINING IN OUR COUNTRY

Our country had experienced some of the major land movements centering mainly around mining operations. These movements had occurred at different points in history creating different kinds of undercurrents in the Indian sub-continent. Let us learn some of them.

15.3.1 The Oil Refinery Movement (1956-57)

In post-independence India, the first major explorations of oilfields in India begun at Naharkatiya. This new oil field in north eastern Assam was expected to support a large production which would be able to supply a third of the country's requirements in the next three years. The Assam Oil Corporation recommended building the new refinery at Calcutta, whereas the Government of India suggested Dhuburi in Assam and Barauni in Bihar as the possible sites of the refinery. The resolution to establish the refinery in Assam was mooted in the legislative assembly on 3 April 1956, but unfortunately the central government could not give any definite assurance. The people in

Assam saw the government's moves as being influenced by British oil interests. By June 1957, the Indian government had already decided to set up the refinery in Barauni in spite the demand of the Assamese people. This led to further political outburst in Assam.

The first furious protests for the refinery in Assam took place on 28th August 1956. The movement was jointly initiated by the leadership of the opposition party and the Chairperson of the All Assam Oil Refinery Action Committee. Strikes, public meetings and road marches were organized to register the gravity of protests. The central government did not bend before hard core public protests but decided to establish the refinery in Barauni by an outright ignorance of the regional demands of the Assamese people. This led to further political outburst in Assam. This prompted the All Assam Oil Refinery Action Committee to perpetuate the movement by staging a *satyagraha* from 14th August especially in the areas around the oilfields and in Shillong as well as in the other districts.

Box: 15.2

The Oil Refinery Movement in Assam stood out on its own not only for having addressed the mineral oil issues, one of the most pertinent yet little exposed problems of the time, but also for invoking the regional aspirations and demands of the local people who wanted a refinery to be set up in their own state and not outside. You may understand this is how social movements and ethnicity are related to one another for they fuel local sentiments for communal resources.

15.3.2 Uranium Mining And The Social Movement In Meghalaya (1970s-1980s)

India's nuclear program, as you know had already been facing an acute shortage of uranium. The uranium mainly belonged to the lands of the tribes. Therefore, mining uranium in the west Khasi hills of Meghalaya had generated strong grievance and antipathy among its indigenous people. The state owned Uranium Corporation of India had repeatedly been denied access to this mineral rich belt of Meghalaya because of the strong local opposition. Despite that the government is trying hard to win over the local people to gain access to their territory. Although a reasonable proposition for some, there is also a strong opposition to this, usually citing either health reasons or issues having to do with ethnic sovereignty and indigenous rights.

According to Hopingstone Lyngdoh, the history of uranium in Meghalaya dated back to the 1950s when the atomic energy mining division started its first primary expeditions. Thereafter a string of investigations followed one after the other in the 1970s and 1980s, eventually leading to the discovery of

uranium deposits in various sites. One of these sites is the village of Domiasiat in the West Khasi Hills adjacent to the place where the Atomic Minerals Directorate finally begun its mining operations to process aluminum ore and to produce the much wanted yellow cake. Lyngdoh had encountered the proposal from the very beginning when he was acting as an elected member of the legislative assembly and the KHADC, which was a body formed in post-independent India to sustain tribal self-rule in the hill areas of north-east India. There was widespread news of ecological crisis emerging with the new mining prospects. Lyngdoh spoke of how he got the news from Domiasiat of how fishes and animals were suffering from an unknown malady. Strange diseases had also begun to emerge. It was then that he started to mobilise people against the uranium mining on a larger scale.

The headstrong opposition to uranium mining in Meghalaya and the people's movement echoed different dimensions of protests. It was not just a matter of ecological and environmental blunder but also an issue of their ethnic sovereignty that guards the communal living from external encroachment. Thus surely the protests registered against uranium mining in Meghalaya was of a matter not just of a macro issue but equally of an issue closer to their hearts. It is a matter, probably a form of social movement that though was grounded on the basic ecological issues were finally meant to cement their mutual bonds of camaraderie and commune, probably a key feature of the close knit states of north-east.

Activity 2

Try to figure out the significant anti-mineral movements in the states of north-east. Are these movements in the hills in any way distinct? How do you distinguish them from the anti-mineral movement in the plains?

15.3.3 The Movement Against POSCO For Steel Mining In Orissa (2005-2017)

Let us learn about some of these movements in the plains. With the liberalisation and decentralization of our economy, there was witnessed an influx of many trans-national corporations who were getting attracted towards the mineral hub of Odisha, Jharkhand and Chhattisgarh. Kalinganagar in Jajpur district of Odisha had become the hot bed of commercial interests owing to its nearness to iron ore mines in Sukinda–Keonjhar and Sundergarh, and its viable communication with Paradip Port. This was creating a rift of distrust among the local tribes who began resisting the land acquisition by the mining corporations in the first phase of the 2000s. On 2 January 2006, 13 Adivasis were gunned down by Odisha police for opposing Tata Steel. The movement had thus taken off with zest and force but it could do so with full force, the Government of Odisha signed a memorandum of understanding with POSCO for establishing a 12-million-tonne per annum (mtpa) integrated steel plant with an investment of Rs.

52,000 crores. POSCO was considered as the biggest foreign direct investment in our nation of the time and the state government was boastful about it, declaring that it would “bring prosperity and wellbeing to its people.” However, the government’s ‘dream project’ turned into a disaster for all those 22,000 people from the affected areas of Dhinkia, Gadakujanga and Nuagaon gram panchayats of Jagatsinghpur district who depended on the forest lands that were soon acquired by the POSCO.

Do you know?

Box 15.3

It was the large tracts of forests that had supported the villagers of Jagatsinghpur district of Orissa for decades by being their only source of betel vines, cashew plants, firewood, mushrooms and *saag* (leafy vegetables). Villagers strongly opposed the acquisition of their land – on a fertile stretch of land like this on the coast of the Bay of Bengal near Paradip, famous for its betel vines. The vineyards were said to give farmers an assured average income of at least Rs 20,000 per month, but no one listened to their pleas as their vines were mercilessly uprooted and massacred.

The POSCO Pratirodh Sangram Samiti (PPSS), the organisation that spearheaded the anti POSCO agitation resorted to peaceful means of protest such as *dharnas*, *satyagrahas* and *padayatras*, which saw spontaneous participation of women, children and the elderly. PPSS did not leave any leaf unturned to dispel the destructive forces of the POSCO. Despite their honest and peaceful attempts, they were fought back with iron hands of the armed police, flag marches, *lathi*-charges, rubber pellets, criminal charges, arrests and jail terms. One of the most heinous assaults on anti-POSCO agitators took place on 15 May 2010. To protest such a gruesome attack, an indefinite demonstration had been staged demanding the scrapping of the project. This had been ongoing for five months in Balithuta village, which was considered the entry point to the area. The villagers who took the membership of the *Posco Pratirodh Sangram Samiti* to protest the land acquisition, refused the state government’s package of a Rs 70-crore rehabilitation. Instead of entering into peaceful dialogues with the people, the district administration took resort to violent means to intimidate people with *lathis*, rubber bullets and tear-gas shells. People were mercilessly killed and their houses burnt down. They were left shelter-less and maimed with no medical aid at their disposal. Civic life came to a dead end with complete take over by the police.

The district administration carried out the land acquisition strategically in twin phases one in 2011 and subsequently the other followed in 2013. In the first phase, the villagers of Nuagaon willingly let their betel vines and fruit-

bearing trees, especially cashew nuts, to be mowed down in lieu of compensation. However in other villages, POSCO was met with violent resistance particularly by [hundreds of children](#) and women who denied access to the company by sealing the entry points to the vineyards by organizing prolonged sit-ons under the scalding sun as a sign of repulsion. The administration was left with no resort but to call off the land acquisition for the next two years. Even with a strong police deployment, when the acquisition was resumed back in 2013, it could gain access only to a limited 2,700 acres of land sans Dhinkia village, the hub of the anti-Posco campaign. However, in January 2015, following an amendment of the Mine and Minerals Development and Regulation Act – especially with the rising allegations of mining scams across the country, Posco's plans were disrupted. Thereafter, Posco suspended its project and finally it called off its industrialization drive in 2017.

15.4 THE OTHER SIGNIFICANT ANTI-MINING MOVEMENTS IN INDIA

Social movements like these organized against mining and industrial operations are therefore not few. Others might include the movement in Baliapal, in Balasore district of Orissa against National Test Range (NTR) to test and launch missiles, Save Gandhamardan Movement in the early 1980s to protest against bauxite mining by Bharat Aluminium Company, probably the first mass protest against mining in Orissa, protests against establishment of alumina plants in Rayagada and Kalahandi Districts in Orissa in 1990s and opposition against probably largest steel plant by the Tatas at Gopalpur, on the southern coast of Orissa in 1995, the conflict over Limestone quarrying in the Doon valley and the protests waged by the tribals of Chattisgarh, Singrauli and Santhal Parganas. Movements like these speak of the daring hood and exceptional courage that men even living on the marginal skirts of the society had shown in countering powerful forces whenever they saw their home and homeland are at stack. The movements also show a variety of approaches adopted by the activists to secure justice while some are Gandhian in rationale others take a more radical stand standing on the pillars of more articulated social justice and equity.

Check Your Progress 1

- 1) Write inbrief the working conditions of labour in mining industry.

.....

.....

.....

.....

.....

- 2) Why was Kalinganagar in Jajpur district of Odisha become the hot bed of commercial interests?

.....

.....

.....

.....

.....

- 3) Why was mining especially carried out in the less developed countries in the world?

.....

.....

.....

.....

.....

15.5 SEED MOVEMENT IN INDIA

Let us now come to yet another movement, viz. the seed movements in India launched nationwide by the farmers, activists, NGOs and all those concerned with the wellbeing of agriculture and its resources. You will be surprised to know that the seeds are no longer the traditional resources of the farmers about which they can boast. The ownership of seeds had been under siege by the MNCs and Transnational Corporations. The ritual of seed conservation and reciprocity practiced in Indian agriculture for long is slowly going into oblivion. Emergent technologies like those of green revolution and bio-technology ignore the traditional and indigenous knowledge trapped in the seeds that the farmers sow and nurture. Seeds are therefore losing their native value. Vandana Shiva therefore said, “This results in the seed itself becoming extinct, as the existence of the seed is tied intimately with its holistic knowledge” (Shiva:2001:72).

Shiva lamented that the entire practice was instigated by the policies of the new Intellectual Property Rights which had been popularized by the Trade Related Property Rights (TRIPs). The IPR frameworks of the West indulge the transnational corporations to hijack the indigenous knowledge of the seeds as borne by the peasants and project the seeds as the corporations’ private property. These ways of taking over the native property of the farmers and falsely claiming themselves as the owners of the seeds had crippled the agrarian field severely. This had slowly diffused to other areas of agricultural fields as well thus thwarting the very processes of seed sharing, distributing,

reciprocating and conserving which our peasants had been doing for long. This had serious implications for our agro-culture and its bigger periphery. Shiva is right when she said, “.... This results in monopolistic corporate control over the seed itself, restricting its free sharing within and across communities” (ibid:72).

Thus it is evident that the new seed culture is tremendously disturbing the bio-diversity and variations that our agriculture had boasted for long. This brings us to the question of patents, which decide the rights of the breeders. Patents accrued on plants help claim that a seed or a plant or a crop type is typically their exclusive domain and debar others from making, selling, using, or distributing the seed or that crop. Patents discourage the archaic system of conserving seeds and circulating them freely with our neighbors. Patents thus enter into a strict deal for ensuring the exclusive rights of the breeder and try hard to stop all attempts for knowledge sharing across communities, practiced for long. Any breach of this agreement would call for severe condemnation and an attempt to label the process as ‘intellectual property theft’ under IPR laws. Therefore, you will be appalled to learn that the very process and culture of seed nurturing which had been invented and expedited by the farmers had been unduly snapped from them. From being the princes of the fields they had been turned into petty paupers with all rights blatantly refused and denied.

Box 15.4

Patenting the seed and its prospective fruits had been disastrous for our peasant friends who had to bear the brunt of this ridiculous process. Companies were found punishing the farmers for practicing seed sharing, which they knew was no crime. They are being pushed to judicial complications in industrialized countries for sharing the collective wisdom of seed sharing and exchange.

You might like to know that how this process is jilting the indigenous life of the farmers. Shiva said, seed legislations would deny farmers’ varieties and tags farmers’ breeding as illegal activity. At the same time, farmers are bound to give up their traditional rights and practices to upgrade the quality of farming. This compelled the farmers to use only the ‘registered seeds’ that had been approved by the big corporations. This would slowly destroy the innumerable local varieties of sees that had been designed by the innovative farmers themselves. Farmers hardly have the affordability to get their seeds registered and they are forced to depend on the dictates of the big companies. This at the same time destroyed the bio-diversity and pushes our agriculture towards homogenization and parochialization.

15.5.1 Monsanto's Round-Up-Ready Gene Agreement: Triggering the Genes of Protest

According to this agreement, Monsanto which had emerged as a leading seed company, curbs the rights of the farmers for selling or supplying the seed or material acquired from their crop to any other individual or institute, or for seed conservation. The agreement also spells the rule to pay 5\$ per pound in the name of 'technology fee' apart from the price of seeds and other royalty charges. If any of the terms is contravened, the breeder will be charged one hundred times the damages. Monsanto enjoyed the illicit right to whimsically visit the fields of the farmers even in their absence to oversee their field practices, lest they violate the deed rules. The farmers indicted the company for this unlawful supervision and unethical watchfulness. The farmers were unhappy with the draconian laws of the firm because of its double-barreled nature. They complained that Monsanto "owns" the crop while squeezing millions of dollars as rent from farmers, but it never owes up to the costs and hazards that the transgenic crops create (Shiva:1998:37). MNCs like these instead, in the name of crop improvement, create ecological havoc and end up building an evil system of absolute privatization of benefits.

An instance of such totalitarianism might be Monsanto's creation of a genetically engineered cotton variety called "Bollgard". It was a transgenic variety that was concocted with DNA from the soil microbe *Bacillus Thurengensis* (Bt) to manufacture proteins fatal to the boll-worms, a cotton pest. The company charged the farmers for a 'technology fee' along with the price of the seed in exchange of the assurance that the pest problems would soon vanish from their farms. Tragically the technology failed miserably, and the bollworm infestation had attacked the genetically modified crops even more from before (ibid:36). Therefore, the genetic seeds designed by the companies lay bare their false claims thus weakening the socio-ecological fabric forever. Farmers could not sit mute but they retaliated back and their movements were full of angst and pain.

15.6 THE SEEDS OF PROTEST: KARNATAKA RAJYA RAITHA SANGHA, A PRO-ACTIVE FARMER'S ORGANIZATION (1980S).

Protests were spearheaded by Karnataka Rajya Raitha Sangha (Karnataka State Farmers' Organization). The organization was founded in 1980, around issues central to the farmers like debts, taxes, price etc. The organization staged protests against big transnational corporations. In 1992, KRRS activists were busy plundering the offices of the multi-national seed corporation Cargill in Bangalore and Bellary. The leader of the KRRS, Professor M.D Nanjundaswamy, advocated Gandhian ideals of an alternative technology when he called for a boycott of the western model of development (Herring: 2005:207) and urged to instead rely on the local people and their decentralized indigenous economy. In Delhi in September

2000, a seed forum called a *Bija Panchayat* was formed to hear all cases pertaining to the crisis of farmers and an appeal to debar all forms of transgenic seeds. The tribunal threw light on the miserable conditions of the farmers from Punjab, Andhra Pradesh and Karnataka and showed how they sold their body organs or committed suicide being unable to bear the debt any longer.

15.6.1 Beej Bachao Andolan – Save Seed Movement of Uttarakhand (1980s)

In the late 1980s, this movement was launched by a group of activists hailing from Hemwal Valley of Tehri under the leadership of Vijay Jardhari, a farmer and social activist. 'Beej Bachao Andolan' (Save the Seeds Movement) was initiated from Jardhagaon of Tehri district, Uttarakhand. As you know, because of the introduction of the western technology, the old agricultural resources and practices are losing ground. Initially there were around 3000 varieties of rice in Garhwal before the inception of Green Revolution, now it has come down to 320. The 'Beej Bachao Andolan' was head started as an awareness campaign in 1989 to persuade the farmers from growing cash crops like peas, potatoes and soybean, and encourage indigenous practices like the 'Baranaja'." It stood for a traditional method of mixed farming and intercropping of twelve species in agriculture. It was essentially a movement to bring back the old and tested tactics of agriculture as against the agro-business policies favoring only the rich. This movement instead backed the traditional practices of the villagers like controlling the pests by using the leaves of *walnut* and *neem*.

This movement is significant for the fact that it not only produced higher yields but also aggravated the soil fertility and bio-diversity in agriculture. In 2002, the Booker Prize Winner, Arundhati Roy made a donation of Rs 1.5 lakhs to Beej Bachao Andolan for the stupendous seed conserving skills of the locals.

Box 15.5

Vijay Jardhari discovered the old tradition of agriculture 'Baranaja' which stands for 12 anaja or grain (Baraha anaja). In this strategy, 12 seeds of different kinds are harvested in the fields. This is followed by sowing the wheat and repeating the process once again. After this, wheat is sown and the same procedure is repeated to enable a proper crop rotation. This makes the seeds immune to drought, floods and pests which bring benefit to the farmers especially during natural calamities and help sustainsome of their food stock.

15.6.2 Seed Satyagraha (1990s)

In our country a wide scale movement called seed satyagraha had emerged over the time especially to challenge the threats invoked by IPR, TRIP and other attempts for hijacking the indigenous drives of our native agrarian system. Just as Satyagraha is the way to self-rule or swaraj, the same is judiciously applied to express the farmers' rights over their local resources. A massive rally was organized in Delhi in March 1993, where a memorandum of farmers' rights was formed. The principle of local sovereignty was adopted wherein it was resolved that natural resources must be treated as belongings of the village itself. Farmers' movements had stringently declared that they would not recognize the GATT Treaty for it refuses to acknowledge their birth rights (Shiva:1997: 125).

Yet another component of the movement is Swadeshi which is a means to re-kindle the spirit of re-construction and creative re-vivification. The principle reinforces the fact that people already are armed with plentiful local resources to defeat all attempts for colonization. They would not require any further supplementary services to empower themselves. Likewise the local wealth of the farmers is sufficient to strengthen their positions, without any external support of foreign technologies or gadgets. Local peasants by re-inventing the ideas of *swadesh*, *swaraj*, and *satyagraha* are constantly ousting the draconian laws that had legitimized the vehement theft of the bio-diversity and traditional wisdom of our third world countries (ibid:126). The movements therefore reflect the country wide protests to destroy the seeds of ecological and social diversity spearheaded by the giant multinationals. Time has come to counter such colonizing drives and save the indigenous wealth from the powerful hands of the imperial agents. This is the need of the hour especially to stop bio-piracy in favor of supporting the collective innovations of the farmers. The instances of bio-piracy especially in the cases of *neem* by United States of Agriculture, Basmati rice by a Texas based company, and Indian wheat by Monsanto are clear indications of the re-colonizing attempts and the dire need for a movement like this.

Activity 3

Visit a field and try talking to a few farmers about local resources which they think have been hijacked from their communal booty. Try to find out whether these agricultural resources had been patented out. Also study the impact of this loss of resources on the local farmers.

Check Your Progress 2

- 1) Why is patenting the seeds so disastrous for the farmers?

.....

- 2) Write in brief about the role of Karnataka Rajya Raitha Sangha, in ushering the seed movement in India?

- 3) What is 'Baranaja'?

- 4) What is Bija Panchayat? What s its significance?

15.7 LET US SUM UP

All these movements speak of the indigenous voices of the local farmers especially on the eve of such corporate over-hauling. In the case of both land grab movement and the seed movement, the contemporary forces of globalisation, liberalisation and privatisation were counteracted forcefully by the local farmers. The mass protests spoke of the collective distrusts and anger of the poor farmers against the giant corporations and the modern infrastructures. The movements were articulating not only because they spoke of the thefts conducted by the trans-nationals but they waged a war

against the ecological and environmental decay, the most pertinent challenge that the society is facing today. It is expected that after learning of these movements, you too will grow an interest for the rural agrarian structure and try find out all those products which were being patented out. This will make you aware of the ill-effects of bio-piracy and how it often leads to the wanton destruction of nature and our indigenous knowledge. Navadanya (nine seeds) and barnaja (twelve crops) are traditional instances of mixed farming or poly-culture that provide immunity against monoculture and help bring ecological strength and fertility. This diversity however is discouraged by the global forces for they thwart profit maximization. So, we should work in unison to resume back the lost bio-pluralism as against the centralized mono-cropping.

15.8 REFERENCES

Das, Vidhya . "Mining Bauxite, Maiming People." *Economic and Political Weekly* 36, no. 28 (2001): 2612-614. <http://www.jstor.org/stable/4410849>

Mishra, Prajna Paramita. "Coal Mining and Rural Livelihoods: Case of the Ib Valley Coalfield, Orissa." *Economic and Political Weekly* 44, no. 44 (2009): 117-23. <http://www.jstor.org/stable/25663741>.

Shiva, Vandana. "The Seed and the Earth." Biopiracy: the Plunder of Nature and Knowledge, South End Press, 1997, pp. 43–64.

_____. "Can seed be owned?" Patents: Myths and Reality, South End Press, 2001, pp. 1–135.

_____. "Non-violence and cultivation of diversity" Biopiracy: the Plunder of Nature and Knowledge, South End Press, 1997, pp. 119–126.

Mishra, Prajna Paramita. "Coal Mining and Rural Livelihoods: Case of the Ib Valley Coalfield, Orissa." *Economic and Political Weekly* 44, no. 44 (2009): 117-23. <http://www.jstor.org/stable/25663741>.

15.9 SPECIMEN ANSWERS TO CHECK YOUR PROGRESS

Check Your Progress 1

- 1) The working class in the mining industry are their basic rights by wielding an absolute control over their life. The mining centers are usually located in isolated locals without necessary amenities for civil populace where somehow the mining population live below the average level of subsistence. Most of them are indigenous population with no other skills so they end up as mining labour without any means to fight the unjust and unequal treatment meted out to them.
- 2) Kalinganagar in Jajpur district of Odisha had become the hot bed of commercial interests owing to its nearness to iron ore mines in Sukinda–

Keonjhar and Sundergarh, and its viable communication with Paradip Port. This was creating a rift of distrust among the local tribes who began resisting the land acquisition by the mining corporations in the first phase of the 2000s

- 3) Mining is labour intensive and the less developed countries have cheap labour and very few labour protection regulations in place which helps international businesses to escape legal liabilities.

Check your Progress 2

- 1) Patents accrued on plants help claim that a seed or a plant or a crop type is typically their exclusive domain and debar others from making, selling, using, or distributing the seed or that crop. Patents discourage the traditional system of conserving seeds and circulating them freely with neighbors. Patents thus enter into a strict deal for ensuring the exclusive rights of the breeder and try hard to stop all attempts for knowledge sharing across communities, practiced for long. Any breach of this agreement would call for severe condemnation and an attempt to label the process as 'intellectual property theft' under IPR laws. Therefore, you will be appalled to learn that the very process and culture of seed nurturing which had been invented and expedited by the farmers had been unduly snapped from them. From being the princes of the fields they had been turned into petty paupers with all rights blatantly refused and denied.
- 2) KRRS (Karnataka Rajya Raitha Sangha) was founded in 1980, around issues central to the farmers like debts, taxes, price etc. The organization staged protests against big transnational corporations. In 1992, KRRS activists were busy plundering the offices of the multi-national seed corporation Cargill in Bangalore and Bellary. The leader of the KRRS, Professor M.D Nanjundaswamy, advocated Gandhian ideals of an alternative technology and boycott of the western model of development and urged to instead rely on the local people and their decentralized indigenous economy.
- 3) Vijay Jardhari discovered the old tradition of agriculture 'Baranaja' which stands for 12 anaja or grain (Baraha anaja). In this strategy, 12 seeds of different kinds are harvested in the fields. This is followed by sowing the wheat and repeating the process once again. After this, wheat is sown and the same procedure is repeated to enable a proper crop rotation. This makes the seeds immune to drought, floods and pests which bring benefit to the farmers especially during natural calamities and help sustainsome of their food stock.
- 4) In Delhi in September 2000, a seed forum called a *Bija Panchayat* was formed to hear all cases pertaining to the crisis of farmers and an appeal to debar all forms of transgenic seeds. The tribunal threw light on the

miserable conditions of the farmers from Punjab, Andhra Pradesh and Karnataka and showed how they sold their body organs or committed suicide being unable to bear the debt any longer.

**Environmental
Sociology: Nature
and Scope**



GLOSSARY

Acid Rain: When atmospheric pollutants like oxides of nitrogen and sulphur react with rainwater and come down with the rain, then these results in Acid Rain.

Anthropocentrism: the view that human beings are the centre of the universe and human interests are primary to evaluate the relevance of anything or practice.

Anthropogenic: This term came into being along with the predominance of the human beings. The period of time during which human activities have had an environmental impact (primarily of environmental pollution and pollutants) on the earth regarded as constituting a distinct geological age.

Balance of payments deficit/ Imbalance of trade payments: It means the residents of the country import more goods, services and capital than it exports to the rest of the world. In order to correct this deficit/ imbalance, it must borrow foreign currency from other countries or international financial institutions.

Basmati: It is derived from the Hindi word , *bāsmatī*, which literally means "fragrant" Basmati rice as is widely assumed is being cultivated in the Indian subcontinent for several centuries. There is a distinct aromatic chemical compound found naturally in this type of rice which renders it a typical fragrance and a subtle flavour.

Biodiversity: Biological diversity in an environment as indicated by numbers of different species of plants and animals. It can be used more specifically to refer to all of the species in one region or ecosystem. Biodiversity refers to every living thing, including plants, bacteria, animals, and humans.

Capital productivity: The output per unit of fixed capital. Capital productivity measures how efficiently capital is utilized to generate output.

Capitalism: An economic system where trade, commerce and industry are controlled not by the state but by private owners for profit.

Capitalism: An economic system where trade, commerce and industry are controlled not by the state but by private owners for profit.

Carcinogen: A substance that causes cancer.

Climate change: Change in climatic parameters from their long-term normals from one epoch to another epoch due to anthropogenic causes.

Conservation is the sustainable use and proper management of the biosphere including all the natural resources like forests, wildlife, water, air and land.

Cosmopolitan moment: In 'cosmopolitan moment', there is an abrupt and full confrontation with the excluded other. As a consequence, national boundaries are no longer relevant and the 'distant other' becomes the 'inclusive other', through *risk* and not through mobility.

Cosmopolitan realpolitik: It means the state is no longer the unit of politics. In fact, nation-state can no longer be the guarantor of individual freedom and national autonomy. Therefore, transnational network becomes the basis of ensuring human rights and justice.

Cosmopolitan vision: Cosmopolitan vision here mean peace, human rights and global justice. However, they can also become the basis of national hegemony and imperial ambitions. Ironically, the side effects of cosmopolitan vision could be invasion and war.

Counter-productivity thinkers: Neo-Marxists who are critical of Marxism because of its exclusive focus on social relations of production at the expense of forces of production and the machinery itself. They also discarded industrial society theory because of its essential belief in the benign character of technology and its lack of class analysis.

Deforestation: Refers to the loss of forests across the world due to human activities like agriculture, urbanisation or mining of minerals, greatly accelerated since the 1960's.

Deforestation: Destruction or removal of forests by denudation or clear-cutting.

Ecocentrism: The view that human beings are just one among other living organism on the earth and that all have equal rights.

Ecological modernization/eco-restructuring: The growing independence or autonomy of 'ecological perspective' and the emergence of 'ecological rationality' as the basis of production and consumption.

Ecological modernization: The growing independence or autonomy of ecological perspective and the emergence of ecological rationality as the basis of production and consumption.

Ecological rationality: It means rationality guided by ecological improvement or minimal harm to environment through the use of innovative green technology.

Ecologization of the economy/greening of business/sustainability from within: The internalization of environmental impact within institution so as to ensure future production and ecological stability.

Ecology: The study of relationships between living organisms, including humans, and their physical environment i.e. how ecosystems function.

Ecosystem: The complex of living organisms, their physical environment, and all their inter-relationships in a particular space. Ecosystems can be very large (e.g. The entire earth or a forest) or very small (e.g. a tide pool). The whole surface of earth is a series of connected ecosystems.

Embedded autonomy: It is a decentralized form of state structure, where there is coherence and connectedness between agencies, officials and civil society group.

Environment: Surroundings that include forests, wildlife, air, water, land etc. on which human beings depend.

Environment: Surroundings that include forests, wildlife, air, water, land etc. on which human beings depend

Environmental glocalization: The institutionalization of environment through a combination of western heuristic and national and regional characteristics.

Environmental radicalism: Radical change of the environment through the use of innovative green technology.

Global North: It refers to the economically developed nations such as the USA, UK, Canada, Western European nations and developed parts of East Asia. The term is an alternative designation for “developed” countries.

Global South: It broadly refers to the regions of Latin America, Asia, Africa and Oceania, which have low and middle income. The term was first used as an alternative to the “third world” or “developing countries”.

Global warming: Increase in average surface temperature of the Earth being caused by increase in greenhouse gases emissions.

Globalization: Globalization is a contemporary phenomena marked by increasing connectivity and integration on a global scale within the framework of global capitalism.

Globalization: The increasing connectivity and integration between people, businesses and governments on a global scale driven mainly by global capitalism.

Globalization: The increasing connectivity and integration between people, businesses and governments on a global scale driven mainly by global capitalism.

Green Capitalism: The view that capital exists in nature from which all wealth depends, and therefore, government should use market to fix environmental problem. It is also known as “environmental capitalism” or “eco-capitalism”.

Green economy: The generation of green energy using renewable energy, so as to replace fossil fuels with clean and efficient energy. For this, government may give subsidies to motivate firms for the production of green products and services.

Greenhouse Effect: Warming of earth's climate owing to the increased concentration of carbon dioxide and other certain pollutants (greenhouse gases) in the atmosphere.

Holocene: Most recent of the geological epochs.

Human Ecology is the study of patterns and processes of human interaction with their environment. It analyses the consequences of human activities as a chain of effects through the ecosystem and human social system.

Hyper-rationality: Hyper-rationality is nothing but radicalized rationality. If scientific rationality is the hallmark of simple modernity, hyper-rationality is the hallmark of late modernity.

Indigenous: produced, living, or existing naturally in a particular region or environment

Industrialism: An economic system where large-scale manufacturing units are dominant.

Industrialism: An economic system where large-scale manufacturing units are dominant.

International Monetary Fund - It is an international organization, headquartered in Washington, D.C., consisting of 189 countries working to foster global monetary cooperation, secure financial stability, facilitate international trade, promote high employment and sustainable economic growth, and reduce poverty around the world.

Marxism: It analyzes class relations and social conflict using a materialist interpretation of history and view social transformation as a consequence of dialectics.

Methodological Nationalism: It is an empirical and instrumental understanding of risk within the nation-state framework.

Narmada BachaoAndolan - It is the movement called by MedhaPatkar and soon joined by others to protest the building of the SardarSarovar Dam on environmental grounds and on the apprehension that the state would not provide adequate compensation and re-location to the dam affected settlers.

Narmada Water Disputes Tribunal: It is under the Inter-State Water Disputes Act, 1956, the Central Government built up the Narmada Water Disputes Tribunal (NWDT) on 6th Oct. 1969 to decide upon the sharing of Narmada waters by the four states of Gujarat, Madhya Pradesh, Maharashtra and Rajasthan.

National Energy Policy: A national energy policy comprises a set of measures involving that country's laws, treaties and agency directives.

Neo-liberalism: Neo-liberalism advocates free-market capitalism, where the state and capital form a coalition regime.

Neo-Marxism: A broad term that modifies or extends Marxism and Marxist theory through incorporation of other school of thoughts. It is a conflict theory, like Marxism and counter-productivity thinkers, with an exclusive focus on relations of production and capitalism.

Neo-Marxism: It is a conflict theory that differs from Marxism by abandoning the rich (bourgeoisie) versus poor (proletariat) dichotomy in favour of identity politics.

Objectivism: All reality is objective and external to the mind and knowledge can be learned through empirical observation.

OECD: Organization for Economic Cooperation and Development is an association of developed countries/nations to promote growth and trade. It was set-up in 1961 to supersede the OEEC (Organisation for European Economic Co-operation).

Ozone

Depletion: https://www.youtube.com/watch?v=aU6pxSNDPhs&feature=emb_logo

Ozone hole: Any part of the ozone layer that has become depleted by atmospheric pollution, resulting in excess ultraviolet radiation passing through the atmosphere.

Parikrama: The sacred Narmada River is circumambulated by the pilgrims. The process of circumambulation or *parikrama* is considered pious by the pilgrims, who take this trip every year. The importance of the Narmada River as sacred is testified by the fact that the pilgrims perform a holy pilgrimage of a *parikrama* or Circumambulation of the river. The Narmada *parikrama*, as it is called, is considered to be a meritorious act that a pilgrim can undertake.

Pollution: Making something like air, water and soil or something impure or unnatural by adding dirt or harmful substances.

Post-modernism: Critique against 'Reason' as in Enlightenment.

Preservation attempts to maintain the natural environment in its pristine form, untouched by human encroachments.

Reflexive modernity: Reflexive modernity is born out of reflexive modernization, where modernity has extended itself. It is the structural condition of advanced industrialization.

Reflexive modernization: A radicalized modernity, where modernity has transcended beyond itself. It emerged in the context of late modernity.

Reflexive Modernization: Reflexive modernization means radicalized modernization. It emerged out of the structural conditions of late modernity.

Reflexivity: Reflexivity means being critical of one's own method. It started with the environmental crisis and the subsequent Green movement in the 1970s, which critique the dominant modern institutions of science, business and politics.

Risk culture: Risk culture is the kind of attitude and perception towards risk based on cultural differences.

Risk society: It is the structural conditions of advanced industrialization, where there is increased anticipation of risk and secularization in every sphere of life.

Risk society: The structural conditions of advanced industrialization with increased anticipation of risk and secularization in every sphere of life.

Risk: It could mean uncertainty, probability, or danger. In the Beckenian sense, risk means potential catastrophe. The moment catastrophe happens, it ceases to be risk.

Salinisation: Salinisation is the increase of salt concentration in soil and is, in most cases, caused by dissolved salts in the water supply. This supply of water can be caused by flooding of the land by seawater, seepage of seawater or brackish groundwater through the soil from below.

Sarpanch: A Sarpanch is elected from a village based statutory institution of local self-government called the *panchayat* (village government) in India. The sarpanch, along with the other elected *panchas* (members), constitute the *gram panchayat*. The sarpanch is the focal point of contact between government officers and the village community.

Satyagraha : Gandhian Method of non-violence struggle for rights.

Scientism: It is the uncritical assumption that science is the final authority and science cannot be wrong.

Sea level Rise: Increase in global and regional sea levels due to changes in water volume through heating or cooling of ocean, melting or accumulation of ice sheets/ glaciers and changes in sediments. This may be caused by short term and long-term natural processes. Global warming/climate change is expected to cause global sea level rise, which may be non-uniform over different oceans/basins and regional seas.

Second contradiction in capitalism: It means unchecked global capitalism will ultimately destroy the sustenance base of production and consumption. In other words, it means rampant global capitalism would end up destroying the capitalistic order itself. This is known as the second contradiction in capitalism. It may be noted that the first contradiction in capitalism is the class conflict between the proletariat and bourgeoisie.

Smog: Smoke and other atmospheric pollutants like gases and chemicals combined with fog especially in cities, that makes the atmosphere difficult to breathe and harmful for health.

Social constructivism: Cultural representation of reality (as oppose to representation of reality through experiences and contact with nature).

Social radicalism: Radical change or overthrow of the dominant mode of production.

Soil Erosion: It is a gradual process of removal of surface layer of nutrient rich soil, through the action of wind or water. Usually, soil erosion exceeds replacement rates through ecological processes. The presence of trees reduces considerable amount of soil erosion with increasing deforestation and felling of trees due to human activity soil erosion has been on the rise.

Sub-politics: In the Beckenian sense, it refers to form of politics outside and beyond the parliamentary form of democracy.

Sunk capital: It remains in a fixed place and cannot be used in other line of production (e.g. printing machine). Sunk capital, also known as “specialised capital”, can only be put to a single use.

Super-industrialisation: Extended industrialisation in which innovative green technologies are used to deal with environmental problems.

Supra national:It means extending beyond or transcending borders or spheres of influence held by different nations.

Swadesh: Swadesh refers to my ‘nation’. The **Swadeshi movement** is an integral part of the Indian freedom movement and the emergent idea of Indian nationalism the strategy was essentially an economic drive focused at removing the British Empire from power and bringing prosperity in India by following the dictums of *swadeshi* .

Swarāj: Self-governance or "self-rule", and sometimes used synonymously with "home-rule" by nationalists like Maharishi Dayanand Saraswati and later on by Mahatma Gandhi. However, the word stresses on Gandhi's concept for fighting against foreign rule through decentralization of power.

Tata Energy Research Institute- It is a research institute in New Delhi that specializes in the fields of energy, environment and sustainable development. Established in 1974, it was formerly known as the Tata Energy Research Institute. As the scope of its activities widened, it was renamed The Energy and Resources Institute in 2003.

Technological optimism: It means solutions to environmental problems can be found eventually in innovative green technology or what is known as ‘super-industrialisation.’

The Enlightenment: An intellectual and philosophical movement that dominated the world of ideas in Europe during the 17th and 18th centuries. The Enlightenment included a range of ideas centered on the centrality of human beings and their pursuit of happiness. Reason and rationality were seen as the prime movers of human advancement and a source of knowledge, where religion and religious ideas had taken a back seat.

Treadmill of production theory: Production in the capitalist mode of production continues to grow by displacing workers and replacing them with new technologies. This means increased in profit because of increased in production and consumption without a corresponding increase in social benefits, which ultimately has consequence for the environment.

Treadmill of production theory: Production in the dominant mode of production continues to grow by displacing workers and replacing them with new technologies. It means increased in profit due to increase in production and consumption leading to new round of investment, without a corresponding increase in social benefits, which ultimately has consequence for the environment.

United Nations - It is an intergovernmental organization that aims to maintain international peace and security, develop friendly relations among nations, achieve international cooperation, and be a centre for harmonizing the actions of nations.

United Nations Environment Programme - It is responsible for coordinating the UN's environmental activities and assisting developing countries in implementing environmentally sound policies and practices.

United Nations Framework Convention - It is an International Environmental Treaty that seeks to reduce atmospheric concentrations of greenhouse gases with the aim of preventing dangerous anthropogenic interference with earth's climate system.

Utilitarianism: An ethical theory that considers the interest of every person equally. Utilitarianism tries to judge an action as morally right or wrong depending on its effect.

Worker productivity: The number of output produced per work hour. It means the number of goods and services produce by workers in a given time.

World Meteorological Organization – It is a specialised agency of the United Nations responsible for promoting international cooperation on atmospheric science, climatology, hydrology and geophysics. The WMO originated from the International Meteorological Organisation, a non-governmental organisation founded in 1873 as a forum for exchanging weather data and research.

World risk society: World risk society would mean increased anticipation of a global catastrophe and distribution of risk in late modernity.

FURTHER READINGS

- Amita Baviskar. 1995. *Belly of the River: Tribal Conflicts over Development in the Narmada Valley*, Oxford University Press.
- Beck, Ulrich. 1995. *Ecological Enlightenment: Essays on the Politics of the Risk Society*. Amherst: Humanity Books.
- Bostrom, Magnus & Davidson, D. 2018. *Environment and Society: Concepts and Challenges*. Cham: Palgrave Macmillan.
- Buttel, Frederick. H. 1987. 'New Directions in Environmental Sociology', *Annual Review of Sociology*, 13: 465 – 488.
- Chaudhary, Sukant K. 2013. *Sociology of Environment*. New Delhi: Sage.
- Dunlap, R.E. & Catton, W. R. (1979). 'Environmental Sociology', *Annual Review of Sociology*, 5: 243 – 273.
- Foster, J. B. 1999. 'Marx's Theory of Metabolic Rift: Classical Foundations for Environmental Sociology', *American Journal of Sociology*, 105(2): 366 – 405.
- Gupta, Aniruddha Sen. 2010. *Our Toxic World a Guide to Hazardous Substances in Our Everyday Lives*. SAGE Publications.
- Hacking, Ian 1990. *The Taming of Chance*. Cambridge University Press: United Kingdom.
- Hannigan, John. 1995. *Environmental Sociology: A Social Constructionist Perspective*. London: Routledge.
- Health Hazards of the Human Environment, (1972). World Health Organisation, Geneva
- John R. Wood. 2007. *The Politics of Water Resource Development in India: The Narmada Dams Controversy*, Los Angeles: Sage Publications.
- Lockie, Stewart. (2015). 'What is Environmental Sociology', *Environmental Sociology*, 1(3): 139 – 142.
- Nash, J. 1979. *We Eat the Mines*. New York: Columbia Univ. Press
- Pandey, Kiran, and Sengupta Rajit. 2017. "State of Climate." *Down to Earth Annual*.
- Pellow, D. N., and H. Nyseth Brehm. (2013). 'An environmental sociology for the twenty-first century', *Annual Review of Sociology* 39:229 – 250.
- R. Feachem, M. McGarry and D. Mara. (1977). *Water, Wastes and Health in Hot Climates*; John Willey and Sons, London.
- R. Guha. 1989. *The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya* Delhi: Oxford University Press.
- Rich, Nathaniel. 2019. 'Losing Earth: The Decade We Could Have Stopped Climate Change'. London: Picador.
- Rush, Elizabeth. 2018. *Rising: Dispatches from the New American Shore*. Milkweed Editions.
- Rush, Elizabeth. 2018. *Rising: Dispatches from the New American Shore*. Milkweed Editions.