Chapter 5

Development and its impact on biodiversity
5.1 Introduction

Nagas sensitivity around nature faced a serious challenge from a modern ideology of development that was based mostly on indiscriminate exploitation of nature for the supposed good of the humankind. Unfortunately that humankind does not include the local people. The result is their large scale destruction of biodiversity, environment, land alienation and displacement etc.

Till the early 19th century, Nagas were more or less confined to their territory, holding on to their traditional culture, ethos and values. Thus, their contact with the outside world was minimal and the modern notion of development was alien to them until the British came and colonized part of Naga territory. The advent of Christianity and the shifting of the British headquarters to Kohima proved to be a decisive factor in exposing the Nagas to the outside world. Further, the World Wars I and II during which the British imposed conscription of abled Nagas as boarders and fighters, some of those who sailed to Europe and other parts of the world were particularly significant as it has created political consciousness among the Nagas leaving long and lasting political implications. The process, thus started continues unabated even today.

Today, the traditional communal land practices of the Naga people are being greatly undermined by various developmental projects. Increasingly large areas of communal land are taken over by governmental as well as by private agencies. Today we see thousands of acres of land being acquired by the government through the transfer of administrative centers, for the purpose of administrative circles, establishment of government offices, institutions, parks, roads and for other developmental purposes.
As such, since the formation of statehood, various developmental activities have been taking place in one form or the other. During the last 50 years of statehood, the government has created 93 administrative circles, 52 blocks, 12033 km of road length have been laid (837 km in 1962-63) providing connectivity to 89.14% of officially recognized villages: 1010 villages (82.45%) have been provided water supply; 29 MW of electricity are produced and 1216 villages have been electrified (only 6 villages had electricity in 1962-63); and the literacy percentage has climbed from 7.91% in 1962-63 to 78.8% in 2011, which is better than the national average.

The above statistics depicts of a well developed Nagaland, however the truth is all the above data’s are basically in black and white and most of them are yet to be properly implemented. It is true that the growth and progress of a nation, country or region is largely attributed to the various developmental activities taking place in that particular place. However, development if and when done without proper planning can be hazardous to the people and environment which in turn bear a negative impact in the growth and development of nation.

Of late, modernization, capitalism, individualism along with development is penetrating every sphere of life of the Nagas which is directly affecting the landholding and land use pattern among the Nagas. There is a fragmentation of communal land, clan and family land into private/individual land. Land, far from being a source of identity and communal solidarity in the past is now perceived merely as a source of wealth for many Nagas. The once rich and strong cultural ethos, values and the rich traditional knowledge of the Nagas are severely threatened today.
5.2 Development and problems of biodiversity conservation in Nagaland

Development is the key to progress of a Nation, Country or a Region. With this objective, the department of Industries and Commerce in Nagaland had been making all round efforts to encourage/ set up various Small Scale & Cottage industries, Medium-Sized industries and Large Scale industries. However, the productivity of especially the latter two had been very disappointing.

The mission of the Industrial policy of Nagaland-2000 (revised in 2004), states, ‘to facilitate rapid and sustained industrial development in the state through enhanced investment, an investor friendly environment, provision of infrastructure and institutional support, attractive incentive package and optimum utilization of existing resources in order to gainfully exploit emerging opportunities in the national and international markets and generate substantial income and employment for the people of Nagaland’.

Thus, the model of development pursued by the State Government calls for diversion of land, for road building, mining, industrial establishments, Hydro-Dams, etc with little or no focus on the rights of the local people, the environment and biodiversity of the state.

It appears that in the backdrop of the ongoing process of modernization, liberalization and privatization, the state of Nagaland without in-depth perusal and consideration of the local realities, threw open the door to foreign investors, which will have far reaching consequences on the people’s rights over land and resources (Jamir, 2012).

Under the ‘Vision of Nagaland 2020’ massive developmental projects have been initiated by the government of Nagaland. Under this concept, the government has been acquiring land throughout the state. Some of the recent acquisitions by the government of Nagaland
include Chiethu Airport (Kohima district), where out of the total requirement of 746 acres, 650 acres of land have already been clearly demarcated. Almost 70 percent of the total land belongs to the community of Chiechama village and the remaining 30 percent belongs to private individuals. The worst part is that this project has been cancelled with the excuse that the place is not suitable enough for an airport and has been shifted to Razuphema village under Peren district.

Besides, the acquisition of Deputy Commissioner Office complex, Chumukedima with a total area of 64.30 ha, New Deputy Commissioner Office Peren, the proposal of a Hydro-Dam under Longleng and Mon district which will be at the cost of several villages, proposal of Nagaland Special Development Zone (NSDZ) etc are some of the recent developmental proposals made by the government of Nagaland.

Further, many traditional villages are being converted into model villages such as tourist destination- Touphema, Naga heritage village- Kisama, Mount Pauna Village- circuit tourism, Zhavame – Vegetable Village, Mon- Large Cardamom district, Molvom – Pineapple Bowl of Nagaland, Green village- Khonoma, Tanamir- Apple Village etc. Thus, villagers are destroying their traditional forest and land to plant more of their associated horticultural crop, vegetables, tree etc which are all mono-centered with no diversity.

In 2007 under the prime minister’s initiatives, the Government of India accorded approval for setting up of 2 Special Economic Zones (SEZ) in Nagaland. Out of these two multi- product Special Economic Zones promoted by a private company acquired over 400 hectares on the outskirts of Dimapur for modern township recreation and
manufacturing purposes. Secondly, an agro food processing SEZ is earmarked as an export for promoting industrial park with 125 acres of land already acquired by the Government. The Nagaland Industrial Development Corporation (NIDC) acquired estates covering a total area of 40 acres with 25 acres already built with standard factory sheds and area for a small industrial plot at Dimapur.

Nagaland Pulp & Paper Company Ltd. (NPPC) popularly known as Tuli Paper Mill was established in 1971. Located nearby Tuli town, it lies by the National Highway - 61 and is 21 kms from Amguri town in Assam. The area in and around its vicinity is known as Tzudikong or Tuli Paper Mill township.

NPPC entered into an agreement for lease of land at Tuli measuring 697.98 acres for 99 years w.e.f. 01.03.1972 with the Government of Nagaland. In the said agreement, the lease rent was fixed at an agreed rate of Rs.2000/acre/annum (Annual Report - 42, 2012-2013). However, not only is the lease rate too less but though the land is being used by the company since 1972, lease deed has not been executed till date. The report further states that, non-provisioning of the same has resulted in understatement of both short term provision and loss for the year by Rs.558.38 lakhs (Rs. 2000 x 697.98 acres x 40 years).

The reason for non-payment of the lease rent is attributed to the fact that, “NPPC was a non-starter since its inception and the production got suspended in the year 1992. Since the production activity at NPPC is suspended and there was no demand from the state government, the lease rent has neither been paid, nor been provided for”.

Today the people of the region have been given a new hope with the scope of Revival and Up-gradation Plan of NPPC already being approved by Cabinet Committee on Economic Affairs (CCEA) on 04-06-2013. However, the report astonishingly states, “Since GoN is also keen for the project and have assured certain supports for smooth implementation of the project, NPPC will seek exemption for payment of lease rent after obtaining clearances from the BIFR”.

The irony is that, the company which has failed to pay their lease rent over the past 42 years is seeking exemption of the same without even paying a single paisa.

Thus, it is evident that the company in collaboration with the State Government has lured the villagers with promises of better economic gains from their land. The innocent and ignorant villagers on the other hand have willingly leased out their traditional land and forest with the hope of better livelihood but in return they got nothing and are yet benefit from the company.

The Nagaland Forest Products, Tizit/Nagaland Plywood industry, Tizit, and Nagaland Sugar Mills Co Ltd, Dimapur also bear the same consequences. Where local people have donated large tracts of land hoping for a better livelihood but in return they are miserably victimized. Sadly, today both these industries are non-functioning or can be called “Dead Industries” of Nagaland.

Besides, the performances of Nagaland Mechanised Bricks Co Ltd, Dimapur, Nagaland Distillery Ltd, Dimapur; Nagaland Fruit Canning Factory, Longnak in Mokokchung district and others are all very disappointing, The Urban Haut constructions located by
the side of the old Dhansiri Bridge, Dimapur which was developed under the Centrally Sponsored Scheme is lying in waste.

All these industries which started with lots of promises and assurance of better economy to the people of Nagaland, have sadly failed miserably. Yet the worst lies not in the failure of these industries to function but the worse lies in the fact that these industries have damaged vast acres of land into non-cultivable land. Not only has it destroyed the biodiversity and the environment of the particular region, but it has taken away the cultural rights and their only source of livelihood from the people of these regions. The impact of these industries on the people, environment and biodiversity is immense. Land which is considered sacred and in which lays the identity of people has been taken away.

Besides the fact that they have lost the land, there are other environmental consequences with multi-dimensional implications on health, cropping pattern, weather conditions, biodiversity etc. Some of the environmental consequences include undesirable modification of the landscape, changes in the surface and underground drainage, decline in quality and quantity of vegetation cover, degradation of downstream rivers due to massive erosion and slit run-off.

5.2.1 Impact created by Hydro-Dams on Biodiversity and cultural lives of the people

For the developing agencies, North East India is considered to be the future power house of India. Nagaland, with a potential of more than 2000 MW in Hydel power generation has been the target of many agencies and corporations including multinationals. 75 MW Doyang Hydel Electric Project (DHEP), 24 MW Likhimro HEP and 24 MW Thermal
Power Station at Chumukedima are some notable projects that take away a large percentage of land from the local community.

For instance, the 75 MW Doyang HEP is a project commissioned in 2000 by the Government of Nagaland in collaboration with the North East Electric Power Corporation Ltd (NEEPCO). The MOU between the Government of Nagaland and NEEPCO for DHEP was signed for 99 years. The total catchment area of the DHEP is 2,60,600 ha which falls entirely within the community lands. For the state government the Doyang HEP is often referred as the ‘Pride of Nagaland’, but for the affected community of people, the totality of the consequences is grave.

There are 22 villages falling within the perimeter of the immediate catchment area, with 11 villages most seriously affected. Considerable areas of fertile agricultural land and pristine forest have already been submerged. Out of the total catchment area of the DHEP, forests accounts for 521.20 ha, terrace fields 125.42 ha, orchards 30.12 ha, non-agricultural land 255.40 ha and area under jhum cultivation accounts for 1,673.81 hectares. The most astonishing part of the 1992 MOU is clause 1.5 which says, ‘The government of Nagaland accepts the position that NEEPCO will not be burdened with any additional cost to the project for economic rehabilitation of the affected land owners’

Besides, the impact of the Dam on the remaining cultivable land is also a thing left to be addressed. As an unhappy villager lamented, “we used to harvest 35 – 45 tins of rice per acre, but now we get only 20 – 25 tins of rice in the same plot after construction of the dam”. Another villager states, “since the inception of the dam, weather has become warmer and there are dizziness and sickness have become more prevalent”.
Thus, the simple and ignorant villagers were made to part with their precious land for development, lured with promises of a better life and future. But today, the harsh reality is that many of the villagers have lost their best cultivable land, their orchards and forests. With the monetary compensation they got from the NEEPCO, some villagers have migrated to urban centers like Kohima and Dimapur with hopes of a better future, but except for a few, the urban centers in fact cannot offer them a decent living as they have no jobs or security. And the worst irony of all, ostensibly for development (electricity), is that many of their houses still remain without electricity connectivity and the only lights they see at night “are the reflections in the Dam reservoir” (Longkumer, 2012).

5.2.2 Biodiversity loss due to Mining and Stone Quarrying

Coal mining is emerging as a profitable business in Nagaland. The state Government is still in the process of exploration and in the initial stage of dealing with the prospecting companies. However outside the ambit of government regulations, private and small firm extraction has been going on in many areas for a decade or so. Since many of these mines are located in private lands, the state government is unable to regulate and monitor them.

Mining is carried out in Changki, Anaki and Tuli in Mokokchung district: Namsang in Longleng district and Tiru in Mon district. In Namsang, extraction of coal started since 2004 within a parameter of 5 sq. kms. Many of these mining operations are carried out in the jhumland where within the stipulated lease period, the contractors or the agency tries to maximize their profit by mining as much as they can. The mine-waste are dumped on the agricultural land thereby exposing the sulphurous coal dust creating both health and environmental hazards in the area. These wastes are being carried downstream by the rain
water destroying the entire environment in the slopes and aquatic life in the rivers. Villagers of Anaki village-C in Mokokchung District claims that the rivers in their village are polluted and do not have any aquatic diversity owing to contamination of water by mineral waste discharged from coal mines in the area.

Besides, with no competent authority or department to monitor the coal mining till date, the most unplanned and unscientific Rat Hole mining practice continues in Nagaland causing a high health risk for the miners as they are not properly equipped for scientific mining and at the same time disrupting the surrounding environment to a great extent. This unabated and regulated money-oriented business is fast creating a trend where large tracts of land are concentrated in the hands of a few. Affluent people with money like politicians, bureaucrats and rich individuals are acquiring large tracts of land from both individuals and communities, while many lands are leased for a specified period of years.

Stone quarrying is another emerging trend in Nagaland which seriously threatens the biodiversity and environment of the region and is found in small pockets in entire Nagaland. This practice is supposed to be another economic venture among the Nagas and is fast becoming a business oriented enterprise where large tracts of hilltops are removed for the sake of quarrying. However, due to its unscientific approach, it has vast impact on the environment. One common feature of stone quarrying in Nagaland is that, they are done just adjacent to the road side. Thereby affecting not just the biodiversity and environment but damages the road condition to a large extent.
5.2.3 Mono-culture and its impact on biodiversity

A number of environmental and social organizations have declared September 21st: “International Day against Monoculture Tree Plantations” to highlight the social upheaval and environmental degradation including impacts on global biodiversity and climate change wrought by industrial plantations.

The introduction of monoculture crops/plants by the State Government and individuals in the name of economic development is another factor contributing largely to the decline of biodiversity in the state. The concept which is alien to the Naga people is fast becoming a trend especially among the affluent people like the politicians, bureaucrats and rich individuals who are acquiring large tracts of land from both individuals and communities.

Following are some of the negative impacts of monoculture tree plantations:

1. Depletion of water sources due to changes in the hydrological cycle
2. Deterioration of rivers and streams
3. Air and water pollution due to the use of pesticides and other agrochemicals
4. Deterioration of cultural diversity and
5. Deterioration of biodiversity

Of late, the emerging trend among the Nagas is for the affluent class to buy huge plots of land, not for the sake of livelihood, but for the purpose of profitable investment such as tree plantation, for commercial use, cash crop farming etc. Such instances are more visible in Dimapur areas where rich Nagas have been buying hundreds of acres, particularly from Kacharis, leaving them almost on the verge of becoming landless tribes in Nagaland and Assam (Longkumer, 2012). Plants such as Teak, Rubber, Kokon and
many others are taking the place of the once rich forest vegetation in many places. Of late, practice of tea and rubber plantation is widespread thereby converting the traditional forest land to tea and rubber plantation sites.

Large acres of land along the Japukong and Ongpangkong range, under Mokokchung District; Tizit area under Mon District; Jalukie area under Peren District etc are extensively under Rubber plantation. Given the fact that rubber plantation is a very recent concept in the state, the area that these crop covers is very astonishing.

Again, vast acres of land along the border of Mon district, is under Kokon (Duabanga grandiflora) and Melia dubia cultivation, under the initiatives of Green Plywood Industry (a private firm). This plantation is done solely for personal economic benefits.

In the year 2013-2014 alone, they have distributed more than 2 lakhs sapling of kokon and Melia dubia in the district. Further, according to their report 440 plants are planted in 1 acre of land. Thus, we can roughly estimate that in 2013-14 kokon and Melia dubia plantation alone has acquired 454.54 acres of land under Mon district.

Besides these trees, in the lower plains of Mon district bordering Assam, large areas of forest are replaced by Tea cultivation. Few villagers have even leased out their land to their Assamese counterpart for a period of 10-15 years without any benefit and in return after completion of the leased period the plantation is given to the owner.

Thus, the ignorant villagers are clearing their traditional forest and planting these trees with the hope of getting better economic gains from their land not realizing the environmental and social and cultural impact that is being caused by such policies.
The introduction of various horticultural crops under the directives of the Department of Horticulture, Government of Nagaland, for economic gain adds to the problem. For instance, under the 10th and 11th Five Year plan, 2012-2014, the department has initiated plantation of various horticultural crops such as citrus, Passion fruit, pineapple, banana, vegetables, ginger, turmeric, large cardamom and naga chillie, covering a total area of 52759 ha. Further, the Department during 2013-2014 has undertaken area expansion of a total of 2082 Ha. Of major focused crops in all the districts (Annual Administrative Report, 2013-2014)

Thus, large tracts of traditional lands/forest are being converted to horti-land/farm etc. Those land/forest which were once considered sacred, revered and respected are destroyed under the notion of development and promise of better economic gains to the people.

The irony of all is that, hardly a handful of people are benefited through these government initiatives. An unhappy villager for Longsa village under Mokokchung district lamented, “We were asked to cultivate turmeric in place of jhum and accordingly we invested many acres of land for turmeric. But the government rejected our products saying it is not of good quality”. Further he says, “we have used the best available land for turmeric and various other crops but the money we generate out of it is too less”.

Similarly, a villager from Phek district said, “we have cabbage all around; nobody buys cabbage during season, not even at Rs. 3 per kg. We can’t take it outside because we don’t have money to hire vehicles. We use to feed it to the pigs during season”.
The various departments while working for a socially and economically sound Naga society have sadly failed to evaluate and assess the social, cultural and environmental impact on the state and have miserably failed to value and respect the aged old traditional land/forest.

The drawback of monoculture and other economic plantations is that, it does not necessitate the growth of biodiversity within the area. From economic point of view it might be reasonable, but from environment point, this monoculture is very destructive and in the long run it will rather bring hazardous impact on the region.

5.2.4 Militarization and its impact on biodiversity

Another serious factor that is affecting the biodiversity in the form of development activity is the presence and expansion of military and armed forces headquarters in the state. Along with developmental activities, militarization and expansion of armed police forces under the central and state policy has contributed largely to loss of large tracts of community or village land/forests which in turn have affected the biodiversity to a great extend.

Destruction of biodiversity in Nagaland through military forces was at its peak between 1960’s and 1980’s when Indo-Naga conflict was at its crest. During these years, there were hardly any traditional Naga village which had not experienced the brunt of the military force through burning of villages, forest and jhumland by the ‘security forces’/Indian army.

This fact is borne out by historical facts which shows that just between 1955-1964, 190 villages were burned down to ashes in the Sema region; 60 out of 64 villages in
Chakesang region were razed to ground; and in the Ao region 49 villages out of total 56 were burnt totally (Iralu, 2000). Besides, regular clearance of forest of considerable areas was made mandatory in many strategic places to prevent roadside ambush by the Naga insurgents.

Thus, many of the traditional primary forest/biodiversity in the state was mercilessly destroyed beyond restoration by the paramilitary forces in the name of security reasons during this period.

At present, these armed forces under various names such as “Operation Good Samaritan”, “Friends of the Hill People”, and “Sathi Laga Force” (Friendly force), through its Army Developmental Group (ADG) 1995 programmes and Military Civic Action (MCA), continues to acquire large tracts of land for building schools, public halls, parks etc. in the state.

The presence of paramilitary forces can be found in all the districts occupying large acres of land which were all once covered with rich vegetation. On the pretext of maintaining ‘law and order’, such military camps have being set up after clearing large tracts of forests.

For instance, the thick forest cover near Mokokchung compound paved the way for setting up a military camp for Central Reserve Police Force (CRPF), and is presently occupied by the Nagaland Police. The Army cantonments in Rangapahar as well as in Chisami which have set up Golf Courses for their pleasure have largely degraded the forest cover of the region. Besides, the state has approved the renewal of land lease
measuring 1,180.2 acres to Rangapahar military cantonment, Dimapur at its cabinet meeting on 13\textsuperscript{th} June 2008.

Further, almost as a rule, the military always occupy the most prime location in all the town’s and village’s hence acquiring valuable traditional community land. Likewise, large pristine areas of lands have been acquired by the Nagaland Armed Police in Aboi, Peren and Zadima and by the Assam Rifles and Central Reserve Police Force (CRPF) in all the districts.

Thus, militarization in the state not only has destroyed the biodiversity in the state to a large degree, but also exhibits the extent to which community land has been alienated and thereby has deprived the Naga indigenous people of their land. Besides, it has also created a war-like environment, inciting fear psychosis in the mind and heart of the people by their presence in all the districts.

**5.3 Environment-Development interface**

With the ever increase in population over the years coupled with enhanced consumption and rising level of economic activities, tremendous pressure has been added to the environment all over the world. Environmental impacts as a result of the various developmental activities such as thermal or hydro-power generation, mining, setting up of large or small scale industries etc manifest themselves with one or more environmental problems.

For instance, mining has led to serious environmental problems like water pollution, dead of aquatic organisms, land subsidence, species extinction, habitat destruction etc. Again, the use of unplanned and intensive agricultural chemicals leads to deterioration in food
quality resulting in serious health hazards and environment sustainability. Besides, the introduction of Green Revolution in India has been accompanied by over exploitation of natural resources and excessive usage of fertilizers and pesticides.

Chauhan has rightly stated that after so many decade of development, poverty remains widespread and in our country perhaps development has resulted in the disruption of traditional economic and social systems. Truly, almost all the developmental activities in Nagaland have become a threat to the cultural, social and biological diversity of the state. Thus, there is a need to interlink the two systems i.e. environment and development.

It is important to realize that the natural and environmental resources like soil, forest, mines, water, air etc are the basis of all economic and developmental activities. In fact, the productivity of an economic system depends on the supply and quality of its natural resources to a large extend. Thus, nature or environment must not be considered as just another sector of development. Rather, it should be treated as the guiding principle to every form of developmental plans and programmes.

The concept of “sustainable development” is the primary requisite that needs to be advocated throughout the state at present. Sustainable development attempts to strike a balance between the requirements of economic development and the need for protection of the environment. It seeks to combine the elements of economic efficiency, inter-generational equity, social concerns, biodiversity and environment protection (Ganesamurthy, 2011).

Mega developmental projects with least concern for sustainability and conservation coupled with urbanization and demographic expansion have led to overexploitation of
environment in the state. Thus, there is an urgent need to adopt sustainable developmental measures, strategies and policies in the state to meet the cultural and social needs of the people on one hand and to conserve the biodiversity on the other.

Besides, the following principles need to be adopted while following the path of development:

1. Development must grow from within and not shaped by outside influences
2. It must provide the basic necessities of life with safe living conditions
3. It must foster local resource control and empowerment
4. It must encourage participation from both the privileged and underprivileged sections of society
5. Local peoples knowledge on the environment needs to be studied and considered
Plate 5.1 Present scenario of Tizit Plywood Factory

Plate 5.2 Logging in Mon
Plate 5.3 Betel-nut plantation in Mokokchung

Plate 5.4 Lands submerged in Doyang Dam
Plate 5.5 Stone quarrying at Wokha

Plate 5.6 Unplanned Road construction in Longleng

Plate 5.7 Rubber Plantation in Mon
5.4 Modern acts and laws and its implications on biodiversity in Nagaland

Off late, there is an increasing recognition of the importance of the conservation of Biological Diversity, not only among the researchers but also among the policy makers at local, national and international levels. With the increase in the use of biological resources by the ever expanding human populations as well as the State, there is an alarming destruction of global Biodiversity that is threatening the very bases of human development and survival. Throughout a large part of the modern world, national governments and national conservation organizations play a leading role in the protection of all levels of biological diversity (Saterson, 2001).

Thus, many acts and laws, legislations, treaties and conventions are signed and imposed at the national and international level to ensure total protection and conservation of biological diversity establishing national parks, regulating activities such as fishing, hunting, logging, limiting air and water pollution etc. all around the globe. The effectiveness with which these laws are enforced shows a nation’s determination to protect, preserve and conserve its biological diversity.

International bodies such as the United Nations Environment Programme (UNEP), Food and Agriculture Organization (FAO), Convention on International Trade in Endangered Species (CITIES), International Union for the Conservation of Nature (IUCN), World Wildlife Fun (WWF), and World Conservation Union etc. encourages and influences the protection of biodiversity all around the world. For instance, CITIES has notably succeeded in influencing and banning ivory trade which was causing severe decline in the African elephant Populations (Ginsberg, 2002). Besides, countries can also establish Red
Data Books of endangered species, which are national versions of the international Red lists prepared by the IUCN.

While efforts are made to strengthen these organizations and thereby protect the world’s Biodiversity, there are certain drawbacks and weaknesses of these international and national organizations/treaties/conventions etc. One major weakness is that they operate through consensus, so strong and necessary measures are often not adopted if few countries are opposed to the measures.

DiMento (2003), in Conservation Biology draws that, “Any Nations participation is voluntary and countries can ignore these conventions and pursue their own interests when they find the conditions of compliance too difficult”. A further problem is that many conventions are underfunded and consequently ineffective in achieving their goals. And the worst of all is that there is frequently no mechanism of monitoring to determine if countries are even enforcing the treaties (Conservation Biology, 2011).

In India, Kautilya is said to have written a treatise on forest regulations of India, as early as 300 B.C. However, legislations on conserving biodiversity were not enacted until the British colonized South Asia. Until three to four centuries ago, forested areas remained largely under the control of indigenous groups, with rulers exercising control over agricultural plains and valleys (Singh, 1998). Today, there is a separate legislation for forests, wildlife and other environmental good and services in India. Recently, with the passage of the Biological Act in India, the legislation has covered biodiversity as a whole.

At the highest level, the Constitution of India contains specific provisions for biodiversity conservation (articulated in the Directive principles of State Policy) and (51 – A. g.) and
Fundamental Duties (51.A). Numerous other acts, laws, rules, circulars and orders have been passed taking into account governmental and civil society concerns. Notable legislations towards biodiversity protection were initiated with the Forest Policy Act (1865), Indian Wildlife (Protection) Act (1972), Environment Protection Act (1986), Coastal Regulation Zone Notification (1991) and the Ocean Regulation Zone Classification (1997).

Further, the Biodiversity Act (2000) empowers the central government to list threatened species and to undertake rehabilitatory measures. Recently, government and non-governmental organizations have collaborated to draft the National Biodiversity Strategy and Action plan.

5.4.1 National Forest Policy and it’s implications on Biodiversity Conservation in Nagaland

The Government Forest Act of 1865 established the Indian Forest Service to conserve and manage the then vast forests of the subcontinent, covering areas that now compose the modern nations of Bangladesh, India and Pakistan. This Act of 1865 was followed by the 1878 Act providing more powers to the Indian Forest Service to gain greater control over forest resources. With these, the state started to expropriate more land to bring it under scientific management and conservation. Forests under the control of local communities were included under reserve forests and access of the communities to forest ecosystems was severely curtailed (Conservation Biology, 2011).

In 1952 Forest Policy was oriented towards both conservation and extensive use of forest resources. Under this policy, India was to maintain a third of its area under forests, on the
other hand it gave primacy to the needs of the industry and to timber as a sources of revenue. Conversion of native forests containing inferior species into plantations of timber yielding trees was encouraged through this policy. Hence, the period between 1950-1980 experienced large-scale conversions of natural forests into plantations of commercial, often exotic, species occurred.

The 1952 Forest Policy further reduced the access of local communities to forest resources. The Indian Forest Service severely limited the traditional rights of people living in and round forests. Consequently, the traditional management practices continued to erode.

The large scale deforestation however continued despite of the policies adopted, hence in order to curb the country’s dwindling forest resources, India’s Supreme Court, on 12\textsuperscript{th} December 1996, prohibited the Forest Department from harvesting wood in non-plan areas. In addition, the court banned the shipment of logs from India’s northeastern states where most forest resources are located. Further, in 1997, the court ordered closure of all unlicensed saw mills and wood processing plants and in 1988 the National Forest Policy was adopted to further strengthen conservation and to involve local communities in the management of forests. Under this new policy, the involvement of indigenous people and women in the conservation and management of forests was to be the key element.

Lately, the appointment of National Forest Commission (2003), National Environment Policy (2006) and subsequently, the Eleventh Five Year Plan (2007-2013) that stressed on “inclusive growth” encompassing environmental sustainability, agricultural
revitalization and rural development are all efforts made by the Government of India for protecting and conserving the biodiversity of the country.

Before the 1988 National Forest Policy, the role of indigenous communities in biodiversity protection and conservation was always undermined or went unnoticed. Thus, on 1 \textsuperscript{st} June, 1990, the Government of India passed a historic resolution that recognized the rights and role of Indigenous groups in managing forest biodiversity (Conservation Biology, 2011). Later, The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 was passed by the parliament with the aim of recognizing the traditional rights held by forest dwelling communities over access to forest good and occupation in forests lands. However, the implication of this act created controversy as this law failed to encourage the participation and rights of indigenous people who already were living inside the forests since time immemorial. This stalemate still continues and opinion is divided over this act.

India participates in many international acts and laws concerned with the aspect of protecting and conserving biodiversity. These range from legal instruments to various programmes and agreements both at the national and international level. The most important being “Convention on Biological Diversity” (CBD), which plays obligations on those nations which become contracting parties, to scientific programmes such as the UNESCO Man and the Biosphere Programme.

Besides, India is also a part of the World Heritage Convention, Ramsar (Wetlands) Convention, Convention on Migratory Species and Convention on International Trade in Endangered Species (CITES).
The concerns over the indiscriminate exploitation of biodiversity, due to the increasing demand for the biological resources and the problem of possible misappropriation *inter alia*, have led to the adoption of Convention of Biological Diversity (Valuation of Biodiversity-2).

The convention of Biological Diversity, which was signed by 171 countries including India, during Rio and thereafter, has entered into force with effect from 29th December, 1993. The main objectives of CBD are:

a) Conservation of biological diversity

b) Sustainable use of its components

c) Fair and equitable sharing of benefits

CBD expressly calls for the rights of recognition of indigenous and local communities in conserving the biodiversity and in protecting the traditional knowledge associated with genetic resources.

To safeguard the salient provisions of the CBD, India has set up the National Biodiversity Authority (NBA), in 2003. NBA incorporates a three-tiered structure comprising State Biodiversities Authorities and Biodiversity Management Committees at local level. Although the logical framework of this structure is sound since it includes central, state and local governance, its practical implementation is a serious challenge in the context that India is a vast country with diverse cultural and social values and that application of acts and laws will differ from state to state.
5.3.2 United Nations Convention on Biological Diversity and the Nagas

The historic United Nations Conference on Environment and Development (UNCED) Summit held at Rio de Janeiro, Brazil, in June 1992, adopted the Convention on Biological Diversity (CBD). Consequently, India has ratified the Convention on 18th February, 1994 and thus it has come into force for India from 19th May 1994, 90 days after the ratification. As stated above, the main objectives of CBD include conservation of biological diversity, sustainable use of its components and fair and equitable sharing of benefits arising from the utilization of genetic resources.

Nagas are a group of indigenous people who depend on biodiversity for their socio-cultural, religious and economic development and for their very existence. Therefore, the Article 8 (j) of the CBD which states, “Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of benefits rising from the utilization of such knowledge, innovations and practices”, could be of great help and necessity in protecting and utilizing its biodiversity.

The CBD could be a great contribution to the Nagas from the point of its recognition to:-

a) The intrinsic value of biodiversity

b) The fundamental requirements of in situ conservation of ecosystem and natural habitats

c) The supporting role of ex situ measures
d) The vital role of local communities and women in the conservation and sustainable use of biological diversity

e) The desirability of sharing equitably the benefits arising from the use of traditional knowledge, skills, innovations and practices

f) The importance of and the need to promote regional and global conservation for conservation and

g) The requirement of sustainable investments to conserve biological diversity.

Besides, the CBD recognizes that the indigenous community have close links to their biological resources, which is further affirmed in the paragraph 12 and article 10 (c) (protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements), paragraph 13 (role of women in biodiversity conservation). Further, Article 8 J of the CBD could be of great prospect to the people of Nagaland as it recognizes the importance of indigenous peoples and their knowledge on conservation and sustainable use of biological resources. The key provisions of Article 8 (J) are;

1. The traditional knowledge of Indigenous peoples be respected, preserved and maintained

2. That the use of such knowledge should be promoted for wider application with the approval and involvement of the holders of such knowledge and

3. That they should equitably share in the benefits which arise from the use of their knowledge (Nagoya Protocol).
Today, almost all the developmental activities in Nagaland overlook the above mentioned key provisions of Article 8 (J). Mining, deforestation, dams and other agents threatens the traditional knowledge and practices of Nagas. They are deprived of their contact with nature, culture and other social activities. People displaced are yet to be rehabilitated.

While acknowledging and appreciating the constant effort of CBD on protection, preservation, respect and equitable sharing of benefits of traditional knowledge and practices of indigenous people, it has its own share of limitations and disadvantages. For instance, the starting phrase of Article 8 (J) which states, “subject to its national legislation” negates the indigenous Naga people decision and participation. The state is given the absolute power and hence there is no assurance of the local people in cultural and biodiversity conservation. This drawback is reflected from the fact that almost all the decisions for constructing dams, power houses, national parks, wildlife sanctuary, factories etc are all made by bureaucrats or Govt. Gazettes only. As such, many of the information’s are not disseminated properly to the local people leading to rise in conflict and misunderstandings and ultimately the local people end up being victimized and exploited.

Further, the article does not adequately reflect on the preservation of the social, spiritual and language diversity of Nagas (indigenous peoples) which plays an important role in the conservation of biodiversity. It also lacks in recognizing the significant relationship between Nagas and their Land. The survival of culture, language, religion, forest, biodiversity etc depends on their land. Hence, CBD and other acts and polices should ensure the control of the Nagas over their land to affect the protection of their environment and enhancement of their biodiversity. Again, there is no mechanism to
ensure that the policies are implemented and acted upon, whether at local, national or international levels.

Thus, in this present context, CBD if implemented strongly in the state will rather lead the people to confusion and victimization. Therefore, there is an urgent need to ensure that certain mechanism are adopted along with the CBD guaranteeing that the rights of the indigenous Naga people’s rights over their land and bio-resources are not exploited.

The United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP) is now the key defining reference document guiding engagements with Indigenous Peoples. The UNDRIP was initiated in 1982 by a Working Group on Indigenous Population within the UN Economic and Social Council, and UNDRIP was ratified 25 years later by the UN, in 2007. UNDRIP addresses the issues that face historically-marginalized Indigenous Peoples by confirming their rights to self-determination and human rights, with freedom from racial discrimination, forced assimilation and forced relocation, and supporting their freedom to their own decision-making mechanisms, cultural heritage, language, religion, cultural diversity, education, and identity, as well as their rights to resources and land, traditional knowledge, land use planning, and gender equality among the key rights, that nations and others have obligations to recognize and support.

The relationship between Nagas and biodiversity are as old as themselves and any effort to conserve and sustainable use of its components must take into account the consideration between their culture and biological resources. However, modernity and the process of development with sophisticated and wide ranging body of knowledge have
adversely affected this relationship. Today, as a result, not only the genes, species and ecosystem are lost but it is destroying even the social and cultural diversity of the people.

Thus, there is the need to carefully analyze all the existing forest acts, laws and policies before implementing at the grass root level.