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**MANE-005
Environmental
Anthropology**

Block

5

DEVELOPMENT POLICIES, ENVIRONMENTAL IMPACT AND COLLECTIVE ACTION

Expert Committee

Prof. Veena Basin
Department of Anthropology
North Campus, University of Delhi, Delhi

Prof. V. Gangadharam
Department of Anthropology
Sri Venkateswara University, Tirupati

Prof. P. K. Biswas
Indian Institute of Forest Management
Po Box 357, Nehru Nagar, Bhopal

Prof. Rabindra Nath Pati, Project Director Council
for Tribal and Rural Development (CTRD)
Mahamaya Bhawan, HIG-101
KananVihar, Phase-I, P.O: Patia, Bhubaneswar

Prof. Birinchi K. Medhi
Department of Anthropology
Guwahati University, Guwahati

Dr. Amita Baviskar, Associate Professor
Institute of Economic Growth
Delhi University Enclave, Delhi

Dr. Subha Ray, Associate Professor
Department of Anthropology
University of Calcutta
35, Ballygunge Circular Road, Kolkata

Faculty of Anthropology SOSS, IGNOU

Dr. Rashmi Sinha
Reader, Faculty of Anthropology
School of Social Sciences
IGNOU, New Delhi

Dr. Mitoo Das, Assistant Professor
Faculty of Anthropology
School of Social Sciences
IGNOU, New Delhi

Dr. Rukshana Zaman, Assistant Professor
Faculty of Anthropology
School of Social Sciences
IGNOU, New Delhi

Dr. P. Venkatramana, Assistant Professor
Faculty of Anthropology
School of Social Sciences
IGNOU, New Delhi

Dr. K. Anil Kumar, Assistant Professor
Faculty of Anthropology
School of Social Sciences
IGNOU, New Delhi

Dr. N. K. Mungreiphy, Research Associate
(DBT), Faculty of Anthropology
School of Social Sciences, IGNOU

Programme Coordinator: Dr. Rashmi Sinha, SOSS, IGNOU, New Delhi
Course Coordinator: Dr. K. Anil Kumar, SOSS, IGNOU, New Delhi

Content and Block Introducer	Language Editor
Prof. R. Siva Prasad	Dr. Anita Sinha, Associate Professor
Department of Anthropology	Ganga Devi Mahila College
University of Hyderabad, Gachibowli, Hyderabad	Kankerbagh Colony, Patna

Block Preparation Team

Unit Writers

Dr. K. Anil Kumar(Unit 1 & 2)
Assistant Professor
Faculty of Anthropology
SOSS, IGNOU, New Delhi

Dr. Nilakantha Panigrahi (Unit 3 & 4)
Faculty in Anthropology
NKC Centre for Development Studies
(ICSSR Institute), Institutional Area
Bhubaneswar.

Block Coordinator

Dr. K. Anil Kumar

Print Production	Cover Design
Mr. Manjit Singh	Dr. Mitoo Das, Asstt. Professor
Section Officer (Pub.), SOSS, IGNOU, New Delhi	Discipline of Anthropology, SOSS, IGNOU

December, 2012

BLOCK 5   DEVELOPMENT POLICIES, ENVIRONMENTAL IMPACT AND COLLECTIVE ACTION

The progress of a nation and its people depends on harnessing its resources, both natural and human, through proper development planning, following broader policy formulations. Any developing nation in pursuit of progress and welfare of its people need to evolve development policies to attain this goal. This very process, paradoxically, impacts the natural resources and environment leading to their depletion and degradation, which also leads to deprivation, dislocation and impoverishment of the displaced people. Thus, apart from impacting the resources and people, it also gives rise to collective action that opposes the state policies and privatisation of the resources.

In this context, it is important to recognise that there is a close rapport between development policies, their impact on environment and displacement of the poor whose livelihoods are dependent on the same environmental resources. This denial of access to resources usually leads to protests and collective action by the deprived to assert their rights over the resources and their upkeep. This Blok deals with different aspects of human responses to the above mentioned aspects in detail under the following four Units:

Unit 1: **Development Projects and Displacement in India** – This Unit discusses the intricate relationship between development and displacement and largely focuses on the enormity of the problem of displacement caused by development projects and their consequences. It discusses the available models, such as Scudder's four-stage framework, Michael Cernea's Impoverishment Risks and Reconstruction (IRR) as tools of analysis for assessing social risk. This Unit also discusses the Resettlement and Rehabilitation Policy adopted by different State Governments and the Government of India.

Unit 2: **Indigenous Communities and Forest Policies in India** – This Unit begins with the defining of the term indigenous people and progressively analyses the dependence of indigenous communities on forests, and the impact of forest policies evolved and implemented right from the Colonial administration till date. It tries to highlight the implication of different forest policies and enactments, like the Wild Life Protection Act 1972, Forest Conservation Act 1980, Scheduled Tribes and Other Forest Dwellers (Recognition of Forest Rights) Act 2006, etc., on the indigenous populations.

Unit 3: **Environmental Movements in India** – In the context of Anthropology of Environmentalism, this Unit analyses various environmental movements in India. It also discusses legislations pertaining to environment in the Indian Constitution. In general, this Unit highlights the contribution of anthropological studies of environmental movements to the environmental research.

Unit 4: **Health and Environment** – This Unit delineates the relationship of health with environment. It discusses different theories currently in vogue in medical anthropology from an ecological perspective, and various regulations and legal frameworks pertaining to them. The impact of globalisation on health and environment, with special reference to women, and application of medical anthropological knowledge are also the focus of this Unit.

UNIT 1 DEVELOPMENT PROJECTS AND DISPLACEMENT IN INDIA

Contents

Learning Objectives

At the end of this unit, you will be able to:

- understand an overview of displacement due to development projects and its impact;

- gain the knowledge about the problems related to displacement and rehabilitation with reference to tribals; and

- comprehend the issues related to resettlement and rehabilitation policy.

1.1 INTRODUCTION

Many a country in the world has marvelled at the positive aspects of various development projects. Throughout the world, development has been largely equated with economic growth and surplus. Large irrigation projects, and centralised industries, have been symbols of such development, which through the process of industrialisation promised to set nations on the path of modernisation and development. Particularly in the third world countries, the natural resource bases are tapped indiscriminately through construction of mega development projects in order to make up the shortfall in development and catch up with the developed countries of the World. In the name of national or regional development there has been reckless extraction of natural resources by industrial and commercial concerns in collusion with techno bureaucratic apparatus of the state (Behera, 1993). So development seems to carry the continuing costs for many in the Third World. Various projects undertaken to promote development have been a major cause of population displacement in many cases. A majority of the displaced people have not been properly resettled or given adequate compensation. In this context, in the present unit we will discuss an overview of displacement due to development projects and the issues and problems related to development-induced displacement.

1.2 DEVELOPMENT PROJECTS AND DISPLACEMENT

Displacement of human settlement is not a new phenomenon. It has been caused by a variety of factors, e.g., construction of dams, hydroelectric complexes, establishment of Industries, exploration of minerals and mining, etc. Before going to know an overview of displacement due to development projects and other related issues, it is important for the learners to first understand the meaning of the terms 'development', displacement and 'resettlement'. The term 'development' envisages a battery of changes, changes for the betterment of the community. It involves the notion of progress, growth, uplift and welfare of the collective (Patnaik, 1996). This multifaceted term carries different meanings to different disciplines. For economists, it is an increase in the growth rate and per capita income; for politicians, it is the acquisition of some symbols of modernisation and progress; for administrators, it is the achievement of the targets; and for social anthropologists, it is the enhancement of the quality of life, standard of living and satisfaction of basic needs. Friedmann defines 'Development' as an innovative process leading to the structural transformation of social systems.

The meaning of displacement has come to be more or less taken for granted, particularly in most academic literature. It is very important to understand that displacement is a multidimensional phenomenon of which physical relocation is only one of the most significant outcomes. The movement can be either internal or international, and is often permanent, though some possibilities of return might exist in certain cases. In this context, displacement refers not only to those who are forced to physically relocate in order to make way for the project and its related aspects, but also includes those who are displaced from their resource base and livelihoods. It is commonly experienced through the loss of land and the disruption of social and economic relationships (Bartolome et al 1999). By contrast, resettlement is a population movement planned directly by the government or private developers, where an area is chosen in order to resettle the population. The choice can be made after discussion with the affected populations, but can also be imposed upon them. Resettlement can also involve the payment of some compensation for the affected populations.

Displacement has become an outcome of modern developmental process worldwide. Displacement of people from their habitat occurs almost in all countries due to development projects. No precise data exists on the number of persons affected by development-induced displacement throughout the world. For an indication of magnitude, most scholars, policy-makers, and activists rely on the World Bank Environment Department's (WBED) Report. As estimated by the World Bank, on an average 300 large dams that enter into construction every year displace 4 million people. The Urban development and transportation program that starts each year in developing countries is estimated to displace an additional 6 million people (World Bank, 1994). The overall global level of physical displacement could range from 40 to 80 million people worldwide. In India indigenous peoples have disproportionately been the victims of development and conflicts. While by 2001 they constituted 8.2% of the total population, they comprised 55.1% of the 8.54 million persons displaced in India by development projects and conflicts between 1950 and 1990. Table 1.1 presents the distribution of projects on the basis of displacement. One can notice from the table that dams

and reservoirs are the most frequent cause of displacement and account for 63% of the people displaced. Roads, railways and other transportation industry rank second in displacing the people. Besides dams and highways, thermal power stations, irrigation canals, drains sewerage lines, wildlife sanctuaries were also some of the important causes of resettlement. Some of these projects though do not displace people physically, yet they acquire considerable land for its related activities. Millions who thus lose their lands for development purposes are simply ending up as "development refugees" (Mathur, 1995).

Table 1.1: Distribution of Development Projects by the Case of Displacement

Case of Displacement	Projects with resettlement		People Displaced	
	Number	**%**	**Number**	**%**
Dams	39	26.6	1,233,000	62.8
Transportation	36	24.7	3,11,000	15.8
Water supply, Sewerage	18	12.3	59,000	3.0
Thermal (including mining)	15	10.3	94,000	4.8
Urban infrastructure	12	8.2	73,000	3.7
Irrigation, Canals	7	4.8	71,000	3.6
Environmental Protection	5	3.4	74,000	3.8
Industry	4	2.7	2000	0.1
Forestry	2	1.4	45,000	2.3
Other	8	5.5	1000	0
Total	**146**	**100**	**1,963,000**	**100**

Source: World Bank 1994

The 1980s have been called by some as the "decade of displacement". Whether caused by disasters that ranged from famines in Africa, wars in West Asia, to homelessness in America, the close of 20th century will be remembered for the large number of people evicted from their houses, farms and communities and forced to find a living elsewhere (Guggenheim and Cernea, 1993). The Bank's wide review of projects involving involuntary resettlement between 1986 to 1993 shows that 146 active projects with resettlement are spread among 39 countries (Table 1.2). About 60% of the Bank resettlement projects are in the East Asian and South Asian regions. Due to the scarcity of land, due to high density of population, India and China together account for 74% of the people to be displaced under the current active portfolio.

Activity

What is development? What are the different development projects that displace people?

Table 1.2: Review of Development Projects Involving Resettlement World Wide

Region	Total Bank Projects		Projects with Resettlement			
	Number	%	Number	%	People	%
Africa	656	3.46	34	23.3	113,000	5.8
South Asia	277	14.6	29	**19.9**	1,024,000	52.1
East Asia	326	17.2	58	39.7	5,88,000	30.0
Europe/ Central Asia	120	6.3	5	3.4	27,000	1.4
Middle East/ Africa	178	9.4	7	4.8	32,000	1.6
Latin America	340	17.9	13	8.9	180,000	9.1
Total	**1897**	**100**	**146**	**100**	**1,963,000**	**100**

Source: World Bank 1994

In almost every developing country, a great deal of emphasis has been placed on creating and strengthening infrastructure facilities. Displacement of people from their settlements when their lands are acquired for infrastructure projects is an inevitable process. No infrastructure projects have been completed without displacing people. If development is one side of the coin, displacement is the other side (Ramesh, 1998). Urban infrastructure and transportation projects that cause displacement include slum clearance and upgrading; the establishment of industrial and commercial estates; the building and upgrading of sewerage systems, schools, hospitals, ports, etc.; and the construction of communication and transportation networks, including those connecting different urban centres. Cernea's paper (1993), *The Urban Environment and Population Relocation*, provides a brief review of the literature and gives a comprehensive overview of some of the most important issues involved in urban displacement and resettlement.

Cernea (1993) estimates that between 1950 and 1990 around 18.5 million people have been displaced in India due to various developing projects. Worldwide, the size of population evicted due to development projects has grown over the past few decades, which is given in Table 1.3

Table 1.3: National Resettlement Estimation Caused by Development Project

Country	Time Period	People Displaced
China	1950-90	20,000,000
India	1950-90	18,500,000
Thailand	1963-77	1,30,000
Brazil	1980-90	4,00,000
Turkey	1980-90	3,00,000

Source: *Guggenheim, 1993*

While development-induced displacement occurs throughout the world, two countries in particular – China and India –account for a large portion of such displacements. In its first 40 years after the 1949 revolution that established the People's Republic of China, the government has so for resettled an average of

800,000 people per year for development purposes. According to Fuggle *et al.* (2000), the National Research Centre for Resettlement in China has calculated that over 45 million people were displaced by development projects in that country between 1950 and 2000. The WBED report notes that, in 1993, World Bank projects in China accounted for 24.6% of people displaced in Bank-assisted projects, while Bank-assisted projects in India accounted for 49.6 per cent of the Bank's total displacements due to projects. China's Danjiangkou Dam displaced 383,000 people, while its on-going 'The Three Gorges Dam' project, launched in 1994, and supposed to be completed in 2009, at a total cost of more than $US 25 billion, is expected to result in the largest dam-related displacement in history. Three Gorges Dam project will displace the populations of 17 cities and 109 towns in 19 counties—a total of more than 1.2 million people. In the developing world, China and India have had extensive forced resettlement of people following the construction of huge reservoirs.

Activity

What is displacement? How many people have been displaced by development projects?

1.3 ANTHROPOLOGY AND DISPLACEMENT: THEORY AND PRACTICE

Anthropologists have always been concerned with the relationship between the people they studied and the natural environment. Research into involuntary displacement and resettlement has grown rapidly during the last two decades. Researchers from diverse academic disciplines have studied issues and problems related to development projects and displacement. Anthropologists and sociologists initiated research on forced population displacements before other disciplines and before such processes became a subject of public policy. According to Brokensha and Scudder, 1968; Butcher, 1971; Colson, 1971; Hansen and Oliver-Smith, 1982 anthropologists in the mid-twentieth century were among the first to recognise, report on, and work toward mitigating the serious impoverishment and gross violation of human rights occurring among populations resettled by development projects (Oliver-Smith, 2007). Despite the participation of other disciplines, anthropology can reasonably claim to be the foundational discipline of the field of development-forced displacement and resettlement research. Because development-forced displacement and resettlement (DFDR) impacts virtually every domain of community life, anthropology's holistic approach well equips it to address the inherent complexity of the resettlement process. In development-forced displacement and resettlement (DFDR), anthropology also has made the single strongest, tangible, and internationally documented and recognised contribution to development policy and practice over the past quarter century (Oliver-Smith, 2005).

Since the 1950s, anthropologists have spanned the entire field of DFDR in basic and applied research, policy formulation, theory building, evaluation, planning, implementation, and community – and NGO-based resistance movements. Anthropologists have helped to frame current DFDR debates concerning human and environmental rights, policy frameworks and guidelines, implementation, evaluation, the limits of state sovereignty, and the agendas of international capital

(Colson, 2003). Because of its central role in the field, anthropology has a responsibility to expand the array of approaches and methods addressing the current, intensified challenges presented by DFDR at the local community and project levels, in national and international political discourse, and in the policy frameworks of multilateral institutions (Oliver-Smith, 2007).

Actually, the research on displacement and resettlement in the discipline of anthropology emerged in the 1950s from the post-war concern for the welfare and fate of the enormous numbers of refugees and displacees in World War II. The pioneer document was Alexander Leighton's *The Governing of Men: General Principles and Recommendations Based on Experiences at a Japanese Refugee Camp* (1945). In 1952 Elizabeth Colson and Thayer Scudder (see Scudder, chapter 2,) began long-term research on the social and ecological consequences of resettlement for the Gwembe Tonga, who were relocated by the construction of the Kariba Dam in what was to become Zambia (Scudder and Colson, 1982). In the field of research the topic also attracted interest in many countries like Africa, Asia and Latin America as post-war and subsequently post-colonial development efforts accelerated (Oliver-Smith, 2007).

In the 1960s, in their efforts to develop greater conceptual understanding of the displacement and resettlement process, Chambers (1969) and Nelson (1973) proposed models for voluntary land-settlement projects in Africa and Latin America, respectively. Chambers (1969) identified a three-stage general model in the evolution of land settlement schemes in Africa. Soon after, Nelson (1973) confirmed this pattern in a synthesis of many experiences with new land settlements in Latin America. Both models, Chambers' and Nelson's, generalise the experience of voluntary settlers and conceptualised the institutional/organisational dimensions of land-settlement programmes. They have generated theoretical frameworks (especially the "four-stage framework") to explain the complex and dynamic processes involved.

In the 1970s the problems of people displaced by development projects were linked to those of people displaced by conflicts and natural disasters (Hansen and Oliver-Smith, 1982). In that context, Scudder and Colson (1982), addressing the responses of dislocated peoples regardless of cause, proposed a stress-based, four-stage process of recruitment, transition, potential development, and incorporation (also see Scudder, chapter 2). Scudder's four-stage framework, initially formulated in the late 1970s and refined in subsequent years, represents one of the earliest attempts in social science to formulate a coherent analytical framework for involuntary resettlement (Scudder and Colson, 1982). This framework considers how the majority of resettlers can be expected to behave during a successful resettlement process. Scudder defined success as development that was environmentally, economically, institutionally and culturally sustainable into the second generation. Scudder (2005) divided the process of resettlement into four graded stages: (a) planning and recruitment, (b) adjustment and coping, (c) community formulation and economic development, and (d) handing over and incorporation. This framework deals with how resettlers will respond to the actions of project authorities. It emphasises two different but interrelated factors: stress and process. This framework is very instructive, enabling resettlement institutions to work out objectives and to plan resettlement with a temporal dimension. However, as Scudder (2005) recognised, some concerns have been raised when it is applied to the real-world cases of development. One key concern

is the impact and role of gender in the resettlement process (De Wet, 1993). As the pace of large-scale development and concomitant displacements accelerated, displacement and resettlement studies also expanded in the 1980s, focusing on the environmental and social impacts of large infrastructure projects, particularly dams. A key element in the growth of this concern about DFDR was the expansion of well-organised and widely publicised resistance movements in nations where projects were displacing and resettling many thousands of people, such as Brazil, India, Thailand, and Mexico. Resistance movements publicizing the many inadequacies of displacement and resettlement policies and practices moved DFDR to centre stage in the debates about development and gained the attention of the general public and the research community alike (Oliver-Smith, 1996).

Following the lead of Colson and Scudder, studies stimulated by this massive increase in DFDR-affected peoples in the 1980s documented the social impacts and injustices of the displacement process, focusing on the stresses of dislocation and resettlement, the patterns of individual and group reaction, and the negative outcomes imposed on people in the resettlement process. DFDR research began to emerge in those nations in which large-scale infrastructural development processes were being funded by national, international, and multilateral sources. Along with international private consulting organisations, researchers produced a substantial "gray literature" of feasibility studies, project evaluations, and in-house reviews of policies and outcomes (for example, Rew and Driver, 1986).

Another advance in dealing with the challenges of DFDR was provided by the Impoverishment Risks and Reconstruction (IRR) model. Developed by Michael Cernea, the IRR has become a significant tool for the prediction, diagnosis, and resolution of problems associated with DFDR (Cernea and McDowell, 2000; see Scudder, chapter 2). He points out that being forcibly ousted from one's land and habitat carries with it the risk of becoming poorer than before displacement, since a significant portion of people displaced do not receive compensation for their lost assets, and effective assistance to re-establish themselves productively. Cernea has identified eight interlinked potential risks intrinsic to displacement, i.e., Landlessness, Joblessness, Homelessness, Marginalisation, Food Insecurity, Increased Morbidity and Mortality, Loss of Access to Common Property, and Social Disintegration. Others have suggested the addition of other risks, such as the loss of access to public services, loss of access to schooling for school-age children, and the loss of civil rights or abuse of human rights, such as loss of property without fair compensation, or violence from security forces or risks of communal violence in resettlement areas.

The IRR model has been widely discussed and supported in the recent development literature as an effective approach to social risk management. The IRR model highlights the intrinsic risks (eight major risks) that cause impoverishment through involuntary displacement and suggests various ways in which to counteract, eliminate or mitigate these risks. More importantly, the IRR model states that risk reversal should consist of the following livelihood reconstruction components:

- from landlessness to land-based resettlement
- from joblessness to reemployment
- from homelessness to house reconstruction

- from marginalisation to social inclusion

- from increased morbidity to improved health care

- from food insecurity to adequate nutrition

- from loss of access to restoration of community assets and services, and

- from social disarticulation to rebuilding of networks and communities.

The impoverishment risk and reconstruction model already has been used to analyse several situations of internal displacement. The IRR model has been used as a framework for a number of studies. In India, researchers documented the displacement of hundreds of thousands with no resettlement at all by development projects (Fernandes and Thukral, 1989). In similar fashion, many anthropologists worked with NGOs to record the deficiencies of DFDR policy and the negative project impacts (Oliver-Smith, 2007).

Activity

What is Impoverishment Risks and Reconstruction (IRR) model?

1.4 DEVELOPMENT PROJECTS AND DISPLACEMENT IN INDIA

After launching of planned development programmes beginning with 1950-51, the Indian Economy witnessed undertaking of a large number of projects which may be grouped into (i) irrigation and power projects, (ii) industries projects, (iii) mining projects, (iv) forest and wildlife projects, etc. Like several other countries in the world, India also has had its share of several projects displacing people from their habitat, occupations and social organisation. The government of India admitted that 15.5 million persons were displaced during the 4 decades 1950-90. This admission came for the first time when in 1994 it drafted a national rehabilitation policy. The admission also noted that 74.52% of the displaced people were still awaiting rehabilitation.

Table 1.4: Sector-wise Displacement, Rehabilitation and Backlog during 1950-90

Type of project	Number displaced	Number Rehabilitated	Backlog
Coal and other mines	17,00,000	4,50,000	12,50,000
Dams and canals	1,10,00,000	27,50,000	82,50,000
Industries	1,00,000	3,00,000	7,00,000
Sancturies and parks	6,00,000	1,50,000	4,50,000
Others	12,00,000	3,00,000	9,00,000
Total	1,55,00,000	39,50,000	1,15,50,000

Source: Bhakthavatsala Bharati, 1999

Of the types of development projects that bring about physical displacement, dams and their related infrastructure, including power stations and irrigation canals, stand out as the largest contributor to displacees. This is partially a product

of the enormous scale of many dam projects. The high overall level of dam displacement is also a product of the speed with which dams have been built since 1950. The International Commission on Large Dams (ICOLD) reports that the world had 5,000 large dams in 1950 and over 45,000 by the late 1990s. The WBED has calculated that roughly 40 per cent of development-induced displacement every year – over 4 million people – is a result of dam projects. Taneja and Thakkar (2000) point out that estimates on displacement in India from dam projects alone range from 21 million to 40 million. Over the range of projects assisted by the World Bank, 63 per cent of involuntary displacement and resettlement occurs in dam projects. Overall estimates of dam displacement over the later half of the twentieth century ranges between 30 and 80 million people. As with the figures for overall development-induced displacement, these estimates often do not cover the full extent of displacement outside dam and reservoir sites. However, as can been seen from the tables, it is dams that have displaced the maximum number of people in India.

Worldwide, an estimated $2 trillion has been invested in more than 45,000 large dams. Between 1970 and 1975, the peak period of dam building, nearly 5000 large dams were built all over the world. Today dam construction has slowed down in the United States and Europe, while developing countries, which currently represent 70 % of the world population, are experiencing a large number of large dam projects. For example, India has seen the erection of some 1,554 large dams in the past three decades, and stands for approximately 40% of dams currently under way (Shiva, 2002). In the following section let us know about the displacement due large dams in India.

1.4.1 Large Dams, Displacement and Resettlement in India

India is the third largest in dam building in the World and as on April, 2002 it has over 4050 large dams and over 475 more under construction. India's development policies and strategies have focused attention on indispensability of irrigation as important input for agriculture. Large-scale irrigation projects are important for higher agriculture growth, besides establishment of industries and power projects. In a developing country like India, where 3/4th of total population are depending on agriculture, the execution of river valley projects is an important element of growth strategy. To accelerate the pace of development of industries and growth of agriculture efforts were made in the successive plan periods to divert large amount of budget for the development of water resources – major, medium and minor irrigation projects. India gave tremendous encouragement to the large river valley projects or large multipurpose dams.

Large dams over 10-15 metres became possible with modern engineering practice in the 1850s. In the nineteenth century the purpose of dams was to extend irrigated agriculture. Independent India also took part in the rising tide of irrigation. In the Ganges Basin the British had begun major irrigation works in the 1820s, again rebuilding the Moghul systems. By 1947, irrigation covered 22 million hectares of India, by 1974, 32 million hectares and by 1990 around 45 to 50 million hectares. During this period, India accounted for about one fifth of the world's irrigated cropland, neck-and-neck with China, the world's leading irrigator. Dams were 'the most prominent ingredient of the development effort following Independence'. Jawaharlal Nehru, India's first Prime Minister, called dams 'temples of modern India'.

Many different figures have been given for the number of people displaced by dams since Independence. They range from a laughable two million; McCully, an activist, says 14 million; others say 20, 33, 40 or 50 million direct displacees. The authors of a study commissioned by the World Commission on Dams estimated 57 million based on 4291 dams and averages for hectares submerged and people per hectare. Out of 57 million people, 62% of whom belonging to SC & ST have been involuntarily displaced due to large dams, and over 5 million hectares of forest have been submerged by them. While the authors believed these figures were too high to be absolutely relied upon, their work and that of others suggests that respected, independent studies should put the figure at the higher rather than the lower end of the range. If 50 million is a reasonable estimate of submergence displacees in India since Independence, then including canal, backwater, livelihood and other non-submergence displaces suggests that dams and related projects since Independence have displaced around a 100 million people in total (WCD, 2000).

The debate on how many people have or are being displaced by dams has raged for many years. Though no definitive figures exist, some of the estimates that have become public include those of Fernandes (1991) and Roy (1968). Himanshu Thakkar, in his paper on displacement for the WCD (Thakkar, 2000), says, "Displacement due to dams in India has been variously estimated". Guggenheim and Cernea (1993) place the number of displaced at 18.5 million, while Kothari (1996) says it as 20 million people and attribute around half of this to dam projects. Kothari claims that if those displaced but not officially recognized are included then the figure is as high as 40 million. Paranjpye (1990) provides another such independent estimate and claims that 21 million have been displaced by dam projects between 1951 and 1985. Singh (1997) places total development- induced displacement at 100 million and that because of large dams between 30-50 million for the same period. These differences are at least partially due to the lack of consensus on defining the 'displaced' (Garikipati, 2000). There are various other problems with such estimate and therefore there must be taken with more than a mere pinch of salt.

Many studies on dams and resettlement presented in this unit are regional or project specific case studies. The Indian Institute of Public Administration estimates that the average number of persons displaced by a large dam is 44,182.73. Among the best known and most controversial cases of development-induced displacement in India is that of the Sardar Sarovar dam and irrigation complex on the Narmada River. Project wise displacement shows that the Hirakud Dam, one of the largest in India, built in the 1950s, displaced more than 20,000 people, across 249 villages. The Srisailam Project, completed in 1983, displaced a population of over one lakh. Another major irrigation project, Tungabadra, undertaken in Karnataka, affected 90 villages, displacing 55,000 people belonging to about 12,000 families. In Maharashtra about 2,200 villages have been affected due to implementation of 233 minor, medium and major projects, displacing more than 1.25 lakh families (Lokrajya, 1986). The Sardar Sarovar Project in Gujarat, one of the many large dams in the colossal Narmada Valley Project, alone would displace more than one million of people, most of them small farmers and tribals. Specific case studies on dams and displacement is given in the table 1.5 below:

Table 1.5: Displacements and Submergence of Lands by some of the Irrigation and Hydel Projects in India

Name of Project	No: of villages affected	No: of families displaced	No: of persons displaced	Total land submerged (ha.)
Balimela	89	1,907	7,382	5,272
Bhakra			36,000	16,629
Bhopalapatnam Inchanpalli	200		75,000	1,72,000
Chaskaman	25	5,000	15,000	
Deolong			1,27,000	51,648
Dhom	29		17,784	2,050
Hirakud	249	1,636	20,000	
Jayakwadi			65,300	39,833
Kadana			65,300	17,722
Koyna	100		30,000	11,555
Lalpur	22		11,346	4,300
Machkund	225	2,406		9,109
Mahi	121	6,795	35,000	
Maheswar	58		9,420	4,856
Nagarjunasagar			28,000	28,480
Narmada Sagar	254		1,29,000	91,348
Omkareswar	27		12,295	9,393
Panchet			10,000	15,327
Pong			80,000	30,364
Rengali	164	10,000	60,000	42,877
Rihand	700		1,00,000	
Salia	15	278	1,416	1,134
SardarSarovar	237	10,758	2,00,000	34,867
Srisailam	100	20,728	1,00,000	43,289
Tawa			38,600	20,236
Tehri	95		70,000	19,600
Tungabadra	90	11,684	54,454	34,936
Ukai	170		52,000	
Upper Kolab	147	3,067	9,000	32,163

Sources: Reddy (1992); Fernandes&Thukral (1989)

1.4.2 Displacement and Resettlement of Tribal People

In India, tribal people, scheduled castes, the poor and vulnerable are the losers when a dam is built. Their homes and ancestral places are submerged, their livelihoods destroyed and their free access to common resources, such as rivers, grasslands, forests and wetlands is taken from them for development projects. Most of large number of major projects or large irrigation dam projects are built in tribal areas. At least 40%, and in several projects a much higher proportion, of displaced persons are tribals (see in table 1.6). Central Water Commission (1990) states that 22% of the 32 dams (above 15 meters) completed between 1951 and 1970 were in tribal area, 60% of the 85 such additional dams between 1971 and 1990 were in tribal region. Fernandes and Asif (1997) say that of the total 23.62 lakh acres acquired by the government for development projects in Orissa between 1951 to 1995, 30.2% were forests (tribal habitat) and 28% commons, much of it in tribal regions. However, as can been seen from table 1.6, it is the tribal people of India who were displaced in the maximum number by dam projects.

Table 1.6: Projects related number of people displaced and rehabilitated in India

S. No	Types	Number of people Displaced		Number of people Rehabilitated			Backlog	
		Total Tribal	Tribal Region	Tribal	Total	Tribal*	Total	Tribal
1	Mines	2,100	1,415	1,200	525	300	1,579	900
2	Dams	14,000	7,000	5,300	3,500	1,315	10,500	3,945
3	Industries	1,300	300	260	325	65	950	195
4	Wildlife Sanctuaries	600	600	500	150	125	562	375
5	Others	500	200	150	125	40	375	110
	Total	18,500	9,515	7,410	4,625	1,850	13,962	5,560
	Percentage			40	25	40	75	40.07

* Based on percentage in tribal region Sources; Saksena and Sen (1999); Fernandes (1989, 1997)

Land acquisition in Scheduled Areas is not possible, as there are number of Protective Land Laws, Legislations, Regulations, Forest Laws, Government Policies, Court Orders and Judgments, and Government Orders (GOs) which prohibit the land transfer in Scheduled Areas. In spite of all these protective and welfare laws made by the government for the welfare of tribals, the Government and Private agencies have been acquiring the tribal lands in the name of national development. Table 1.7 shows the Percentage distribution of tribal people and sections of people affected by some large dams in India.

> **Activity**
>
> People displaced by dams fairly compensated? Explain?

1.4.3   Impact of Development Projects

The impacts of dam-building not only fragmented the riverine ecosystems and forest ecosystems, but also physically displaced and deprived indigenous people from the river systems and forest ecosystems where they depend on their traditional livelihoods.

However, many a time development, either spontaneous or induced, brings not only benefits, but also often causes social disruption. Projects that involve population displacement invariably give rise to severe economic, social and environmental problems (World Bank, 1990). Apart from the studies that largely focus on the magnitude of displacement, a large number of studies have also addressed the real challenges and problems involved in displacement and rehabilitation. In India, for instance, researchers found that the country's development programmes have caused an aggregate displacement of more than 20 million people during roughly four decades, however, 75% of these people have *not* been "rehabilitated" (Fernandes, 1991; Fernandes, Das and Rao 1989). Their livelihoods have not been restored; in fact, the vast majority of development resettlers in India have become impoverished (Mahapatra, 1991). In general, the issue of gender disparities in resettlement operations has been ignored in the literature. A small number of studies have shown that women often experience the adverse consequences of forced resettlement more strongly than men.

Studies on the impact of development projects suggest that indigenous people and ethnic minorities are disproportionately affected. Coming from politically marginalised and disadvantaged strata of society, these groups often end up neglected and impoverished. Indigenous people are victims of no-lands, no-titles, no-compensation resettlement practices. Impact of development projects on tribal people affected by large dams has been overwhelmingly negative in India, as summarized by McCully (1996). In almost all of the resettlement operations for which reliable information is available, majority of oustees have ended with lower incomes; less land than before; less work opportunities; inferior housing; less access to the resources of the commons, such as fuel-wood and fodder; and worse nutrition and physical and mental health. The tribals are deprived of compensation and rehabilitation benefits as per the Land Acquisition Act, 1894 (as amended in 1984) because they do not possess any legal documents to prove their ownership right on the land they occupy and earn livelihood for centuries together. The most important serious consequence of dam displacement for the tribal people has been the dispossession of land, both agricultural and homestead, along with the loss of their traditional occupation. Overall, the available literature indicates that the experience of indigenous people and ethnic minorities with regard to dam projects has been one of:

* cultural alienation;

* dispossession, both from their land and other resources;

* lack of consultation;

* lack of compensation or inadequate compensation;

- human rights abuses;

- lowering of living standards

- On a deeper insight, their physical displacement from the river system and forest ecosystems also alters their cultural way of life.

This is how the Indian experience, particularly of the tribal communities can be stated.

The WCD report (2000) provides comprehensive overviews of the impacts of large dam projects, including direct displacement and resettlement, and also other impacts that could lead to indirect displacement. The report also describes comprehensive discussion of recent practices concerning the displacement, resettlement, rehabilitation, and development of people adversely affected by dam projects. It also suggests a number of ways to improve accountability.

1.5 ISSUES RELATED TO RESETTLEMENT AND REHABILITATION POLICY IN INDIA

Although after Independence India initiated a slew of development projects in different parts of the country, there was no specific policy ever formulated either by the Central or the State Governments for addressing the issue of displacement of people. In the past, resettlement and rehabilitation of the displaced people had been based on ad hoc plans, resolutions and orders, passed for specific States or even projects whenever the need arose. Different State governments and ministries of Central Government followed different policies on resettlement and rehabilitation in the absence of a national Resettlement and Rehabilitation (R&R) policy. Most State Governments rely not on law or universal policies, but on ad hoc administrative instructions, in conformity with the bureaucratic preference for what is described as case-by-case approach.

The World Bank's 1980 policy on 'involuntary resettlement' was the first policy stance taken by a major development agency regarding resettlement. This policy has since been updated and improved and used as a model by numerous other international agencies. In its own words, "the fundamental goal of the Bank's policy is to restore the living standards and earning capacities of displaced people – and when possible to improve them". However, for the vast majority of dams it has funded, the Bank has no data on the 'living standards and earning capacities' of displaced people, before or after resettlement (World Bank, 1994).

In India so far, States, such as Maharashtra, M.P. and Karnataka, have resettlement legislation. In Orissa, the R&R policy differs among mining, industrial, thermal power and water areas. As a result of this ad hoc approach, many of the displaced were left out in receiving the legitimate compensation for their losses. Until 2004, there was no broad policy that could guide the rehabilitation efforts of State sponsored projects in irrigation, power, mining, etc. The R&R policies for the Project Affected Families at the National level were formulated according to the notification No.A.C.Q. 13011/4/2004 of the Ministry of Rural Development for the first time to address the problems of the displaced due to increasing number of development projects in the country. A few months after this notification, a Draft National Rehabilitation Policy (NRP) 2006 is under circulation. The Draft NRP 2006 is an attempt to improve upon some of the provisions of the National

R&R policy of 2003 for the benefit of the Project Affected People (PAP), particularly the marginalised sections of the community, which are soft targets in any development project that displaces people.

The State of A.P. has its R&R policy through its GO.MS.No.68 of the irrigation and canal ayacut development (CAD) department, issued on 8 April 2005. If we compare Draft NRP 2006, with the G.O. 68 of A.P., the G.O. 68 of A.P. in many respects is a copy of the National Policy on R&R 2003. It was common for States to have policies on eminent domain, many of which dealt solely with the legal process of expropriation, a number of which outlined compensation mechanisms, but none of which dealt in detail with resettlement in ways that would prevent impoverishment. Policies of Governments on Resettlement and Rehabilitation released over last few years stand as examples to say that Governments are becoming sensitive to the displacement issue. But, what is essential and yet to be proved is the commitment of Governments in establishing "best practices" in resettlement and rehabilitation.

There have been large number of studies conducted on the problems of involuntary displacement and rehabilitation in India during the last 30 years undertaken by Vasudha Dhagamwar, Enakshi Ganguly Thukral and Mridula Singh, Fernandes, Thukaral, Baviskar, Agnihotri and Ota, Alenxander and Prasad, Mohan Rao and others. All these studies highlight that displaced persons normally receive insufficient productive land. Consequently, they continue exploring forest products for living, resulting in forest fires and narrowed forest land. Living condition and restoration of affected persons requires sound and long-term plans, but supporting policies for income restoration and living stability of affected persons are typically of short-term nature, especially employment generation policies. The displaced people, however, found that while they lost everything, they gained very little from the projects that had displaced them. Therefore, it can be said that development related displacement may generate "new poverty as opposed to the old poverty"; many affected peoples already suffer (Cernea, 2000); poor people do become even poorer (Pandey, 1998a).

A number of criticisms have been raised on resettlement policies. Although a series of Acts and regulations have been issued to protect affected-persons who lose income and assets right due to development projects, involuntary resettlement policies for hydropower and reservoir projects, typically have many weaknesses due to low compensation package for affected persons, and income restoration progress is slow (World Bank, 1993). For example, Maharashtra passed an Act called "Restoration of affected persons within development projects" in 1986. The Act provides the framework for sharing benefits from the project between beneficiaries and affected-persons. However, proposed policies have been inadequate for income restoration and living re-establishment (World Bank, 1994).

It has been criticized that resettlement polices are not consistent, compensation and support levels are different from project to project leading to differing perceptions of benefit comparison among affected persons; and issues like social equity, indirect losses and intangible incomes, commercial opportunities, forest products are not taken into account while compensating for displacement, etc. This is mainly due to the fact that the displaced communities are exposed to various types of risks.

1.6 SUMMARY

Displacement has become an outcome of modern developmental process worldwide. Displacement of people from their habitat occurs almost in all countries due to the provision for infrastructure, public utilities, hydroelectric complexes, irrigation canals, exploration of minerals, etc. Various projects undertaken to promote development have been a major cause of population displacement in many cases. Development projects, particularly dams, have tended to be a major source of displacements. The overall global level of physical displacement could range from 40 to 80 million people worldwide. No precise data exists on the number of persons affected by development-induced displacement throughout the world.

In the name of development in many countries a series of large dams were planned and built on major rivers. By the end of 20th century, there were over 45,000 large dams in over 140 countries (ICOLD, 1998). Large dams promised to solve the problem of hunger and starvation by providing irrigation and boosting food production, controlling floods and providing much needed electricity for industrial development. One of the inevitable outcomes of this has been massive environmental degradation and 'displacement of population'. Among the projects involving displacement funded by the World Bank, large dams account for 63% of displacement.

While development-induced displacement occurs throughout the world, two countries in particular – China and India – account for a large portion of such displacements. Like several other countries in the world, India also has had its share of several projects displacing people from their habitat, occupations and social organisation. However, it is dams that have displaced the maximum number of people in India.

India is among the foremost countries in the world practicing large scale irrigation. During the post independence period, the country has invested huge amount of capital in the major and medium irrigation projects. Projects undertaken to promote development have been a major cause of population displacement in many cases (Mathur, 1995). Many of the development projects have been set up in tribal areas and on the lands owned by tribals. It has been pointed out that a large majority of those displaced belong to tribals and deprived classes. In India alone it is estimated that some 21 million to 42 million people have been displaced by dams and reservoirs.

In India tribal people, Scheduled Castes, the poor and vulnerable are the losers when a dam is built. Their homes and ancestral places are submerged, their livelihoods destroyed and their free access to common resources, such as rivers, grasslands, forests and wetlands is taken from them. Displacees are never adequately compensated. They do not have resources to fall back on. They suffer major trauma. Malnutrition, disease and death stalk them. Impoverishment is the normal outcome for them. A reasonable estimate for those directly displaced by dams and associated development projects in India since Independence is 50 million, including canal, backwater, livelihood and other non-submergence, and indirect displacees the figure is nearly 100 million.

Impact of displacement on tribal people affected by large dams has been overwhelmingly negative in India. In almost all of the resettlement operations for which reliable information is available, the majority of oustees have ended with lower incomes; less land than before; less work opportunities; inferior housing; less access to the resources of the commons, such as fuel-wood and fodder; and worse nutrition and physical and mental health. Proper resettlement and rehabilitation of these project-affected people has been a grossly neglected aspect so far in India.

A general change in thinking on R&R at national and even State levels has occurred to some extent due to pressure brought to bear by the Narmada River protests, the World Commission on Dams, and even The World Bank. Policies on displacement have often been drawn up and packages introduced, but implementation remains illusory in many cases.

1.7 REFERENCES

Bartolome, L.J., C. De Wet, H. Mander, V.K. Nagraj. 2000. Displacement, Resettlement, Rehabilitation, Reparation and Development. Cape Town, South Africa: Thematic Review I.3 prepared as an input to the World Commission on Dams, 2000. http://www.dams.org/kbase/thematic/tr13.htm.

Bhakthavatsala Bharati, S. 1999. "Human Rights and Development Projects in India", The PRP Journal of Human Rights, Oct-Dec., Vol. 3, No. 4, 1999.

Behera, D.K. 1993. "Impact of Deforestation of the Plain Bhuians of Northern Orissa". Journal of Human Ecology, Vol. 4, No. 4.

Central Water Commission. 1990. "Register of Large Dams in India". New Delhi: CWC.

Cernea, M. and McDowell (Eds.). 2000. *Risks and Reconstruction: Experiences of Resettlers and Refugees* (pp. 11-55). Washington, DC: The World Bank.

Cernea, M.M (1993), *Socio-economic and Cultural Approaches to Involuntary Resettlement,* Reprint Series No. 486. Washington, D.C.: The World Bank.

Cernea, M.M. 1993. The Urban Environment and Population Relocation. World Bank Discussion Paper No. 152. Washington, D.C.: World Bank.

Cernea, M. M. 2000. Risks, safeguards, and reconstruction: a model for population displacement and resettlement. In, M. M. Cernea and C. McDowell (Eds.), *Risks and Reconstruction: Experiences of Resettlers and Refugees* (pp. 11-55). Washington, D.C.: The World Bank.

Chambers, R. 1969. *Settlement Schemes in Tropical Africa*. London: Routledge and Kegan Paul.

Chambers, R. (ed). 1970. *TheVolta Resettlement Experience*. London: Pall Mall Press.

De Wet, C. 1993. "Reconstructing resettlement: some research suggestions for developing and combining Scudder's and Cernea's approaches to resettlement".

In, C. McDowell and M. M. Cernea (eds), *Reconstructing Livelihoods: New Approaches to Resettlement*. Oxford: Berghahn Publishers.

Fernandes, W. 1991. "Power and Powerlessness: Development Projects and Displaced Tribals". Social Action, Vol. 41, No. 3.

Fernandes, W and E.G. Thukral (ed.). 1989. Development, Displacement and Rehabilitation. New Delhi: Indian Social Institute. P.195.

Fernandes, Walter, J.C. Das and Sam Rao. 1989. Displacement and Rehabilitation. An Estimate of Extent and Prospects. In, Walter Fernandes and Enakshi Ganguli Thukral (eds), *Development, Displacement and Rehabilitation*. New Delhi: Indian Social Institute.

Fernandes, Walter and Vijay Paranjpye (ed.). 1997. Rehabilitation Policy and Law in India. A Right to Livelihood. New Delhi: Indian Social Institute, Econet, Pune. P.559.

Fernandes, W and M. Asif. 1997. *Development Induced Displacement in Orissa, 1951- 1995,* Mimeo. New Delhi: Indian Social institute.

Fuggle, R., Smith, W.T., Hydrosult Canada Inc., and Androdev Canada Inc. 2000. Experience with Dams in Water and Energy Resource Development. In, The People's Republic of China. Country review paper prepared for the World Commission on Dams, Cape Town, South Africa, 2000. http://www.dams.org/kbase/studies/cn/.

Garikipati, S. 2000. "An Economic Perspective On Resettlement of Population Displaced by Large Dams: The Case of the Sardar Sarovar Project Displaced, India", Unpublished Ph.D thesis, University of Cambridge, UK.

Guggenheim, S.E and M.M Cernea. 1993. "Anthropological Approaches to Involuntary Resettlement Policy, Practice and Theory". In, S.E.Guggenheim and M.M.Cernea (eds), *Anthropological Approaches to Resettlement: Policy, Price and Theory*. Boulder: Westview Press.

ICOLD. 1998. *ICOLD World Register of Dams*, Computer Database, Paris, International Commission on Large Dams.

Lokrajya. 1986. Rehabilitation of the Project-Affected Persons. Lokrajya 42(10): 6-8 & 12.

Mahapatra, L.K. 1991. "Development for Whom? Depriving the Dispossessed Tribals". Social Action, Vol. 41, No. 3, pp.271-288.

McCully, P. 1996. *Silenced Rivers: The Ecology and Politics of Large Dams.* London: Zed Books.

Mathur, H.M. 1995. "The Resettlement of People Displaced by Development Projects Issues and Approaches*". In, H.M.Mathur (ed). *Development, Displacement and Resettlement: Focus on Asian Experiences.* Delhi: Vikash Publishing House Private Limited.

Oliver-Smith, Anthony. 2007. Development-Forced Displacement and Resettlement: A Global Human Rights Crisis. www.sarpress.sarweb.org

Oliver-Smith, Anthony. 1996. 'Fighting for a place: The policy implications of resistance to development-induced resettlement'. In, C. McDowell (ed.), Understanding Impoverishment: The consequences of development- induced displacement, pp. 77-97. Oxford: Berghahn Books.

Pandey, B. 1998. Depriving the Underprivileged for Development. Bhubaneswar: Institute for Socio- Economic Development.

Paranjpye, V. 1990. High Dams on the Narmada: A Holistic Analysis of the River Valley Projects, Studies in Ecology and Sustainable Development, No.3. New Delhi: Indian National Trust for Art and Cultural Heritage.

Parshuram Ray. 2000. Development Induced Displacement in India. *South Asian Refugee Watch Vol. 2 No. 1 July 2000.*

Reddy, IUB. 1992. *Displacement and Rehabilitation*. New Delhi: Mittal Publication.

Roy Burman, B.K. 1968. "Social Process in the Industrialization of Rourkela". New Delhi: Office of the Register's General of India.

Saksena, H.S. and Chandra Sen. 1999. Putting People Last. Tribal Displacement and Rehabilitation. (Tribal Studies of India Series T-186). Inter-India Publications.P.320.

Singh, S. 1997. *Taming the Waters: The Political Economy of Large Dams in India*. New Delhi: Oxford University Press.

Shiva, Vandana. 2002. *Water war: Privatisation, Pollution, and Profit*. South End Press.

Scudder, T. 2005. *The Future of Large Dams*. London: Earthscan Publications.

Scudder, T and E. Colson. 1982. 'From welfare to development: A conceptual framework for the analysis of dislocated people'. In, A. Hansen and A. Oliver-Smith (eds), Involuntary Migration and Resettlement: The problems and responses of dislocated people, pp. 267-87. Boulder, USA: Westview Press,

Taneja, Bansuri and Himanshu Thakkar. Large Dams and Displacement in India. Cape Town, South Africa: Submission no. SOC166 to the World Commission on Dams, 2000. http://www.dams.org/kbase/submissions/showsub.php?rec= SOC166

Thakkar, H. 2000. "Large Dam Projects and Displacement in India", World Commission on Large Dams, November.

World Bank. 1990. *Involuntary Resettlement,* Operational Directive 4.30, Washington, DC, June, pp. 1-8.

World Bank. 1993. "Early Experiences with Involuntary Resettlement: Impact Evaluation on India- Maharashtra Irrigation II project". OED.

World Bank. 1994. *China: Xiaolangdi Resettlement Project,* Report No. 12557, Washington D.C, World Bank.

World Commission on Dams. 2000. *Dams and Development- The Report of the World Commission on Dams*. London and Sterling, VA Earthscan Publications Limited.

WCD Thematic Review (November 2000) Final Version: Social Issues I.3. Displacement, Resettlement, Rehabilitation, Reparation, and Development.

Suggested Reading

Guggenheim, S. and M. Cernea. 1993. Anthropological and sociological research for policy development on population resettlement'. In, S. Guggenheim and M. Cernea (eds), Anthropological Approaches to Resettlement: Policy, practice, and theory, pp. 13-38. Oxford: Westview, 1993.

Mahapatra, L.K. 1999. *Resettlement, Impoverishment and Reconstruction in India: Development for the Deprived.* New Delhi: Vikas Publishing House.

Parasuraman, S. 1996. Development projects, displacement and outcomes for displaced. Two Case Studies. *Economic and Political Weekly*, xxxi (24), 1529-1532.

Economic and Political Weekly (EPW) 1996. Special Issue on *Development, Displacement and Rehabilitation*.

The Report of the World Commission on Dams. 2000. Dams and Development: A New Framework. London and Sterling: Earthscan Publications Ltd.

Sample Questions

1) What is development, displacement and resettlement?

2) How many people have been displaced by the projects? Name the development projects.

3) Discuss about displacement by large dams in India?

4) Aren't people displaced by development projects fairly compensated? Explain

5) Discuss rehabilitation and resettlement policy in India?

UNIT 2   INDIGENOUS COMMUNITIES AND FOREST POLICIES IN INDIA

Contents

Learning Objectives

At the end of this unit, you will be able to:

- know the concept of indigenous people;

- nature of the relationship between tribals and forests;

- examine the interdependence of forests and tribal livelihood activities;

- review the colonial and post-colonial forest policies; and

- trace the impact of forest policies on the forest resources and those dependents on them for their livelihood.

2.1   INTRODUCTION

Anthropologists have always been concerned with the relationship between the people they studied and the natural environment. Since the late nineteenth century, the first professional anthropologists focused their research on indigenous people who were directly dependent on natural resources for their survival.

In Indian context, the indigenous people/tribals and forests are inseparable phenomenon and, in general, public understanding of both is almost synonymous. The tribals are described as 'Vanvasi', means forest dwellers, clearly suggesting the relationship between the tribals and forests. Overwhelming majority of the tribals stay in or adjacent to the forest areas, and most of the forest areas in our country fall in the tribal regions and tribal districts.

Historically, at one point of time most of our forest areas belonged to the tribals and the entire economic activities and livelihood of the tribals were fully dependent on the forests. In other words, the tribals belonged to the forests and most of the forests belonged to the tribals about 150 years back. This situation sharply and tragically changed after the nationalisation of forests by the British, the process started with the Forest Act 1865 and the subsequent stringent provisions in the above Act in 1878, the tribals were totally dispossessed of their

own forest land and the rights. This was the biggest blow to the tribal economy and their main livelihood.

The State gradually gained monopoly over forests. Forests were declared to be reserve forests from where tribals were driven out. Cultivating land, collecting Non-Timber Forest Produce and felling of trees became illegal. Tribals who occupied these forests earlier, lost their habitat, their land, livelihood and everything else that they had. No title deeds or any other rights were given in these forests. Over a period of time, tribals and other poor people's access to forest land and forest produce has been severely curtailed, tribals were removed from their familiar and settled livelihoods. Large forest areas were either declared as reserve forests, or as sanctuaries and national parks. Constructions of dams, reservoirs and hydro electrical projects have further resulted in huge displacement of tribals on thousands of hectares of forest lands. Through various legal provisions implemented by the government tribals are yet not recover from that blow. In this context, this unit discusses about the colonial and post-colonial forest policies and their impact on the forest resources and indigenous people dependent on them for their livelihood.

2.2 UNDERSTANDING THE TERM TRIBE AND INDIGENOUS PEOPLE

August 9 was declared as the annual International Day of the World's Indigenous People. Since few years, issues of 'indigenous peoples' have acquired an important place in the global development agenda. Over the past quarter-century, much of anthropology's interest in local, native, autochthonous peoples has been framed in terms of indigeneity, with its focus on history and place. The term "indigenous" has prevailed as a generic term for many years. In some countries, there may be preference for other terms including tribes, first peoples/nations, aboriginals, ethnic groups, *adivasi, janajati*. Occupational and geographical terms, like hunter-gatherers, nomads, peasants, hill people, etc., also exist and for all practical purposes can be used interchangeably with "indigenous peoples". However, the term "indigenous" has become politicised in recent campaigns on "the rights of indigenous peoples".

The definition of the term "indigenous" has long been a subject for discussion among disciplines, where as the connotations of popular use of the term indigenous focuses on nativeness, formal international definitions focus more on historic continuity, distinctiveness, marginalisation, self-identity, and self-governance.

In India, the indigenous peoples are predominantly composed of large and diverse tribal populations scattered across several States. Anthropological literature suggests that the tribal designation arose as a colonial construct, in which all those living on the margins of mainstream agrarian society but within the structure of the Hindu caste system were delineated as "primitive" and "tribal". In Indian languages, there is no exact equivalent to the word "tribe", but close synonyms are vanavasi (forest dwellers) or adivasi (First inhabitants).

In India various authors have described the tribes by different nomenclature. Dr. Ghurye named them 'backward Hindus'; and Das and Das renamed them as 'submerged humanity'. The other names are Aboriginals, Primitive tribe, Adivasi,

Vanyajati, Vanavasi, Adimjati, etc. In the ancient literature of India, such as the Vedas, the Puranas, the Ramayana, the Mahabharata, the tribals appeared as Nishad, Sabarars, Kiratas, and Dasyas. They are believed to be the earlier among the present inhabitants of the country. The term 'tribe' have not been defined clearly anywhere in the Indian Constitution. Only the term 'Scheduled Tribe' explained as "the tribe or the tribal communities or parts of or group within tribes or tribal communities". These groups are presumed to form the oldest ethnological sector of the people (Constitution of India, Article 342).

The International Labour Organization has classified such people as 'indigenous'. According to ILO conventions the aboriginals or tribals have been defined as the "tribals or semi tribal groups of the independent countries deprived socially or economically and having their own customs, traditions and traits or they have their own special customary laws/ conventions" (ILO Convention 107, 1957).

To locate tribes in the ambit of the above definition of indigenous people in the Indian context is with the use of the term adivasi', the word used in the Indian language for indigenous people. This term, has however, been used effectively to mean tribes for more than a century now to distinguish people different in terms of features, culture, language, social organisations, etc. Ghurye (1963) uses the term 'aborigines' to define tribes with the contention that tribes would be autochthonous to India, if not to the exact geographical location. Today only those who have been historically subjected to domination and subjugation are said to compose the category of indigenous people. In the Policy Document of the World Bank (1992) used the term 'indigenous', which was used to refer to tribal, low caste and ethnic minority groups. Despite their historical cultural differences, they often have limited capacity to participate in the national development process because of cultural barriers or low social and political status.

There are 698 tribes as notified under Article 342 of the Constitution of India, spread over different States and Union Territories of the country. In India, Scheduled Tribes have characteristics covered by ILO and UN definition. The Indian Constitution (Article 342) defines Scheduled Tribes as those with special characteristics such as (i) primitive traits, (ii) distinctive culture, (iii) shyness with the public at large, (iv) geographical isolation, and (v) social and economic backwardness. Each one of the tribes is associated with a specific geographic area, some more dispersed than the other. Most have their own language, which is generally different from the 'mainstream' language of the state in which they live. While some tribal communities have adopted a mainstream way of life, at one end of the spectrum are 75 Primitive Tribal Groups (PTGs), who are characterised by (i) pre-agriculture level of technology, (ii) stagnant or declining population, (iii) extremely low literacy, and (iv) subsistence level of economy.

The tribals are the indigenous people living in the hilly parts of the State. Tribals in India live in the following five territories: the Himalayan belt, North-central India, Western India, The Dravidian region, Andaman, Nicobar and Lakshadweep islands. And third is the forested hilly areas of Western and southern India. According to the 2001 Census, the tribals, commonly characterised as the Scheduled Tribes (STs) by the Constitution of India, constitute 8.6% (about 84.3 million) of India's population. They are found in 2001 in the greatest numbers in Chhattisgarh, Jharkhand, Orissa, Madhya Pradesh and North-East region. The term 'indigenous people' is often used interchangeably to mean tribes and other

original natives in the Indian context. In this unit we used tribal and indigenous people as synonyms.

Activity

Define the term indigenous people.

2.3 FOREST COVER AND INDIGENOUS PEOPLE OF INDIA

India with its 328.73 million ha area is the seventh largest country in the world occupying 2.5% of the geographical area, but contains only 1.8% of the world's forest (Kumar et al., 2000). Forest management in India is constrained by low per capita forest cover. Compared to 0.6 ha per capita world average, the country has just 0.07 ha per capita of forests. The country has about one-sixth of the world's population and about 18% of the world's cattle population (MOEF 2001a). Forestry is the second-largest land use in India after agriculture. The recorded forest area is 76.52 million ha, which constitutes 23.28% of the total area. These 76 million hectares of forest cover are allocated among dense (59 percent), open (40 percent), and coastal mangrove (1%) categories. The forest type varies according to climate and elevation. The Forest Survey of India (FSI) assesses forest cover every two years. Its recent assessment showed that from 1993 to 1998 forest cover increased from 63.34 million ha or 19.26 percent during the sixth assessment to 63.73 million ha, which is 19.39 percent of the total area (FSI, 2000). This increase is a remarkable achievement considering the heavy withdrawals of forest products, shifting cultivation, forest fires, inadequate pasturelands, low investments and conversion of forestlands for non-forestry purposes. About 31.20 million ha of forest plantations were raised from 1951 to 1999 (FSI, 2000). There are 16 major forest types, and India ranks sixth among the 12 mega biodiversity countries of the world. India today has 668 Protected Areas (PAs), extending over 1,61,221.57 sq. kms. (4.90% of total geographic area), comprising 102 National Parks, 515 Wildlife Sanctuaries, 47 Conservation Reserves and 4 Community Reserves. 39 Tiger Reserves and 28 Elephant Reserves have been designated for species specific management of tiger and elephant habitats (MoEF, 2008a). Forest conservation and environmental values are considered to be of paramount importance. Ensuring adequate regeneration is a precondition for the approval of management plans, which include evaluation of the prevailing conditions of the forest resources and site-specific prescriptions according to local management objectives. Most forest divisions (468 out of 510) are covered by these forest management plans, also known as working plans, working schemes or management plans; 286 such plans are currently in operation. They accord the highest priority to soil and water conservation, the protection of forest cover and conservation of environmental quality and biological diversity. Forests help to meet the needs of about 1027 million people. The population is growing by 2.13% per annum and the population density is 324 persons/ km (GOI 2001). Demands for timber and fuel wood are around 64 million and 71 million respectively, and forests are also the main source of fodder and non-wood forest products (NWFPs). Forests support nearly 270 million out of about 450 million head of livestock (MOEF, 1999). About 72.21 percent of the population live in rural areas (GOI 2001). Out of approximately 5,80,000 villages, 0.17 million are located in the vicinity of forests (MOEF, 2002). Roughly

275 million rural poor in India depend on forests for at least part of their subsistence and cash from fuel wood, fodder, poles, and a range of non-timber forest products (NTFP), such as fruits, flowers, and medicinal plants. Seventy percent of India's rural population depends on fuel wood to meet domestic energy needs. Half of India's 89 million tribal people, the most disadvantaged section of society, live in forest fringe areas and tend to have close cultural and economic links with the forest. Forests make a significant contribution to the tribal and rural economy, particularly for poor households. The contribution of the forestry sector varies widely in different parts of the country.

Even though such a large number, the Indian government's policies on tribal groups are seriously handicapped. This is due to countless reasons, primarily due to the centralisation of forest management and a lack of recognition of indigenous peoples and their rights. The aggravation of mistrust in government policies by the concerned public is further fuelled by the fact that about 90% of India's 64 million hectares of forests is under State ownership, the rest being in community and private forests. Moreover, it is predominantly the country's tribal peoples' areas that have been declared as State owned 'forests'. Also, State control over the forestland is weak and there is considerable encroachment by individuals and communities other than the tribals/indigenous people in State-owned areas. The tribal people were there long before the State started encroaching on their lands and the condition of both the tribals and the forests then was far better than it is today. However, the laws enacted so far in India have largely ignored the forest dwellers, and more particularly the tribals.

Activity

What is the area of forest and classify the forests?

2.4 RELATIONSHIP BETWEEN FORESTS AND INDIGENOUS PEOPLE

India has the largest concentration of tribal population in Asia and it is the second largest in the world in terms of tribal population (Upreti, 2007).The relation between forests and tribals is intimate and is age old. Appropriately referred to as Vanyajati (forest community) and Girijan (people of the hills), the tribals are known for their association with forest and hills (Rao, 2001). The first and foremost characteristic of the tribal economy is the close relationship between their economic life and the natural environment or habitat, which is, in general, the forest (Mehta, 1994). Technology, life and livelihood strategy of a tribal group depends on the nature of habitation, environment and resources. Tribal population lives in close proximity with biodiversely prosperous landscapes have evolved area specific and novel livelihood strategies based on their traditional knowledge. The term 'Livelihood' implies the capability and capacity to survive (Gregory, 2008).

Today, there are 100 million forest dwellers in the country and another 275million living in the forests, and these people are described as indigenous people (World Bank, 1990). For these people forests are an important source of livelihood and means of survival (Lynch, 1992). The forests play a vital role in the daily needs of these people. To them food, fuel, fodder and construction materials are almost

entirely provided by the forests. About 80% of their food comes either directly from the forests or by shifting cultivation (Philip et.al., 1985). A variety of tubers, tender bamboo shoots, mushroom and green leafy vegetables are collected and eaten or stored for future use. The study of Niyamatullah (1984) identified 83 edible items that are available only in the forests of Madhya Pradesh. Studies in Orissa, Madhya Pradesh, Himachal Pradesh and Bihar indicate that over 80% of the tribals depend on the forests for 25 to 50 per cent of their food. On an average, adult tribals eat at least 600 gms of tubers per day (CSE, 1982). Besides food gathering, tribals depend on forests for food production by shifting cultivation, which has been the traditional form of their agricultural practice for centuries.

Besides food, forest also supplies the tribals with their requirements of building material, fuel and fodder. In addition, tribals also collect minor forest produce like gum, honey, flowers, leaves and sell to earn income. Tribals also derive their medicines from the trees, herbs, animals, and birds. The study on tribal medicine in Kerala identified that at least 39 species of roots, 15 types of fruits, 30 varieties of leaves, 12 species of barks and many kinds of latex and flowers and nine entire plants being used by the tribals (Gadgil et.al., 1982). Similar things are observed in the other parts of the country. For instance, more than 900 herbs and plants are used in West Bengal for medical purposes by the forest people (Fernandes et.al., 1988). Another study conducted by the Academy of Development Science has identified 210 medicinal plants being used by the tribals in an area of 277 sq. km in Karjat tribal belt (CSE, 1982). It shows that tribals depend on forests for their food and the activities concerning MFP are carried out almost all the year around. The relationship between forest and tribals were institutionalised over a period of time through various cultural and religious mechanisms that ensured uninterrupted habitation of the tribals within the forest regions.

In addition, tribal culture provides certain safeguards to prevent extensive overuse of the forests. There is the belief in the spirit of the forest and field among the tribals. The living are considered guardians of the forests given to them by ancestral spirits or spirit of Gods. Therefore, they feel a strong responsibility to protect the forests. Customary communal ownership of the resources allows access to and need based distribution of these resources. Benefits are shared in the habitation, thus satisfying the needs of the community. Given the limited resources, codes are evolved to prevent practices of overuse that would go against survival (Delfin, 1987). Even today, many of these tribal communities relate myths and legends about their association with the forest, and remnants of many scared groves are reminders of the indigenous conservation systems (Gadgil and Chandran, 1992). This relationship significantly attached to plant and animal species, religious duties and obligations legitimised tribal access to forest, and also encouraged restraint and caution in using forest as resource base (Bird-David, 1992). Thus, it is important to recognise that the dependence of the tribals on forest resources was institutionalised through a variety of social and cultural mechanisms on community based ownership.

Activity

How forest is useful for tribals?

2.5 COLONIAL AND POST-COLONIAL FOREST POLICIES IN INDIA

In ancient India it was generally accepted that the rulers did not control forests and the communities living in the forest, because the forest was not seen as a source of revenue or commercialisation. The effects of industrialisation side by side with British rule in India in the 18th century brought about dramatic changes: the need to meet the growing demand for timber (associated with the railway boom of the late 1800s) and a growing dissatisfaction with the legal restrictions imposed by previous legislation, led to the institution of the Indian Forest Act in 1878, according to which the nation State was recognized as sole proprietor of classified forest lands.

In earlier historical periods, people used forest resources with little intervention by the rulers, in different parts of the sub-continent. The rulers controlled only limited areas, the remaining resources were used by the people without restriction. For example, Tipu Sultan controlled only the sandal wood in Mysore region. There is debate in the environmental history literature over the extent to which deforestation had already occurred in the pre-colonial era. Of course, large areas were cleared for agricultural expansion, pastoral use and strategic purposes in different parts of the country during the pre-colonial period (Parasher, 1998; Guha, 1996). Until the last quarter of the twentieth century, the colonial accounts, which prevailed, sought to locate the extension of colonial control over forest resources as part of a historical continuity. While detailing the forest resources of the subcontinent, imperial forest historians concluded that denudation of forests predated the commencement of colonialism. For example, Stebbing claimed that a very large proportion of the forests, which originally covered vast tracts of the country were destroyed during the period between the invasion of the Aryans and the advent of the English as rulers (Stebbing, 1982). He claims further 'For a long period before their arrival, timber had been exported in large quantities to Arabia and Persia' (Stebbing, 1982). Imperial forest historians like him held the view that commercial exploitation of forests in the sub-continent was widespread before the eighteenth century.

Scholarly works were found wanting on issues concerning forests and forest-dwellers during the period. Forest and related environmental issues have been discussed extensively over the last quarter of the twentieth century. Guha initiated the scholarly debate, and argued that the British colonial government had denuded the vast forest cover for commercial and strategic needs of the empire, in disregard of the rights of forest dwellers and users (Guha, 1983; Guha and Gadgil, 1989). Prior to the colonial regime, commercial exploitation of forest produce was largely restricted to specific products such as spices like pepper and cardamom, and ivory, where extraction did not pose a serious threat to either the ecology of the forests or customary use, and ensured renewal and sustainability (Guha and Gadgil,1989). Scholars also cite the numerous conflicts over land, pastures and forests, often appropriated by the more powerful strata in different parts of the country during the pre-colonial period, from the Mauryan period (Baker, 1991; Guha, 1996; Guha, 2002).

The commercialisation of forests during the colonial period resulted in large-scale degradation. Since the eighteenth century, the colonial rule established the

commercialisation of forests in different parts of the country, and large areas of forests were denuded for commercial purposes during the pre-Forest Act period (Saravanan, 1998, 1999). In the early nineteenth century, large quantities of sandalwood were exported to foreign countries. Coffee and tea plantations were established in the hill areas during the second quarter of the nineteenth century (Saravanan, 1999). British iron-making industries also extracted huge number of trees from the forest. Also during the second half of the century, forests were denuded on large-scale for establishing the railways. The colonial agrarian policy also envisaged the expansion of cultivation, which led to the denudation of the forests.

Heavy destruction of forests along the coast of Malabar down south for the timber and sandalwood had occurred during the latter part of the 18th and early part of the 19th century (Saravanan, 1998; Thakur, 1984). Short falls in the availability of timber began to be felt, leading to the first teak plantations in Nilambur (Kerala) in 1842. The colonial rulers became concerned by the1850s that insufficient control over timber extraction was threatening fulfilment of growing demand for timber for strategic needs. This concern led in 1855 Lord Dalhousie, the then Governor-General of India, to proclaim a forest policy for the first time, which asserted imperial ownership over forests and emphasised their regulated use for the imperial requirements: 'timber standing on State forest was State property and private individuals had no rights or claims over it' (Chaudhry, 1984). To consolidate and implement this policy, Dr. Dietrich Brandis was appointed as the first Inspector-General of Forests in 1864, and the first Indian Forest Act (IFA) was drafted in 1865.

It begins with the promulgation of the Government Forest Act in 1865. With this Act the British Government acquired the right to declare any forest as Government forest. Under this act, the Forest resources were brought under the control of State. Subsequently in 1866, the Forest Department (FD) of India was created, and the Indian Forest service (IFS) was organized to exercise exclusive rights to exploitation of the existing forests. Its chief duties were to develop the large timber forests such as the Sal forest of 'Dudh' and 'Deodar' forest of Himalayas and the forests of the Western Ghats (Randhwa, 1984). Later as their needs started mounting, the British repealed the earlier Act and introduced a new Indian Forest Act in 1878. Reserved Forest Act 1878 came into operation in most of the British province in India. For the first time through this act, the Forests were classified into Reserved Forests, Protected Forests and village forests defining degrees of control over them. With this Act, for the first time the Government acquired rights to take over forests from tribals and declare them as reserve forests, subject to certain conditions. 'Reserved' and 'Protected' and paved for some sort of conservation, though again with vested interests to serve the purpose of the Imperial Administration. It also, for the first time, laid down rules to impose levy on timber, then almost the only source of profit. Further certain practices were listed as offences and forest officials acquired magisterial powers to arrest a person without a warrant, if a "reasonable suspicion exists". The Forest Department (FD) took over forest under its control restricting the rights of the tribals and forest users from their traditional customary rights in the guise of reserving forests. The Government acquired further powers by amendments made in this Act in 1890 and 1891. Meanwhile, the Madras Presidency promulgated its own Act, the Madras Forest Act, in 1882, similar to the Central Act. Subsequently, several forest Acts were initiated, by and large, curtailed the rights of the tribals and other forest users.

The efforts to recognise forestry as land use was distinctly different from agriculture and earmarking for such land use made through the first forest policy of 1894. This policy's major objective of Timber production had nothing for the local people, since the policy provided only for State ownership and regulation. This Policy paved way for legislation and the process of settlement of rights that followed the reservation of forest areas. The Policy provided for State ownership and regulation but very little for the local communities. After four more amendments to the earlier Acts, eventually the British Government announced a new comprehensive legislation in 1927. During 1927, the Act of 1878 was consolidated to regulate the law relating to forests and forest produce. Subsequently, the IFA in 1927 further envisaged the importance of conservation and restricted the forest use further during the colonial period.

Although India had a long history of forest policy, the livelihoods of forest-dwellers and forest-dependents are not recognised until recently in policy. It is predominantly tribal lands, which have been declared State forests, and this has resulted in continuing conflicts and contestation and the tribals losing access to their livelihood resources. Reservation of forests by the FDs has been part of the long term historical process of indigenous tribal communities being pushed deeper into the forests by the appropriation of tribal lands by non-tribals (despite some laws being meant to prevent this). The State has appropriated large areas of Schedule V (tribal majority) area lands as State forests, without recognising customary rights, particularly of shifting cultivators.

The forest policies led to the appropriation of extensive areas of tribals land with the objective of increasing and maintaining 'forest cover', and imposed restrictions on their use. The official claim has been that the tribals are responsible for forest degradation but this is highly contested both by the tribals and by sociological-historical-anthropological studies. There is found to be a strong relationship between tenurial and livelihood security and environmental sustainability, which contrasts with the results of the FD views of 'managing' people for conservation objectives without taking their livelihoods or tenure into account. There have been several tribal revolts against these processes of tribal ancestral lands being appropriated by the FD in many parts of the country.

The Indian Forest Act, 1927, incorporated some of the guidelines of the 1894 policy. But the essential classification of reserved, protected and village forests remained as it was. In terms of degree of Government control, reserved forests are virtually Government forests where the Government can settle, transfer or commute the rights of communities. In protected forests, the rights were recorded and regulated, which the Government could not commute. In the village forests all rights were allowed completely and no control was exercised. The Government acquired more powers in classified reserved forests in which a time limit was set to settle the claims of the natives. It acquired the right to charge a levy not only on timber but also on other forest produce, both in Government and other forests. The number of listed offences was increased and they were made non-cognizable with a punishment up to six-months jail term or fine up to Rs. 500/- or both. The practice of shifting cultivation was brought under the purview of the State Government subject to its control, restriction and abolition. In 1935, the Government of India Act brought the subject of forests under the jurisdiction of provincial legislatures. But it should be remembered that the Acts and regulations of the Governments did not cover all the forests. The private forests owned by zamindars and the forests on princely States were exempted from them.

The colonial government thus asserted control over extensive forest lands, resulting in the decline in traditional conservation and management systems around the forests (Gadgil and Guha, 1992). The degradation of forests by the middle of 20th century has been partly blamed on the accelerated fellings performed during the crises of the two world wars (Rao, 1979). Gadgil and Guha (1992) are of the same view because the tree felling during the war period was so severe that it seemed far beyond sustainable limits in many cases. Moreover, forest based industries had expanded in numbers during and after the two World Wars.

After independence, the main tasks of the FDs were consolidation and unification of forest laws and extension of scientific management on a reasonably uniform basis. Subsequent to that is the taking over of most of the uncultivated lands/ forests under Zamindars and Princely rulers. The post-independence land acquisition often did not follow the legal procedures for settling the rights of pre-existing users and occupants, besides bringing even local community forests, earlier set aside for meeting local needs, within the ambit of a national asset to be managed for meeting 'national' needs, (predominantly supplying industrial demand and generating revenue). In the early fifties most States enacted new legislation affecting land tenure systems, whereby large areas of privately owned forests were transferred to the FDs. In 1950 the 'Vanamahotsava', 'National Festival of Tree Plantation', started, intended as a measure for the wildlife and soil conservation across India. More substantially, the commencement of the 'National Plan of Development' in 1951, followed by Five-Year plans, initiated the move toward replacing the fell forest with the man-made forests for 'enhanced productivity'.

In 1952, the new Government of independent India formulated its forest policy. All forests of the country, including those under zamindars and princely States were brought under the purview of the Government. The new policy emphasised that the "fundamental concepts underlying the existing forest policy (1894) still hold good". But it was something more than that. The new policy, in spite of claims to the contrary, made significant departures from the old policy. The release of reserved forests for the villagers living in it was prohibited, controls were applied even to the private forests of the tribals, and grazing land was brought under the control of the Government.

As a result of the new policy certain modifications were made in the 1927 Act. Various governments amended their Acts. New States and Union Territories passed fresh forest Acts. Significantly, the gap between forest policy and forest Acts widened with this policy. While the forest policy talks of lofty goals, like environment preservation, developmental needs and tribal welfare, the Acts are primarily concerned with the regulation of the rights of the tribals. The policy has had a disastrous impact on the forests and the tribals in the three decades that have followed. It has resulted in enormous administrative changes in the forests.

The early post-colonial Government forest policies were not different from the colonial ones. The National Forest Policy of 1952 also had not considered the needs of local people. In fact, its aim was to supply timber for the industrial needs. In other words, commercialisation of forest was emphasised, like the colonial regime, at the cost of the local people.

The post-colonial government, in the Forest Policy of 1952 continued to envisage the commercial exploitation of forests, now for the 'national' rather than 'colonial' interest. The operative law continued to be the IFA, 1927, later additionally adding the Wildlife Protection Act, 1972 and the Forest Conservation Act, 1980, both further restricted forest-users rights. The National Commission on Agriculture (NAC, 1976) further emphasised the commercial importance of forests alleging that rural communities as the main culprits for its destruction. But despite insisting on the primacy of ensuring timber supply for industries, it at least recognised subsistence forest product needs and proposed alternative arrangements, wood-lots and farm forestry. The new concept of Social Forestry (SF) was introduced in order to reduce the local population pressure on the forests. But, SF could not become a real substitute for product supply from the natural forests, and was unpopular in many areas, leading to conflict between local communities and the FD triggering the process of further degradation. The disillusionment with SF was clearly reflected in the rapid withdrawal of almost all foreign aid for this in the late 1980s and early 1990s. While SF had not achieved its stated objective – basic needs provision through participatory communal silviculture on non-forest wastelands, the huge success of farm forestry made possible a new policy of taking industrial wood production out of forest areas (Kumar et al., 1999).

The most important characteristic of the colonial and post-colonial forest policies had been the increasing assertion of State monopoly rights over forests. This was determined by the interest of dominant class at the expense of indigenous communities. These communities are increasingly denied their rights in forests, which they had considered their communal property. The progressive assertion of State monopoly rights over large areas of forests by turning them into 'reserves' has resulted in the large-scale eviction and uprooting of traditional tribal villages. The reservation of forest tracts, which denied tribals access to the forests on which they depended for centuries and in the process separated them from their life supporting systems and reduced them to casual labour in forest operations.

Recognition of the importance of forests at the policy level is reflected in enshrining in the Constitution 'a commitment to environmental protection and improvement' (Kashyap, 1990). A direct reference to forest protection and improvement was introduced in the 42nd Constitutional Amendment Act, 1977, interjecting a new dimension to public responsibility by obligating the Union Government to protect and improve environmental sustainability. Article 48A makes a specific reference to forest protection as an obligation of the State. This article states: 'The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country'. Constitutionally, it has been enjoined upon every citizen of India as a fundamental duty 'to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures' [Article 51 A (G), (1990)].By the late 1980s across India the SF programme was labelled as fundamentally flawed, in that it did not address management of forest areas. Amid widespread civil society mobilisation, policy response came in the form of the 1988 Forest Act. Subsequently the JFM (JFM) initiative emerged from the centre, encouraging States to form local institutions to undertake protection activities on degraded State forests (Sundar and Jeffery, 1999). Prior to 1988 forest policies focused mainly on the productive and profit making aspects with a focus on timber for industrial requirements. Moreover, they had restricted the local communities of using the forests (GoI, 1952).This effectively represented heavy subsidies flowing

towards industry, and the alienation of forest dwellers and dependents adversely affecting their livelihoods. Till 1988, the post-colonial Forest Policy mainly focussed to supply the forest resources mainly to the industrial requirements and other commercial purposes, claiming that supply of forest resources to these purposes was in the 'national interest'. But this policy led to extensive deforestation in different parts of the country. These policies have not considered the needs of forest-dwellers and users as legitimate. This kind of approach led to several conflicts. This led to a reorientation from the commercial-oriented forest policy to a more 'people-oriented forest policy' leading to the introduction of Joint Forest Management (JFM). The new Forest Policy of 1988 is considered as a watershed in the history of forest policy. The salient features of the new policy were preservation and restoration of ecological balance, conservation of the natural heritage of the country by preserving the remaining natural forests, protecting the vast genetic resources for the benefit of posterity, fulfilling the basic requirements of the rural and tribal people residing near the forests and maintenance of the intrinsic relationship between forests and the tribal and other poor people living in and around forests by protecting their customary rights and concessions on the forests.

There have been various committees formed related to tribals and forest issues from 1950s like Scheduled Area and Scheduled Tribes Commission in 1960 under the chairmanship of U.N. Dhebar, 'National Commission on Agriculture', Committee on Forests and Tribals in 1982 under the chairmanship of Dr. B.K. Roy Burman. All these committees suggested strengthening the forest policy for the welfare of tribal development. In the Post-Independent period, there are various safeguards for the protection and development of Scheduled Tribes (STs) in accordance with the special provisions mentioned in the Indian Constitution such as: Article 15(4), 16(4), 19 (5), 23, 29, 46, 164, 275(1), 330, 332, 334, 335, 338, 339(1), 339(2),371(A), 371(B),371(C), Fifth Schedule and Sixth Schedule.

In India, the federal government has enacted the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 (hereinafter the Forest Rights Act) to recognise and vest rights of forest communities. The enactment of the law is the culmination of a protracted struggle by communities for forest rights and conservation that spanned the greater part of the 19th and 20th centuries and continued into the 21st. This struggle emerged from issues like insecurity of land tenure and access rights, lack of recognition of community conservation initiatives in forest management, lack of recognition of traditional governance and resource ownership in tribal areas, and threats to community lands and forests from development projects. The Planning Commission of India has also highlighted the importance of resolving these issues through protective legislation, such as the Forest Rights Act and the Panchayat Extension to Scheduled Areas Act, to deal with the growing discontent, unrest, and extremism in tribal and forest areas (GOI, 2008). Since the beginning of implementation in January, 2008, the Forest Rights Act, in particular, has enlivened the conservation debate around two contesting arguments: one is represented by the conservation orthodoxy that holds forth that rights cannot co-exist with conservation; the other echoes the otherwise marginalised voice of the forest communities, as well as the current international discourse that recognition of forest rights and forest tenure reform are an essential part of a just and effective conservation process.

Land acquisition in Scheduled Areas is not possible, as there are number of Protective Land Laws, Legislations, Regulations, Forest Laws, Government Policies, Court Orders and Judgments, and Government Orders (GOs) which prohibit the land transfer in Scheduled Areas. In spite of all these protective and welfare laws made by the government for the welfare of tribals, the Governmental agencies have been acquiring the tribal lands in the name of National interest in contravention to all the Constitutional Provisions. It indicates that all the Agency Laws are being manipulated where the legal access to tribal lands and resources is denied.

Activity

List out the forest laws.

2.6 SUMMARY

The first Indian Forest Act was drafted in 1865. Under this Act, the Forest resources were brought under the control of State. Of course, this was done by the colonial administration to meet its future imperial needs. Later a Reserved Forest Act 1878 came into operation in most of the British province in India. For the first time through this Act, the Forests were classified as 'Reserved' and 'Protected' and paved for some sort of conservation, though again with vested interests to serve the purpose of the Imperial Administration. Under this act, the Forest Department (FD) took over forests under its control restricting the rights of the tribals and forest users from their traditional customary rights in the guise of reserving forests.

The efforts to recognise forestry as land use distinctly different from agriculture and earmarking for such land use, made through the first Forest Policy of 1894. This policy's major objective of Timber production had nothing for the local people since the policy provided only for State ownership and regulation. The early post-colonial Government forest policies were not different from the colonial one. There have been various Committees formed between 1950 and 1977 but most of them were mere cosmetic in nature than substantive. The National Forest Policy of 1952 also had not considered the needs of local people. In fact, its aim was to supply timber for the industrial needs. In other words, the commercialisation of forest was emphasised, like the colonial regime, at the cost of the local people.

Same policy was followed until the National Commission on Agriculture 1976, which tried to make an alternative arrangement of supplying timber to the industries through Social Forestry (SF) (introduced to reduce the local population pressure on the forest), still retaining the emphasis on commercial importance of forestry, alleging that rural communities as the main culprits of its destruction. But SF could not take off and led to the conflicts between local communities and FD triggering the process of further degradation of forest and at the same time affecting the livelihoods of forest dwellers and its dependants adversely. The two other forests related Acts in post independence era were the Wild Life Protection Act (WLPA), 1972, and the Forest Conservation Act (FCA), 1980, though the operative law had still remained Indian Forest Act, 1927 which was consolidated on the Act of 1878.

The policy of 1988 is considered as a watershed in the history of Indian forest policy since it envisaged for preservation and restoration of ecological balance, conservation of the natural heritage of the country by preserving the remaining natural forests and protecting the vast genetic resources for the prosperity, fulfilling the basic requirement of the rural and tribal peoples residing near the forest and also maintenance of the intrinsic relationship between forest and the tribals and other people living in and around the forest by protecting their customary rights and concessions on the forest. Since the earlier policies of ignoring the forest dependents had led to many conflicts and unrest leading to ineffective control of the deforestation by the FD. Now the forced policy change saw the FD incorporating the people in the forest management. In other words, shift from the commercial forest policy to people oriented forest policy leading to the introduction of Joint Forest Management (JFM). Based on the Union Government direction, different State Governments in India decided to implement the JFM since the early 90s. 27 States till date have passed the resolution to implement the JFM.

References

Article 51 A (G). 1990. Constitution of India. In, Kashyap, S. C, National Policy Studies. New Delhi: Tata McGraw-Hill Publishing Company Limited for the Lok Sabha Secretariat.

Baker, David. 1991. State Polity, the Market Economy and Tribal Decline: The Central Provinces - 1861 – 1920. Indian Economy and Social History Review, Vol. 28. No. 4. p. 341 – 370.

Chaudhry, Kamala. 1984. Managing Forests for Development. New Delhi: Financial Express, February 5.

CSE. 1982. The State of India's Environment, A Citizen's Report. New Delhi: Centre for Science and Environment.

Delphin J. Ganapin, Jr. 1987. Philippines Ethinic Minorities: The Continuing Struggle for Survival and Self-Determination. In, Proceedings of the Conference on Forest Resources Crisis in the Third World, 6-8 September 1987. Malysia: Sahabat Alam.

Gadgil, M and R. Guha. 1992. This Fissured Land - An Ecological History of India. Delhi: Oxford University Press.

Gadgil, M and MDS Charan. 1992. Sacred Groves. In, G.Sen (ed), Indigenous Vision: People of India- Attitudes to the Environment. New Delhi: Sage Publications.

Gadgil, M and K.C. Malhotra. 1982. Ecology of A Pastoral Caste: Gavli Dhangars of Peninsular India. Human Ecology, Vol.10, No.2.

Government of India, 2008. *Development challenges in Extremist Affected Areas*. Report of an Expert Group to Planning Commission. Last accessed September 18, 2010, at: http://planningcommission.gov.in/reports/publications/rep_dce.pdf.

Guha, Ramachandra. 1983. Forestry in British and Post-British India: A Historical Analysis. Economic and Political Weekly, Vol. XVIII (44 and 45).

Guha, Ramachandra and Madhav Gadgil. 1989. State Forestry and Social Conflict in British India. In, Past and Present, No. 122. Pp. 148 – 157.

Guha, R. 1996. Dietrich Brandis and Indian Forestry: A Vision Revisited and Reaffirmed. In M Poffenberger and McGean (eds), Village Voices, Forest Choices: Joint Forest Management in India. Delhi: Oxford University Press.

Guha Sumit. 2002. Claims on the commons – Political Power and natural resources in Pre – Colonial India. IESHR, Vol. 39 (2 and 3). Pp. 181 – 196.

Femandes, W, Geeta Menon and Philip Viegas. 1988. Forests, Environment and Tribal Economy: Deforestation, Impoverishment and Marginalisation in Orissa. New Delhi: Indian Social Institute.

Gregory S. 2008. Development, Livelihood and Empowerment. Kerala: IRISH.

Joshi, Gopa. 1989. *India: Cultures in Crisis*. Forest Policy and Tribal Development, Cultural Survival, CSQ Issue, Summer 1989.

Kamaladevi, Chatopathaya. 1978. *Tribalism in India*. New Delhi: Deep and Deep Publication, p. 1.

Kashyap, S C. 1990. *National Policy Studies*. New Delhi: Tata McGraw-Hill Publishing Company Limited, for the Lok Sabha Secretariat.

Kumar, N, N C Saxena, Y K Alagh and K Mishra. 1999. Alleviating Poverty through Participatory Forestry Development: An evaluation of India's Forest development and World Bank Assistance. Washington, D.C.: operations evaluation department, the World Bank.

Lynch, Owen. J. 1992. Securing Community-based Tenurial Rights in the Tropical Forests of Asia. Issues in Development, November. Washington: WRI.

Mehta PC. 1994. Voluntary Organisations and Tribal Development. Udaipur: Shiva Publishers Distributors.

MOEF. 1999. National Forestry Action Programme . India. New Delhi, Government of India.

MOEF. 2002. *JFM: A Decade of Partnership*. Government of India, New Delhi.

Niyamatullah, M. 1984. The plans which Supplement the Food of Tribals in M.P. In, Patnaik (ed), Readings on Tribal Development Administration, Nutrition. Health and Culture. Bubaneshwar: THRJ.

Parasher Sen, Aloka. 1998. Of Tribes, Hunters and Barbarians – Forest Dwellers in the Mauryan period. In Sumit Guha (eds), Environment and Ethnicity in India, 1200 – 1991. Cambridge. Chapter 5, (n.) 14 (2), P. 173 – 191.

Philip Viegas and Geeta Menon. 1985. The Cost of Deforestation. Social Action, vol.35, October-December.

Prakash Chandra Mehta. 2000. *Tribal Development in 20th Century*. Udaipur: Durga Taldar Shiva Publishers, p.7.

Randhawa, M S. 1984. Farm Forestry. *The Tribune*, Chandigarh, August19.

Rao, P.V. 2001. *Tribal Development: Policy and Practice*. New Delhi: Sarup & Sons.

Rao, Sitaram. 1979. *Introduction to Social Forestry*. New Delhi: Oxford and IBH Publishing Co.

Saravanan, Velayutham. 1998. Commercialisation of Forest, Environmental Negligence and Alienation of Tribal Rights in Madras Presidency: 1792-1882. In, Indian Economic and Social History Review, Vol.35 (3), Pp.125-146.

Saravanan, Velayutham. 1999. Commercial Crops, Alienation of Common Property Resources and Change in Tribal Economy in the Shervaroy hills of Madras Presidency during the Colonial period. In, Review of Development and Change, Vol.4 (2), 1999, Pp.298-317.

Saxena, N C. 2000. Forestry and Related Issues, Research Issues in Forestry in India Indian Journal of Agriculture Economics, Vol. 55. No 3 July - September, Pp 359-383.

Sunder, Nandini and Roger Jeffery. 1999. Introduction. In, Roger Jeffery and Nandini Sunder (eds), A New Moral Economy for India's Forests? – Discourses of Community and Participation. New Delhi: Sage Publications.

Stebbing, E P. 1982. *The Forests of India*, Vol. I. New Delhi.

Thakur, Prabhir. 1984. Forestry in India – its Conservation and Planning. In, Indian and Foreign Review, Vol.21, No. 19, July 31.

The Constitution of India, Government of India, Article 342.

The International Labour Organisation (ILO) Convention 107, 1957.

Upadhyay, Sanjay, Ram and Bhavani 1998. Land Acquisition and Public Purpose. New Delhi: The other media publications.

Upreti, H.C. 2007. *Indian Tribes: Then and Now*. Jaipur: Pointer Publications.

World Bank. 1990. Indigenous People in Bank-Financed Projects. Operational Directives 4.40. Washington D.C.: The World Bank

Sample Questions

1) Define the term indigenous people.

2) Tribals relationship with the forest. Discuss.

3) Impact of forest policies on indigenous people.

4) Discuss post independence forest policies.

UNIT 3 ENVIRONMENTAL MOVEMENTS IN INDIA

Contents

Learning Objectives

At the end of this unit, you will be able to:

- explain the conceptual understanding of environmental anthropology and its development;

- have clarity on different environmental movements in India that took place in different parts of the nation and in different time periods;

- have brief understanding on various regulations and legal framework on environment in India;

- know the impact of environmental movement in India which have influenced the development approaches of the country; and

- know the significance of studying environmental anthropology in day to day life of the people.

3.1 INTRODUCTION

During the last couple of decades one finds a plethora of materials in social sciences relating to ethno-ecology, ecological anthropology, environmental economics, human ecology, and political ecology. The naming of ecological anthropology came during 1960s by the thinkers like Alfred Kroeber and Julian Steward. The concept of cultural ecology influenced ecological anthropology,

but one finds a shift from the concept of cultural population to the ecological population. The ecological anthropology was influenced by functionalism, systems theory and focus on negative feedback. For anthropologists role of cultural practices and beliefs in enabling human population to optimize their adaptations to their environments and in maintaining un-degraded local and regional eco-systems are important. Rappaport (1971) used the word 'ecological population' as an aggregate of organisms having a common set of distinctive means by which they maintain a common set of material relations within the eco-system in which they participate. The earlier ecological anthropology was based on cultural relativism, while the new ecological or environmental anthropology blends theory and analysis with political awareness and policy concerns. This led to the new field of applied ecological anthropology and political ecology (Greenberg and Park, 1994). Orlove (1980), while reviewing the literature on ecological anthropology, noted the processual ecological anthropology as a stage gradually supplementing neo-functionalist approach. Within the processual ecology human system ecology (Bennett, 1976) emphasised on human ecology as human behavior. Anthropological political ecology established relation with geography and political economy in which concepts such as claims, rights, power and conflicts predominante. Anthropological human ecology established relation with biological sciences and concepts like energy flows, knowledge systems, subsistence and adaptation.

Development of an ecological theory that incorporates natural and cultural dimensions within a single, broad paradigmatic framework seems to be quite urgent. Vayda and Walters (1999) maintain that ecological research should not make prior judgments concerning the causes of environmental change, but must be willing and able to assess all possible factors of biological and social origin. In anthropological and ecological research different kinds of generalisations are obtained from different levels of analysis (Bennett, 1976). In biological terms the distinction is made between 'eco-system people', whose subsistence is tied to particular local level eco-systems, and 'bio-sphere people', who drew their support from resources obtained at a planetary level (Dasmann, 1988). Ecological anthropology faces methodological difficulties to understand geological, biological and cultural temporalities developed over many years.

Changes in ecological anthropology is observed in research focusing on single community or culture perceived as more or less isolated and unique, to recognize the linkages between the people, technology, power and status and the impact of post-modern on local abilities. The earlier concept of ethno-ecology included society's traditional perceptions and cultural model of the environment and its relation to people and society. This has changed due to interconnectedness of the today's market, people, and physical ecology due to migration, commercial expansion and national and international incentives to degrade the environmental and ethno-ecological systems.

The term environment is often used as a synonym for the Nature (i.e., the bio-physical and non-human environment) and includes both cultural and bio-physical elements (Rappaport, 1979). The term environmentalism refers to an explicit active concern with the relationship between the human groups and their environments, while environmentalists refer to political activists. Thus, anthropologists and other social scientists who are involved in environmental research can be considered as representing the environmental wing of their

respective disciplines. The present research in anthropology has two different issues and methodologies. The first one, ecological anthropology, uses ecological methodologies to study the interaction between human groups and their environment and the second, anthropology of environment, uses ethnographic methodologies to study environmentalism as a type of human action (Little, 1999).

3.2   ANTHROPOLOGY OF ENVIRONMENTALISM

Last few decades have witnessed environmental governance at local, national, and international levels. Brosius (1999) viewed that the contemporary environmentalism as a new discursive regime is emerging and giving shape to the relationships between and among natures, nations, movements, individuals and institutions. Anthropology contributes to the understanding of human impact on the physical and biotic environment and also in showing how that environment is constructed, represented, claimed, and contested. Of late environmental issues have influenced the local struggles, national and international debates for a diverse vision of the environment and environmental problems. National elites and multinational capital during the last two decades have redefined the concept of environment and environmentalism by displacing moral and political ethics of development. So any attempt to understand the social movement aspect of environmentalism must be addressed within a set up of complex relationship between the historical and contemporary forms of domination, existing or emerging structures or institutions, politics of representations, processes of production, and emerging forms of political agency (Ibid). Anthropological understanding on environment drawn its inspiration from the field of ecology, i.e., the interest in localised adaptations to specific eco-systems, while the anthropology of environmentalism draws its insights from various sources like post-structuralism's social and cultural theory, political economy, and globalisation. Thus, this new area is more concerned with the issue of power and inequality, cultural and historical formations, knowledge production and acceleration of trans-local processes. Anthropologists have come to this field of environmental issues much late; however, scholars like Douglas and Wildavsky (1982) have published considerably in this regard. The increase in environmental scholarship across different disciplines in late 1980s, like science and technology, media studies, geography, political science, history, legal studies, political ecology, led to inter-disciplinary understanding of the issue of environmental problem. The local communities adopted the elements of new transnational environmental discourses (Brosius, 1979a).

3.3   ENVIRONMENTAL MOVEMENTS IN INDIA

The increasing confrontation with the nature in the form of industrial growth, degradation of natural resources, and occurrence of natural calamities, has resulted in the imbalances in the bio-spheric system. The publication of 'The Limit of Growth: A Report for the Club of Rome's Project in the Predicament of Mankind' (Donella H Meadows et al., 1972) and other reports, such as World Commission on 'Environment and Development' (1987), and State of India's Environment: A Citizens Report (1982), have led to the monitoring of the contradiction of growth and the erosion of the environment. The Defence of the Planet and Save the Earth Movement, formation of the Earth's Friends Society reflects the growing concern for the future of mankind. In India also the ecological and environmental

issues have received quite considerable attention from different scholars. Ecological themes have been published by different scholars like Guha (1989), Gadgil and Guha ((1992), etc. All the scholars made an in-depth inquiry of the ecological problems in India and developed an understanding of both the nature, strategy and methods of people's mobilization around environmental issues (Ibid) as well as the consequences of environmental degradation for the society, economy and culture of people (Agarwal, 1986; Agarwal and Narayan, 1998).

The data presented by Guha (1989) and Shiva (1993) on the causes and consequences of the erosion of natural resources reflect the composite ideology of environmental issues in India. Together they reflect the social science perspectives backed by natural sciences. The social and ecological dimension of bio-diversity, environmental management (Shiva, 1993) and Gandhian perspective on resolving the dilemma of development without hurting the ecological balance (Jain, 1988) constitute the themes of continuing debate on the contradictions of ecology and development problems in India.

Environmental movements in India, centering on dams, displacement and resettlement effectively articulated their agenda on the human consequences of tampering with the courses of natural resources, have initiated protest action against the forces and agencies responsible for environmental degradation. Further, the issues raised by the actors of the ecology and environment movement by the "Friends of the Earth" and by the natural and Social Science scholars in defense of the nature and the planet earth, suggests that the ecology movement is not a mere exercise in romanticism nor a movement relating to food, fodder and fuel alone. In India it is also seen that the ethnic practices of worshipping planets, trees, forest, and rivers reflects the natural and social domains and the wisdom of seeing unity in the living and the non-living world in the Indian tradition. The ecological movements in India encapsulate all categories of caste, class, race, religion, nations and also categories of species divisions and the divisions of the organic and inorganic world.

Environmental movements in India have contributed in defining the models of development, shifting from a resource intensive and ecologically unstable state to an ecologically symbiotic state of functioning. A couple of environmental movements experienced in India so far include Chipko Andolan (Barthelemy, 1982), Save the Bhagirathi and stop Tehri project (Manu, 1984), Save the Narmada movement (Narmada Bachhao Andolan) in Madhya Pradesh and Gujrat; Youth organisation and Tribal people in the Gandhamardan Mines against Balco, the opposition of Baliapal Test Range, Bauxite mining in Kashipur and Niyamgiri; the Appiko movement in the Western Ghats; the campaign against the Silent Valley Project; reclaiming wastelands in Bankura district, and the opposition to the Gumti Dam in Tripura, etc., are some examples.

Many local movements centering deforestation, water logging, salinization and desertification in the command areas of major rivers of Kosi, Gandak, and Tungabhadra and in canal irrigated areas of western India, like Punjab and Haryana, have established the efficient use of water as a source of natural commodity. All these movements have reflected the ill-conceived natural resource consumption by the so called development projects, which have resulted in devastations in the natural resource base of the nation. In the following section we describe couple of major environmental movements that have occurred in different parts of India across time.

3.4 ENVIRONMENTAL MOVEMENTS; FEW CASE STUDIES

3.4.1 The Silent Valley Movement, Kerala

The silent valley is located in Palghat district of Kerala. It is surrounded by different hills of the State stretched over a total area of 8950 hectares. The flora and fauna of the valley is natural and very rich in biodiversity. The valley has contributed varieties of genes for pest and disease control of rice. The idea of a dam on river Kunthipuja in this hill system was conceived by the British in 1929, while the technical feasibility survey was carried out in 1958 and the project was sanctioned by the Planning Commission of Government of India in 1973 with a cost estimation of Rs. 25.00 crores, which enhanced to 80 crores in 1980. The project had dual purpose of generating 240 MW of power, to irrigate 10,000 hectares of additional crop land and to create jobs for 2000 to 3000 people during the construction period.

Peoples Response

Local people lobbied for the project under the erroneous assumption that their prospects would improve as a consequence of a big scheme being located in their area (Darryl, 1985: 19). All political wings of major political parties also favoured the process of development identical with that of industrial development. However, the silent valley issue in Kerala demonstrated all party ignorance of ecological balance (Krishna Iyer, 1992). In subsequent period the Kerala government passed an ordinance in the second half of 1978 to protect the ecological balance in the "Silent Valley Protected Area". By the time the movement against the project from all corners was raised from all sections of the population, the environmentalists came forward to oppose the project from a wider perspective. The significance of Western Ghats as an important asset in the western Peninsula was raised.

In Stockholm Prime Minister of India made several commitments to the rest of the World regarding the protection of environment. The Task Force report came in 1977 which highlighted the genetic value of an undisturbed rain forest like Silent Valley (Darryl, 1985).

The report viewed that "Forest as a natural reserve can yield wood and water on a renewable and sustainable basis, therefore any form of intervention that adversely affects the generation of such resources on a long term basis cannot be termed as development." The Task Force report became a platform for the environmentalists to generate large scale disagreement against the project. The International Unions for conservation of Nature and Natural Resources (IUCN) made a resolution in 1978 for the presentation of the silent valley. The Kerala Forest Research Institute also made an on the spot, assessment and recommended the declaration of the silent valley as a bio-sphere reserve.

Kerala Shastra Sahitya Parishad (KSSP) created mass awareness against the project. KSSP based on certain ideology was identified in popularizing Science to the people (Guha, 1988). Later on KSSP formed a registered Society named as the "Protection of Silent Valley" at Calicut (Prasad, 1987) and later with their logical study based on techno-economic feasibility and socio-economic

assessment of the project turned down most of the arguments given by the pro-dam forces. Since KSSP had a close network with people in north Kerala, they were able to convince the people that the project will not be beneficial to them in the long run due to its destructive affects over natural resources. Finally, the Kerala Government made Silent Valley a national Park considering the importance of valuable rich flora and fauna which needs conservation and proper management. It also recognised that this precious reserve of the life forms and the gene pool is the only undisturbed tropical rain forest in true sense in Kerala, which needs to be preserved permanently (Darryl, Ibid)

Significance of the Silent Valley Movement

Like other social movements in India, Silent Valley movement was also spontaneous, natural, initially went through unorganised processes but later on became more organized. In initial phase the local level groups protesting against the project neither could nor tried to contact the larger platforms because of their apprehensions and lack of clarity on the issue. In initial period the movement at local level had the experiment with the outside forces before co-opting them into their fold. The movement also established the fact that civil society reflects or offers the true concept of development. From the experiences one can say that if the philosophy of the movement gets supports by the higher level platform then it became easy to establish the facts of the concept of people's development as a part of the development process. This movement contributed certain path ways to the other movements in India. It also established the fact that development should not bring destitution to the people and destruction to the natural resources base. Proper awareness is required among people on ecology and environment, for making a movement of this magnitude successful. In later period this movement forced the State to go for small hydro-power projects which became more environment friendly, less destructive to the natural base of the State (Khosoo, 1988).

3.4.2   Chipko Movement, Uttar Pradesh

Chipko Movement started in April, 24 1973 at Mandal of Chamoli district of Gharwal division of Utter Pradesh. The Organiser of the movement had a belief on the ideology of non-violence as propagated by Mahatma Gandhi and Vinoba Bhave. The movement was raised out of ecological destabilization in the hills. The fall in the productivity in forest produces forced the hill dwellers to depend on the market which became a central concern for the inhabitants. The continuous natural distress like flood, and land slide due to Alakananda (1970) river and other catashophes like Tawaghat tragedy (1977) and Bhagirathi blockade (1978) Branch Rivers of river Ganga caused massive flood in the Gangetic plains. These floods brought a marked change in the ecological history of the region. A look into the forest policies and forest resources exploitation data show that due to over mining of forest resources in different time periods such natural calamities have occurred.

In 1973 the State Forest Department gave a lease of forest trees to Simon Company, a manufacturer of sporting goods from far off Allahabad (Mishra and Tripathy, 1975) The relationship between the erosion and floods on the one hand, and mass scale falling of trees on the other was recognized. On March 27 decision was taken to 'Chipko" that is 'to hug' the trees that were threatened by axe and thus the chipko andolan (movement) was born. This movement has multifaceted

conflicts over forest resources, at the scientific, technical, economic, and, especially, the ecological levels (Shiva, 1986). Major demands of the Chipko movement were not merely to protect timber, fuel, fodder and small slumber but the preservation of soil and water.

Public meetings were held in the region and the felling of trees by the Company was postponed. In initial days villagers were lured by the Company from the forest for other entertainment but later on failed to attract them. In 1974 Sunderlal Bahuguna the "Chipko Messenger" visited the entire region taking the Chipko message from village to village. In subsequent period the local people did not allow any one from cutting trees even for home industries. Thus, one finds a change in the Chipko movement, from economic to ecological. The Chipko movement has been successful in forcing a fifteen year ban on commercial green felling in the hills of Uttar Pradesh and generated pressure for a national forest policy that is ecologically more sensitive. Women were very active and came out of their homes to take lead in the Chipko movement.

Lessons learned

The Chipko movement experimented and established certain original approaches, like marginality, action research and social investigation. Few social workers integrated the Chipko movement for preservation of forest in the sub-Himalayan region of Gharwal. The movement made people conscious of the value of forest, its preservation and the need for maintaining ecological balance. The movement has established the importance of need oriented programmes, indigenous strategies, self-reliance, ecological balance and structural changes that resulted in high degree of peoples participation with the help of appropriate small scale technologies. It was experienced that the Western model of development reflected in the form of large scale infrastructure which have marginalised the women to the level of labour delivering products, the Chipko movement proved that women who produce all subsistence goods can maintain the status quo by retaining the traditional eco-system. They saw that conservation of forest seems to be their only source of living and survival. Chipko movement offered women a platform to realise command over Public power and authority. New ecological concepts were built through this movement that made women to realise these issues which were earlier controlled by their male counterparts. This has resulted in various changes in the gender relations in rural Gharwal region in performing the household and social responsibility. The top down approach long adopted by the State in development of women could not bring much change in the power structure of the rural people. The new concept of ecological challenges became more concerned for the women (Jain, 1984). The experiment could make people believe that participation of women in the development process can be achieved by a mere ideological commitment and a few organisational devices (ibid). Belief in non-violence, cooperation and self-help are the basic axioms of the Sarvodaya Philosophy helped the Chipko movement moving forward. Further, it was a fact that women who were away from the intricacies of public power and political activities genuinely believed in the ideas of cooperation and self-help. The principle like non-violence as a natural and more effective weapon imposed on people as a moral pressure helped considerably to make the Chipko movement a grand success.

The ecological crisis in the Himalayas is not an isolated event. It has its roots in the modern materialistic civilisation which makes men the butcher of Earth

(Bahuguna, 1980). Other arguments that forest officials and commercial forestry are merely agents of a development process biased in favour of the urban industrial complex and against local needs. The framings of development schemes by urban centred technocrats have little relevance to the realities of rural India (Bhatt, 1984). Another perspective of the Chipko movement is based on Marxian ideology. It viewed that human nature relationship must not be viewed in isolation from existing relationship of humans.

Chipko still survives and the philosophies of the movement has spread beyond Uttarakhand hills and linked to social activists, humanitarian scientists and people in need in Jammu & Kashmir, Rajsthan, Himachal Pradesh and West Medinipur district of West Bengal, while in Karnataka Chipko has reformulated as Appiko (Hedge, 1994 and Alvares, 1984). The Chipko movement became a psyche of India and the World.

3.4.3 Narmada Banchao Andolan Gujarat

Narmada is one of the major rivers of Indian Peninsula. The scope of the Sardar Sarovar project a terminal reservoir on Narmada in Gujurat in fact is the main issue in the Narmada Water dispute. The Narmada basin covers 94,500 sq. kilometres between the Bindhya and Stapura ranges in Central India. The 1300 kilometres long Narmada valley contains large alluvial plains in Madhya Pradesh. Narmada River on the west is sacred to the Hindus, widening into a 25 kilometres long estuary as it flows into the Gulf of Cambay. It is one of the World's largest multipurpose water projects. The Narmada River Development Project involves the construction of 30 large Dams and many small ones on the river and its 51 main tributaries. The project basically aims to increase food production and hydro-power generations in Gujarat, Madhya Pradesh and Maharashtra.

The construction of dams and reservoirs will displace estimated one million people and will submerge 350,000 hectares of forest land and 200,000 hectares of agricultural land (India Today, 1992). The Sardar Sarovar Dam in Gujarat is being strongly opposed by the tribal people due to the fact that it will submerge almost 40,000 hectares of land and 250 villages. Similarly, the reservoir behind Narmada Sarovar Dam will be the largest manmade lake in India submerging 91,348 hectares and displacing 120,000 people from 255 villages, which includes 13 forest villages (Shiva, 1991). Of the total affected persons by submergence of around 80% are agriculturists (Doria, 1990). Around 30% amongst to be submerged belongs to SCs and STs and about 75% are marginal farmers or labourers. Over 90 per cent are illiterate and vulnerable to exploitation.

With respect to the funding of the project, the World Bank supported with an approved loans in 1985. For various reasons the Central and State Government could not meet the resettlement and rehabilitation guidelines and social and environmental issues went unaddressed (Kothari and Singh, 1988). Finally, in 1997 the World Bank decided to cease funding the project but the Indian Government pledged to complete it (Miller and Karunar, 1993).

The Narmada Basin extends over an area of 98796 sq. km and is divided into five well defined physiographical zones. The area has a tropical climate with high variations in rainfall, temperature, and humidity. The average annual rainfall in the catchment area is 12.89. The total cultivable command area of the Narmada Sagar Project is 174967 ha. The cropping pattern to be benefited out of the project

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 Gujurat 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 Nrushingha Nath, the 800 years old temple, which developed physical cracks in the temple and it's 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 Alcoan (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 protest 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

dealing with forests and wildlife were dropped from the State list and inserted in "Concurrent List".

Distribution of Environmental Legislation

The Central Government under Central List has the power to legislate on industry, mines and minerals, oil fields, fishing, inter-state rivers and river-villages. In addition, the Central Government is authorized to make social planning under concurrent list of schedule VII of the Indian Constitution. Since India is a federal system of Government, the State Government can also legislate on industry, mines and minerals, fisheries, which is objected to as per the provision of the Central Government,

Some of the major areas of Central enactments formulated by the Central Government include water, air, radiation, pesticides, and forest and wildlife. Some of the specific environment related legislations passed by Central Government in different time periods in different sectors are as follows (Meheta, 1994, Trivedi et al 1995):

Water Pollution

The River Boards Act, 1956

The Merchant Shipping (Amendment) Act, 1970

The Water (Prevention and Control of Pollution) Cess Act, 1974 and 1977

Air Pollution

The Indian Boilers Act, 1923

The Factories Act, 1948

The Mines and Minerals (Regulation and Development) Act , 1947

The Industries (Development and Regulation) Act, 1961

The Air (Preservation and Control of) Pollution Act, 1981

Radiation

The Automic Energy Act, 1962

Radiation Protection Rules, 1971

Pesticides

The poison Act, 1919

The Factories Act, 1948

The Insecticides Act, 1968

Forest & Wild life

The Indian Fisheries Act, 1897

The Indian Forest Act, 1927

The Prevention of Food Adulteration Act, 1954

The Ancient Monuments and Archaeological sites and Remains Act, 1958

The Wildlife (Protection) Act, 1972

The Urban Land Ceiling and Regulation Act, 1976

The Forest Conservation Act, 1980

The Prevention of Cruelty to Animals Act

General

The Indian Penal Code, 1860

The Environment (Protection) Act, 1986

In addition to these, there are many state enactments passed with respect to water pollution, smoke control, pest control, land utilization and land improvement by different states in different time periods (Meheta, ibid)

The Recommendations of Tiwari Committee 1980

Based on the Tiwari Committee 1980 a separate Department of Environment, Forest and Wildlife were created in 1985. Subsequently the material National Wasteland Development Board (NWDB) and the Central Ganga authority (CGA) were created to manage specific environmental problems. In spite of the measures, there was a significant fall in the quality and management of environmental problem (Koli, 2005) One such is the Bhopal Gas Tragedy which killed 2700 persons and injured around 20,000 people which forced the National Government to go for a new Act called the Environment (Protection) Act, 1986, passed in response to the resolution passed in 1972 at Stockholm at the World Conference in Human Environment. Environment Assessment of both physical and social aspects of any development project is made compulsory before any project starts. The establishments of Eco-mark scheme, Zoo Authority of India and Central and State Pollution Control Boards ensured the implementation of the Water Act 1974. The Water Cess Act, 1977, The Air Act, 1990 and the Environment Protection Act, 1986. The Pollution control authorities are ill-equipped to monitor and regulate the small and medium industries. As a result, many of the impactions are far from the reality.

3.7 IMPACT OF THE ENVIRONMENTAL MOVEMENTS

We have observed that in India the environmental movements could go beyond the social and cultural cleavages. They could unite people belonging to different caste, ethnic and economic categories, political ideologies, gender and age groups. In many such movements, women who are normally considered as the weaker sections of the society took the lead, both as leader and the participants, in these movements. Like independence movement of India, people of all status groups, viz., children, youth, adults, old and students, all sacrificed ambitions of their life and took part in taking ahead the concepts and the processes of these movements. It was commonly observed that in all the movements the people adopted the Gandhian Concept of non-violence and Satyagraha. These movements have established the fact that common property regimes of the people plays crucial roles in the daily subsistence activities of poor peasants in India. All these issue are being debated at local, national and international levels, where social scientists are playing central role in debates at various levels, including national and international levels.

Couple of new methods have been developed and used in data collection by different anthropologists while studying ecological anthropology. Satellite

imagery data, both synchronically and diachronically, are used to identify ecological hot spots, and studied by multi-disciplinary teams (Green and Sussman, 1990; Kottak et al 1994). Secondly, the Geographical Information System (GIS) studies micro situations relating to human and environmental features. Survey data across space and time may be used along with the ethnographic studies to study the environmental situations. The distinct anthropological perspective must be adopted to study the local specificity with respect to the ecological and cultural diversities.

3.8   SUMMARY

We have observed that environmental movements have been a productive zone of inquiry. Environmental movements in India have established the fact that these are the series of transformative discourses. In some cases the environmental debates have reflected the rights of the people over their natural resource basket, the source of livelihood for them. The denial of traditional structure of control over these natural resources has been questioned by the communities, the major participants of such environmental movements. Often they have questioned the exploitation methods and development models of the State. In anthropology the combination of ecological and ethnographic approaches has expanded the scope of environmental research. This has brought in a paradigm shift in the content and focus of ecological anthropology from applied perspective. When we map out the new approaches in the study of environmentalism we find the cases of resistance from people across space and time. The Subaltern voices crop up through such environmental movements has been established and anthropologists have taken such voices for ethnographic analysis. When we look at the social structure, degradation of natural resources and related environmental changes, one finds the complimentary and symbiotic relationship between society and environment, which is difficult to ignore.

3.9   REFERENCES

Agarwal, A and S.Narayanan.1998. Post Kyotopolitics, Creative Carbon Accounting. Down To Earth, 7(5):27-37.

Barthelemy, G.1982. Chipko:sauver les forests de I'Himalaya. Paris: Edition L'Harmatten.

Bennett JW.1976.The Ecological Transition: Cultural Anthropology and Human Adaptation. New York: Pergamon. Pp-365.

Brosius,J Peter. 1997. Endangered Forests, engendered people: environmentalist representations for indigenous knowledge. Human Ecology. 25:47-69.

Brosius, J. Peter. 1999. Analyssis and Interventions: Anthropological Engagements with Environmentalism. Journal of Current Anthropology, vol-40,No-3 (June), Pp-277-310.

Center for Science and Environment. 1982. The state of India's Environment. New Delhi.

Estava, G., and M. Prakash.1992. Grassroots resistance to sustainable development, Lessons from the bank of Narmada. Ecologist 22(2):45-47.

Dasmann RF.1988. National Parks, nature conservation, and "Future Primitives" In JH Bodely (ed), Tribal People and Development Issues: A Global overview. Mountain view, CA: Mayfield. Pp. 301-10.

Darryl, D' Monte.1985. Temples or Tombs? Industry versus Environment: Three controversies. New Delhi: Centre for Science and Environment. , Pp. 29-60.

Douglas, M., and A. Wildavsky. 1983. Risks and Culture: An Essay on the selection of technical and environmental danger. Berkeley: University of California Press.

Doria, R.S. 1990. Environmental impact of Narmada Sagar Project. New Delhi: Ashis Publishing House.

Gadgil, M and R Guha. 1992. The Fissured Land: An Ecological History of India. Delhi: Oxford University Press.

Greenberg JB Park TK. 1994. Political Ecology. Journal of Politcal Ecology, 1:1-12.

Green, Glen M., and Robert W Sussman. 1990. Deforestation History of the Eastern Rain Forests of Madagaskar from Satellite Images. Science, 248:212-215.

Guha Ramachandra 1988. "Ideological Trend in Indian Environmentalism". Economic and Political Weekly, Vol.XXIII, No.49, P-2578, Dec-3.

Guha, R. (1989). The Unquiet Woods: Ecological Change and Peasant Resistance. Berkeley: University of California Press.

Hedge,P. 1984. Appiko Padayatra, in Chipko Information Centre pamphlet Chipko Message. Pp. 28-36.

Jain,S. 1984. Women and People's ecological Movement: A Case study of Women's role in the Chipko Movement in Uttar Pradesh. Economic and Political Weekly, Vol-19,No-41, Pp. 1788-1794.

Khoshoo 1988. Environmental Concerns and Strategies. New Delhi: Ashis Publishing House.

Koli, P.A., 2005. Environmental Legislation: A Long way to go. In Pawar, S. N. (ed), Environmental Movement in India. Jaipur: Rawat Publication,

Kottak, Conrad P., and E Colson. 1994. Multilevel Linkages: Longitudinal and Comparative Studies In Robert Borofsky (ed.), Assessing Cultural Anthropology. New York: McGraw Hill. Pp. 396-412.

Kothari, A., and S. Singh. 1968. The Narmada Valley Project: a critique. New delhi: Kalpavriksh.

Krishna Iyer V.R. 1992. Environmental Protection and Legal Defense. New Delhi: Sterling Publishers Pvt. Ltd. Pp.130.

Little, E. P. 1999. Environment and Environmentalism in Anthropology Research: Facing a New Millennium,' Journal of Annual Review of Anthropology, vo-28. Pp. 253-284.

Manu, B. 1984. Between two sacred rivers, Tehri Dam Project. India magazine 4(2):44-51.

Miller,S.K. and S.Kumar. 1993. Narmada bank fails World Bank final test. New Scientists 138 (1868) 10 April:5

Meheta, C.S. 1994 – Environment and Law. SMS Highway, Jaipur: RBSA Publication.

Mishra, A and S. Tripathy. 1978. Chipko Movement: Uttarakhand Women's Bid to Save Forest Wealth. New Delhi: Gandhi Peace Foundation.

Orlove B. 1980. Ecological Anthropology. Annual Review Anthropology, 9:235-73.

Patnaik, N. and Daspatnaik, 1982. The Kondhas of Orissa. SCSTRTI, ST SC Development Deparment, Government of Odisha.

Prasad M.K. 1987. The Lessons of Silent Valley. In Centre for Science and Environment, The Fight for Survival, People's Action for Environment. New Delhi, Pp-37-42.

Rappaport, Roy A. 1971a. Nature, Culture and Ecological Anthropology. *In* H.Sapiro, (ed.), Man, Culture and Society. New York: Oxford University Press. Pp. 237-268.

Roppaport, Roy A.1979. Ecology, Meaning and Religion. Berkeley, CA: North Atlantic.Pp. 259.

Singh, K.R. 1997. Revised Working Plan for the Reserved Forests and proposed Reserved Forests of Kalahandi Forest Division for the period 1997-98 to 2006-07.

Shiva, B and J. Bandyopadhyay. 1986. The Evolution, Structure and Impact of the Chipko Movement. Mountain Research and Development, Vol 6, No-2, Pp-133-142.

Shiva, V. 1991. Ecology and the Politics of Survival: Conflicts over natural resources in India. Tokyo: United Nations University press, New Delhi: Sage.

Shiva, V. 1993. The Greening of the Global reach. In W.Sachs (Ed.), Global Ecology: A new arena of political conflict. London: Zed Books. Pp. 149-56.

Steward, Julian. H. 1950. Area Research, Theory and Practice. New York: Social Science Research Council.

Trivedi, I.V. and Rana Jatana (ed). 1995. Impact of Environment. Jaipur: Rupa Books Pvt. Ltd.

Vayda A P, B.B. Walters. 1999. Against Political Ecology. Human Ecology, 27(1):167-79.

Suggested Reading

Jyotshna Bapat. 2005. *Development Projects and Critical Theory of Environment.* New Delhi: Sage Publications.

Rajendra Singh. 2001. *Social Movements Old and New: A Post Modernist* Critique. New Delhi: Sage Publications.

Amita Baviskar. 1998. *In the Belley of the River*. New Delhi: Oxford University Press.

Ramachandra Guha. 1989. *The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya*. New Delhi: Oxford University Press.

Omvedt, Gail. 1993. *Reinventing Revolution: New Social Movement and the Socialist Tradition in India*. New York: M.E. Sharpe Inc.

Sample Questions

1) What is environmental anthropology? Describe its growth and development in India.

2) Describe how globalisation has impacted the environment and human life and the living conditions of rural people in India.

3) What is environmental movement? Do you think that socio-cultural factors play crucial role in the movement processes which are taking place in rural India?

4) Do you think globalisation has contributed in changing the nature of environmental movement in India? Explain with the help of few cases of environmental movement from Eastern India.

5) What is environmental movement? Do you think that India has enough laws to protect the natural environment of the country?

UNIT 4   HEALTH AND ENVIRONMENT

Contents

Learning Objectives

At the end of this unit, you will be able to:

- explain the history, theories of Medical Anthropology, and the basic concepts attached to it;

- understand various regulation and legal framework on environment and health in India;

- know the impact of globalisation on environment, health and women health; and

- to know the prospects of application of medical anthropology in day to day life of the people.

4.1   INTRODUCTION

Health and development of a society are intimately interrelated. It is one of the most important indicators of development, which varies from society to society. It is also influenced by the level and priorities of development. Many societies interface with environmental effects due to the exploitation of natural resources, environment related diseases and physical hazards. The societies lagging behind in development parameters have different development priorities and inequitable distribution of the benefits. However, the human societies since time immemorial

have been struggling to have the right to live with adequate support, including food, clothing, housing and health care. Here we describes various basic concepts related to medical anthropology, ecology, health and environmental effects due to globalisation, impact of growth of human population on environment, environmental crisis, threats to human health, and lastly the application of medical anthropology to the society.

4.2 MEDICAL ANTHROPOLOGY IN ECOLOGICAL PERSPECTIVE

Medical anthropology is an interdisciplinary field, which studies "human health and disease, health care system and bio cultural adaptation" (Mc Elroy, 1996). It is one of the latest and most developed areas of anthropology and applied anthropology (Charlottee, 1990), which emphasizes culture and society being organised around or influenced by the issues of health, health care and related issues. It is concerned with the application of anthropological and social science theories and methods to question about health, illness and healing. It looks at cultural conceptions of the body, health, and illness (Bhasin, 2007), and focuses on health behaviour as a way to learn about social values, and social relations. The term medical anthropology is in vogue since 1963 as an area for empirical research and theoretical production by anthropologists in social processes and cultural representation of health, illness and nursing care practices (Scotch, 1963). It is a new discipline within cultural anthropology. Originally cultural anthropologists were collecting data on medical beliefs and practices of non-western people. The importance of the application of this data originated from the international public health movement after the Second World War. We see that health care clinic personnel have failed to reach targeted populations due to their ignorance and lack of education on the target people, because the native populations are largely guided by traditional belief, value orientations and cultural practices.

4.2.1   History of Medical Anthropology

Since 20th century we see that ethnography is being used as a tool to explore knowledge in primary health care and rural medicine. The ethnographical knowledge by medical personnel was abandoned when anthropology adopted ethnography as one of the markers of understanding people, their culture and cultural practices. The relationship between anthropology and medicine remained constant during the 20th century till the development of modern medical anthropology which came in 1960s and 1970s. You will find that the contributors of medical anthropology had their primary training in medicine, nursing, psychology and psychiatry (Sailant et.al, 2005). When one looks at the development of medical anthropology one see the growth of physical anthropology, ethnographic interest in primitive medicine, studies of psychiatric phenomenon and anthropological work on health has formed the basis. They studied the primitive medical beliefs and practices. During 1940s anthropologists we find have helped health care providers to understand cultural differences in health behaviours.

4.2.2 Medical Ecology

Anthropologists consider human population as biological as well as cultural entities. Human culture determines the responses of population towards environment and environmental problems along with the genetic and physiological problems. Adaptation of human beings with the changing environment brings changes and modifications in the larger political economy and socio-cultural system. The concept of adaptation was first applied by Alland (1970) in medical anthropology which for him takes place through genetic changes, physiological responses, cultural knowledge and practices and individual coping mechanisms. Such a concept is based on two premises. Firstly, there is a belief that health is determined by environmental adaptation and, secondly, occurrence of diseases is due to the in-equilibrium in the environment. Since evolution of disease is determined by biological and socio-cultural evolution of human population and of the society, the adjustment and epidemiological profile of different economic groups like forager, peasant, animal herdsmen and industrial labourers varied due to their eco system, food pattern, domestication and pathogens. Medical ecology also assumes that bio medical disease categories are universal but varies as per time, geographical space, settlement pattern and type of economy. The extent of haemoglobin and body temperature varies according to geographical space. The infectious diseases like tuberculosis, malaria, and small pox needs to be studied from historical context. Therefore, medical ecologists study the food pattern, body growth and development, geographical hazards and injuries and demographic change over time. Medical ecology has usually studied isolated populations living in rigorous environment like high altitudes, the arctic and tropical forests. Since 1980s research studies by biologists and medical ecologists have focused on seasonality and health in agricultural populations, environmental and cultural regulations of fertility, migration and change in health status, work productivity in under-nourished and infected population.

4.2.3 Ethno Medicine

Ethno medicine is the study of folk or primitive medicine. It largely encapsulates health beliefs, cultural values and social roles of human society used in disease, treatment and health maintenance. It deals with the explanations of illness and disease, what causes illness, the evaluation of health, illness and cure from both *emic* and *etic* perceptions. It also focuses on the naturalistic and personalistic explanations. It studies the ethnography of health and healing behaviour in various societies focusing more on traditional medical practices, diagnosis and treatment. Health ethnographies also contain the values of traditional healers, patients, and medicine preparation procedure and ethno medical belief systems. The plurality of medicines is found in different folk societies. It includes the cosmopolitan medicine practices in North America; Humoral Medicine derived from ancient Greek, medicine observed in Latin America society and Ayurvedic medicine as observed in India. The explanatory model of ethno medicine propounded by Arthur Kleinman in 1980 explains the causes of illness, diagnostic criteria and treatment options, which vary according to the practitioners, patient and their family members and contributes in the cultural construction of illness and treatment, in terms of treatment as a biomedical term to a culturally defined construction consisting of social and spiritual realms, including sorcery, soul loss and spirit intrusion.

Another dimension of ethno medicine is the use of different methods, like participant observation, ethno semantic data, life history, interviews and ethnographic method popularly used by the healers in rural societies. Therefore, we find the integration of ethno ecology and ethno medicine with the help of indigenous people's knowledge on medicinal plants and processing.

4.3   THEORIES OF MEDICAL ANTHROPOLOGY

Prior to 1990s medical anthropologists were more active in public health or clinical setting who dealt with solving problems. Since 1990s debates have been organized on the theory of medical anthropology. A look into various theories of medical anthropology is required to find out the type of data required, type of problems we try to study in the context of a specific community.

4.3.1   Interpretive Theory

Interpretive theory emphasise on the study of meaning rather than scientific explanations, spell-out the metaphor of health and illness and the symbolic uses of the human body in different cultures. The immune system has been described as an elaborate icon for principal systems of symbolic and material difference in late capitalism and as a mythic object in high technology culture (Haraway, 1992: 366). This theory is based on the micro study of healing rituals of the North Sudan along with the Nile with respect to the role of spirit in material and reproductive problems. Janice Boddy (1989) used multiple theories to explain the Zar cult interpreting through feministic perspective. While explaining primary theoretical perspective Boddy used symbolic anthropology. The interactive theories deals with micro situation as case study describing the interactions between the patient and the practitioners and ignore the macro factors which influence the illness treatment processes. The interpretative anthropologists are criticized for their ignorance of larger political, social and historical processes that controls individuals' lives (Good, 1994: 56).

4.3.2   Political Economy or Critical Theory

In medical anthropology the critical theory indicates that global power relations between the nations determine the health consequences. The perspective of critical theory is materialistic, historically specific, and dialectical (Morsy, 1996). While dealing with social class and social relation, the political economy approach goes beyond the boundaries of anthropology, history, political science and economics. The other anthropological theories and biomedicines are described as ideologies that mystify the real source of ill health in imperialism, racism, and exploitation.

Critical medical anthropologists look at the broader social and political forces that shape individual health (Singer et. al 1992) They explained that why does Jean Garcia have drinking problem, needs to be understood looking at the macro aspects, like the large scale sugar plantation, economic depression, unemployment and life problems. Therefore, by ignoring such issues the problem of alcoholism can't be understood in that specific content. This theory has been criticized on the ground of lacking historical and ethnographic analysis. In spite of this, political economic theory contributed in understanding the factors like social class, poverty, and power as the determinants of health.

4.3.3 Ecological and Bio-cultural Theory

In late 1960s and early 1970 Alexander Alland (Ibid) propagated ecological theory in medical anthropology. As per this theory human species are part of the larger environmental system which interacts with animal world, plant species and human health is considered as the bi-product of such interaction. Ecological theory is built based on the studies carried out among the person living in high altitude who follow economies like hunting-gathering and agriculture systems. The human biologists took interest in applying ecological theory to urban setting. Few anthropologists viewed that ecological explanations have oversimplified and do not give adequate emphasis to the forces of politics, economics and history.

Ecological anthropology emphasises the interactions between culture and the environment and contributed a conceptual framework that is useful in medical anthropology. Medical anthropology in ecological perspective focused on the medical and ecological aspects of evolution and adaptation – genetic, physiological, cultural and psychological. Medical anthropologists combine evolutionary theory and field methodology to study the ecology of health.

Ecological approach is a productive and logical framework for investigating human reproductive patterns, epidemiological change and differential access to health care resources (Townsend and McElroy, 1992). This theory also emphasises physical variations and health in populations through various models that integrate ecology, evolution, and culture. Bio-cultural theory accepts biological and bio-medical data as an assemblage of incontestable natural facts (Lindenbaum and Lock, 1993: X). Bio-medical science related findings are subject to continuous testing and corrections. Bio-medicines have cross cultural and universal applicability.

4.3.4 Political Ecology Theory

Eric Wolf (1982) used the term 'political ecology' during 1979. He viewed that the differential ecological set up of the Alps needs to be understood taking into account the ecological variables, like altitude, slope, soil and precipitation, and the political history of the study universe. Anthropologists used the term political ecology to study the effects on prehistoric population. They used to study the effects of declining nutritional level, health status, and life expectancy. However, this term was not favourably used in medical anthropology up till 1990s, while doing the fieldwork in Madagascar Harper, Janice 2002 that inequalities of wealth and power affect the availability of medical treatment and the distribution of diseases. This was observed in her study in the village near Ranomafana National park which was set up with USAID project funding to conserve bio-diversity and promote tourism by protecting the tropical forest and the Lemurs. Because of this park, nearby villagers were deprived of customary access to the bio-medicines and natural resources of the forest, which made them impoverished. During last three decades medical anthropology has gained much importance as the field of study. Couple of major research projects were supported by WHO on various theme areas of ethno-medical, interpretative, critical and political economy approaches were applied.

4.4   DISEASE, PERCEPTION AND ADAPTATION

Interpretation of ill health is culture specific. Culture of a community influences the thought processes of the population. Culture bears an adaptive value to the environment in the form of both opportunities, and threats. Interaction between culture and environment has been well studied in anthropology by Julian H. Steward in 1930s who studied the cultural ecology. Therefore, a disease perception by human being is culture specific. It provides specific explanations for ill health; hence, the perception of illness is culture specific, linked to space and period, gender and age groups. In Indian context, people relate to both natural and supernatural reasons to cause illness. Most of the tribal communities of India justify diseases occurring due to the imbalances in dietary pattern, climatic conditions and socio-economic life way processes. The supernatural and unseen powers cause loss of human life, livestock and crop harvest. The diseases vary according to seasons, like summer, rainy and winter. They have their own logic to explain such situations and to find out the cause and effect relationships. Bhasin (2005) in her study in Rajasthan villages found out that pox is caused due to extra heat in human body. Mata, a female deity, is considered as powerful because of her connection with illness, specially fever, and pox. She justified the fact that scientific medicine is believed to have no remedies for such afflictions (Ibid).

In Indian society caste as well as tribal people believe that the spirits are important that cause good and bad to the people. They live in silent and inaccessible places like hills, caves, river turning points, deep forest, and deserted places. Bhasin's study in this regard among the tribals of India, like Himachal Pradesh (1988), Sikkim (1989), Ladakh, Jammu and Kashmir (1997) and Rajasthan (2005), shows that spirit possession afflicts both men and women who are in need of healing by spiritual specialists, basically from within the community. Human interference also causes illness. This is done with the help of eye contact in negative sense, which can be treated by using amulets and charms by the patients and also throwing pious water at the patients.

Types of treatment method popularly practiced by rural people, including tribal, can be categorised as traditional medicine, traditional medicine along with spiritual healing, only spiritual healing and western or bio-medicines (Bhasin, 2007). The Traditional Healer is a person who is recognized by the community as a competent person to provide health care by using vegetables, animals and mineral substances and other methods based on social, cultural and religious background (Bhasin, Ibid). Looking at the empirical situations prevalent in different communities of India and the world, it is observed that none of the medical practices are scientifically followed by target population. Such variations are largely due to differences in culture, society and practices observed across universe and time. Therefore, it is observed that multiple medical practices and sources of treatment with belief system are the need of the hour. In this process, excess medicalisation of therapeutic behaviour is observed based on scientific causes and effects. The more the treatment system is scientific and based on bio-medical treatment the services are largely delivered from institutional base.

4.5 REGULATION AND LEGAL FRAMEWORK ON ENVIRONMENT AND HEALTH

Let us discuss some of the constitutional provisions and regulatory frameworks made with respect to environment and health of the individual at micro level and of the society at macro level. Framers of Indian Constitution had rightly realised the possible effects of growth of industry, mining activities and deforestation on environment and human health. Therefore, the constitutional makers made some guiding principles for the nation and the federal State to take care of and prevent the pollution of environment and to ensure good health of the living creatures. Some of the constitutional provisions in this respect are as follows:

Article 21 of the Constitution as a part of the Fundamental Right says that no person shall be deprived of his life or personal liberty, except according to procedure established by law.

Article 47 says that the State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties and, in particular, the state shall endeavour to bring about prohibition of the consumption, except for medicinal purposes, of intoxicating drinks and of drugs which are injurious to health.

Article 48-A ensures that the State shall endeavour to protect and improve the environment and to safeguard the forest and wild life of the country.

Article – 51-A (g) states that it is the duty of every citizen of India to protect and improve the natural environment, including forests, lakes, rivers and wildlife, and to have compensation to living creatures.

The subjects related to environment in the Seventh Schedule of the Indian Constitution have divided the responsibilities between federal States and the Union Government as Union list, State List and Concurrent list. The Union list covers the formation of regulations relating to industries, mines, oil fields and water bodies beyond territorial waters. The State list includes various rules of State in areas relating to Public health and sanitation, protection against pest and prevention of plant diseases, land colonisation, fisheries, industries, mines and mineral development. The concurrent list where both the Union Government and State can formulate regulations to ensure healthy environment and health covers protection of wild animals, economical and social planning and population control and family planning. As per Article 248 the Parliament of India has the residuary powers to legislate on any matter not covered in the three lists, while looking at the majority and mandatory requirements. They are like the forest conservation, identification of forest areas, Air (Preventing and Control of) Pollution Act, 1981, Water Prevention and Control Act, 1974, Wild Life Protection Act, 1971, The Biological diversity Act, 2002, Zone depleting substances (Regulation and Control) Rules 2000.

On the basis of Directive principles of State policy and international instruments, Government is committed to regulate all economic activities for management of safety and health risks at work places, and to provide measures so as to ensure safe and healthy working conditions. It recognises the fact that safety and health of workers has a positive impact on the productivity, economic and social

development. Formulating policies, priorities and strategies in occupational safety, health and environment at work places is undertaken by national authorities in consultation with social partners. Union Government firmly believes that without safe and clean environment, as well as healthy working conditions, social justice and economic growth cannot be achieved and it is recognised as the fundamental human right.

4.6   GLOBALISATION, HEALTH AND THE ENVIRONMENT

Contact between the nations across national boundaries is not new. Since the olden days the forces of migration, trade and war have bound together people from distant places. The term 'Citizen of the World' was coined by Greek Philosopher Diogenes in the fourth century B.C. However, when we compare globalisation of 21st Century it varies in the pace, range and depth of integration. Since 1980s the number of travellers has reached three millions everyday (at Kearny Inc, 2001). The implication of such movement of population brings in changes in health status within the nations and results international transfer of risks (Frenk et. al 1997). Apart from this, it has also intensified the world wide relations and increased global interdependence and compression of space and time through the development of new technologies. In such a scenario we will discuss how these developments have affected the trends in health and environment of the society.

Most of the studies relating to globalisation, health and environment carried out by economists and policy analysts who have worked in a new paradigm of international health (Cornia, 2001, Dollar, 2001, Feachem 2001). Few of them have argued that economic globalisation has improved health status of individual as well as the total population of a nation due to income rise (Dollar, Ibid). There is an increased poverty and inequalities both within and between communities. The changing natures of productive processes have direct and indirect effects on the health of the individuals and households. Goods are produced in places where it is more profitable which have major implications for the health and well being of the labour force and surrounding communities. The creation of employment due to such interventions pulled individuals with families from far and near resulting in new health risks as well as more income (Siqueira and Levenstein, 2000). Such new production centres have also negatively affected natural environment directly threatening the concept of human well being, including the issue of household of livelihood. Globalisation has resulted in liberalisation of trade and commerce across national boundaries. World Trade Organisation facilitated the policy processes for easy international agreements among the nations. Trade liberalisation can cause considerable harm both through the withholding of potentially beneficial products like therapeutic drugs and also through the promotions of products without due regard for the risks to the consumes (Houriet, 1998).

The movement of microbial traffic across the continents produces thousands of potentially infectious contacts. The Peruvian outbreak of cholera turned into a continental epidemic in a matter of days in the early 1990s (Frank et. al, 2012), Similarly, the Asian Tiger Mosquito, a potential vector for Dengu fever virus, was introduced into the US in the 1980s in a shipment of used tyres imported

from northern Asia (Hawley, 1987). New avenues for international collective action arises during 1990s to secure cheaper drugs for AIDs victims in poor countries yielded only modest results.

The pace of global spread of human infectious agents is unexpected. This is likely the result of two factors like (1) the extreme size and movement of human populations among regions of the World and (2) the habitant homogeneity that human hosts provide for infections agents (Smith, 2007). Factors responsible for the contemporary emerging infectious agents which have also contributed to globalisation and environmental changes, like the changes in the land use and agriculture practices, changes in the human demography, poor health status of the population, health institutions, contaminated food and water supply, international movements of population and climate change. Changes in the climate regime have the potential to multiply the vector-borne infection agents. For example, Dengue fever and Malaria are predicted to spread dramatically in the face of global warming, as high temperatures leads to higher rates of pathogen reproduction and time to maturity, as well as increased geographic ranges, proliferation, and bite frequency of the mosquito hosts (Epstein, 2000). Exclusion, inequality and insensitivity to local cultures are some of the facts explained the painful paradox of globalisation.

4.7 GLOBALISATION AND WOMEN'S HEALTH

Until now the impact of globalisation on the status of women's health has not been given due importance. The entire discourse on the impact of globalisation is male oriented. This has been criticised by feminists who have pointed out the gender bias and injustice in maintaining a gender balance. However, during last couple of years impact of globalisation on women's life and livelihood have been focused through relevant debates (Jeckson & Person, 1998, Marchand and Runyan, 2000 and Persan, 2000). Similarly, international organisations like UNDP and INGOs have begun to highlight the links between gender and globalisation with new collections of data measuring the progress of women over recent decades (U.N. 1999; 2000).

In everyday life both women and men often face similar challenges in life, in spite of fundamental differences between these two groups in terms of biological differences. The women's capacity for reproduction makes them vulnerable to a wide range of health problems due to imposed fertility, unsafe child birth and unwanted pregnancy. The attitudinal differences between males and females result in various patterns of health and illness, even in the same society.

In many parts of the world, poverty and insecurity influence women more than men, while individual's experience of poverty is more in a gendered manner, which have both direct and indirect implications for their health (Oxaal and Cook, 1998). We can say that women have a higher incidence of poverty than men. UN estimates of poverty for selected countries suggest that more women than men are in poverty in 12 out of 15 developing countries and in five out of eight developed countries (UNIFEM, 2000). Single motherhood and widowhood in many countries are associated with higher levels of poverty. This at one level reflects the discrimination in resources allocation in a family and society, which is largely determined by their culture. Such culturally accepted invisible discriminations between male and female push women to a deprivation net. A

World Bank study of the poor and women described the impact of household labour on their health. The effects of poverty on such women are both physical and psychological, because they struggle to eke out their living even within hostile environment. This results iron deficiency, anaemia, resulting in pregnancy related complicacies and infectious diseases.

We see that globalisation has impacted on the nature of production of goods and services which have specific impact on women with respect to their additional hours of work, and domestic labour pattern. Globalisation has created employment opportunities for women, as a result of which during the last two decades we find more women have joined the employment market. This has increased the work burden of women along with their child bearing and household work. But, globalisation could not bring change in the attitude of men towards household work sharing. The work opportunities for the women are more flexible, informal and the regulatory regimes became weak. As a result, women became easy victims due to lack of employee's union, provision of welfare packages and lack of continuity of employment for a sizeable period in life. Such situations are well observed in textile, glass, match, prawn, and electronic industries in many countries. Women's exposure to toxic substances has chronic effects on their health. Women are also exposed to occupational health hazards, both in household work and market work situations. The lungs disease due to the use of traditional fuel, long time invested in cooking and water carrying in household frontiers have also resulted in occupational hazards among women. Rural women are also highly exposed to chemicals and pesticides in their agriculture operation and day to day household work which have resulted chronic ill health for women.

In India forest resources are linked to the rural livelihood and, more particularly, to the life and living of rural women. Any loss in environmental resources like land and land based forest and water resources certainly affect women's work in terms of burdening their daily work for which they are giving more time and taking lot of pain to collect water and fuel wood from long distances is evident from both Indian and African situations. This directly affects the health status of women.

The increasing promotion and marketing of certain produces under globalisation regime have influenced the health status of women. This is well observed in case of pharmaceutical and tobacco industry which used women in production, demonstration and experimentations of the produces. Promotion of smoking with the help of women and experiments of certain low cost medicines and contraceptives sometime results in various health problems (Hardon, 1994, Mirza, 1999) to them.

During the last couple of decades, the sexual and reproductive rights of women have been highlighted. The UN conference in Cairo and Beijing (Stienstra, 2000) have formed the basis for policy making around the world. As a result, many countries are using more effective reproductive health care (Formen and Ghosh, 2000). The above discussion on the one hand is based on recognition of gender as a fundamental organizing principle in all areas of social and economic life of women.

4.8 APPLICATION OF MEDICAL ANTHROPOLOGY

Application of Medical Anthropology started since 1950s, when the health strategies started intervening, the plurality of health behaviour faced cultural protests. In his classic casebook 'Health, Culture and Community' Ben Paul (1955) highlighted the application of health research.

Anthropological principles and practices are applied to meet the multi cultural needs of the society in the areas of maternal and child health care, community responses to natural hazards, integration of HIV AIDS population with their main societies, managing the socio-psychological problem of refugees, riot victims, rural elders, drug addicts, ethnic minorities, etc. The political economy of health basically propounded, popularly known as Marxist theory/or dependency theory, analyses the impact of global economy on local and national health and suggests that any intervention of policy and practices should be in accordance with the understanding of social production of illness and poverty within the larger dynamics of class interactions, colonialism and world economic system.

Edward Wellim (1955) explained the reasons resulting limited success in persuading families to fail drinking water, which was to kill germs causing diarrhoea. The health department could not change the attitude and practices of women in this regard. Various factors like shortage of fuel wood, high degree of boiling and the belief that the patients only need to take boil water, etc., influenced the adoption of preparing boiling water at home.

Richard Adams (1955) while conducting a nutritional research in Guatemala found couple of factors with the villagers which made them to oust the health team from their village. The villagers felt that the health team was discriminating few households, propagating communist ideology, taking blood from people for test will weaken them, etc. Adam suggested that the community leaders of the village be invited to the laboratories to look into the process of blood test and sufficient educational programmes are needed to motivate the villagers.

Applied anthropologists contribute a lot in public health projects. Anthropologists basically reflect the local factors in the form of socio-cultural barriers, like practices, beliefs and the web of complex of relationships responsible for the success and / or failure of the programme. Considering its importance, anthropologists are involved in project implementation, midterm evaluation and impact assessments of the programme. As a result, the national and international health programmes are taking into account the role of local institutions. Such new emphasis demands broader inputs from the social sciences, specially the kind of research of household level that the anthropologists do.

4.9 SUMMARY

We saw that the relationship between health and environment is symbiotic by nature. The psycho-socio, socio-cultural and the physical factors influence a lot to determine the illness diagnosis methods and therapeutic behaviour of the people. Each society has a pattern of illness treatment institutions. We have seen that with the onset of globalisation one finds a lot of changes in the physical

environment which have enough impact on the socio-cultural, political and economic aspects of the people. This has also influenced the health status of the people, in general, and women, in particular. In this process one finds that the State has largely ignored the relevance of traditional health service institutions and imposed the State sponsored allopathic treatment system. Due to the State ownership over the service institutions there is a gap between the service providers and the people at large. Many empirical studies carried out across the globe in different time periods shows that medical pluralism exists in practice and still carries relevance in the field. In such a situation, we find the relevance of medical anthropology as quite significant when we look at the importance of cultural heritage in the face of human society. More integrated and interdependent studies and approaches are required to study the viability of the traditional health institutions, treatment methods and the ingredients, and the possible areas of convergence between the two systems.

4.10 REFERENCES

Alland, Alexander JR.1970. Adaptation in Cultural Evolution: An Approach to Medical Anthropology. New York: Columbia University Press.

AT Kearny Inc. 2001. Foreign Policy, Measuring Globalization. Foreign Policy Jan-Feb.

Bhasin V. 1989. Ecology, Culture and Change: Tribals of Sikkim Himalayas. New Delhi: Inter India Publications.

Bhasin V. 1997. "The Human Settlements and Health status in Sikkim", (pp.153-188), in K.C.Mohanta (ed), People of the Himalayas. Delhi: Kamalraj Enterprises.

Bhasin V. 2005. Medical Anthropology: Tribals of Rajasthan. Delhi: Kamalraj Enterprises

Boddy, Janice. 1989. Wombs and Alien Spirits: Women, Men and the Zars Cult in Northern Sudan. Madison: University of Wisconsin Press.

Cornia, G. 2001. Globalisation and health: results and options, Bulletin of the World Health Organisation, 79(9), pp 834-841.

Dollar, D. 2001. Is globalisation good for your health? Bulletin of the World Health Organisation, 79(9), Pp 827-833.

Epistein, P.R. 2000. Is global warming harmful to health? Scientific American, 8:36-43.

Feachem, R. 2001. Globalisation is good for your health, mostly, British Medical Journal, 323, pp 504-506.

Frenk J, Sepulveda J, Gomez-Dantes O, McGuinness MJ, Knaul F. 1997. The new world order and international health. BMJ 314:1404-7.

Forman, S and Ghosh, R. 2000. Promoting Reproductive Health: Investing in Health for Development. Boulder, CO: Lynne Reiner.

Foster, George M., and Barbara Gallatin Anderson. 1978. Medical Anthropology. New York: John Wiley and Sons.

Francine Saillant and Serge Genest. 2005. Anthropology medicale. Ancrageslocaux, defiesglobaux (Medical anthropology. Local roots, global challenges), Quebec: Les presses de Universite Laval, Ma, (in French).

Francine Saillant and Serge Genest. 2007. Medical anthropology: Regional perspectives and shared concerns, Maiden, Ma: Blackwell.

Good, Byron J. 1994. Medicine, Rationality and Experience: An Anthropological Perspective. Cambridge: Cambridge University Press.

Harden, A. 1994. The development of contraceptive technologies: a feminist critique. In: C Sweetman with K de Selincourt (eds), Population and Reproductive Rights. Oxford: Oxfam.

Harper, Janice. 2002. Endengered Species: Health, Illness, Death among Madagascar's people of the Forest. Durham, N.C.: Carolina University Press.

Harvey, D. 1989. The Conditions of Post-modernity. Oxford: Blackwell.

Hawley WA, Rtiter P, Copeland RW, Pumpini CB, Craig Jr GB. 1987. Aedesalbopictus in North America: probable introduction in used tyres from northern Asia. Science: 236: 1114-6.

Houriet, W. 1998. The Effects of International Trade Liberalisation on the Health of the Poorest Population Groups: Annotated Bibliography. Geneva: WHO Task Force on Health Economics.

Jackson, C and Pearson R (eds). 1998. Feminist Visions of Development. London: Routledge.

Lindenbaum, Shirley and Margaret lock. 1993. Knowledge, Power and Practice: The Anthropology of Medicines and Everyday life. Berkeley: University of California Press.

Marchand, M and Runyan, A. 2000. Introduction. In: M Marchand and ARunyan (eds), Gender and Global Restructuring: Sightings, Sites and Resistance. London: Routledge.

Mirza, Z. 1999. WHO/TRIPS, Pharmaceuticals and health: impacts and strategies, Development, 42(4), pp 92-97.

McElroy, A 1996, "Medical Anthropology" in D. Levmson and M. Ember, Encyclopedia of Cultural Anthropology. Henry Holt, New York

McElroy, A and P.K.Townsend. 1989. Medical Anthropology and ecological Perspective. 2nd Edition, Boulder, San Fransisco, London: Westview Press.

Morsy, S.A. 1993. Gender Sickness and Healing in Rural Egypt, Ethnography in Historical Context. San Fransisco: Westview press. Mueck, M.A.

Morsy, Soheir. 1996. Political Economy in Medical Anthropology. In Carolyn F Sergent. And Thomas M.Johoson, (eds), Medical Anthropology: Contemporary Theory and Method. Revised edition. New York: Praeger. Pp-21-40.

Oxaal, Z and Cook, S. 1998. Health and Poverty Gender Analysis: A Briefing Prepared for SIDA by Brighton: IDS.

Paul, B. (ed). 1955. Health, Culture and the Community: Case studies of Public reactions to health programs, New York: Russell Sage Foundation.

Scotch, Norman A. 1963. "Medical Anthropology". In Bernard J. Siegel, Biennial Review of Anthropology, 3, Stanford, California: Stanford University Press, pp. 30-68.

Siqueira, C and Levenstein, C. 2000. Dependent convergence: the importation of technological hazards by semi-peripheral countries, International Journal of Health Services, 30(4), pp 681-669.

Singer, Merrill et al. 1992. Why does Juan Garcia have a Drinking Problem? The perspective of Critical medical Anthropology, Medical Anthropology: 14:77-108.

Singer, Merrill, and Haans Baer. 1995. Critical Medical Anthropology. Amityville, NY: Baywood Publishing.

Stienstra, D. 2000. Dancing resistance from Rio to Beijing: Transnational organising and women's conferences. In, M. Marchand and A.Runyan (eds), Gender and Global Restructuring: Sightings, Sites and Resistances. London: Routledge.

Townsend, Patricia K., and Ann McAlroy. 1992. Toward an Ecology of Women's Reproductive Health. Medical Anthropology, 14:9-34.

UNIFEM. 2000. Progress of the World's Women 2000. New York: UNIFEM.

United Nations. 1999. World Survey on the Role of Women in Development: Globalisation, and Gender. NewYork: UN.

United Nations. 2000. The World's Women 2000: Trends and Statistics, Social Statistics and Indicators Series K no 16. New York: UN.

Wolf, Eric R. 1982. Europe and the People without History. Berkeley: University of California Press.

Suggested Reading

Ann McElroy and Patricia K. Townsend. 2004. *Medical Anthropology in Ecological Perspective*. (Fourth Edition). Westview.

Alland Alexander. 1970. *Adaptation in Cultural Evolution: An Approach to medical Anthropology*. New York: Columbia University Press.

Coreil, Jeannine and J Dannis Mull. (eds). 1990. *Anthropology and Primary Health Care*. Boulder Co: Westview Press.

VeenaDas. 1995. *Critical Events: Anthropological Perspective on Contemporary India*, Delhi: Oxford University press.

Bhasin V. 1989. *Ecology, Culture and Change: Tribals of Sikkim Himalayas.* New Delhi: Inter India Publications.

Bhasin V. 1990. Habitat, Habitation and Health: A Comparative study of the Peoples of Sikkim and Gaddis of Himachal Pradesh. Delhi: Kamalraj Enterprises.

Bhasin V. 2005. *Medical Anthropology: Tribals of Rajsthan*. Delhi: Kamalraj Enterprises.

World Health Organisation. 1993. Our Planet, Our Health: Report of the WHO Commission on Health and Environment. Delhi: Oxford University Press.

Yosodha, Shanmugasundaram. 1994. *Theory and Practice of Health Economics in India*. New Delhi: Allied Publishers Limited.

Sample Questions

1) What is medical anthropology? Describe various theories of medical anthropology.

2) Describe how globalisation has impacted the health status of human beings and particularly women's health.

3) Do you think that socio-cultural factors play crucial role in the illness diagnosis and health treatment among rural population of India?

4) Does disease perception and adaptation vary from community to community? Justify your answer based on empirical situations.

5) Describe various types of treatment methods being followed by different human societies.