

includes Khariff, Rabi and summer crops. In addition, the project also aims to generate 212 MW power in the initial stage and 147 MW in final stage. The Narmada basin is one of the richest areas of the country for valuable forests and variety of wildlife. The Narmada basin has two world famous national parks like Kanha and Satpura; and five Sanctuaries, Kheoni, Panchamukhi, Bori, Ratapani and Sidhore. Narmada basin also falls on route to several migratory birds flying to South from North.

It was conceived that the massive deforestation due to the project will affect the feeding and breeding of the wild life. The compensatory forestry will not be able to compensate the eco system to the normal situation. Ecological pressure and micro climatic changes caused by deforestation will inevitably threaten the wild life.

Save the Narmada movement began in the 1980s as a struggle for just resettlement and rehabilitation of people being displaced by the Sardar Sarovar Dam, but subsequently the focus was shifted to preserve the environmental integrity and natural eco systems of the valley. The withdrawal of World Bank funding was a moral victory for the movement. Anti-project movement was very high among the residents of basin area in Madhya Pradesh, while in Gujarat dissatisfaction was observed among people whose lands have been encroached without adequate compensation and inequitable compensation by the Government (Appa and Sridharan, 1992). By linking the problems of environmental changes and degradation of the Valley with issues of economic equity and social justice, the movement forced the bank to withdraw from the project (Estana and Prakash, 1992).

Narmada Movement justifies the fact that an environmental movement can go beyond social and cultural cleavages since it touched the human survival. Therefore, this platform unites people above age, sex, religious, ethnicity, caste and class identities. Women became the prominent leaders and participants. The encroachment of rights of people in case of Narmada project was strongly protested by the people who protected their age old livelihood resources.

3.5 ENVIRONMENTAL MOVEMENTS IN ODISHA

The state of Odisha, particularly the southern belt, i.e., undivided Koraput, Bolangir and Kalahandi districts, is endowed with 1733 million tonnes (70%) of the total bauxite resources of the country. In the post-liberalisation period this mineral resource has attracted foreign investment, which brought the State into the international arena. Since 1986 several attempts have been made in western Odisha to explore bauxite ore (Government of Odisha, 2000). The major companies which have tried to explore bauxite mining in Odisha at different times include BALCO Ltd., Utkal Alumina, INDAL, TATA, Hydro (Norway), ALCAN (Canada) and HINDALCO. Any such mining projects will have an adverse impact on the life and livelihood of the local and the environment of the region. Therefore, in the local organisation of the agitations women's groups took an active part through picketing, processions and public hearings. The emergence of an indigenous leadership made all these movements more widespread. In fact, in this process of micro movements, the forest-dependent communities are trying to re-establish the functional importance of their indigenous institutions in the environmental protection and to determine the forest based regional needs of the people.

3.5.1 Gandhamardan Environment Protection in Odisha

The People and the Area

Gandhamardan, one of the bauxite rich hill ranges, is situated in Sambalpur and Bolangir region of western Odisha. This region is regarded by tribals and peasants as their mother who provides them with food, firewood, fodder and also water for cultivation and drinking purposes. Gandhamardan hill carries 22 streams and 150 perennial springs. The stream water and plants are the integral part of the local ecological pattern. In the ethnic composition of the region tribal communities like *Gonds*, *Binjhals*, *Kandhas* are the majority one, while *Kulta* a caste group are the numerical preponderant. The socio-cultural life processes of the local people are inter-twined with the Gandhamardan hill and Nrusingha Nath and Hari Shankar temples. Gandhamardan hill is a cultural territory for the locals of the region (Panigrahi, 1985).

BALCO Intervention

Gandhamardan hills carry an estimated bauxite deposit of 213 million tons covering an area of 9.6 sq.km. BALCO had a plan for mining the Gandhamardan hills with an original investment of Rs. 31.20 crores and creation of an estimated employment of 500 persons on regular basis and 3000 persons as contract labourers. In addition, BALCO had also promised 25 kms railway line, hospital, schools for the local people, plantation under social forestry and a royalty of one crore to the State. The first blasting of BALCO in July 1985 damaged the much revered Nrusingha Nath, the 800 years old temple, which developed physical cracks in the temple and its Garuda Stambha. In the initial days BALCO butchered around 60,000 trees for the construction of road and ropeway. The tribal people of the region had preserved the forest plants as divine symbols and preserved them as totem of their clans. The destruction of trees by BALCO, therefore, is considered as a threat to their culture and society.

The adverse effects of BALCO on the local agriculture have contributed towards the environmental consciousness of the people. The Durgei stream irrigating 200 acres of land in Manabhanga village was affected due to the construction of a minor irrigation project on the stream to supply drinking water to BALCO Township. In addition, the irrigation project sub-merged a big Mango orchard and private irrigated plots. The blasting of hills brought cracks in Khandei Jharan canal and silted the agriculture land that made the land very hard to plough. Gradually the villagers became conscious about the environment and feared that their agro-forestry based livelihood will be jeopardised with the BALCO project. As a result of which, local leadership started with the tribals and peasants and it went from the religion base to a secular base. The costs to maintain the agitation by the locals was collected in the form of rice, and mobilised people to different places of agitation and spread the anti-BALCO message in the region. Gandhamardan Surakhya Parishads (GSYP) were formed in villages, Gram Panchayat and region level which facilitated the grass root movement by involving all sections, both at micro level and macro level. The villagers realised that BALCO management has not merely betrayed the local inhabitants' faith in the modernization process, but also planned to take away the natural resources of their Gandhamardan hills.

Inference

We have learned that the modernisation process launched by BALCO could not build faith among the local. It could not even establish a dialogue process with the common people centring to the benefits of BALCO mining activities to their economy and ecology. As a result, the interests of the common people were ignored and hoodwinked by the interest groups.

On the other hand, the Gandhamardan mining made people believe on their abilities and made them conscious of the environmental issues. The potentiality of the youths and the women have been reflected and recognised in building construction activities. The movement has shown the path that people if united can built and rebuilt environment friendly development through their collective endeavour.

3.5.2 Environmental Movement Against Bauxite Mining in Kashipur

Kashipur is one of the tribal-dominated blocks of Rayagada district. There are 412 villages distributed over 20 Gram Panchayats, accommodating a total population of 101,995. The Poraja and the Kondhs are the two major tribal communities of the region. Of the total geographical area of 15,059 square miles the block has forest coverage of 59,000 acres and reserve forests of 33,000 acres. Around 36.3% of villages are electrified and only 19% of the total population is literate (Census of India, 2001). The total labour force in the block is 43.12% of which agriculture labour comprises of 24.95% while household industry accounts for 0.99%. The agro-products of the region include ragi, paddy, millet, grams (chickpeas), maize and Niger seed. Hill broom is the most important forest product of the region. The block was once full of natural forests and perennial springs. The tribal people living therein terraced the land and made the region habitable. They maintain a symbiotic relationship with nature and natural resources. They enjoy natural rights over the resources surrounding them. Intervention in the region started with various state laws basically designed to exploit the natural resources available in the region. The influx of non-tribal people suppressed the tribals. This has been reflected in the form of massive land alienation, resulting landlessness and severe impoverishment. People's poverty has become chronic as a result of money lending, bonded labour practices, the geographical inaccessibility of the region, exploitation by middlemen, contractors and petty traders, and the low bargaining power and lack of organisation of the people.

The systematic exploitation of the forest resources was started, in the name of national development, by J. K. Paper Mill of Rayagada, which destroyed the ecological balance of the region and the people. Utkal Aluminium International Ltd UAIL and other companies have entered the region to mine its hills in the guise of developing the area. This has led the people from the situation of food security to food scarcity. Deaths from starvation in Kashipur in 1987 were brought to the attention of the then Prime Minister Rajiv Gandhi. After reviewing the situation, he evolved a new vision of development, following which IFAD funding worth Rs 400 million was invested in this region.

In 1993 the State proposed a bauxite alumina plant owned by Utkal Aluminium International Ltd (UAIL), a joint venture of Hindal, Tata, Hydro Alumina (a

Norwegian company) and Alcan (A Canadian Company), with technical support from Alusuisse, a Swiss company. UAIL is a 100% export-oriented project, costing around Rs 24 billion, to source bauxite and transport it along a 25-km ropeway. People also learned of a second alumina project at the beginning of 1995, under a joint venture of L&T and Alcoa (a US company) with a 100% export-oriented project at a cost of Rs15 billion.

The plant at Kashipur (Doraguda) was to directly affect 2500 people in 24 villages of Kucheipadar, Hadiguda and Tikiri Gram Panchayat (required for the plant site, red mud and ash pond). However, the company claimed that only 147 families from three villages would be affected. In addition, 42 villages in Chandragiri, Maikanch and Kodipari panchayat would be directly affected by open cast mining at Baphlimali, while the company claimed that not a single village would be affected. The UAIL project required 2865 acres of land in Kashipur block in 1995, which includes 1000 hectares of land which has been in use for years for cultivation, forestry and shifting cultivation.

As a form of protest against the mining, 18 tribal people met the Chief Minister of Odisha, the late Biju Patnaik, for the first time in 1993 and demanded cancellation of the project. In 1994 the villagers of Kuchipadar snatched away the survey team's instruments and set fire to their camps. In 1995 the protest took a violent turn, destroying the survey team's camp, and as a result 15 tribal people were arrested. In 1996 the local organisation, PSSP was formed. In 1997 Utkal Alumina created an NGO - Utkal Rural Development Society (URDS) - to try to win people undertaking socioeconomic development works. PSSP opposed URDS and destroyed the company's resettlement colony. In 1998 local people built a barricade at Kucheipadar to stop the entry of project personnel. The police injured nearly 50 people. In 2000 police gunned down three tribal people and injured eight others. In 2001 a protest against the shootings in Maikanch was organised and around 10,000 people participated. Demands were made for mobile health services and irrigation facilities. Since 2002 the people of Kashipur region have been demanding the cancellation of all bauxite projects in KBK districts. On 29 December each of six Gram Sabhas in all the project villages rejected the proposal and suggested scrapping the treaty for the proposed mining.

3.5.3 Ecological and Bio-Diversity Protection Movement in Niyamgiri Hills of Odisha

Niyamgiri, a range of hills stretched over 250 sq. km, is popularly known as Dongaria Kondha land. Socio-culturally Niyamgiri hills are a single hill country, but from administrative point of view this land is divided under three districts of Kalahandi, Rayagada and Koraput. Anthropologists consider Niyamgiri as the original abode of the Dongaria kandhas, which is one of the original sub-groups of the Kandhas, who consider themselves as the descendants of Niyam Raja (Patnaik and Das Patnaik, 1982). The Dongarias have a distinguished heritage, dress style, mode of living, indigenous skills, cultural pattern, and social system interlinked with nature. The major river systems having origin in the hills include Vansadhara, Nagavali, and 36 streams which are culturally and ecologically very rich and maintain their identities till today. Niyamgiri carries most pristine forests of Odisha, vulnerable wildlife species, and proposed south Odisha Elephant Reserve and Wild life sanctuary of the State.

Niyamgiri, a part of the Eastern Ghats, is the natural reserve of metallurgical grade bauxite which rose to very high commercial importance in the era of globalisation. Vedanta Alumina Limited of M/s Sterilite Industries (India) Limited jointly with Odisha Mining Corporation (OMC) has signed agreement on 4th June, 2004 to set up an Alumina Complex of 1.0 MTPA Alumina Refinery Plant, 3.0 MTPA of bauxite mining for a period of 23 years and 75 MW Captive Power Plant at Lanjigarh in Kalahandi with an approximate investment of Rs.4000/-crore. These projects will affect a total forest area of 672.018 hectares out of which 660.749 hectares (98.32%) will be diverted for mining and other ancillary activities of the project. The proposed area is situated in Niyamgiri Reserve Forest of Kalahandi (South) Forest Division, and Niyamgiri PRF (Proposed Reserve Forest) of Kalahandi (South) Forest Division, and Niyamgiri PRF (Proposed Reserve Forest) and Jungle Block (Protected Forest) of Rayagada FD. In addition, another 755.5 acres of land consists of village forests from six villages leased by Orissa Industrial Infrastructure Development Corporation Ltd to lease to Vedanta Alumina Ltd for setting up of an Alumina Refinery Plant at Lanjigarh.

Taxonomists who assessed the flora of Niyamgiri hills viewed that the flora of the hill range exhibits a very rich and varied assemblage of plant species owing to its diversified topography with High Mountain peaks and enumerable deep valleys and gorges, abundant springs and diverse vegetation resources. The hill also includes around 50 species of important medicinal plants, 20 species of wild ornamental plants and more than 10 species of crop plants. The secondary data identifies a variety of faunal species under categories like endangered and vulnerable as per the zoological survey of India's Red Data Book.

Dongaria Kandhas fought against Vedanta Company establishing the linkages between the natural environment and their rights. When one looks from the perspective of rights given by the Indian Constitution one finds the violation of natural rights and livelihood of the Dongaria people by the State. Through struggle, the local communities and the like minded forces appealed to the Supreme Court of India to restore the rights of the tribal people and to preserve the forest resources of Niyamgiri Hills. Again Fifth Schedule of the Indian Constitution provides protection to the adivasi people living in the area. It is provisioned that no land in this area can be transferred to non-tribals (CEC Report, 2005). However, the local people in order to protect their own rights are determined to stop the mining in Niyamgiri Hills.

3.6 ENVIRONMENTAL LEGISLATION

Environmental Provisions in Indian Constitution

Provisions relating to environment were incorporated into Indian constitution through 42nd Amendment in 1976. For the first time "Environmental Protection" got importance.

As per the Directive Principles of State Policy, Article 48 (A), "the State shall endeavour to protect and improve the natural environment and safeguard the forest and wild life in the country.

According to Article 51 A (g), "it shall be the duty of every citizen of India to protect and improve the natural environment, including forests, lakes, rivers and wild life and to have compassion for living creatures". Besides this, the entire