STUDY OF THE STATUS AND PROBLEMS OF TEACHING OF ENVIRONMENTAL STUDIES AT PRIMARY SCHOOL LEVEL IN NAGALAND

THESIS SUBMITTED FOR THE
DEGREE OF
DOCTOR OF PHILOSOPHY

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NAGALAND
2002

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CERTIFICATE:

This is to certify that the thesis entitled A SATUDY OF THE STATUS AND PRBLEMS OF TEACHING ENVIRONMENTAL STUDIES AT PRIMARY SCHOOL LEVEL IN NAGALAND: undertaken by MR. N. SAVITO SEMA for the Degree of Doctor of Philosophy embodied the record of original investigation carried out by him. He has been duly registered and the thesis presented is ready and fit for submission to Nagaland University for the award of the ***Ph.D. Degree(Education***). To the best of my knowledge, this work has not been submitted earlier in any University.

Place:Kohima.
Date:.22/03/2002

DR. R.P. SHUKLA,
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ACKNOWLEDGEMENTS:

I express my deep sense of gratitude to my worthy and talented supervisor, Dr. R.P. Shukla, Reader & Head, Department of Education, Nagaland University, Campus-Kohima, Headquarters Lumami for inducting me into the process of systematic investigation through this empirical work. He has left no stone unturned in improving the quality of my work though his constructive criticism. He has been a pillar of support, a real beacon, a great source of inspiration and encouragement to me at all stages of the completion of this thesis. I wish I could imbibe his consummate skill of maintaining a balance between the role of a teacher and that of a friend.

My thanks are due to all Subject Experts, Head Teacher/Teacher-Incharge, Subject Teachers of Environmental Studies and Interviewees, who were kind enough to make themselves available to me for readily extending their co-operation during the course of my field work.

No words will be enough to thank brother Mr. I.Vihoto Swu(Stenographer Gr-I) P.A. to Director of Agriculture, Nagaland, Kohima who converted the palimpsest in a clear computerized very diligently and skillfully.

Lastly, but not least, I am thankful to my loving wife S.Tovili Swu for her prayer support and for inspiring me to continue this piece of work and often buoying up my fagging spirit.

Nagaland University,
Kohima Campus,
March 2002.

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INTRODUCTION

CHAPTER-I.

1.0: INTRODUCTION:

Nagaland attained Statehood on 1st December, 1963, covering an area of 16,579 Sq.Kms. a mountainous and greenery hills territory with remarkable topographical variations. This beautiful State is divided into 8(eight) Districts of Kohima, Mokokchung, Tuensang, Mon, Wokha, Zunheboto, Phek and Dimapur with its capital at Kohima about 1,444.36 meters above the sea which is also known as the Switzerland of the East. She witnessed the dangers and disaster of modern battle during the Second World War and yet with the world famous war Cemetery and its common epitaph.

"When you go home
Tell them of us and say
For your tomorrow
We gave our today"

Speaks of peace to man kind.

Naga a tribal society with Mongoloid races of 15(fifteen) tribes such as (1) Angami, (2) Ao, (3) Sümi, (4) Lotha (5) Konyak (6) Rengma, (7) Chakhesang, (8) Sangtam, (9) Phom, (10) Chang, (11) Yimchunger (12) Zeliang, (13) Khiamungam, (14) Kuki, (15) Puchury, that inhabit this colourful oriental State have their own distintive dialects, customs and traditional dresses.

1.1: ORIGIN OF NAGA AND TERMINOLOGY:

The origin of the Nagas is a vexed question. The racial origins of the Nagas exhibits racial inter-mixtures in a great range, it forms a meeting centre of the Himalayan, Burmese(Myanmar), Japanese, Thai, Malaysian, Philippian, Polynesian, Indonesian and Melanesian cultures, its history preserves instances of assimilation and of fusion in blood and race among the varied native tribes.

Naga hills extending as far north as the lower ranges of the Himalayas, who had something in common, which has made them recognizable as a people since at least the time of ptolemy, the great geographer of the Second Century A.D. The Greeks in the first Century A.D, had heard of these people during their visits to Western India and South India as a wild people with the characteristic flat nose of the Mongol races.

Ptolemy writes of them as "NAGALOG" which means the realm of the "NAKED"(Geographenia VII,II,18). In 1874 Butler at the head of an exploration expedition party was told by the people a Tesopheneyu(Rengma) that they had ruled the coast for ages. Naga pointed out to the association of their parents tribes with the sea shore. The Nagas are still used to wearing Couch-shells as part of their ornamental dress, a prominent features of the people who live on the sea shore.

There are various theories about the origin of the word "NAGA" as applied to the conglomeration of tribes called after the connotation. It is largely a matter of conjecture as to the origin of these ethenic Tebeto-Mongoloid groups and also as to how these tribes came to be identified as NAGAS.

Much has been written of the word NAGA and its application to the tribal groups, yet it is Naga general opinion it may be added that the term "NAGA" was given to these people even before they migrated from Burma(Mynmar) by the outsiders who came in contact with these group of people during their migratory proceedings. Perhaps, the word "NAGA" probably does not derives from the present place-(Naga inhabited areas) where they live.

The word NAGA has been a source of much debate among different Scholars. In Burma(Mynmar), the Naga tribes are called NA-KA(NAKA) which means people with pierced ear (Holes in their ear-lobes). Interestingly, the Konyaks also refers to NAKHA meaning "NA"(ear) "KHA"(hole) which means people with holes in the ears. Some elderly KHUZAMI people(Chekhasang Naga) called themselves "NIGYAMI" meaning "those who cut their ears."

Piercing of the ear lobes is a widespread practice among the Naga tribes. In fact, the piercing ceremony forms a very important initiation rite for young boys attain the age of 8(eight) to 12(twelve) years, the elders of the village in consultation with the village priest, fix an auspicious day for the ear piercing ceremony (period mostly between after harvest and before the start of new cultivation for the next year). A big male pig is generally slaughtered by the village Chief and its meat is distributed among the young initiates. Then the ear-lobes are pierced with sharp bamboo sticks which have cotton at one end. This piercing is done by the warriors of the village. This ceremony marks the attainment of manhood by these boys. They are now fit to wear white cotton in their ears and join in the war-dances performed on various festivals in the social life of the village by most of the Naga tribes.

Another theory of the origin of the word NAGA is subscribed to the Assamese people. In Assamese, the word NAGA means "NAKED" originally the word NOGA was used for the naked people of the hills who often came in contact with the people of plains in Assam. Gradually, this name was applied to a greater number of people and ultimately it became a generic term for many tribes. Now the name of Naga is accepted by all tribals inhabiting Nagaland, Assam, Manipur, Arunachal Pradesh and Burma(Myanmar). The term Naga came to signify the separate identity of these people.

Another version of term "Naga" may connote from the word "Nagha" till today rural Naga Villagers pronounced Naga as "Nagha"(Naghami) in Sümi(Sema) word. In Sümi "Naghi" means large or huge group of people and mostly Sümi pronounced "Naga" as "NAGHA." In a popular use of word NAGA, which silenced the alphabat 'H' and used NAGA, could also be the terminology of the word Naga as we study the history of Naga migration, the Nagas migrated to this part of land in a large or huge group of people came together in waves. Meaning vary from one another and yet we study each, they are all related to describe the Naga character and behaviour.

Some are of opinion that NAGA is derives from "NAGAM" in sanskrit means snake. In this connection with this term there ia a legend which says that in Mankok Village the village chief had 7(seven) sons. The younger one name was SHIXILHO(Genius) who was very notorious and he displeased everybody in that Monkok village. There was a huge rock which had a deep holes where a Python lived. This Python gave a lot of troubles to the villagers by swallowing domestic animals and sometimes even children. So the villagers had decided to kill the Python, the name of that particular Python was "NAG." But nobody could kill that python and finally the notorious youngest son could kill the Python and declared himself as "NAGA." The lengend goes on to say that this youngest son called all the birds of the air and beast of the earth and let them fight with that Python called 'NAGA." After sometime he came out with his sharpened dao and cut off the Python's head and ate its flesh and pronounced his name this way: "I, the killer of Nag(Python) will now called my name as "NAGA." Thus some says the word NAGA might have been derived from this legend. In fact, Nagas strongly dis-agreed with the connotation of snake race, rather snake and Python's fleshes are delicious food to them till today in rural Naga areas.

The possible reference to self-identity evolves the Konyak definition 'NA'(Ear), KHA(Hole) emerging as first designation adapted by the tribal groups of this region

which have a close familiar with Burmese word NAKA,(Pierced Ear). NAGA tribes migrated to this part of land from Burma, therefore the name NAKA or NAGA was given to them even before Nagas reached the present places. Moreover, it was from the Burmese that the British first came to know about NAGAS soon after their earliest wars with Burma(Myanmar) during 1795-1826.

1.2: GEOGRAPHICAL LOCATION:

The Nagas domicile of the extreme North East Frontier part of India, and is situated approximately between the longitude 93 degree and 97 degree E and between the latitude 23½ (Tropic of Cancer) and 28 degree North of equator. Nagaland is bounded by Assam in the North and west, Manipur in the south and Burma(Myanmar) and Arunachal Pradesh in the east.

1.3: POPULATION:

Due to typical geo-physical conditions prevailing in the state, a large part of the geographical area in Nagaland could not be censused for a long time. A modest attempt to estimate the population in Naga Hills was made in 1891. The details of population in region are, however available only from 1901. The population of Naga Hills in that year was estimated at 1,01,550. Since then estimates of population are published regularly albeit as shown table-I, the decade to decade variations have been quite erratic.

TABLE-I TREND OF POPULATION IN THE STATE(1901-2001).

Year	Population	Decadal variation percent
1901	1,01,550	-
1911	1,49038	46.76
1921	1,58,801	6.55
1931	1,78,844	12.62
1941	1,89,641	6.04
1951	2,12,975	8.60
1961	3,69,200	14.07
1971	5,16,449	39.88
1981	7,74,930	50.05
1991	12,09,546	56.08
2001	19,88,636	64.41

TABLE-2 DISTRICT-WISE POPULATION IN NAGALAND AND DENSITY ACCORDING TO 2001 CENSUS.

Sl.No.	State & District	Area in Sq.Km.	Population	Density per Sq.Km.	
				1991	2001
1	Nagaland	16,79.00	1988636	73	120
2	Mon	1786.00	259604	84	145
3	Tuensang	4,228.00	414801	55	98
4	Mokokchung	1,615.00	227230	99	141
5	Zunheboto	1,255.00	154909	77	123
6	Wokha	1,628.00	161098	51	99
7	Dimapur		308382	192	333
8	Kohima	4041.00	314366	67	101
9	Phek	2,026.00	148246	50	73

1.4: LITERACY RATIO:

Literacy is the first step towards learning and communication through the written words that give us assess to education. Further, education is expected to broaden the mental horizons of an individual which may be considered as a Scene qua non of development through technological change, stated differently, literacy ratio may be regarded as an index of human resources development which in turn, determines the prospects of economic development.

Literacy rate of both India and Nagaland since 1961 to 2001 are tabulated in Table-3.

Year	1961	1971	1981	1991	2001
India	24.02	29.48	36.23	52.21	65.38
Nagaland	17.91	27.40	42.57	61.65	67.11

Table-4: DISTRICT-WISE LITERACY PERCENTAGE IN NAGALAND CENSUS 2001 SOURCE.

Sl. No	State District	Number of Literate			Literacy Rate			Decadal variation percentage	
		Person	Male	Female	Person	Male	Female	1991	2001
1	Nagaland	1146523	645807	500716	67.11	71.77	61.92	61..30	67.11
2	Mon	93859	55586	38273	42.25	46.07	37.12	36.02	42.25
3	Tuensang	183513	105249	78256	51.30	55.97	46.12	48.39	51.30
4	Mokokchung	172208	92188	80020	84.27	86.14	82.02	77.85	84.27
5	Zünheboto	90864	49205	41659	69.73	73.43	65.80	64.36	69.73
6	Wokha	113704	62565	51139	81.28	85.69	76.46	73.92	81.28
7	Dimapur	205230	117677	87553	78.15	82.16	73.34	72.17	78.15
8	Kohima	200137	113205	86932	74.28	81.44	66.64	70.97	74.28
9	Phek	87008	50132	36876	71.35	78.97	63.08	62.59	71.35

1.5: LAND:

Land potentials are the natural gift, with rich natural vegetation, hill slop fertile, and foot-hills decomposition of rich natural manures consists of land resources. Rich fertile land consists of variety of soils vary according to altitudes. On mountain tops, soil generally exhibits organic matter with heavy texture varying from high to medium. Lower slopes and base have scanty under growth and a shallow texture, while on the foot hills, soils are generally poor and light and contain low organic matter varying from loam and sandy.

Generally soils are acidic in proportion of P. 20.5 to K.20. Alluvial soils are comparatively more fertile. The soil of Naga Hills is same as that found in the monsoon provinces of North-East India. It is generally red-laterite superficially covered by the loamy soil which can be distinguished as red soil, grey-brown soil, black-grass land, sandy soil, black sandy soil, silty soil and clay soil, dark mixed decayed humus constitutes the varying form of land. There are large mineral deposits of iron, chronite,

salt rock and lime stone, coal, petroleum, copper, slate, good quality of clay etc. but all these mineral deposites are not properly mined yet.

1.5.1: FOREST:

In their natural State, the hilly areas of the Nagaland are covered with dense, ever-green forest, the great part of Naga Hills is still covered with evergreen monsoon forests.

Forest have a great economic value and form the principal source of revenue. They provide fire-wood, building materials, implements, utensil manufacturing(e.g. wooden plate, spoon etc.), domestic goods such as barn, baskets, vets, drums(wooden), in addition to barks and leaves, highly priced by local people during the manufacture of dyes and drugs. The dense forest were in the virgin State exhibit multifarious species of fauna, which are valued not only for their meat, but also for their skins, tusk, horns, feathers and plumes for decorative purposes. Apart from these, wild chilly and ginger were also grown in this part of land which makes people used of it. Numerous wild fruits(e.g. fig, goose berry, ficus prostrata, synamore, nuts etc.) were abundance varieties of flowers including precious orchids are consists beauty of virgin forest of Nagaland.

Forests give direct income from tropical economic tree species such as Agallocha, Teak, Rubber, Michelia champaca, Hollok(Terminalia Myriocarpa), Phoebe, Acacia Catechu(Katha), Gamari, Pine, Bamboo(eight varieties), cane(three varieties). These have been exploited on local scale for trade purpose which fitch good income in forest products.

The world's tallest Rhododendron tree measuring 30.79 m in height and 2.41 metres in girth has been found in Japfu mountain in Kohima district which has been recorded in the Guinness Book of World records. Rare bird Blythe Tragopan is found in natural habitat.

During the British administration, management of these forest was done according to the Assam Forest Regulation of 1891 by which the extraction of timber was regulated under terms and conditions of agreements drawn up with the coupe-holders who paid a certain amount of security. Felled trees were measured and marked with Government passing hammers and with serials and allowed to be extracted under cover of Transit Pass(TP) and Challan issued by the forest officials.

According to the Naga Hills jhum land Regulation, 1946, the village forests belonged to the people who had absolute rights for cultivation and other purposes. But

the erstwhile Assam forest regulations have been replaced by the Nagaland Forest Act 1968 which entitle Government to carve out forest reserves on the basis of awarding compensations to the holders or authorities who owns the forest, after assessing the existence, mature and extend of any rights claim by them.

Up to 1957, the whole Nagaland was one Forest Division of Assam. From 1961 to 1963 forest of Nagaland were in the charge of the Chief forest Officer. It was on February, 1, 1963 that the Directorate of Forests came into being, under which arrangements, the District has been assigned to charge of the Divisional Forest Officer with Head quarter at Dimapur.

Nagaland at present, out of the total land of 16,57,583 hectares, the forests occupy an area of approximately 8,62,930 hectares. Out of which 1,00,823(11.7%) hectares are under State control and 7,62,107 hectares(88.3%) are under private ownership. Village forest(Private) constitute 88.3% of the total forest area of the State and owned by the villagers. The villagers have their traditional customary absolute rights to practice jhuming and other purposes on these forest areas.

The Forests which are rich in forests resources provide enough scope for establishing forest based industries. But it is a pity that much has fallen before the axe of shifting cultivation and logging by means of trading of late, the departments of Forest, Wasteland Development, rural Development, Soil and Water Conservation Department, Public undertaken organizations and NGOs are making every efforts to educate the people on the necessity of preserving the forest and with this aim in view plantation schemes are being undertaken at large scales by both public and private as a measure to degraded forests improved.

1.5.2: AGRICULTURE: A Naga lived by the sweat of his brow and finger resources. Probably in their early migratories they lived on food gattering . For more than a millenium, since the Naga have settled in this part of country, they started cultivating in their own ways and methods just sowing and pulling the paddy in the hole made by a stick. Gradually they have learnt the present method of cultivating by spade and hoe.

As early as 1840-41, Robinson, gave a description of agriculture in Naga Hills thus, every portion of cultivable land is most carefully terraced up the hills, as far as

the only object of cultivation. Arums and yams the Nagas have in great abundance, but are for the most part found wild about their villages, they have also some large capsicums, good ginger and a few cardamom plants. Cotton is frequently grown on the sides of the hills, and with it is often seen species of grass(Lachryma jobi) Tez-pat is abundance everywhere, and wild tea-plants in considerable quantities grow in their hills.

Cropping agriculture is main occupation of the people of Nagaland. They practiced and adopts both methods of jhuming cultivation and terraced fields.

Extension terraced fields, magnificently irrigated with water brought from considerable distances in channels so well aligned that every advantages was taken to any natural slope encountered, and awkward corners avoided or turned with admirable ingenuity. A vast amount of energy and farming ability as well as much engineering skill of the many ages past could helped them produced terraced paddy(rice).

Accordingly to local traditions, the Angami terrace system is as old as the tribe itself, the system believed to have been brought from its ancient home (system still exists in Philippines).

Besides terraced cultivation, it is Naga practiced side by side with jhuming which consists of omen taking on eggs or cock, was a feature of the Naga for the selection of a jhum land. First the spot for cultivation was determined. After this, each family had to start clearing the jungle. Having been cut down, the jungles was allow to dry, so that it could be fired in season. If the felled jungle was thoroughly dried, then almost every thing would be reduced to ashes. The soil for an inch or two was burnt, and having been scratched up with their little hoe, was mixed with the ashes and become ready for the reception of seed which was sown broadcast. Across the fields in parallel lines at no great distance apart, they could put the unconsumed trunks of the trees which served as support to prevent slip of manures when it rained. Weeds and shoots of the trees were frequently removed and the field was constantly watch against the depredation of birds and wild beast.

In jhuming, Naga cultivates rice, millet, maize, cotton, oilseeds, ginger, chilly, yam, gourds, melon, lentils, cucumbers, spinaches, leaf mustard , onion, garlic, shallot pumpkin, brinjals, Soya-bean, beans(5 types), sugarcane, turnips, radish, carrots, beets, letuse, cabbages, cauliflower, peas, varieties of tomators, potatoes, sweet potatoes, solanum indium etc.

Due to variation of agro-climatic condition, the state has vast potential for growing not only paddy and vegetables but also growing variety of fruits: Maudarin Orange, Sweet Orange, Litchi, Pineapple, Banana, papaya, plum, mango, guava, peaches and apple, grapes, coconut are even started growing in the state though the fruits products are not self-sufficient consists chief crops of the State.

1.5.3: FOOD,DRINK:

Rice was the staple food of the Nagas. They also ate millet and barely. From millet and maize but mainly from rice, they manufacture votka(Rice-beer) of varieties, their favourite drink which would be soporific rather than intoxicating in its effects. For this drink they used short pipes. The Nagas were non-vegetarians. They eat all types of food grains, vegetables, roots, stem, leaf, flowers, fruits which are edible to them. They eat all types of meat, such as beef, pork, dog meat, cat meat, mutton, chicken, they even eat wild animals meats and birds including Monkey, Jackal, fox, eagle, owl, falcon, tiger meat, they eat all types of water animals such as fishes, turtle, tortoise, even frog, crab, mud-snake, etc. They even eat reptiles such as snakes, crocodile, some type of lizards etc. small animals and insects such as squirrel, rat, bat, flying fox, all types of crickets, cicada, grubs, beetle, ground beetles, meadow grass hopper, mantis, locust, whirligig beetle, bees, honey etc. etc. constitutes the wholesome foods of Nagas. Their food characteristics classify that generally Nagas are omnivorous "the great eaters."

1.5.4: CLIMATE/WEATHER:

The region has the sub-tropical monsoon type of climate and receives heavy rainfall during the period from May to September with scanty rainfall in winter.

Average altitude of the State ranges from 304.30 metres to 2133.60 metres above the sea level. The average rainfall is 200 to 350 Cms. Almost equitably distributed over a period of 7 months from April to October.

Climate varies from sub-tropical to temperate as we came up from hills to hilly area of the State. In the average winter temperature goes down as low as 4°C and maximum of 24C, but snow fall is rare in the inhabited area during the period December to February. In the Summer June to September, temperature mean maximum goes up to 31°C and mean minimum 16°C.

May to September experiencing heavy rainfall up to 350 Cms. and later part of September and October receives occasional rain and November to April remain dry season.

1.6: CULTURE:

An art or the practice, the state of being cultivates refined results connotes the culture. Culture has defined in a number of ways some thinkers includes in culture all the major social components that bind men together in a society as shared learned behaviour. It consists of commonly occepted and expected ideas, attitudes, values and habits of individual which they learn in connection with social living. Tylor (1924) says. "Culture is that complex whole which includes knowledge, belief, art, morals, law, custom and other capabilities acquired by man as a member of society." Malinovski regarded culture "as the handiwork of man and as the medium through which he achieves his ends." Spencer conceived the culture " as the super organic environment as distinguished from in organic, or physical and from the organic world of plants and animals." Koenig defines culture is "the sum total; of man's efforts to adjust himself to his environment and to improve his modes of living." Bierstedt referred to "culture is the complex whole that consists of everything we think and do and have as a members of society." According to A.F. Walter Paul, "culture is the totality of group ways of thought and action duly accepted and follow by a group of people."

From these above definitions it is clear that in sociology culture is used in a specific sense which is different from one we have in common parlance. People often call an educated man a cultured man and regarded that man as uncultured who is lack in education. In sociology it use the word to denote acquired behaviours, which are shared by and transmitted among the members of the society. A cultured gives cues and directions to social behaviour. It is an accumulation which a new generation inherits. It is a heritage into which a child is born. Man learns his behaviour and behaviour which is learnt denotes his culture. Singing, talking, dancing and eating belong to the category of culture. Moreover, the behaviours are not his own but are shared by others. They have been transmitted to him by some one, be it his School teacher, his parents or friends. It is the product of human experiences e.i. it is a man made. It is the sum of what the group has learned about living together under the particular environment, physical and biological, in which it has found itself. Thus culture is a system of learned behaviour

shared by and transmitted among the members of a group. Man begins to learn it since his birth. The rules and procedures of behaviour are there when he is born. He is to pick-up. They tell him how to act. By picking up the culture and by tapping the heritage of his past, man becomes distinctively human. Man has, therefore, been called the culture bearing animal.

A Naga obligation and loyalty was to his family and village and this forms a discipline culture. A native Naga Tribes away from the city and town life, they variably choose areas mostly in small hamlets. This enables them to build up their living style with a strong community base and to deep cooperative face to face and heart to heart relationship among them in the village.

Each Naga village was a republic of its own in most of the tribes-like that of Greek City states. The Nagas have a distinct social life, nature of living, laws, customs and traditions and village organization which have lasted through centuries and these form an integral part of their culture. Every village is an independent unit in the tribe villages are managed by a Council of Elders and man of influence and abliers. In most cases, Naga villages are located on a hill top, well fenced all around forms their self-defence culture. Self-sufficiency was the method of Naga surviving culture. Lie, thief, covetous, adultery were all taboo to Nagas. Festivity associated with all good of life conducts were core of Naga culture.

There were no social distinction due to wealth or position. Except in the matter of holding property, women have equal status with man, rather women are most regarded and care in Naga society. Every house hold owns property. Prostitution and beggary are unknown in the Naga rural areas. Crime are rare in recent past due to the necessity of co-existence in the villages are unlocked, personal freedom in expressions and action exists. Unquestioned loyalty and obedience to the elders form the backbone of the village administration.

Basically, Nagas have very fine qualities. Rich cultural heritage enshrines in old good Naga Ethinic values. Each and every tribes has got their own cultural fabrics. Nagas are simple frank, amiable, humous, cheerful, self-efficacy, honest, sturdy and of independent spirit. Among others, truthfulness, upright justice, courage, obedience to elders, fortitude, generous hospitality, straight forward. Nagas have a deserved reputation for truthfulness and honesty. Unlocked granaries are made outside the houses or even outside the village, even then stealing were unknown among many tribes. In early days many British Officers had implicit faith in the Nagas and said, "NAGAS NEVER

LIE." They are industrious and hard working and lived out of their finger resources. Generally Nagas are conservative people, they think their father's ways were the best.

Culture life of Naga Ethinic characterizes, skill s of both wooden and stone carving cultures have wide important both commemorative and funerals, festivals, languages, traditional dresses, folk songs, folk tales, sayings, oral traditional records, dances of varied were of its own distinct quality and beauty features of culture in amongst the Nagas.

1.6.1: FESTIVAL:

Nagaland is a land of festivals and Nagas are feast-rite people with sumptuousness. The festivals among all the tribes are similar to each other and rest upon a common background of beliefs and aim at fertility corresponding to the different agricultural seasons with pageantry, music and a feast celebrations. Naga festivals are associated with ceremonial genius and rituals through out the year.

Nagas are fond of dances such as war dance, commemorative dance, ceremonial dance etc. and songs-mostly historical song, warring song, romantic song, charm and seasonal events and also songs address universal marvelous related to super natural powers, mountains, rivers, forests, well and even gigantic birds like hornbills, eagles etc. besides their agriculture events for a bountiful harvest either before the sowing or on the eve of harvest.

Even the head hunting, in those days attacking of each other village on festival day were taboo one. They fear of war ghost(war germs) hunts after the attackers if they attack other on festival days. There were a strong beliefs of life respect on festivals through which one attained the fullness of life. The predominant theme of the festivals is offering prayers to a supreme Being.

Festivals bring equality and unity among the villagers. By celebrating the festivals they expands relationship horizons between the family, clans and even between the villagers by offering gifts and hosting the feasts. Throwing and hosting the community feasts in the village were the most honourable, prestige and fame in among the villagers and earned the reputation. The basic nature of festivals were, FEASTS ARE PAID FOR BY THE RICH, WORK IS DONE BY OTHERS, JOY IS SHARED BY ALL below are given some of the typical instances of the festivals. Shows in Table-5:

TABLE-5.

TRIBES	FESTIVALS
Angami	Sekrenyi
Ao	Moatsü
Chekhesang	Sükrenye
Chang	Naknyulum
Khiamniungam	Tsokum
Konyak	Aoling
Kuki	Mimkut
Phom	Monyu
Pochury	Yemshe
Rengma	Ngada
Sümi	Tuluni
Sangtam	Amongmong
Yimchunger	Metemneo
Zeliang	Chega Gadi/Hengisa

Feasts of Merit and Head taking were central to Naga life. They were twin paths to glory. Their successful observance could also lead a person to position of influence or authority.

1.6.2: RELIGION:

Worship, basically practical term of religion. The dictionary meaning of "worship" is paying reverence and respect to God." There are numerous religions in the world and each religion has its own manner of worship for the welfare of either worldly/earthly or spiritual life. The native Naga religion is basically ethno-religion which they profess is "ANIMISM." J.P. Mell & J.H. Hutton(1921) described the Nagas like many other tribes which have been labelled by the all embracing term "ANIMIST" as possessing a plethora of beliefs coupled with a paucity of systematization.

The earliest Naga tribes also expressed their awe towards the supernatural being and their fascination for solving the mystery of existence, through ANIMISM. It was their basic patterns of beliefs affecting individual and collective behaviour. In its

broadest sense, animism implies the attribution of a living soul to inanimate objects and to natural phenomenon, as well as the belief in the existence of soul or spirit as distinct and apart from inert matter. It is interesting to note that the word animism comes from the word "anima" which in its original connotation meant "breath," "life force" or "soul." The patterns of belief or religion of the early Nagas shows definite signs of being animistic in nature. As an animist, the early Naga was an adherent to a belief in the existence of soul, spirit in matter. He recognized the presence of an unseen higher power which exercised control over man's destiny and was entitle to obedience, reverence and worship. The beliefs of these Naga tribes were expressed through their worship of NATURE and NATURAL PHENOMENON and through their faith in super natural power. They also acknowledge a "Devine Power" to be the maker of the world and the master mind behind all events. They name him as the "Great Spirit." They also believes in the existence of a multitude of benevolent and malevolent spirit and the destinies of man from birth to death are governed by a host of spirit where anger must be appeased by sacrifices and whose superstition dominates the beliefs.

It is obviously appears that nomenclatures of animism and Christianity in different religion. However, both of them believed in unseen Being (God) Super Power, life after death, perhaps the nature and similitude of beliefs, the native Naga animists took no time to embraced Christianity. As Naga believes super natural, when Rev. C.D. King came with a mission of "Good News" September, 1879 at Kohima the Angamies put two questions (i) CAN YOU CURE DISEASES? (ii) CAN YOU TELL BY LOOKING AT A PERSON'S HAND HOW LONG HE WILL LIVE? Rev.C.D. King replied that he brought to them both the "GREAT PHYSICIAN" and the "GIVER OF ETERNAL LIFE!" There by along with other Nagas Angamies becomes strong follower of Christ. Nagas were told that there is a "TRUE GOD." The Nagas were indeed indebted to the works in the field of education, medical services, humanitarian works and enlightenment. It is now over one hundred years since then Nagas accepted Christianity as their religion and it has exerted tremendous influence on their life. Today, mostly every Naga believes that Christian religion for him is a religion from uncertainty to certainty, from darkness to light, from death to eternal life, from condemnation to salvation. Perhaps, this is the most wonderful thing that ever happened to the Nagas.

1.6.3: BACHELORS' HOUSE(MORUNG):

In Naga society, the bachelors' house or dormitory(Morung) is a very important traditional social institution of Nagas life. Boys over eight to ten years of age till their marriage are its members. Different tribes have different names for this Morung(Dormitory/Club/House) as follows:-

Sümi	-	Apuki/Iliki.
Angami	-	Kichuki. .
Lotha	-	Champo.
Ao	-	Ariju etc.

Morung was considered to be an important educational, political and social institution. Morung was only institution where one young boys and girls were trained up as a centre of learning such as art, music, songs, disciplines and had important ceremonial purpose. Craft and weaving skills were imparted to young one, carved with striking representations of tigers, hornbills, human fingers, mithun, cock, elephants, lizards etc. were marked skilled talent on the pillar or front of the dormitory represent the honour and beauty of institution. In the masculine dormitory, feminine entry was strictly prohibited and vice-versa.

In Morung, they learnt manners, discipline. Art, stories, folk songs and folk tales, poems, demonstrate war tactics, diplomacy, religions and customary rites and ceremonials. It was a divine School for the young ones to learn the art of livelihood, responsibility and cooperation before the Nagas came in contact with the modern education and life.

The Morung was also a place of guarding and protecting the village from the attack of an enemy. The guards were appointed to keep watch. A huge hollowed log at the dormitory served as a gong or sylophone in times of war or emergency.

1.6.4: <u>EDUCATION, ESPECIALLY PRIMARY EDUCATION IN NAGALAND</u>:

It is striking to note that the entire world is now moving towards one and the same objective; universal School attendance. The aim is at the primary level in countries where this has not yet been legally instituted or has yet to come into effect, or, in cases where basic Schooling has been or being broadly achieved, at the upper primary or secondary level.

Primary education is a must for all children. That is why country is making strenuous efforts to achieve the target of free and compulsory education for all children from the age of 6 to 14. It is the minimum education that all children must have.

In these days of knowledge explosion, nobody can afford to be illiterate and ignorant. An illiterate can not lead a full life. It is because of this, that education up to primary stage is an essential requirement for every body.

Education alone can make a person aware of his rights and responsibilities as a citizen. It helps him to live and act wisely.

Primary education enables a person to learn good habits of health and hygiene, play as social foundation in life by social contacts, sees around him. It takes him out of the world of superstitious. It makes an individual a better worker than an illiterate person. Primary education lay the foundation of all subsequent education i.e. secondary and university education. The quality of secondary or university education can not be high unless the quality of primary education improves.

The chief aims of primary education are as under:-

i) ***Physical Development***: At primary stage, there is need to give top priority to proper physical development of each child. For this, the institutions are to be quite aware about their health, hygienic conditions and sanitary programmes, proper arrangement of games and sports, proper manner and discipline, arousing the spirit of self-responsibilities. Famous educationist Rousseau had stressed the need of a healthy mind in a healthy body.

ii) ***Study of Environment***: Apart from physical development, it is paramount necessary to acquaint the child about the environment prevailing in and around the family. They are expected to have a first knowledge of the family members, neighbours, sector, village/town and city etc. A study of School environment enhances their general knowledge and help to improve efficiency. The atmosphere of the School should be a kin to healthy and attractive home environment. This will generate and a sense of belongingness among children toward institution and ultimately develop their personality on healthy lives.

iii) ***Education of 3R's***: The chief aim of primary education is to provide education of 3R, i.e. reading, writing and arithmetic. Mother-tongue is the medium of institution at this stage. Children learn the language to read with proper accent, pronunciation and intonation. They are made to practice writing words boldly and distinctly. These days

children show much carelessness in learning the language. The knowledge of arithmetic provides mental activity. They need incessant practice. The teachers have to be very cautions with regard to the aspects of child's learning and expected to adopt the favourable learning techniques so that the subject may become lively and interesting.

iv) ***Development of vertues***: It is common knowledge that a child primary education acts as the foundation. If the base is weak we can very well imagine its after effects. Therefore, while imparting education at this stage, inculcation of good habits and right attitudes among children is of vital important. this will help to shape them into healthy and enlightened citizens. Teacher dedication can help to generate these qualities among children.

For instilling healthy and positive attitudes, ideals and habits, the school environment should be healthy and attractive. It is a place where children get proper training in desirable conduct and behaviour. There is need to develop democratic attitude among them. At School children learn the first lesson of paying due respect to elders. A habit of cooperation and social sensitiveness is to be generated. Children get training in good human relationship. Generally, importation of moral education also goes along way in bringing about desirable behavioural change in the learner.

v) ***Creative Activities***: Apart from the education of $3R^S$, children are also to be given training in manual work. At primary stage basic education provides craft centred education. It is an actively centred and helps o relate education directly with production. Thus education at primary stage is an inputs for sequential stages. It is similar to the concept of work-experience. But primary School generally lack in this aspect. Hence, Primary education should also aimed to laid production foundation and help to develop skills.

All societies no matter what their stage of development, established systematic methods of teaching young children to perpetuate their society and its traditions, to equip them for survival and to pursue their own interest. In permitive societies children acquired an education by observing or assisting adults in life basic tasks. As society be comes more complex, institutions created maintain social functions. Education, then becomes a formal process, but it does not however, always occurs in a schools. Pre-School and Primary school education have more usually been the responsibility of the family. Only in the mid 19th Century did most Western societies accepted the notion that its was the states right and responsibility to provide education for all children.

1.6.5: BEGINNINGS OF EDUCATION IN NAGALAND:

Missionaries were the harbingers of education to the Nagas. E.W. Clark of the American Baptist Mission was the first man who came with headquarters in 1874 at Mulongyimsen in Mokokchung (original name-Mokongtsü) P.T. Carnegy(1876) a Government official wrote, "he is well satisfied with the progress he (E.W.Clark) has been making amongst the Nagas there. The Nagas of the neighbouring villages have not attempted to interfere with him or show any displeasure at his continued residence in the hills. The Nagas of Tablong have asked me of Mr. Clark's Assamese Christian Teachers to come and to take his quarters amongst them and he man is doing so." Mulongyimsen mission station was shifted to Impur which became the Ao Naga Christian centre later on.

Prior to the coming of the mission, a few schools were opened by the government. A School at Samagûtting(Chumukedima) headquarters station in 1876-77 was attended only by the officials' children as the Agami Nagas then were apathetic to any system of education. The industrial School at Chumukedima(Samagutteing) also failed and closed down. In 1878-79, three more government schools were started.

Besides Evangelistic work, one of the most lasting contribution of missionary offered to the Nagas was education. Rev. E.W. Clark reduced the Ao Naga dialect into Roman Script. Upon the arrival of Mrs. Clark 's in November 1978, they started a School for both boys and girls alongwith the Bible classes and family counseling. They laid foundation of learning.

While the mission in the Ao Naga area had begun to bear fruits, it was not so in other Nagas area including Kohima. Rev. C.D. King encountered oppositions and worked in the case of risks and dangers. But in 1884, his efforts had begun to meet success when a first School was opened at Kohima. He put down Angami dialect to roman alphabet and taught to School children to read and write in their language. King left Kohima in 1886 and the mission charge was taken over by Dr. Revenburg.

Although, the first School was started by Miss, Rhoda Bronson in 14th March 18 at Miles Bronson's Mission stationed, Namsang with 20 students, however, this School blow a set back with the year long fever illness of Miss Rhoda and she died on 8th Dec.1840. Perhaps Rhoda could be considered the first missionary to lay down her life for the Nagas mission and education. In a real sense her death marked the end of "SHAN MISSION-1835."

Missiology and education are twins popular achievements to encounter the virgin thoughts of Nagas which opens the domains to cognitive development among the Nagas. The out come of enlightened and virgin emerged synthetic mixed popularly known as educated, the credits goes to Christian missionaries activities started in Naga areas. Thus, though the beginning was traced back in 1835-1886, the actual educational activities began from Second World War(1945). War opens the mind of Nagas and come forward with great enthusiasm for knowledge development and began opening the Schools and starts Schooling with every possible manner.

Realizing the facts, after past World War-II and Statehood, Nagaland and Nagas march on in the field of education bridging the old to new pattern of life, with holding old good fabrics. Numerous primary and secondary schools have been established both in the public and private sectors, offering more or less the traditional courses with emphasis on the humilities, rather than Science and Technology. Primary schooling is the only formal education that the majority of farmers' children ever receives primary education in the most far-flung areas of the state.

The present system of education inherited from the colonial times follows 10+2+3 pattern. The 10 stages is divided into primary i.e. Nursery to Class-IV, Elementary from Class-V-VIII, Secondary Class-IX-X. The +2 stage includes Higher Secondary School of Class-XI & XII under the establishment of Nagaland Board of School Education,Kohima. The +3 consist of first two year degree i.e, Bachelor of Degree and second stage is one year course of major for specialization of any area of study.

Perhaps, colonial pttern of education deprives Naga students a valuable assets which is basically traditional in natural training provides and alienates further from his environment, primary education which should and could be the way to equip the individual to handle his economic and ecological environment. Productivity from his environment. The requirements of good education are that child should be taught a greater understanding of his own environment. The entire curriculum and methods can and must produced people who are prepared for further education if they can get it, but are also prepared to leave the school system as more productive human beings. It is necessary to put a great deal of primary learning and occupational content. This is going to be only exposure to education in their entire life. It is reality that we face it today.

Nagas are adventurous life by nature. They keep on increasing and growth in number of their settlement inhabitation. Inductively they are mobile people, perhaps, continuously increasing the number of their villages showing in table-6.

Naga	1961	1971	1981	1991	2001
Villages	828	966	1,119	1225	

With the rapid increase of village in number in last three decades shows that the Nagas are adventurous and mobile. Along with their settlement, educational facilities are their basic requirement. Accordingly almost all the villages in Nagaland is covered by primary school by both public and private organizations. Number of primary schools in Nagaland are showing in Table-7.

Public Primary Schools	-	1299
Private Primary Schools	-	107
	Total :-	**1,406**

The figures shows hat there are 1,225 villages in Nagaland (1991 Census) and again there are 1,406 Primary Schools which is out number than the village. Indicating, the importance of Primary education in the state and the people is widely realized. On the other hand, there is a clear picture, that in some of the villages in Nagaland is having more than one primary schools in village. This figure and assumption is suppoorted by comparing the table-5 and 6.

1.7: EDUCATION POLICY EMPHASIS ON ENVIRONMENTAL STUDIES/EDUCATION AT PRIMARY LEVEL:

It is hard to find an acknowledgement of how recent are primary schools whose curriculum and management reflects the particular emotional, social, intellectual and physical needs of young children or of how far they have developed in a very brief time span. The rapid development of children in this age-group requires that the scope of objectives and the level of related knowledge, skills and attitudes should vary at each stage of learning. Because of big differences between individual pupils, learning objections at the lower stages of education can be neither too comprehensive nor too inflexible. In effect, primary schools serve as

apprentice workshops for the training of future citizens, they lay the foundations on which the intellectual superstructure of national as well as world citizenship is to develop. Children's learning occurs in the context of social and community groups both inside and outside the School. Their functioning in such groups. The knowledge and the skills that they acquire and the attitudes and values that they develop, will largely determine the way in which they will later approach life issues as adults.

In the primary, special emphasis should be given within each curricular are to the development of constructive attitudes and values formed in middle and late childhood will be carried forward into later life. The knowledge component of the study should be limited to the minimum essentials which will have a carry-over effect on the later decision-making and citizenship skills. Care should be taken in choice of learning goals. General intellectual skills and attitudinal foundations are of vital significance at this level, the knowledge content can be increased at subsequent stages.

The policy normally formulated based on certain ethics and on prevailing conditions. The first policy and subsequently the law was formulated in our country connected with environment was forest policies and forest acts since pre-British days.

Just how important is environment for mankind has realized by man more by experience through trial and error rather than by intelligent appreciation and analysis of things. So long as the nature was resourceful and bounteous, indiscriminate exploitation went on in the belief that nature is inexhaustible as well. The danger alarm has been sounded only recently and if proper attention is not devoted to the problem, the situation may still be saved. We are on the brink of disaster but have not reached a point of no return so far.

The importance of environment and the gravity of the situation as is prevalent today can be summed up by quoting the wise Red Indian chief, who while reacting to the offer of white Chief to purchase his land, replied:

"How can you buy or sell the sky, the warmth of the land"

"If you do not own the freshness of the air and sparkle of water, how can you buy it."

With an accusing finger, it was pointed out to the white chief that your

brand of civilization spells "the end of living and the beginning of survival."

1.7.1: The International scene:

It is only very recently that some efforts to evolve an international policy framework for protection and preservation of environment have been made. The United Nations Conference on the Human Environment held in June 1972 at Stockholm formulated not only the policy principles but also suggested action plans and financial arrangements to fructify the same. It declared among other things that (a) Man has the fundamental right to freedom, equality and adequate condition of life, in an Environment of quality that permits a life dignity and well-beings, and (b) Man bears a solemn responsibility to protect and improve the environment for present and future generation. The U.N. General Assembly in its resolution of December 15,1972 designated June 5th as the World Environment Day. Nation-States were called upon to undertake programmes for environment protection. A Governing Council for Environmental Programme(UNEP) was set up to review the World Environmental situation and suggest long term and short term plans for National Government to implement subsequently. There has been a number of important international Conferences on specific problems like UN. Habitat Conference on Human Settlements at Vancouver in 1976, World water Conference at Mardel Plata in 1977, U.N. Desertification Conference at Nairobi in 1977, Inter-Governmental Conference Organized by UNRSCO and UNEP on Environmental Education in 1977.

Although international Conferences, programmes may not have achieved anything substantial and create as these programmes suffer K.M. Munshi did a pioneering work in starting the annual Tree-Planting Movement (NAVA MAHOTSAVA) and its importance is immensely realized now even by ordinary citizen.

The first Forest policy of India was announced in 1894 later revised in 1952 and 1988. The objectives of new Forest policy 1988 are: Maintenance of Environmental stability, preservation biological diversity, soil and water conservation, meeting the requirements of the rural and tribal population, increase in the productivity, efficient utilization of forest products, substitution of wood and people's involvement for achieving these objectives concerning land, water, wild life, pollution and Human settlements.

The United Nations Conference on Human Environment held at Stockholm in June 1972 provides impetus for the Centre to establish a National Committee on Environment planning and coordination(NCEPC) to act as a high level advisory body to the government. On January 23rd , 1980, the president of India in his address to the first joint session of the 7th Parliament expressed the need for the lack of financial resources lack of suitable and effective implementation machinery and above all, lack of faith and cooperation of Nation-status. Their educative values can not be ignored. A good number of Nation-status today are alive to the magnitude of the problem and have formulated their own programmes to tackle the problem.

1.7.2: <u>THE NATIONAL SCENE</u>:

For the purposes of Environmental protection, government of India initiated various steps at different times at legislative and executive levels so much so that, the present, we have one of the most comprehensive programmes in this regard. Our policy frame work consists of constitutional mandates and legislative measures of the central and state governments. Hence, (a) Constitutional provision, (b) Legislative measures (c) Administrative measures (d) Environment courts, (e) Judicial Actives (f) social Action groups etc. guardianly working for the interest of our environment in the country. Late Shri life to sustain our economic development. The document also mentions the following as one of the objectives of the plan: "Bringing about harmony between the short and long term goals of development by promoting the protection and improvement of ecological and Environmental assets."

A child's family is the primary environment from which he gets primary needs, drives, row for growth and development. The social behaviour, conduct and attitudes of a child indicates the impact of his home environment. Even before a child enters school, he benefits from social contacts with persons outside his immediate family and neighbourhood. It means parents, family, peers and society contribute a lot for creating environmental education by their appreciation, encouragement, approval and showing positive attitudes, sympathy and empathy towards children. Thus child may learn formally and informally many things without hesitation setting up a specialized machinery with adequate powers to maintain ecological balance. Accordingly, the government of India constituted a High-Power Committee under the Chairmanship of N.D. Tiwari (Then Deputy Chairman of the Planning Commission) on February 29th,

1980, to recommend legislative measures and administrative machinery for ensuing Environmental protection. The Committee in its report (15 September 1980) recommended that a Department of Environment(DOE) should be set up to provide explicit recognition to the pivotal role that environmental conservation must play for sustainable national development.

The over-riding concern for ecological balance has been emphasis in the national Policy for socio-Economic development. The sixth five Year Plan (1980-85) frame work documents approved by the National Development Council on August 30th and 31st, states: "It is imperative that we carefully husband over renewable resources of soil, water, plant and animal commitment to improve his environment.

During the past 20 years there have been many changes in approaches to education in primary schools in the country. The development of environmental studies over this time may be regarded not so much as the development of a new subject area but as the development of a philosophy of nature and an approach. This approach is consistent with significant trends that have emerged in this period which includes:

- a move from formal towards informal methods,
- an increasing stress on child-centred as opposed to teacher-directed learning and on helping children to find things out of themselves.
- The integration of work within a day and within the curriculum as a whole,
- The organization of work on an individual basis and through assignment for small groups whereby children are encouraged to learn from each other, through congenial environment.

A child development requires an environment which may be confluence of physical and social environment. Such confluence of natural and human managed environment may be designed so as a child may get maximum possible freedom to learn or to develop. The most significant contribution of human beings is to develop education system. Education is powerful instrument for social change and social control. The social problems can be solved by education. Man has significant impact on the environment. Human activities have created various types of environmental problems. These environmental problems may be solved by designing appropriate educational programmes.

Link between education and environment is a s old as human civilization.

Environmental studies is essentially a practical process for equipping man with the knowledge, skills and an understanding of fundamental relationships and principles.

United Nations' concern over environmental crisis and educational programme since 1970, laid the foundation for introduction of environmental studies in School curriculum. It pin pointed guidelines for introduction of the subject in the school curriculum at various levels through a number of conferences, workshops and pilot projects during later 70's and early 80's (UNESCO) 1977, NCERT 1981).

Environmental studies aim at development of both the individual and the society. It awakens men about major problems of life and develops necessary skills and attitudes for improvement of life(UNESCO, 1977). Hence, environmental studies include both physical and social environment.

In the light of recommendations made by the education Commission (1964-66) emphasize :

- widening the learning and teaching environment to include the whole space of the school so that children are not confined to one class-room for a day's activities,
- the provision and use of a rich range of resources and experiences, both within the school and outside it.

As pointed out in papers presented as part of the United kingdom delegations contribution to the UNESCO inter-governmental conference in Tbilisi, USSR, October 1977, the merits of traditional approaches have not been lost sight of, and they persist in varying degree in most schools, but the emergence of environmental studies as an important element to the primary school curriculum must be seen in the setting of those trends and developments."

Children need to learn that values judgements and decision making are worthless unless they are established on (History, Geography and Civics). Physical and biological Sciences divided into specific units of nature are included in Environmental Study-II.

National Education policy 1986, part 8.15 Education and Environment has clearly mentioned that, "there is a paramount need to create a consciousness of the environment. It must permeate all ages and all sections of society, beginning with the child. Environmental consciousness should inform teaching in schools and colleges: Thus aspects will be integrated in the entire educational process.

NPE, 1986-A review 12.8.ii mentioned; appreciation of environment should be inculcated amongst children through their participation, on a day-to-day basis, in project work on ground.(This will also be one of the incidental outcomes of implementation of

the new model of vocational need for environmental studies proposed freedom of individual institutions to frame their own curriculum depending upon the local needs and available resources. The curriculum at the lower Primary stage (grade-I to grade-IV) included (a) one language, (another tongue/regional language) (b) Mathematics (c) Study of environment (d) Creative activities and (e) Health education.

Study of environment is further high-lighted with the proposal of no prescribed text books on the subject for grades I and II and granting maximum freedom to teachers to select topics which are linked with local problem and facilities. But in grade-III,IV and V the subject is divided into two parts. The environmental studies-I contains Social studies in the form of social, cultural and geographical environment of the child on environmental education in Nagaland has not been under taken by both public and private organizations. However, the environmental protection programmes are undertaken by various governmental departments, such as forest and Environment Department, Wasteland development, soil and water Conservation Department, Rural Development Department and some NGOs.

On the other hand, the State Council for Education Research and Training(SCERT) and School Education Department imparted the basic knowledge of environment under the caption and style of as environmental studies at primary school level in Nagaland.

Hence, Environmental education/studies programmes should be formulated in the state covering entire population by a concentrated efforts by both public and private organizations in order to make public awareness and addressed environmental problem, education recommended by the committee. One of the basic objectives of environment orientation to education should be creation of a positive interface between the human being and environment.

1.7.3: PROGRAMME ON ENVIRONMENTAL STUDIES IN NAGALAND:

Nagaland is the blesseth State of Natural vegetation. By its customs, traditional usages and practices, those vegetation were also belongs to and own by the people, and have independent utilization over it. Hence, it is immense important to make Naga people to realize the patient values of our natural heritage which are having direct

interdependent on human health and life, so, the need to develop the environmental education in Nagaland is an urgent and emerging life need based important.

1.7.4: NEEDS OF ENVIRONMENTAL STUDIES IN NAGALAND:

The term "Environmental Studies or education" is very latest but it has very ancient roots in our ethno culture. The need for all stages of learning to have a curriculum policy for environmental studies has always been high on the agenda of environmental issues. In present situation man and environment are considered interrelated and there is interdependence in them. The nature become a source of sorrow and happiness, because the dust of earth, light and air of atmosphere have the adverse effect on human beings. Therefore, the need of introduction of environmental studies is widely recognized.

Our country has accepted the need for the environmental education with the recommendation of the Tiwari Committee(1980). The people of the country realized and recognized an urgent need of environmental Studies at all level of learning, we must give much emphasis on the new approaches and programmes of environmental studies, thus the idea should bring on environmental concerns in all subjects and to all facts of life.

The world is alarmed by the frequent man-made ecological disasters. The impact of human activity on physical and biological environment has a consequential influence on man and his society due to the changes in the environment. The concern for all ecological imbalance and consequently the deteriorating environment once help be a luxury problem of the affluent countries is now rapidly assuming a menacing aspect in developing

countries. Man is depend on the nature for all his needs and in the process of procuring his escalating wants, he is endangering and threatening the environment for present and future generations with poisons of every kind from DDT to radio-active

wastes and ecological problems from desertification and species disappearance to holes in the precious atmospheric ozone layer. Human activities such as urbanization, industries, factories, aircraft, automobiles, nuclear experimentation, power plants, agriculture etc. By means of progress or development, man is often the destroyer of habitats of plants and animals. The unpleasant effects of this destruction fall back on his environment. Man is knowledgeable enough to know this, however, he feels helpless in face of dangers to his environment in the form of deplete work. Man, environmental

consumer as well as manager has to device plans and educate by which man can practice his territoriality without feeling endangered and without endangering other territories. Man has to develop environmentally friendly and has to know people need in terms of air, water, food, fodder and fuel etc. to sustain his life. This needs solution can only be possible as when only people accept the natural facts and starts positive stream of line by dirt of his education. Hence, the contents of environmental studies perhaps in the form of integrating and interrelated components such as:

1.7.4.1: AWARENESS:

That includes making the individual conscious about physical, biological, social and cultural aspects of environment. The environment is linked with the life support system which in itself has six components air, water, land, flora, fauna and sunlight. These components have dynamic relationship. Man is most important organism and has got a great responsibility.

1.7.4.2: REAL-LIFE SITUATION:

That link environment to life, these conditions are location-specific, this problems priorities of each are different.

1.7.4.3: CONSERVATION:

Means utilization of natural resources not only by the present generation but also by future generations. It does not include the process of exploitation.

1.7.4.4: SUSTAINABLE DEVELOPMENT:

It aims at utilization of resources for development. Therefore, resources should be used in a wise manner. All resources are fruit and there is a limit to the growth of living system. Thus, the efforts are to be made to utilize the resources wisely and intelligently.

Education, a salvage to all human problems including environmental crisis, henceforth, the learners while learning are expected to grow in the interest of environmental values which have universally reciprocal influences. More obviously, the

learners are expected gainfully develops awareness, skills, positive attitudes and values about the environment or surroundings, plans and practice rightful activities to solve the problems to improve the quality of environment.

Along with the rest of the human beings, Nagas strives for their feedings, shelters, clothing's and living sustaining, they led the life of their every possible efforts sometimes in some aspects they even lack genuine amenities in those days which even leads high rate of child moralities, malnutrition, ill health etc. inspite of their rich virgin natural resources. This could be eminent, because lack of knowledge about civilized habits of living, and confined within the cocoon, the so called traditional pattern of living conditions. With the advent of Christianity along with education, Nagas forged forwards in a civilized consciousness and come out of their narrow conceptions as when they were exposed to within no time, Nagas realized the value of reading and writing advantages in Naga society which dominates and determined the whole pattern of life system including their profession and even sources of life eg. "the more they educate the more they earns" including status, position, fame and prestige which are in a reverse way to old ones.

1.7.4.5: STAGE-WISE COURSE CONTENT:

Environmental studies. consists of curricular courses that includes both formal once and co-curricular activities that is non-formal one. So far as the first part is concerned our whole syllabi is full of topics relating to environment. Co-curricular activities has to perform a lot of practical work and must be linked with formal teaching relating to real life situations. A brief outline of content has been mention in the following:

(1) *Primary Education stage*:- At this stage emphasis should be mostly on building up Awareness and attempt to sensitize the child about environment. The content to be used are surroundings from home to school to out door situation. Teaching strategy includes play, eg. Cares, understanding.

(2) *Secondary stage*:- From the lower Secondary stage onwards, the quantum of awareness must decrease and there should be increased knowledge of real-life situations, conservation of environment understanding. At lower secondary level, objective must be real life experience, awareness and problem

identification. The content to be used at primary school level supplemented with general Science, teaching, practical and field visits are to be done.

(3) *Higher Secondary Education stage*:- Here the emphasis must be on development of skills to conservation, assimilation of knowledge, problem

(4) *College Education stage*:- At this level, the picture would be almost reverse of the primary level, as maximum emphasis would be here on knowledge regarding sustainable development based on experience with conservation in a descending order, by conservation, real-life situation and awareness. The content must be based on scientific knowledge and science and technology. Teaching, practices and action-oriented field work is to be done.

(5) *University Education stage*:- Environmental education at this stage is being looked after the University Grants commission(UGC). There is a high-powered Committee to suggest areas of EE at post graduate level. There are about 10(ten) Universities teaching courses in environmental areas. Besides these, there are also research institutes and professional institutions. The Universities imparting teaching, research and extension programme in order of need based.

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CHAPTER-II

CONCEPTUAL FRAMEWORK

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2.0: **Introduction**:- We live on the earth which is a unique planet in the Solar system. Its uniqueness lies in that its environment is favourable for all forms of life, including human beings. Our Environment thus consists of both the physical environment and the biological environment. The physical environment includes the non-living things of the environment such as, land, water and air. The biological environment refers to plants, animals and micro-organisms. Both these elements of environment interact with one another, exchanging matter and energy.

We live on earth in different types of surroundings. These surroundings are our environment. We eat, breathe, clothe ourselves, reproduce and then die. The next generation comes and the cycle goes on, and the human race flourishes on earth. The physical environment on the earth provides favourable conditions for the existence and growth of different life forms, including human. The living beings constitute the biological environment. Both the physical and biological environments are in a close interaction with each other and form a stable self perpetuating system.

Our environment is dynamic in nature and the elements of environment constantly changing in course of time and this affects life on earth. The sun is the main source of energy which causes changes in environment. We are familiar with the day to day changes in weather and seasonal changes in climate. These changes are the result of differences brought in the heating of the earth and its atmosphere by the sun. Similarly, circulation of water in the ocean and between the oceans, the atmosphere and the land masses is caused by the solar energy. The plants depends on the sun. A field of wheat, a herb of cattle, a crowed of people and a shoal of fish represent examples of solar energy stored in various forms.
Circulation of matter and energy between physical elements of the environment such as land, sea and air is responsible for creating an environment favourable for all forms of life. All forms of life are found in the narrow zones of contact between land, sea and air.

Our immediate concern is the environment in which human lives. The earth is the habitat of humans but they do not live in isolation from the other life forms on the earth, as they depend on them for food and other necessities. Thus in a broader sense, we must study the environment of all forms on the earth as a whole.

2.1: HISTORICAL BACK GROUND OF ENVIRONMENT:

In pre-historic days man lived in harmony with nature but in the course of his evolution man has developed a new type of environment, the man-made environment. In order to understand man's special relationship with his environment, it is necessary to review his recent evolution briefly. Some 15,000 years ago man was an unobtrusive species within the living world, his effect on the environment was relatively small and he was well adapted like other members of the fauna, to the eco-system of which he was past. But his brain was developing fast and he has becoming much more effective in making stone implements, so he began to make a greater impact on his environment. He started to cut down the forests and grow crops, build more durable huts and domesticate animals.

This meant that he gradually changed from a nomad seeking food wherever it could be found to a village dweller surrounded by the fields could till, the crops he could harvest and where his domesticated animals could be cared for and protected.

He learnt how to store the grain that he grew and preserve the fish and meat he procured to tide him over any period of scarcity. He improved his methods of communication with other individuals by inventing languages. This made cooperative action much more effective and started him along the road of cultural inheritance-the passing on of experience from one generation to the next. He discovered the value of the fire for cooking and preserving, for clearing land before planting, for keeping warm in colder regions and, later on, for molding metals to form more useful tools for hunting, for war and for agriculture. So man

move from the stone Age through the Bronze Age to the Iron Age. Life become increasingly complex-there were more things to be done, more trees to be felled, huts to be built, animals to be care for, fields to be tilled and tools to be made, also there was pottery to be molded and baskets to be woven. Thus man become more specialized: There was greater division of labour, bartering of products took place, roads were built to link up the villages and as man began to prosper, larger towns and cities were constructed. Our modern world is the logical development of these trends.

In recent years an awareness has developed of the ways in which modern man is affecting the environment. Often detrimentally and some times irreversibly. Before the advent of man, plants and animals formed balanced communities which were controlled by environmental conditions and which involved slowly in response to natural environmental changes. Early man lived by hunting and gathering and made no significant impression on the environment until he development of agriculture. This took place in about 10,000 B.C. in the Near East and some what later in China and the new World. Unconscious selection of cultivated plants and domestic animals produced strains with higher yields that their wild ancestors and this coupled with technological advances, led to the beginnings of urban development which occurred in Mesopotamia in about 4000 B.C. Although agriculture came later to Northern Europe, the evidence of fossil pollen deposits show that much of the native British forest had already been cleared about 400 B.C. and the trees replaced by grasses, cereals and other herbaceous plants including weeds such as the plantain. Forest clearance continued steadily through out the countries and even where the soil was poor for the growth of crops, grazing prevented the generation of the forests.

The environment in countries like Britain was therefore far from natural even before the Industrial revolution, but since that time the rate of change has increased phenomenally. Many people now live in the total unnatural environment of the large city where the population density is much greater than in rural societies. The social and psychological effects of this crowding are only just beginning to be understood. Agriculture has also become much more intensive,

particularly since the end of the Second World War. More agricultural land has been gained by clearing some of the remaining woodland, draining wet land and reclaiming coastal areas. Fertilizers have been applied as well as weed killers and pesticides and hedgerows have been removed at the rate of 6,000 to 11,000 Km. of hedge per year in Britain from about 1950 to 1970. This makes it possible to use large machinery but destroys natural habitals and removes winds breaks, which sometimes leads to soil erosion.(Every man's encyclopaedia volume-4).

In his Theory of his evolution put forward in 1809, Lanmarck laid it down as one of his laws that the functional changes produced by a change in the environment during the life of organisms are transmitted to the offspring, and during the next half century, in so far as the doctrine of evolution was accepted, it was accepted on this basis. By the publication of his ORIGIN OF SPECIES in 1859, Darwin introduced another factor to account for evolutionary change, and the acceptance of "Natural Selection" released the evolutionist from the burden of ascribing all specific differences to the direct action of the environment on the living thing. Darwin, however, remained to some extend a follower of Lanmarck. Without variations upon which to work, natural selection can not be effective in producing evolutionary change. As to the origin of such variations he did not venture upon any general statement, holding that in some cases they might be brought about by the direct action of a change environment, while in the others they must be attributed to some innate tendency on the part of the organism to vary, due to the causes of which we are quite ignorant. Nevertheless, he did not hesitate in many instances to state his opinion, that a change the conditions of life led to modification through the increased use or dis-use of certain parts or organs, and that these modifications were accentuated and gradually rendered permanent through a continuous process of selection.

"As an example may be taken relatively smaller size of the wing structures, with their lessened powers of flight, in domesticated fowls, ducks and pigeon-a peculiarity which Darwin considered to have been directly initiated through the effects of disuse consequent upon a change of environment and ultimately exaggerated and fixed by long-continued selections."

general and man in particular, to the second question which become environment and where surrounded is the space or habitat in a particular time or period.

Environment, largely concerned with the part of biological factor or collection of factors may play in the process of evolutionary change. To what extent can the characters of living things be changed by changes in the condition under which they live, and, if such changes occurs, how far can they become permanent? That a definite change in the nature of the environment, temperature, moisture, food supply, or some other factor will frequently bring about a change in the organism is beyond dispute. But whether the impress left on the organism can be transmitted to the next generation-whether so-called "acquired" characters can be inherited-has been and still is, a subject of keen controversy.

All living things reflect a relationship to their environment they have either acclimatized or adopted to it. Acclimatization is usually considered to be the adjustment of an organism in its life time to an unfavourable environment. Adoption is the genetic, or hereditary, adjustment of a species over several generation.

Human adjust to new surroundings more readily than any other animal because they have highly developed nervous system that enables them to reason, remember and communicate. Some animals and plants can live in more than one environment, but only man is able to invent vehicles and breathing aids that enable him to sustain life in all three of the principle environments-water, land and air. Man has also learned to survive in outer space.

With an absurd example, when does an apple that a person eats cease to be apart of environment and start to be apart of the man? Perhaps as soon as it enters the mouth, perhaps not until digestion has been completed.

The limit problem is not very serious more confusing is the problem of interaction between organism and environment. The earth's atmosphere for instance, with oxygen and carbon dioxide as component gases is an essential part of the environment for life as we know it. Yet we now believe that these gases were not part of early atmosphere of the planet; their existence is a consequence of the action of living organisms, as well as a necessary condition for life. The relation between vegetation and the soil provides another types of example. The kind of forest growing in a particular region is atleast

partly the consequence of the type of the soil in that region, yet the nature of the soil is partly determined by the sort of vegetation that has grown on it.

The interaction problem is particularly confusing in the case of man and the human environment. In orienting and judging our surroundings, we depend on our sensory system, yet, as psychologists can so easily show, what we perceive is in part a consequence of conditioning and learning. We have thus really created many aspects of the shapes, colours, sounds and smells in the world about us, atleast as they influence our behaviour.

The welfare of human beings and a sound environment are interlinked with each other. Environment is simple semantic signifies surroundings. Environment is crucial in ecology, which is a multi-disciplinary science deals with the inter-relationships subsisting organism flora, fauna and human and their environment. Ecology, environment and Eco-system are the three common words we hear almost every day in different contexts.

When we look around our surroundings we notice that no living organism is a discrete individual or lives in isolation, but each organism is a part of an intricately linked system of living and non-living elements and Ecology [Greek word: OIKOS House] meaning habitation and LOGOS meaning discourse or study, implies a study of the habitations of organisms. Ecology was first described as a separate field knowledge in 1866 by the German Zoologist, Ernst Haeckel, who invented the word OECKOLOGIE for "the study of the animal to its organic as well as its in organic environment, particularly its friendly or hostile relations to those animals or plants with which it comes in contact."

As eco-system as an ecological community considered together with the non-living factors in its environment as a unit. It is the unit which defines whether it is plant ecology, animal ecology or human ecology. It deals with the ways in which organisms are moulded by their surroundings, how they may use their surroundings and how an area is altered or affected by the presence of an organism.

Definition of Environment consists of the sum total of the stimulation that the individual receives from conception until death. It covers all these circumstances which assert their influence on the individual, may be covered by the term environment.

Boring(1959) defined the term environment as "A person's environment consists of the sum total of the stimulation which he receives from his conception until his death."

According to Anastasia (1955). "The environment is everything that affects the individual except his genes."

Douglas and Holland says that "The term environment is used to describe, in the aggregate, all the external forces influences and conditions, which affect the life, nature, behaviour and the growth, development and maturity of living organism."

Environment is viewed in different way with different angles by different groups of people, but it may be safely argued that environment is an inseparable whole and is constituted by the interacting systems of physical, biological and cultural elements which are inter-related individually as well as collectively in myriad ways.

2.3: CHARACTERISTICS OF ENVIRONMENT:

Definitions as mentioned above, clearly emphasized the following characteristics of environment:

i) The sum total of stimulation from his birth until his death.

ii) It is everything which affects the individual.

iii) All the external forces which affects the growth, development of living organism.

iv) It consist of physical, intellectual, social, moral, cultural, emotional, economic and political forces which affects the life and nature of behaviour.

v) It refers to sum total of conditions which surround neat at given point in space and time.

vi) It includes physical(land, air and water) and biological(plants, animals including ,man and his several functions, organization and institutions) components.

vii) It involves physical, chemical, biological, social, economic, political and cultural processes and supra-social environment(Religion) consists of the notions regarding God or Super natural power.

2.4: TYPES OF ENVIRONMENT:

Kurt Lewin(1954) has enumerated three types of environment which influence the personality of an individual.

2.4.1: PHYSICAL ENVIRONMENT:

If we are concerned with the ways in which people(or individuals) cope with their natural environment, we almost necessarily look at the physical man with the cultural equipment at his disposal for this purpose. Thus the same physical surroundings, the same environment, may have quite different meanings, for, say, a food gathering pygmy, an agricultural Bantu, or a Western European. We are here concerned primarily with cultural adoptions or mala-daptions. This is the case with many sorts or geographical and anthropological studies: in extreme cases, human nature may be taken as a constant to be ignored and study concentrated on the interaction between culture and environment in this sense of the term.

Physical environment refers to geographical an individual lives. The human races are greatly influenced by the climate as another aspects of environment, that of scale, where the standard measurements are made. As a rule or nature, Environment even influenced the size shape and colours of individual appearance. People who live in sunny, warm countries have dark complexions than those who live in a colder climates. Melanin, the dark pigment in skin, hair, and eyes, filter out some of the sun's harmful rays.

Mammals and birds in warm and humid regions have more melanin than members of the same species in cool, dry areas.

The colour, white, yellow and black races are due to the climate conditions. In a cool countries, the people are of white colour and in a hot countries people are of black colour. The physique of an individual and human working efficiency depends on climatic conditions. The individual tries to adjust in his environment. Even heredity is also influenced by the physical environment.

2.4.2: SOCIAL ENVIRONMENT:

Social Environment consists of social, economic, political, cultural, npsycho-social and even supra-social environment(Religion) relationships that exist among Abiotic and Biotic component conditions of an individual in which he lives. The proper appreciation of these relationships is very vital to man's survival and development, on the other hand respect, preserve and protect the gifts of natures.

Elements which influenced the social life for instance, economic environment consists of all economic goods including manufacture articles, in short, all the comforts and conveniences which man has made to deliver him out of "the state of Nature." Economic order is in other words, an order of everyday life which man has built for the satisfying of his needs through production, exchange, distribution and consumption of wealth in its own environment.

Social environment includes also culture: known as cultural environment the customs, traditions, laws, usages and practices, moral and emotional forces, mode of thought and forms of knowledge and belief which form man's cultural inheritance affects the life and nature of individual behaviour. It may be of two types-closed and open society. The open society is very conducive for the individual development, where as closed society is not very conducive for the development of individual potentialities. Every individual tries to adjust in his social environment.

2.4.3: PSYCHOLOGICAL ENVIRONMENT:

Psychologically an individual's environment is related to all those stimuli which he faces from the moment of fertilization till death. Evidently, under it are included all those things which some how or other affect an individual's development. Environmental factors have also been emphasized of a person are fully developed and realized in a favourable environment. Psychological environment refers to individual behaviour, resulted of both internal and external stimuli. The feeling of thirst or hunger is an internal stimulus and due to this stimulus we show specific behaviour. Seeing and hear the popular singer's performance on the stage, an external stimulus due to this stimulus we behave in a certain manner. This psychological interaction results psychological environment.

Kurt Lewin has given main emphasis to the psychological environment of individual. The psychological and social environments are common to the individual in a specific situation while every individual have own environment, in which he lives. He has used "Life space," topology for explaining psychological environment. It refers to the definition of personality, includes, mood, emotion, conscious, intellectual, intelligent, concept, understanding, skills aspiration etc. the manner in what one serves, as saying "man is a servant of his needs." Man within man is the personality. Psychological environment is very important to understand the personality of an individual. Perhaps person and his goal form the psychological environment. If a person can not achieve his goal, unable to overcome the barriers, it may account to frustration or he has to change his goal for a new psychological environment. This mechanism will help the individual for the adjustment.

2.5: STRUCTURE OF ENVIRONMENT:

Environment is both physical and biological concept, it includes both living and non-living components. Thus on the basis of basic structure the environment be divided into two basic types (1) Physical or Abiotic Environment and (2) Biological or Biotic Environment.

On the basis of physical or Abiotic characteristics and state, the Abiotic Environment is sub-divided into three broad categories viz. (i) Solid, (ii) Liquid, (iii) Gas which represent the Lithosphere (Solid earth), the Hydrosphere(Water components) and Atmosphere(Gases or air) respectively. Thus the three basic divisions of physical environment may be termed as:

i) Lithospheric Environment,

ii) Atmospheric Environment and

iii) Hydrospheric Environment.

These may be further broken into smaller units based on different spatial scales, e.g.

i) Mountain Environment, (ii) Plateau Environment, (iii) Plain Environment,

(iv) Lake Environment (v) River Environment, (vi) Maritime Environment,

(vii) Glacier Environment, (viii) Desert Environment, (ix) Coastal Environment etc.

Biological or Biotic components of environment consists of plants(flora) and animals(Fauna) including man as an important factor. This the Biotic environment may be divided into:- i) Floral Environment,

ii) Faunal Environment. All these organisms work to form their social groups and organizations at several levels and thus is formed social environment where the organisms work to drive matter from the Abiotic Environment for their sustenance and development. This process generates economic environment. It may be pointed out of all the organisms, man is the most skilled and civilized and hence his social organization is most systematic. It is significant to note that three aspects of man, e.g. physical, social and economic, have different characteristics and functions in the biotic environment as "physical man" is one of the organismic populations or biotic community and this requires basic elements of the physical(Abiotic) Environment, viz. Habitat (space) air, water, and food like other biotical populations and releases waste into the ecosystem, "Social man" establishes social institutions, form social organizations, formulates laws, principles and policies to safeguard his existence, interest and social welfare, and "economic man" derives and utilizes resources from Abiotic and Biotic environments with his skills and technologies. These may be termed as physical, social and economic functions of man. It is the third function(economic) which makes the man an environmental geomorphic process as well as because he transports matter energy from one components of the ecosystem to the other. This aspect/functions does not

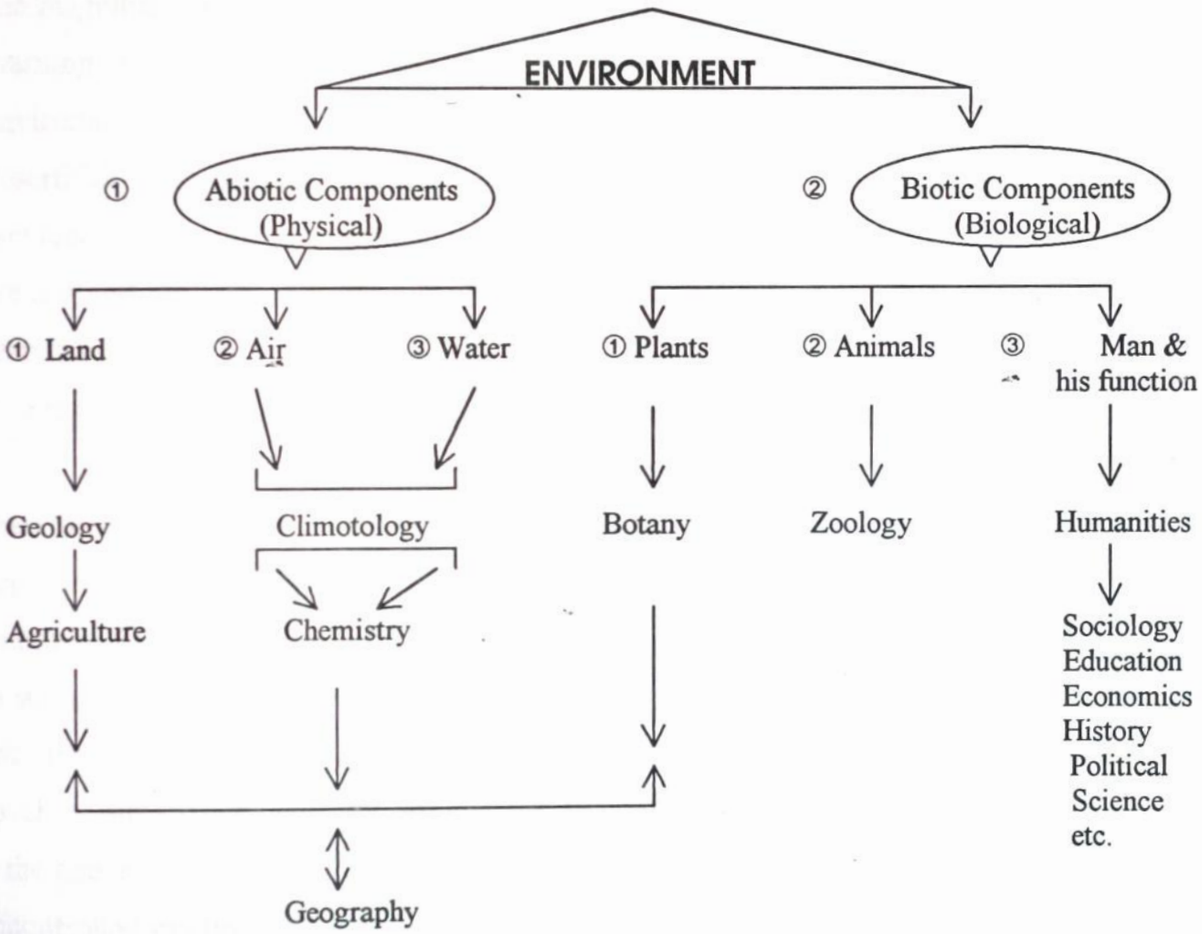
necessarily involve change in the working of the ecosystem so long as the exploitative functions are harmony with the natural environment, but when these exceed the critical limit, the equilibrium of the environment/ecosystem is disturbed and several environmental and ecological not only to man himself but to whole population(of species) in a given ecosystem.

The physical(Abiotic) environment may also be viewed in terms of climatic conditions providing certain suits of habitat for the biological communities vig. Tropical environment, temperate environment, polar environment etc. which may be further sub-divided into smaller but specific divisions. Abiotic and Biotic Environment fused together form "Biome Environment," like tuñdra biome, temperate biome and tropical biome which are further sub-divided into second and third order biomes.

In environmental geography Abiotic environment is the most outstanding feature and this should be given more significance than the social and cultural environment. The economic function of man becomes more significant than its other functions as it is more concerned with the functioning of ecosystem. Thus, the interaction of man through his economic functions and hence as an environmental process with natural environment and resultant human response to the environment is the fundamental concern of environmental education.

2.5.1: RELATIONSHIP OF ENVIRONMENT WITH STUDY SUBJECTS:

The environment is composed of Biotic(Biological) and Abiotic(Physical) components. This can be shown as under:



Every independent field of study or discipline has its own area of study. It is evident from the above chart that the environment relates to physical science, bio-science, social science, while geography has wide coverage of environment. The Abiotic components are-land, air and water which are the areas of geology (land), agriculture includes plants also, chemistry, physics and geography. The Biotic components are plants, animals, man and his functions, organizations and institutions which are the areas of botany(plants), zoology(animals), sociology, education, economics, political science and commerce etc. (man and his functions).

2.6: ENVIRONMENTAL DEVELOPMENT:

World is alarmed by the frequent man-made ecological disturbs, perhaps every action has equal and opposite reaction. Nature has already started to retaliate. The rise in the magnitude of natural hazards; the rise of temperature of the earth leading to global warning, the destruction of the life protection ozone cover of earth, the recurrent environmental disasters, the monstrously spreading evils of soil erosion and desertification marching in every continent of the earth, and the alarmingly growing incidences of deadly human diseases related to chemical, biological and radiation hazards are some of the glaring evidences of nature's retaliation which mankind must notice and search for an early remedial action before the ecological crisis turns into disaster and strikes the human society for their total annihilation from earth.

Ironically all environmental problems be it pollution, deforestation, desertification, waste generation, global warning, acid rains and stratospheric ozone depletion emanates from developmental activities. The progress of "industrialization," "motorization," farmization," urbanization" and energization," which is also necessary to sustain the growing human population and fulfil their needs and aspirations. But it is not the "need" of the people, but their "greed"" rooted in the culture of "overconsumerism," that has aggravated the problems. In the rich developed nations it is the rise in the culture of "consumerism," while in the poor developing nations it is the uncontrolled multiplication in the number of consumers, that is primarily responsible for both the environmental as well as the socio-economic crisis. The dangerous tendency of growing consumerism among the handful of privileged elitist society of the poor developing nations like India who have so far scrupulously managed to encroach and illegally thrive upon the legitimate shares of scarce resources of the poor under privileged masses would make the situation worse for these nations.

Human beings are at a cross-road today our common future and the future of those who are yet to be born tomorrow on the earth much depends upon how wisely we act today and how judiciously we use the earth resources and embark on the path of "sustainable socio-economic development."

Perhaps we have to change our developmental priorities and strategies, simplify our life style e.g. fooding and living habits, and reorder our needs and priorities. We have to share the fruits of development equitably among the masses consume the earth resources judiciously within the ecological limits and minimize waste generation in daily life all within the "carrying capacity" of the earth. The hopes for a better human environment and for a more sustainable future for mankind lies with the discovery of a new strategies of development with new environmentally benign eco-technologies, which minimize pollution and waste generation, new alternative sources of materials and energy, the harnessing and utilization of which would entail minimum damage to the environment. Future of our civilization will be determined not by the megawatt of energy generated but by the source from which they are generated. Environmental ethics and environmental protection laws have to become integrated part of all our developmental programmes and of our very today living and fooding habits.

Future hopes also depends upon growing awareness about environment among the policy and decision makers who make decisions about development of a country. Politics is becoming more greener in the developed nation. The collapse of the Dutch Coalition Government in 1989 was the first Government in the world to fall on environmental related issues. The liberal party refused to support a new environment policy which aim to cut pollution by 7 percent, by the year 2010.

The challenge to restore a more sustainable human environment for the future lies in fact that-how soon we commercialize the production and utilization of non-polluting energy resources like solar, wind, tidal, bio-gas and hydrogen fuels, how soon we commercialize and popularize the production and application of bio-fertilizers and bio-pesticides and switch over to organic farming, reducing our dependence on agro-chemicals, how soon we get rid of those developmental materials and technologies whose production, application and utilization entails heavy environmental damage, upon how efficiently we are able to reduce, re-use and recycle all those waste created by human society. Upon how soon we are able to arrest the menace of growing soil erosion, desertification and wasteland formation and convert the degraded lands into forest and farm lands for productivity and finally, upon how soon we are able to arrest the dangerously growing human population(consumers) and culture of growing over-

consumerism on earth. Environmental problems emanate from both under development as well as over development. Under development would lead to poverty and poverty also pollute. Development lead to exploitation of resources, deforestation and pollution. Pollution, development and environment are inter-related. As the pattern of development, it seems our country is imperceptibly binding three types of societies: (i) High-Tech/Super-developed industrial society, (ii) Back to nature underdeveloped society, (iii) a bland of the first two-sustainable development society.

2.6.1: HIGH-TECH SOCIETY:

It envisages generation and use of advanced to technology which ensures ever-increasing economic growth that would also support higher population growth with a high standard of living. In such a society the central role is to be played by technology, guaranteeing good quality of life. Obviously, such a system must rely on human ingenuity which according to the technoptimists has unlimited potential. They take the example of energy use from firewood to coal, hydro-power, oil, nuclear energy and hydrogen fuel etc. Further more, indefence to high-tech society, it is argued that through out human history, the carrying capacity of earth has consistently increased from tool-making revolution to agriculture revolution and finally to the present day of scientific and industrial evolution. Japan is the ideal example of the High-tech Society. Such a society believes that there is no cause of worry. Developmentalists (Economists & Technologists) support high-tech society and they believe that environmental considerations are subordinate to development. In their scheme of things, the rate of economic growth is primary consideration. However, such a society pre-suppose availability of unlimited supply of resources and also unlimited resilience in life support systems of earth ecosystems to keep on absorbing the continued schools of pollutions, waste generations, deforestation and eco-degradation.

2.6.2: BACK TO SOCIETY:

Society adopts a very cautions approach. It believes that developmental consideration should be subordinate to those of environment. Those supporting such a society or often regarded as "eco-fundamentalist." Being a vociferous group, one may

get an impression of their being rather emotional and dogmatic with essentially a doomsday approach. However, they are as dogmatic as the High-Tech group, and have rendered yeoman service in sensitizing the people at large and even decision makers. They are will-intentioned and well meaning people who believe that environmental considerations should have an overriding importance. They believes in finiteness of the earth system and feel that fundamental changes are needed as far as resources distribution, power and economic structures are concerned. Many in this group draw inspiration from the non-violent and self-reliant approach of Mahatma Gandhi.

2.6.3.: SUSTAINABLE DEVELOPMENT:

It believes in blending environment with developmental and economic imperatives. The group insists that the national accounting system for economic prosperity should be based on both the economic growth rate and the rate of ecological resources degradation and/or rehabilitation. The two together will only give a correct picture of the state of the country's economy. This would also ensure that the economic growth is not at the expense of ecological assets. In their view, although India has rather a rich resource base, the majority of the people are essentially poor. This group has faith in science and technology as a powerful instrument of social and economic technology relevant to a particular situation with emphasis on local self-reliance. They believe in reducing recycling and re-using waste materials and advocate adoption of all the technologies that help to conserve the life-supporting system of the planet without affecting its generation capacity.

Twin goals of sustainable Developmentalists approaches-(i) respiration of the ecological damage and (ii) Isolation of the country from the damage as a consequence of future development. What we need is the right mix of development and environment to enable people to produce, protect and sustain resources so as to raise their quality of life. It has to be the "bio-intensive form of development because foundations of our village society and economy are biological. Further more, bio-mass production has not to be monsoon-dependent. Such a positive approach alone will help rural people to insulate themselves future ecological and economic sachet, which other make them "ecological refugees."

For the success of bio-intensive pattern of development at the grass-root, two measures are necessary. Firstly, land use planning and land tenure, which though a difficult problem, has to be solved in favour of people particularly the weaker sections. Secondly, our per capita land holding is very small with the population rise, it would become still smaller. We have therefore, to get more and more bio-mass from less land. This is possible by evolving environmentally clean science and technology, particularly bio-technology and advocate use of not only high-tech yielding varieties but also "bio-fertilizer" and bio-insecticides in order to make bio-mass production sustainable and continue to maintain the health of soil upon which depends the health of the nation and its people.

Today, a major challenge as also an opportunity before mankind is how soon we can move towards sustainable society. In India, if we go on the way we have so far, centuries will continue to co-exist in future. "We will continue to have a subsistence for a large number of poor, underfed and dispossessed toilers and plodders who live in medieval times and an affluent India of a small number of people who are yet-set, wealthy, overtake the steps to bridge the vast gap between the large powerless subsistence and smaller powerful affluent India, will determine whether we can make it to a sustainable India where we have equity with social justice, conservation, of finite resources. Environmental harmony between native and nature economic prosperity with ecological security, the dream of Mahatma Gandhi.

2.7: ENVIRONMENTAL EDUCATION:

Teaching-learning can be carried out through Environment. And that is the first aspect of environmental Education. For man has to tackle his environment every day for his survival, sustenance and prosperity. He can not escape it under any circumstances, right from cradle to the grave. Perhaps, environmental education is education for environment. Environmental education is the new of study and recent discipline of education for it denotes that environmental education is a medium and process of education and that it covers man's relationship with his natural as well as social and man made environment and also it includes the relationship of population, industrialization, pollution, resources allocation and depletion, conservation, transportation, technology, energy, urban and rural planning to the total biosphere. Thus environmental education

may be termed as Human Ecology which deals the relationship of man and material in context of growth and development.

2.7.1: AIMS OF ENVIRONMENTAL EDUCATION:

The ultimate aims of environmental education should take account of the actual economic, social, cultural and ecological circumstances. Primary aims of environmental education is to enable human beings to understand the complex nature of the environment as this results from the interaction of its biological, physical, social, economic and cultural aspects. It must accordingly provide the individual and the community with the means of interpreting the interdependence of these various elements in space and time so as to promote a more considered and cautions use of the resources of the universe to satisfy the needs of mankind. To this end education should disseminate information concerning development methods with no environmental harmful implications and encourage the adoption of ways of life conducive to harmonious relationship with environment.

2.7.2: OBJECTIVES OF ENVIRONMENTAL EDUCATION:

Objectives of environmental education in all three domains-cognitive, affective and psychomotor are:-

1. To help acquire knowledge of the immediate environment.
2. To help acquire knowledge of environment beyond the immediate environment including distance environment.
3. To help understand the biotic and Abiotic environment.
4. To help in acquiring skills for identifying and solving environment problems.
5. To evaluate the utilization of physical and human resources and suggest remedial measures.
6. To help develop observational skills and notice details usually not seen by an untrained eye.
7. To appreciate the gifts of nature.
8. To value the cleanliness and purity of our environment.
9. To participate in conserving, preventing and promoting our environment.

The objectives of environmental education are categorized as follows:-

2.7.2.1: **AWARENESS**: To help social groups and individuals acquire an awareness of and sensitivity to the total environment and its allied problems.

2.7.2.2: **KNOWLEDGE**: To help social groups and individuals gain a variety of experiences and acquire a basic understanding of the environment and its associated problems.

2.7.2.3: **ATTITUDES**: To help social group and individuals acquire a set of values and feeling of concern for the environment and the motivation for actively participating in environmental improvement and protection.

2.7.2.4: **SKILLS**: To help social groups and individuals acquire the skills for identifying and solving environmental problems.

2.7.2.5: **PARTICIPATION**: to provide social groups and individuals with an opportunity to be actively involved at all levels in working towards the resolution of environmental problems.

2.7.3: **GOALS OF ENVIRONMENTAL EDUCATION**:

The goals of environmental education are: -

a) To foster clear awareness of and concern about economic, social, political and ecological interdependence in urban and rural areas,

b) To provide every person with opportunities to acquire the knowledge values, attitudes, commitment and skills needed to protect and improve the environment,

c) To create new patterns of behaviour of individuals, groups and society as a whole towards the environment.

2.7.4: DEFINITION OF ENVIRONMENTAL EDUCATION:

The term of Environmental Education has been discussed in various national and international Seminars who tried to defined it. Some of the definitions have been provided here to understand the concept:

i) UNESCO (1970) working Committee stated that "Environmental Education is the process of recognizing values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the inter relatedness among man, his culture and his bio-physical surroundings. It also entails practice in decision making and self formulation of a code of behaviour about problems and issues concerning environmental quality,"

ii) According to United States Environmental Education Act, 1970, "For the purposes of this Act, the term 'Environmental Education' means the educational process dealing with man's relationship his natural and man-made surroundings and includes the relations of populations, pollution, resource allocation and depletion, conservation, transportation, technology, urban and rural planning to the total human environment."

iii) The First Report of British Royal commission on environmental pollution(1970) says that; "the best insurance for the environment is a commitment of the public to prevent the deterioration of air, water and land."

iv) The Finnish National Commission Seminar 1974 at Jamni stated that "Environmental Education is a way of implementing the goals of environmental protection. It is not a separate branch of Science or field of study. It should be carried out according to the principles of life-long integral education."

v) The Report of conference of African Educators EDC & CREDO held at Nairobi 1968; says:- "To create an awareness an understanding of the evolving social and physical environment as a whole, its natural, man-made, cultural, spiritual resources together with the rational use and conservation of these resources for development."

vi) According to Cook and Hearn (1971) "Environmental Education(EE) is problem-centred, inter disciplinary, value-oriented, community-oriented and concerns with man's survival as species, based on student-initiated activities and involvements present and future oriented."

vii) According to Mishra(1993); "Environmental Education appears to be a process that equips human beings with awareness, knowledge, skills, attitudes and commitment to improve environment."

viii) R.A. Sharma(1996) stated that: "Environmental Education refers to the awareness of physical and cultural environment and perceive its relevance for real life situation. The problems and issues are to be identified. The imbalances of environment are to be improved in view of sustainable development."

Good environmental education, like any good education, must lead pupils and students out and on from their immediate perceptions and experience to a wider understanding. It must develop their capacity to go beyond the anecdotal and particular.

Environmental education involves a comprehensive lifelong education, one responsive world. It prepare individual and communities for life, through an understanding of the major problems of the interaction of the biological, physical, social, economic and cultural aspects of the individual and communities. It provides skills and attitudes needed to play a productive role in improving life and values. In order to enable people to enjoy good health and high quality of life.

Environmental Education is a process of providing learning experience to obtain knowledge, understanding skills and awareness with desirable attitudinal changes about man's relationship with his natural and man-made surroundings which includes, the relation of population, pollution, resource allocation, technology etc environmental education must utilize diverse learning environments and broad array of educational approaches to teaching learning about and from the environment with due stress on practical activities and first hand experience. It should help learners to discover the symptoms and real causes of environmental problems and thus to develop critical thinking and problem solving skills. Environmental education should be a continuous life long process, beginning at the pre-school stage level and continuing through all

formal and non-formal stages and should be interdisciplinary discipline in making possible holistic and balance perspective.

2.7.5: PRINCIPLES OF ENVIRONMENTAL EDUCATION:

The principles of environmental education are to increase the public awareness of the problems in this field, as well as possible solutions and to lay the foundations for a fully informed and actively participation of the individual in the protection of the environment and the prudent and rational use of natural resources. For the achievement of the objectives of environmental education should take into account particularly the following guiding principles:

i) The environment as the common heritage of mankind.

ii) The common duty of maintaining, protecting and improving the quality of the environment as a contribution of human ecological balance.

iii) The need for a prudent and rational utilization of natural resources.

iv) The way in which the individual can, by his own behaviour, particularly as a consumer, contribute to the protection of environment.

A comprehensive guiding principle for school environmental education should consider the environment in its totality-natural and built, technology and social economic, political, technology, cultural-historical, moral, aesthetic,

- Be a continuous life long process, beginning at the pre-school level and continuing through all formal and non-formal stages,
- Be interdisciplinary in its approach, drawing on the specific content of each discipline in making possible a holistic and balance perspective,
- Examine major environmental issues from local, national, regional and international points of view so that students receive insight into environmental conditions in other geographical areas,
- Focus on current and potential environmental situations while taking into account the historical perspective,
- Promote the value and necessity of local, national and international cooperation in the prevention and solution of environmental problems.
- Explicitly consider environmental aspects in plans for development and growth,

- Enable learners to have role in planning their learning experiences and provide an opportunity for making decisions and accepting their consequences,
- Relate environmental sensitivity, knowledge, problem-solving, skills and values clarification to every age but with special emphasis on environmental sensitivity to the learners own community in early years,
- Help learners discover the symptoms and real causes of environmental problems.
- Emphasize the complexity of environmental problems and thus the need to develop critical thinking and problem solving skills,
- Utilize diverse learning environments and a broad array of educational approaches to teach/learning about from the environment with due stress on practical activities and first-hand experience.

2.8: INTEGRATED APPROACH TO ENVIRONMENTAL EDUCATION:

Environment itself is a complex in nature depending upon its eco-systems. Environment includes the surrounding objects or circumstances in which an individual is placed and developed. The environment consist of all conditions and factors which effects the individual from without. It includes all the changing influences. Therefore, Environmental Education should be considered in a holistic nature and integrated solution approach should be under taken by the related departments, such as Forest, Zoology, Soil & Water Conservation, Wasteland Development, Rural Development, Agriculture, Education Department etc. to impart the knowledge and awareness of environmental problems.

In this context each educated individual can provide proper education and motivation on the benefits in integrated manner and bring about the people through service minded, Educated people is the vital instrument to take messages to the people at large.

Informal education is one of the suitable mediums to propagates wisdom and educate the masses. "To preserve man, preserve eco-system" should be the message to be conveyed the through all forms of education-formal, non-formal. In this noble task all

media, print, audio, tapes, video cassettes and films should be exploited, so that each individual even in the remote rural area is reached. As Mrs. Indra Gandhi pointed out "conservation principles should be taught to children just as personal cleanliness, health and sanitation, not for any romantic reasons but because they are important principles affecting human life.

2.9: INTERNATIONAL DECLARATION:

The Stockholm conference(1972) was a powerful force in arousing public awareness and understanding of the fragility of the human environment. The principles of the Stockholm Declaration(1972) are known as Magna-Carta on human environment as they provide a basic code of environmental conduct. It emphasized the urgent need of intensifying the efforts at the global, regional and national level to protect and improve the human environment. The Nairobi declaration (1982) urged all the Governments and people of the World "to discharge their historical responsibility collectively and individually to ensure that our small planet is passed over to future generation in a condition which guarantees a life of dignity for all."

The world Commission on environment and development in its report "Our Common Future"(1987) has suggested various ways and means for environmental protection and sustainable development. "The Commission observed that National and International Law has traditionally lagged behind events. Today, legal regimes are being rapidly out distanced by the accelerating pace of environmental destruction. Human laws must be reformulated to keep activities in harmony with the unchanging and universal laws of nature." Annexure-I of the Report has proposed twenty legal principles for environmental protection to be adopted by the World governments.

2.10: UNESCO ON ENVIRONMENTAL EDUCATION:

The International Conference on Environmental Education, organized by UNESCO in cooperation with UNEP, convened in the city of Tbilisi (24-26 Oct/1977) in line with the Declaration of the United Nations Conference on "Human Environment" organized in Stockholm in 1972 proclaimed: "To defend and improve the environment for present and future generations has become an imperative goal of man kind." This

undertaking urgently call for new strategies, incorporated into development, which particularly in the developing countries is a pre-requisite for any such improvement.

Environmental education, properly understood, should constitute a comprehensive life-long education, one responsive to changes in a rapidly changing world. It should prepare the individual for life through an understanding of the major problems of the contemporary world and the provision of skills and attributes needed to play a productive role towards improving life and protecting the environment with due regard given to ethical values.

Environmental Education should not be just one more subject to add to existing programmes but should be incorporated into programmes intended for all learners, whatever their age. This task requires the application of new concepts, new methods and new techniques as part of an over all efforts stressing the social role of educational institutions and the establishment of a new relationship between all those engaged together in the education process- (Final Report of the Tbilisi conference). According to UNESCO(1981), the objective of environmental education were awareness, knowledge, attitude, skills, environmental abilities and participation. These should form an integral part of general objectives of education.

2.11: ENVIRONMENTAL STUDIES:

More people are alive today than have ever lived on earth at one time, and we are using more resources and producing more wastes than any previous civilization. When there were few people on earth, our planets ability to provide resources and absurd wastes appeared indefinite. Today our rapidly expanding technological civilization creates new demands on all aspects of our environment. We can no longer avoid the question. How valuable is our environment?

A fundamental principle of environmental studies is that an understanding of complex environmental problems requires a team approach involving several disciplines. The serious student of the environment must be aware of the contributions to environmental research from biology, conservation, atmospheric Science, Chemistry, Environmental law, architecture, engineering and geology as well as from physical,

cultural, economic and history. Environmental studies, by its very nature, must be seen as a broad and interdisciplinary subject.

The term Environmental studies(ES) and Environmental Education(EE) are both use in the above statements. ES and EE are two sides of same coin or round shape of a marble. Both are techniques to achieves the goals, aims and objective in a holistic manner. Environmental studies involves a child's investigation and systematic exploration of his own natural and social environment and prepare himself to solve the problems for improving his life.

Schools Council Environmental Studies perfect based at cartrefle College of education(1967-71) had defined "Environmental Studies as an approach, through activities based on a child's physical and social environment, which lead to the progressive development of attitudes and skills required for observation, recording, interpretation and communication of Scientific, history and geography data." The essential innovation of the project is the systematic use of the environment with skill development in mind.

Britain, her majesty's Inspectorate DES(1984) stated that "Aims of Environmental Studies are to contribute to the general purposes of Primary Education, including the attainment of acceptable standard of literacy and numeracy by providing suitable learning contexts and offering relevant opportunities for the application of skills and the formation of positive life-long attitudes to learning.

The terms of Environmental education and Environmental studies are define and differentiate between the two terms as follows: (a) Environmental education transcends environmental studies, outdoor pursuits and conservation. Curricular recreational and social experiences contribute to it. It begins with the investigation of the physical and human local environment, widening and deepening its approach to include the new and the more distant until eventually its concentric frame work encompasses international and global scenes(Report by HMI Scotland 1974). Where as (b) Environmental studies is an approach to learning-that which is concerned with skill development in particular, including the basic skills of literacy and numeracy. Environmental studies is not thought of by the team as a subject with its own body of factual information but as a way of learning through organized inquiry.

In India, recent introduction of ten years School curriculum envisages teaching of environmental studies from the beginning of School education (NCERT, 1975). The concept of environmental studies in school curriculum is to develop an awareness understanding of environment and problems related to it. This will not only create an atmosphere against the present treat to our eco-system, but also accelerate man's adjustment with environmental forces. Through an understanding of environmental crisis, children will develop both skills and attitudes for better adjustment with environment.

It is purposed to introduce environmental studies not only as a separate discipline but also as a method of studying other subject(NCERT, 1975a, 1975 b). Hence, a close relationship between School curriculum and facilities available outside the four walls of class room is essential. It is often remarked that environmental studies as a subject of study in the school, is the education for environment, of the environment, and by the environment. The intention behind introduction of environmental studies in school curriculum is not to add another subject like history, mathematics or geography, but it is an approach through which environmental problems are highlighted for solution.

2.12: ENVIRONMENTAL STUDIES IN INDIA:

The concept of environmental studies is very close to Indian system of education. The life during pre-vedic and vedic periods and educational system which prevailed at the Gurukulas and Universities like Takshyahila and Nalanda indicate close link between environmental facilities and educational system in the ancient India.

During pre-Independence period the link between environment and education was sought to be re-established through essential elements of Basic Education movement launched by Mahatma Gandhi and for the environmental necessities was encouraged by our national leaders. Different education Commissions and Committees set-up by the Government of India at various times after Independence have also stressed for the close link between education and environment. Since 1963, Text-Books on general Science and Social Studies and instructional materials introduced at different stages of School Education, have been re-organized towards keeping in mind the environmental facilities and necessities.The National Council of Education Research and Training(New Delhi) has taken the lead to make these subjects environmental oriented at the national level (NCERT) 1970

2.13: EDUCATION COMMISSION(1964-66):

Emphasizing need for environmental studies, proposed freedom to individual institutions to frame their own curriculum depending upon local needs and available resources. The curriculum at the lower Primary stage (grade-I to IV) included (a) one language(Mother tongue/regional language), (b) Mathematics, (c) Study of Environment, (d) Creative Activities and (e) Health Education.

Study of environment is further high-lighted with the proposal of no prescribed text-books on the subject for grade-I and 2 and granting maximum freedom to teachers to select topics which are linked with local problems and facilities. But in grade-3-4 and 5 the subjects is divided into two parts. The Environmental Study-I contains Social Studies in the form of social, cultural and geographical environment of the child(History, Geography, Civics). Physical and Biological Sciences divided into specific units of nature are included in environmental study-II.

2.14: NATIONAL POLICY ON EDUCATION 1986 ON ENVIRONMENTAL STUDIES:

The environmental studies programmes at this stage aims at developing in the child an awareness and understanding of his physical and social environment in its totality, immediate and remote. Through environmental studies the child should be able to understand at an elementary level the interaction of man with his environment and with the social, economic and political institutions that functions in the social environment. The immediate environment of the child provides the necessary stimulus to learning and learning in turn is directed to the study of the environment. Children are expected to:-

- Understand the concept of environment,
- Know what is meant by environmental approach,
- Understand why the environmental approach is necessary at the primary level,
- Devise activities for teaching environmental studies at the primary level, and
- Appreciate the need for the environmental approach at the primary level.

2.14.1: SALIENT FEATURES OF THE ENVIRONMENTAL APPROACH:

1) Environmental studies evolves a child's organized investigation and systematic exploration of his own natural and social environment.

2) Through the study of his own immediate environment the child is expected to develop certain concepts, skills and attitudes which will eventually help him in the study of other environments in time and space.

3) Environmental studies as an approach to learning is a method of self-learning. In environmental studies, both process and content are important. The "how" of learning gets equal emphasis with "what" to learn. Thus "learning by doing," "problem-solving," "discovery approach," "activity methods," are emphasized in environmental studies to enable students to learn how to learn.

4) While environmental studies emphasizes learning through immediate surroundings and direct experiences of the child, it does not restrict the child's awareness to his limited local world. It aims rather at a careful extension of the child's mental horizon form known to unknown, from immediate to remote, and from concrete to abstract.

5) The environment is used not as an end in itself but as a means to an end, the end being the all-round development of the child's personality.

2.14.2: RATIONAL FOR INTRODUCING THE ENVIRONMENTAL APPROACH AT THE PRIMARY LEVEL:

The soundness of environmental approach is establish by the fact that it is the child's own environment with which he is not familiar. The environment in which the child lives, is surely the most familiar element, which can be exploited for making the child's learning sound and effective. An approach of this kind cuts across all barriers of subjects or disciplines. As a matter of fact, the learning takes place across a very broad spectrum of the significant experiences of the child.

2.14.3: METHODOLOGY OF ENVIRONMENTAL STUDIES:

For its methodology environmental studies may employ any combination of the following activities, depending upon the topic and the convenience of the teacher.

i) Providing children with opportunities to observe local environment features, problems and phenomena and changes in the community and living things like plants and animals.

ii) Allowing them to classify living and non-living things on the basis of given criteria or on the basis of criteria chosen by the children themselves.

iii) Helping them to draw in escapable or obvious inferences from such observations and classifications.

iv) Organizing out-of-class activities to base on the learning on immediate environment.

v) Helping children to prepare paper or clay models observes.

vi) Guiding children in conducting simple outdoor project such as counting the number of human beings, animals, cars, cycles or carts passing through a given reference point, keeping the note of seasonal variations in vegetable and fruits, observing the life cycle of common tree or an insect(butterfly).

vii) Conducting oral discussions with children about their daily life, and social and physical aspects of their environment(question answer method).

viii) Telling them suitable factual or imaginative stories, reciting poems, having children sing songs and role-play as demanded by the topic and the situation.

ix) Helping them to celebrate birthdays, community or national festivals.

x) Providing them with such timely topics and questions the answers to which the child can find by discussing with parents, elders or fellow-classmates.

2.14.4: <u>NPE,1986-A REVIEW(NEW DELHI 1990)</u>:

Appreciation of environment should be inculcated amongst children through their participation, on a day-to-day basis in the project work on ground. (This will also be one of the incidental outcomes of implementation of the new model of vocational education recommended by Committee). One of the basic objectives of environment orientations to education should be creation of a positive interference between the human being and environment.

2.14.5: CONSTITUTIONAL PROVISION ON ENVIRONMENT:

Indian constitution envisages in Art. 48(A), contains,-"Protection and improvement of environment and safeguarding of forest and wild life." The State shall be endeavour to protect and improve the environment and to safeguard the forests and wild life of the country. Art.47 envisage, nutrition, standard of living and to improve public health, Art 21-Protection of life and personal liberty, Art 51(A) Fundamental Duties of Citizens to protect, preserve, promote the rich of Art 51(A) clause(g)-"to protect and improve the natural environment including forests, rivers and wild life, and to have compassion for living creatures."

List II-State list of constitution Number 14,15,16,17,18, 23,24 and 25 deals with environmental improvement.

Indian constitution is one of those few constitution of the world which has provided a constitutional duty of the citizens to protect and improve the environment. In the words of justice Ranganath Mishra, former Chief Justice of India, "Preservation of the environment and keeping the ecological balance unaffected is a task which not only Government but also every citizen must undertake. It is a social obligation."

Besides the constitutional provisions, various central and state laws have been enacted relating to myriad aspects and components of the environment. National Environmental Protection Authority(NEPA), Environmental Courts, Laws Against Noise pollution, Law of Public Nuisance, Penal Provision under the Environment Protection Act, 1986 are some of legal worths of Right to Environment.

2.15: ENVIRONMENTAL CONDITION IN NAGALAND:

Virgin fascinating and hidden values with purest form of nature were the heritage of environment in those yester-years in Nagaland. Beautiful hill lock and ranges, peaks, landscapes, river and streams, the hidden gift of nature. The life in the State is in the midst of trees, plants, grasses makes greening feeling, animals, birds, creeping beings, reptiles, fishes, insects all of which providence has bestowed upon the land of this region. The people lives in a direct contact with nature in the broad sense of the term.

Nagas' ecology in an accumulated knowledge of ecosystem in its broad aspects of environment in their own natural ways were the methods of conserving the environment.

Undisturbed ecology of Nagaland is now been started disturbing by human activities by means of development, trading business, construction especially in urban sectors, reducing the natural quality of environment.

2.16: TEACHING OF ENVIRONMENTAL STUDIES AT PRIMARY SCHOOL LEVEL IN NAGALAND:

Environmental studies is divided in two sections. Section-I deals with Social Studies and Section-II Science, is done strictly in accordance with the document developed by NCERT title "National Curriculum for Primary Education-A Frame Work," which is a fore runner of the National Policy on Education 1986.

As the child in early age interacts with the environment in its locality, integrated approached is visualized in designing curriculum for Class-I and II in environmental Studies, and the Science are not separated at this level. While developing the curriculum in Environmental studies for Class-III & IV, Units of Social Studies and Science are separated into Part-I and II respectively. In Part-II(Science), the course content is so organized as to develop in the children an awareness understanding and concern about the natural and physical environment.

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2.17: ENVIRONMENT, NAGA TRIBAL FABRICS:

Basically, Naga a tribal society existential structure of Nature-Human-spirit continuum is reflected as : the land, water, air, the trees, plants, animals, insects and all things and all beings are relatives of humans', has the same ancestral roots and therefore, they have a personal and social relationship and interdependence with all natural elements in a spirit of natural beings.

The personhood of tribal people is rooted in their concept of land. "Land is life," said an Australian Aborigine, in a Conference in Auckland, New Zealand. For Nagas, the land is their resources. For them land and forest, water and air and all of nature's bounty are gift of God. The land was there and they have been using this gift as stewards and not as owners.

Nagas ethics is the ethics of conservation as against the ethics of disruption and destruction of nature of modern people. Agriculture is the chief occupation of Nagas. The jhum-shifting cultivation in forest-lands is one concrete example of ethics of conserving. The cultivators makes generally 7 to 12 years cycle in jhum cultivation. The earlier cultivated field regains and recaptures or conserves the energy for a good cultivation in a rotates manner. Naga plant trees on inter-village footpath, public in surroundings, wayside plantation were a popular practices in conserving spirit.

Nagas entire-life activities through out the year and life, confined within the nature-fabrics, natural life in nature itself.

2.18: NAGA FOLK SCIENCE AND ITS RELATION WITH ENVIRONMENT:

Nagas' life were guided by purest principles of nature. Nagas way of life is deeply rooted in nature, closed to nature and centred-round the nature, perhaps Nagas count their life by deeds with natural/season indications. Life activities of the year were largely depends on natural indications such as cultivation, manual works, crafts and

carving, hobbies and leisure time activities. Some of the prominent practices are mentioned here below:

In its natural sense, Nagas' ethno knowledge and understand the early and later or less and heavy monsoon of the year by observing the behaviours and movements of animals, plants development, birds and even insects and predicts the climatic and season conditions of the year. These are some of the prominent prediction observations:

2.18.1: Later part of Autumn and early part of Winter, when the Hornbill fly low beneath the land surface, the villagers predicts the lesser/later monsoon, and when Hornbill fly very high in the sky, that predicts the early and heavy monsoon. It says: in a heavy monsoon of the year, the Hornbill fly high because of smelly muddy heavy monsoon. Accordingly the villagers miximized their jhum cultivation in lesser rainy year and minimize jhuming field because of expected heavy rainy monsoon.

2.18.2: Grub eating direction (especially in Oak tree) , when the Grub eat/make hole upward direction towards the branches, predicts the early monsoon and even cold and when its eating direction to down wards towards the roots or bottom of tree, that predicts the dry/hot and later monsoon of the year. The Naga villagers says: That eating direction of insect towards the ground soil to avert the heat weaves during the dry hot season.

2.18.3: If the Crab makes its holes deep inside the moist sandy soil during autumn, the villagers predicts the hot/less rainfall or later monsoon in coming year and vise-versa.

2.18.4: Climate indication also largely depends on early bud shoots predicts early monsoon and later bud shoots of plants predicts later monsoon of the year and cultivation also depends on that.

2.18.5: Domestic animal especially the Cow and Hen with their babies straight go out of their shed by exposing the rain in search food, the villagers comes to know that day will

be whole-day raining (non-stop/incessant). The villagers observes the animals behaviours and movement of the day and starts work by exposing rain.

2.18.6: Prediction and indication are also depends on wild animals movement and migratory behaviours. When animals and birds started migrating from high hill/mountainous thick forest to low land areas in later part of autumn, villagers predicts early heavy snow fall on that mountainous region, and says; the animals and birds migrates to low land area is to avert cold hit weaves and later migration predicts less snow fall and less cold in that particular year.

2.18.7: When the Cuckoo birds cuculus (call/cries) the villagers account its signifies and sign of sawing season and begins to prepare for sawing till to this days.

2.18.8: On rainy shawering and cloudy gloomy day, especially in the evening, when the insect Cicada(Homoptera) remarkable is loud chirping sound, its time to go back home, no more day light, and they practice usual nature. This Cicada signifies as time giver for the villagers which is till practicing to these days by the Nagas. Though they do not use the modern wrist-watch, they are accustom of observing animal, birds and insects behaviours for even their time of work and rest.

2.18.9: Rooster indicates the approaching morning, mid-day, and evening for the Naga villagers. Even now, the Naga villagers popularly practice the same for their rising, working time and even taken lunches.

2.18.10: Grand father/mother, elderly relative houses are used as crèche for the cultivators. To indicate the lunch timing. The children used to sent out in the sun light and stand straight and when the standing children shadow falls beneath their feet, it indicate the mid-day or its time to give lunch to the children till to these days villagers popularly practicing the same.

Nagas and their activities are entirely depends on nature predictions through out the year and life and confined with the nature, and associated with full of

nature such as type of works, working time, working methods, sporting and leisures depending upon the seasons and keep balance with environment which are deeply rooted in nature, perhaps high ethno fabrics natural heritages are just nature.

2.19: NAGA ETHICS AND MISSING LINKS OF INDEGINOUS NAGA VALUES IN MODERN EDUCATION:

Basically, Nagas ethnos is an oral tradition and its nature view is aptly described as holistic view of life. According to this vision life of all formers are inter-related to one another and they all together constitute an organic unity. In this sense, human, nature and spirit do not stand apart from each other as opposing factors. Rather, they continue as a basic texture of existence, is what makes man truly human. Balance and harmony of man-nature-spirit are essential for man to continue to remain human-environment the spirit of creation.

Nagas' concept developments were basically depends on by observing and practices as a natural flow of learning as ancient method of learning. TO NAGAS, "NATURE AS A TEACHER," as Naga sees in nature the orderliness of the seasons, plants developments, animals, birds, and insects movements and behaviours and activates their life activities. He carefully studies all that in nature and uses the wisdom and knowledge so gained in his daily life.

The manifestation of nature, therefore, constantly teaches them, endowing them with knowledge and wisdom, thereby, Nagas follows the principle of sowing and reaping at specific times, that learns from laws of Nature(God).

To Nagas Nature is an open healing source that provides with herbs, roots, berries,

fruits, leaves, fat and bones of animal. They practices about the natural processes of healing and of preventing illness too.

Naga considered nature, the most sacred sources of all kinds of blessings. To Nagas the sacred of nature, such as water, air, wind, river, hills, trees etc. were most high holy creation. For instance, when they tried to change the river course or cut down the giant tries for ceremonial purposes, Nagas offers ghinna/ritual before they executes the works is in tune with the principle of the unity of life. It is also in consonance with the

notions of harmony, orderliness and sacredness of all balance living things enfolded in loving arms of mother nature. Perhaps Nagas inherent wisdom of the ancients understood the values of environment, the need to preserve the ecological balance, and the need to practice sustainable life-styles in order to survive.

Old good Naga values and ethical precious are some what forgetting when the Modern Naga concepts encounter with modern life-styles by means of education, supra-Social, technological gadgets influences, developmental processes, etc. Educational system in Nagaland needed to streamline by taken back the ethos of ethical values by including those sacredness of nature values in School curriculum in order bridged the missing link.

2.20: NEED FOR RESEARCH WORK:

Individual, communities, NGOs, Departments and Government, all should realized the need to improve environmental conditions. In view of this research work is to be encouraged at all levels. This conceptual work notions indicates that in order to protect our environment, especially in view of the growing population, lack of awareness towards degradation of environment, a research study was needed to find out whether teaching of Environmental studies had created awareness among learners to prepare them to protect their environment. And to see what were the problems in teaching Environmental studies.

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CHAPTER-III

REVIEW OF RELATED LITERATURE

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REVIEW OF RELATED LITERATURE

3.0. Introduction: Like between Education and environment is as old as human civilization with improvement in technology and invention, the interaction between man and nature became weaker. Schools were away from the Environment and community with the availability of systematic and comprehensive knowledge from the text books. The pedagogical movements launched during 18th and 19th century could not re-establish the relationship between child and the nature. Even, efforts made by John Henry and Mahatma Gandhi could not bring education out of four walls of School building permanently. Facilities available in the modern class room situation could not incorporate ideas of "Nature Study", field Study," or "out door Education". On the other hand, the gap between education products and environmental necessities became much wider to threat existence of mankind in this planet.

Researches on environmental studies received momentum through out the world since 1970. Under the leadership of UNESCO regional workshops, seminars and conferences are being organised from time to time to provide new direction to the programme with the introduction of the subject in the School curriculum, researches in the areas of formulating objectives, selection of contents, methods of teaching, development of instructional materials, teacher training programme and evaluation procedure have been initiated in different countries. The subject have now occupied central place both in formal and non-formal system of education.

In this Chapter an attempt has been made to review the work that has been done in the areas of the Environmental studies. The work has been divided into two main sections as (i) Review of studies done Abroad and (ii) Review of studies done in India.

3.1. STUDIES DONE ABROAD: Some of the studies conduct outside India are as follows:-

Elizabeth Perrott (1970) placed Environmental Studies in School curriculum increased awareness has also made its impact on the Schools and characterised by their inter-disciplinary nature, and their suitability of the involvement of pupils in individual studies. Presentation deals with (1) Environmental studies in the Schools, (2)

Independent studies by children (3) teacher as an organiser of independent studies (4) New Methods of professional training.

The empirical studies showed that environmental studies can be carried out in the Schools, that the use of individual methods does not require a greater allocation of time than in given to class teaching and that it is possible to meet examination requirements by using these methods. With the development of new methods of training to assist the teacher in the organization of this type of work in the School and a re-organization of the School day in secondary Schools, the major obstacles to implementation of environmental studies would be removed.

Carson S. MCB(1978) at the Primary stage environmental studies seen as involving pupil in personal experiences of the environment by direct exploration. It designed to encourage the primary children to come for more expertly directed studies have root in the Sciences and one in the humanities in which most people look at the environment in real life.

Kent(1988) curriculum statement emphasises that environmental education is neither a subject nor a syllabus but rather one function of whole curriculum. It is recognised that the teaching strategy should contain three elements, (1) the environment as a medium for education using real life situations, (2) the environment as a subject for investigation and (3) education for conserving and improvement by studying contemporary issues.

Suad Suad, saide (1995) University of Ottawa conducted study, the Venezuelan environmental education teacher training programme. An analysis of professional and environmental competencies. The purpose of this research was to describe and analyse the environmental education teacher training competencies model in Venezuela. More specifically, the study concentrates on the Universidad Pedagogica Experimental Liberator (UPEL). This University is the leading institution of the teacher training in Venezuela.

The UPEL Environmental Education Teacher training model consists of 21 (twenty one) competencies associated with five environmental education areas. This model is examined using the UNESCO model as an international standard, the later of which consists of twenty eight competencies associated with professional and environmental education areas. Examination of the UPEL model also involves as

assessment of the perceptions of Venezuelans concerned with environmental education with regard to the relevance of the UPEL models Venezuela environmental reality.

The methodology applied in this study is set in the context o a content analysis of major UNESCO and UPEL model documents and a survey of key Venezuelan individuals, UPEL environmental education professors and UPEL teacher candidates who have already taken environmental education.

In this analysis a literature review also serves as an important source of information. Themes included in this review are associated with environmental education, the training of teachers in environmental education, competency based teacher training, the Venezuelan experience and the UNESCO and Venezuelan teacher training models.

The research stresses the description, analysis and interpretation of relevant aspects related to the UPEL competencies model and its relevance to Venezuelan reality. In light of major conclusions and implications of those aspects as set of recommendation is drawn. For example, this study reveals a critical need for research and evaluation of environmental education teacher training competency models. In the context of the comparison between the UNESCO and UPEL models. Significant differences in their structure and content have been found. The UPEL models lacks a set of basic professional and environmental education competencies required for training effective environmental educators who are able to contribute to the prevention and solution of environmental problems. In the context of the assessment of perceptions it has been found that key individuals, as well as professors and students of environmental education believe that UPEL model is not relevant to the country's problems and needs. It appears that in addition to the deficiency in competencies, a lack of logistical support in the implementation of the model is also a serious weakness. Results of this study reveal an immediate and critical need for necessary adjustments to the UPEL environmental education teacher training model.

Finally, it is expected that this research, concerned as it is with the quality of environmental education teacher training will provide the necessary incentives and information for Venezuelan decision makers to improve the UPEL environmental education teacher training model.

Dierberger, Betsy S.(1998) University of Nebraska Lincoln conducted research on Determination on informed choice and pathways leading to selection of the environmental studies major.

The reasons why students select the Environmental Studies(ES) major at the University of Nebraska were investigated. A survey was used to determine factors to influence and carrier awareness as measures for making and informed choice in selection of a major. In addition, pathways of selection of the ES major were determined. Thirty five students participated in interviews. Student interviews were conducted to determine the "life-world" of the students during the decision making process leading to the selection of major. Interest in environmental issues, the challenge of solving environmental problems and a desire to make difference in the environment were factors identified as positively influencing selection of this major. Environmental carrier attributes which influenced choice of major were variety of tasks and use of Science skills.

Faculty advisor perception of carriers and advisor understanding of why students select the ES major were explored. Faculty advisors recommended selection of the ES major to the students who demonstrated a clear interest in natural resources. Faculty advisors and students selected carrier and job requirements.

Informed choice was defined as evidence of student self-knowledge of interests, abilities and aptitudes and evidence of awareness of carrier opportunities in environmentally related areas. Students expressed self-knowledge of factors influential in major selection and carrier awareness. Therefore, the students did make informed decisions for selection of the ES major.

Interview themes suggested three pathways for the selection of the ES major. (1) Direct choice (2) Focused choice and (3) Delayed choice. Direct choice occurs then a student with ES interest selects the major and enrols as a new student. Focused choice occurs when students have life or School experiences that narrow their interests and carrier goals, leading to selection of the ES major at new student enrolment or when current students change to the ES major. Delayed choice occurs when current students have negative School experiences and desire to change their academic major to ES.

Stevens, Robert Henry(1998) University of California Studied, American Indians, Alaska Natives and Native Hawaiians and other indigenous people have engaged in on going struggles with numerous anthropologists and archaeologist regarding authority and jurisdiction over human remains and cultural resources claimed by the tribes, nations and communities of indigenous peoples. Debates and discussions raise problems and questions which requires a deeper level of enquiry as to the nature of the concerns and disagreements. The present volume reassess some of these issues, to promote understanding of deferring perceptions, fields of research and ideologies.

In the course of considering these issues, a cultural research design was developed to attain research validity within indigenous peoples and academic communities. The research design was implemented, tested, reviewed and replicated in conjunction with sovereign American Indian indigenous peoples in local communities. The communities of indigenous people are viewed as valid sources of cultural accounts, who have social and epistemological authority regarding their cultural knowledge, practices and properties. Cultural texts produced by these communities are valuable for development of cultural and transcultural understanding. Acknowledgement of the importance of the indigenous community in this regard is explored in relation to a people's exercise of cultural sovereignty.

Cultural and ethnographic authority are inherent within and exercised by, the indigenous community; community and cultural Scholars exercise cultural self-determination as they plan, authorised conduct, and review research procedures and out comes, mindful of concerns for protection of confidentiality and the community's specific and/or collective intellectual property rights.

Research results are useful in promoting indigenous group's cultural continuity, they are also important for education, public and environmental laws and policy and other contexts. A specific research design presented in this volumes was tested in indigenous communities who used the research design to address some of their basic concerns, including repatriation, historic preservation, cultural resources, language education and environmental studies.

This volume systematically places the needs and concerns of the indigenous people as a priority. By attending their narrative and discourse and assisting the people

rather than impeding them in their exercise of cultural sovereignty, researchers can serve indigenous communities as locally defined and envisioned.

Toit, Andries Stephanes(1997) D.Ed. University of South Africa studied on A Philosophical-Educational perspective on Environmental Education with specific reference to environmentally sound behaviours and sustainable development.

Man kind's survival is intervene with the state of environment. Human activities have a great impact on the environment, while the environment, again, determines the quality of human's life. This study aims to aid mean kind, through environmental education to environmentally sound behaviour with an eye on sustainable development.

To attain this, the different environmental problems and their causes are sorted out first. Then the factors that can lead to environmental degradation are investigated. From this, it is quite clear that in the future, the world and the RSA will be more densely populated because more polluted be ecologically less stable and will therefore be more sensitive to natural disasters.

Because environmental education can make a positive contribution to this, a short historical survey of environmental education is given. The role and contribution of some international organisations is investigated. Development in the RSA are surveyed and the influence of the earth summit on environmental education in the RSA is analysed.

At birth mankind is thrown into the world from where he can escape only at death: In this world in which he has to stay, he must give meaning to his existence, while also trying to improve the environment to guarantee the survival of coming generations. Bearing in mind the educational and environmental relationship between any human being and his environment, the essential characteristics of environmental education are exposed in order to set possible conditions for authentic environmental education. Special emphasis is placed on environmental behaviour aimed at sustainability.

All this culminates in environmentally sound behaviour that acts as the over all aim for environmental education. Because man's environmental ethics determines his behaviour towards the environment, three different approaches to environmental ethics are distinguished. Emphasis is placed on the necessity for environmental literacy. In order to try to understand man's behaviour towards the environment, three styles of

environmental behaviour are analysed. For further clarification of environmental behaviour two Scientific earth genesis hypotheses are also described.

In conclusion, this study leads to certain principles that can lead to the development of environmentally sound behaviour aimed at the sustainable survival of mankind.

Medling, Mechael J (1996) Standford University conducted research on Environmental Education in China. The case of Secondary Schools in Sichuan province.

Environmental Education emerged as a subject of a global discourse in the early 1970s, coinciding with the beginning of China's gradual re-opening to the outside world. By the 1980s, global discussion of the sustainable development lead emerged, focusing on the need to integrate economic and environmental consideration in formulating environmental policy. During these decades, models of environmental education(EE) were developed and diffused by international organisations and elements of these models were adopted in China in planning for environmental education. By the early 1990s, a decision had been made to "infuse" environmentally related materials through out the curricula in Chinese Schools.

This research draws on classroom observations and teachers interviews in Schools which had been early pilot EE sites. Several themes in their teaching of environmental studies emerged at these pilot EE Schools: (1) Attempts were made to make environmental education relevant to the lives of students. (2) EE was tailored to the specific circumstances of the surrounding area which the School served; (3) Students directed "action" research was encouraged; (4) a global view of the environmental protection was promoted; and (5) Attempts were made to bridge environmental materials across the curriculum.

Data from an environmental questionnaire collected in fifteen High Schools in the Chendgu region of Sichuan province is analysed. Students in six pilot EE Schools had significantly higher total mean scores on environmental knowledge scale than did students from the nine non-pilot EE Schools in the sample. Difference in attitudes towards environmental protection while statistically significant, were weaker than difference in environmental knowledge.

Lin, Emily Shu-ying(2000) University of Tornoto conducted research on Environmental Education in Pre-Service Teacher Training programmes in Canada.

Continually identified as one of the key agents of change, teachers play an important part in promoting and improving the capacity of individuals to address environmental and development issues and problems. The preparation of pre-service teachers in especially critical in achieving environmental and ethical awareness as well as in developing the values, attitudes, skills and behaviours conducive to a sustainable future. However, despite being re-cognised as a major priority for research and action in many major international conferences on environmental education. Environmental Education research in Pre-Service programmes has been given little attention in Canada. The only systematic national evaluation of environmental education at the teacher preparation level in Canada was conducted by John Towler (1980-81), twenty years ago. Since Towler's (1980-81) survey, there have been few investigations examining the status of environmental education in Canada Pre-Service teacher preparation programmes. Towler surveyed Pre-Service teacher education programmes across Canada and reported that many of the respondents at that time did not indicate a high level of commitment to implementing environmental education in teacher programmes, despite the call for increased environmental education at all levels of education. This present study was an attempt to assess the status of environmental education at the teacher preparation level since Towler's study. A national survey using a modified version of Towler's questionnaire was distributed to all Pre-Service teacher training institutions across the Canadian provinces to determine the present level of environmental education which pre-service teacher receive in teacher preparation programme. In addition, two case studies examining the design, content, and methods of two Pre-Service teacher education courses specialisation in environmental education were conducted to understand and describe the nature of environmental education currently found in Pre-Service teaching programmes. (Abstract shortened by UMI).

Tooker,Gail Patricia(1999) University of Maine conducted study on Experiences and factors influencing in New York state Public and Middle Schools to focus on Environmental Education in their Teaching.

This study focuses on how fourteen elementary and middle level teachers in New York close to teach environmental topics as part of their Science curricula. Prior research suggested that factors influencing teachers to make curricular decisions are different from those that motivated them to become teachers in the first place(Expinetet .al.1992). This was supported by the results of this study, which found that most of these teachers made the decision to begin teaching environmental education(EE) including participation in EE-oriented in-service programs, media coverage of environmental issues, encouragement experiences in childhood or early adulthood with the environment and/or with EE.

Studies examining experiences that influence people to practice "environmentally responsible" behaviours(Chawla, 1995, MC Garry, 1994, Tanner,1994) suggested that positive childhood contacts with nature were important predictors for such behaviours in adulthood. Findings of this study were largely consistent with these results, however, this sample of teachers views their childhood nature experiences as being mostly responsible for the development of their appreciation of the environment, while their actual decision to begin teaching EE was primarily influenced by other experiences as discussed above. This study also examined how these teachers prepared themselves for teaching EE. The findings indicate that these teachers used a wide variety of preparation strategies. A minority reported becoming prepared for teaching EE through their pre-service teacher education programs. These results were in agreement with prior findings that most teachers education programs in this country do not include a focus on EE. Even where preparation of EE is includes, it has been rated by the participants as in adequate(Designer, 1990 Mckeo-wn-Tce,1995).

The sample was established via nomination by EE experts in New York and written invitation. Seven males and seven females representing grades K. through 8th volunteered to participate. Data on potentially influential experiences and demographic factors were gathered via written questionnaire and structured interviews and were analysed using conventional qualitative analysis techniques.

Sall, Amadou Bocar Cire(1999) University of Tennessee conducted research on the status of Environmental education in Elementary and Middle Public Schools of East Tennessee.

World wide efforts are being made to improve the quality of human life and achieve these ends, education's must prefer individuals to become environmentally literate citizens and will informed decision makers and a fast changing technological world. This descriptive study used surveys to determine the status of EE in East Tennessee School systems as perceived by elementary and middle school teachers. Through this study, information was provided about what is being done and what needs to be done to improve environmental education in the State of Tennessee. A valid and reliable instrument, developed and used in Wisconsin, was mailed to 158 elementary and middle school teachers 316 schools in 33 East Tennessee public School systems. Out of the 958 surveys mailed, 432 were returned.

The research findings suggest that teachers believes that it is important to take time to environmental education classes was calculated. Results indicates that there is a positive behavioural correlation between environmental education and academic classes.

However, there were many uncontrolled variables which necessitate further study. One example is the arbitrary standard among teachers for evaluating conduct grades. Conduct grades can also be subjective. In further studies, a standardised tools for evaluating conduct grades would be essential.

Boswel, Mechael R(2000) the Florida State University, study reveals.

This study examines, through case study analysis, the influence of the emerging concepts of sustainable development and ecosystem management on environmental planning in the south Florida ecosystem. These new concepts are offered as the solution to most problems associated with human interactions with the natural environment and moving forward with programs intended to implement these new concepts. The Theory behind these concepts challenges many tenets of our current system; therefore, environmental planning must respond with a critical self analysis. The Primary study question is: To what extent is environmental planning being redefined by the emerging frame works of sustainable development and ecosystem management? The study contains a two-part analysis to answer the research questions: (1) a theoretical analysis of whether sustainable development and ecosystem management constitute a new environmental planning paradigm, and (2) an empirical analysis of whether environmental planning practices. Shows evidence of adoption of the new paradigm.

The theoretical analysis begins with an examination of planning theory and the philosophical and methodological dimensions that define planning. These dimensions include: questions of knowledge, conception of nature, ethical foundations object of planning, public participation, decision method, planners role, and questions of action. The theoretical analysis shows that the attributes of the planning are sufficiently different from those of the existing environmental planning paradigm that they constitute a new competing environmental planning paradigm.

The empirical analysis is a case study using pattern-matching as the analytic tool. Pattern-matching is used to compare empirical evidence against the two environmental planning paradigms. Data is gathered from three sources: documentation, archival records, and interviews of the participants in the planning process. The units of analysis include the significant environmental planning events in the South Florida ecosystem from 1970 to 1998, these are primarily ecosystem restoration plan.

The empirical analysis shows that environmental planning in the South Florida ecosystem is being substantially redefined by the emerging frame-works of sustainable development and ecosystem management. Despite this substantial redefinition of environmental planning, however, the theoretical principles of sustainable development and ecosystem management have not been fully adopted.

David Howard(1999) Northern Illinois University conducted research on Home Truths: Three generation of ideology and environmental Awareness in Cooperstown.

Traditionally, literary criticism has focused on nature almost exclusively as a human creation, arguing way the existence of a transcendent, static, "cold pastoral" vision of nature. Such an approach is in complete, however, because discounting the transcendent vision of nature fails to address such significant issues as how the physical world affects humanity and the physical consequences that result from humanity's conception of the natural world. This study proposes that a more ecologically informed approach would be to understand the natural world in terms of an interaction pastoral in which humanity is, of necessity, in continuing conversation with the physical world, understanding it, misunderstanding it, shaping it and being shape by it. This conversation is illustrated by close readings of texts about Coopertown, New York, written by three generations of the copper family. The first text, A guide in the wilderness, written by William Cooper, Coopertown's founder, presents the physical world as a sort of elegant

machine, converted to human purposes by the insightful, masterful land lord, an exploration of physical, historical, economic, and political record reveals the aspects of nature that cooper's paradigm demanded he efface. The pioneers the novel by James Fenimore cooper, William cooper's son reveals an emotional engagement with the landscape surrounding Coopertown, a sense of connection with and attachment to this particular ecosystem. Ultimately, however, James Cooper's attempts to reconcile his attachment to place with an ideology of property lead him in several novels, to identify attachment to place as a sentiment that authorises ownership of property. Finally, in Rural Hours, Susan Fenimore Cooper, James's daughter, interprets the natural world in the light of the ideology of the domestic realm, creating a sort of domestic pastoral in which the physical world is understood and appreciated as a number of the domestic circle, a strategy that acknowledges the importance of an ethical relationship between humanity and the rest of the physical world and seems to anticipate the ecological conception of the earth as household.

3.2: STUDIES DONE IN INDIA:

Education commission(1964-66) emphasising need for Environmental studies, proposal freedom of individual institutions to frame their own curriculum depending upon local needs and available resources. The curriculum at lower primary stage(Grade-I to IV) included (a) one language, (Mother tongue)regional language), (b) Mathematics,(c) Study of environment, (d) Creative activities (e) Health education.

Khuntia(1980) and Das(1981) have independently developed environmental concepts development tasks for grade 5 children at different levels of concept attainment. Saxena et al. (1981) have developed and standarised an Environmental Awareness test for the children of grade 3,4 and 5.

Madhyastha(1982) has advocated the use of environment both as a means and end of education. Environment can be used for development of basic skills(language, mathematics, modelling, ability to use pictorial representation and collection and use of environmental resources) study skills(mapping, observing, collecting, classifying, experimenting and historically interpreting) and social skills(health, personal hygiene, cleanliness of surroundings and conservation and judicious use of environmental resources.

Education commission(1964-66)(Kothari Commission) recommends, environmental activities will lead to study of natural and physical Sciences, history, geography and Civics. Construction and creative skills will provide the basis for the practice of simple arts and crafts and the practice of healthy living will serve as the foundation for environmental education. Environmental education is problem centered, interdisciplinary, value oriented, community oriented concerned with man's survival.

Gupta V.P.Grewal J.S. and Rajput J.S.(1981) conducted A Study of Environmental Awareness among children of rural and Urban Schools and Non-formal education centre, Regional College of Education Bhopal.

The objectives of study were: (i) To know the components of environment in which children from rural® and Urban(U) areas were lacking and the areas in which the students from both the streams were acquainted, (ii) to compere the environmental awareness of school going children(F) and children studying in non-formal education centre(NFR) and (iii) to suggest means for developing environment based curriculum for universalization of elementary education.

The study was conducted on 115 students of standard-IV, twenty from rural schools, thirty five from Urban schools and sixty from the non-formal education centres. An environmental questionnaire by Rajput and his associates was administered on the sample. The performance of students of the three groups was compared. Differences were tested for significance by T-test. First and the last ten ranking questions for each of the groups were identified and compared.

It was found (i) The differences between FR and FU on environmental non-formal education content.

The materials analysed in detail included relevant text books (Classes-III to V) at the national level, Kerala and Tamil Nadu. A few books in regional languages were also analysed. Collateral materails from the USA, the USSR, the UK, France, UNSECO and other developed systems were also analysed. In addition to analysis and critical appraisal, interviews, observation and focus group discussion with teachers, non-formal Science education workers and administration officers were conducted.

The main findings of the study were: (i) A very few genuine EE-type activities as understood in modern developed systems, seemed to be undertaken in the primary

schools. (ii) The effective lead materials (Text Books) at the national level seemed to have some worthy aspects such as process approach in Science, activization, some directives to observation and visits, stimulating questions with open tables to fill in the answers, thought excursion through the country profusely illustrated with pictures (in History porion) clear verbal processing and the like. (iii) The national level text books lacked the higher specifications commonly adopted in modern EE procedures and in open, multidisciplinary approaches to the environment. Deffects such as pre-empling investigations (by suggesting the answers), premature precision(over looking the initial phase of romance in envoronmental exploration). Simulations and artificial situations even when natural situations were available in the environment, defective concept processing(particularly) in astronomy, physics, geology, and geography), over use of technical terms (in food and health), non-recognition of the time demnsion in rural observations in astronomy, botany etc. non-recognition of the developments in genetic epestimology, adoption of spectator approach where participant approach was possible, insufficient in respect of work culture were frequent. (iv) The NCERT's curriculum frame-work which had obviously guided to text books gave nagative guidelines (What EE is not) but distict position guidelines were lacking. The lead paper by the NCERT of December 1981, on EE, was an analysis of conference reports (from Stockholm) and some generalized theory, but was not on modern EE curriculum in transaction. An upward environment as reference point rathan than actual ground level EE. Material production process also seemed to be reflected. (v) As regards to the State-level text books, some of the drawbacks of the national level books were carried over and some of the marits seemed to have been missed like replacing open explanatory tables by closed pre-empling environmental exploration. (vi) The content loading of Science in Tamil Nadu was much less while activities were plentiful, yet it was formal Science and not EE. The Social studies portions in both the Southern status was heavily loaded with facts. (vii) Tamil Nadu also produced taluk-level and district level books for geography which did reflect concern about starting from the ground.(viii) Tamil Nadu books made a reference to the ancient Sangam classification of land, but it was a formed, sybolic and a looking-back reference. The difference in titles suggested a heavy carry-over of content and approaches from the past, even at the national level, (ix) Theoretical analysis of environmental knowledge, way-findings in a natural and man made environment,

cognative mapping, spatial encoding and linguistic encoding, anticipation of alternative futures and paigetian studies conducted in larger environments provided insight for organizing EE programmes. (x) Work at the Vikram Sarabhai Community Science centre, Ahmedabad, Kerala Sastra Sahitya Pareshad and workshops conducted with the British council collaboration in tamil Nadu and Kerala were instances of functional EE starting from the ground environment and developing sophisticated and useful constructs. (xi) Some relevant models representing a synthusis between the modern EE theory and the local context and culture suggested.

PAI S.G(1981) conducted the study on preparation and try out of curriculum in Environmental studies learning of life long education for College students were: (i) to help students acquire and awareness of the interrelationships interactions and interdependence existing between biological and physical aspects of the total environment and sensitivity towards environment and its applied problems, (ii) to help students acquire strong possitive attitudes, sound ecological values towards the needs for a better environment and the necessary motivation for activity participating in its protection and improvement and (iii) to help students develop skills necessary for solving environmental problems and taking preventive measures.

In the first phase, the curriculum was developed by studying and analysing the existing literature on curriculum development, the concept of life long education and environmental education. The draft curriculum was modified after the preliminary tryout. The study employed pretest-posttest experimental-control groups design. Seventy two students in the experimental and eighty students in the control group were involved in the study. The data were collected using Environmental Achievement Test, Unit test, Environmental Attitude Inventory and Environmental Activities Inventory. The collected data were analysed using f-test.

The findings of the study were: (i) There was significant difference in the performance of the experimental groups as compared with control group on knowledge scores and attitude scores.(ii) The experimental group had gained more than the control group in environmental activities enventory, indicating effectiveness of the curriculum. (iii) As a result of instructions for using the curriculum, students reflected clearer and more vivid images perceived in terms of their sensitivity towards the environment. (iv)

Unit-wise analysis of the performance group showed they had gained on over all knowledge in environmental problems as a result of instruction for using curriculum.

EHSAN(1985) Delhi University conducted: An Evaluation study of the Environmental education programmes in the Primary Schools in Bangladesh.

The specific objectives of the study were: (i) to examine the nature and scope of the existing environmental studies(Science) programmes in respect of the following components : (a) Objectives, (b) Content (c) Teaching learning strategies and (d) instructional media; (ii) to evaluate these components to the existing programmes in order to determine their strengths and weaknesses on the criteria given below: (a) Evaluation of objectives against the criteria: Whether stated clearly, precisely and in behavioural terms, coverage of cognitives, psychomotor and effective domains, whether appropriate and attainable, built up on pupils' pre-programme level of understandings and important for further learning (b) evaluate the content against the criteria; relevancy, clarity, up-to-dateness, suitability to learners' need, interest, ability and experience.

Vaghamare(1971) examined the exercises in history text books prescribed for standard-IV in Maharastra. Manual (1982) analysed the text books in environmental studies of NCERT and found them to be defective in several respects.

A few investigations (Kushdil,1960, Kamalakanthan, 1968, Rajput and other 1980, Malhotra, 1982, patole 1967) were carried out to compare the traditional approach with an integrated approach or environmental approach. All these studies have shown that the traditional approach is ineffective. It is interesting to note that the term, "traditional approach" is used in these studies as well as demarketed and a clearly distinguishable teaching procedure, free from any ambiguity. This assumption is likely to be questioned. Further, in studies of this nature there is a very real need for removing or at least minimizing what are generally known as a pacebo and the Hawthrone effects. Sequencing, content balance, development of Scientific attitude and process skills, © evaluation of teaching learning strategies against the criteria: Whether leading to the attainment of objectives, whether helpful to provide guidance with regard to teaching methods, appropriate to the age, ability and interest of the children and use of strategies in the class during the environmental studies lessons, (d) evaluate of instructional media against the criteria of being relevant and interesting, feasible and practical for use.

The survey method was employed in the study. The study was conducted in three phases. The first was concerned with environemnta; studies(Science) for classes-III,IV&V. The second phase was solely concerned with opinion study of primary school teacher-educations and 75 primary school teachers. The data were collected through a questionnaire for both the primary teachers and teacher educators. The third phase was concerned with the development of modified programmes of environmental studies(Science) for classes-III,IV & V. A validity assessment questionnaire was used for both the primary teachers and teacher educators.

The findings of the study were: (i) The general programme objectives of teaching environmental studies(Science) had not been explicitly stated in the existing programmes.(ii) Although there was a mention of a few instructional objectives for each class-III to IV). These objectives had not been stated clearly, precisely and in behavioural terms. Most of these instructional objectives appeared to cover the cognitive domain only (iii) All the respondents preffered to see modifications in the instructional objectives and according to them, each objective should be specific, stated in behavioural terms, with stress on the cognitive, psychomotor and effective development of the children.(iv) All content Units of classes-III,IV and V were suitable to the learner's needs, abilities, interests and expoeriences. (v) The s sequential arrangement of the content units of classes-III and IV programmes were not helpful to develop pupil's understanding. (vi) The survey showed that, although there was a balance of content between physical and biological Sciences in the programmes of classes-III & IV, little content balance existed in the class-V programmes. (vii) Respondents agreed hat the programmes contents of classes-III,IV and V needed to be modified so as to make them more specific, clear and explanatory. The contents also needed to be psychologically and logically organized in order to maximize learning. (viii) For the newly developed programmes, results indicated that very programme objective was a acceptable objective of environmental studies(Science) which confirmed the validity of the programme objectives formulated by the researches. (ix) The set of programme objectives had fulfilled the categories of environment education objectives as recommended by the UNESCO conference held at Tbilisi (USSR) in 1977. (x) According to the panel of experts instructional objectives appeared to cover the cognitive, psychomotor and effective domains. This showed that

the modified programmes would help to promote balanced development to the learners' behaviour in the three domains. (xi) All the contents topics of the modified programmes were up-to-date and suitable to the learner's needs, (xii) Responses indicated hat the sequential arrangement of the content units would help in developing pupils understanding. (xiii) The experts programmes would offer content balance between the physical and biological Science Unit. (xiv) The teaching learning programmes were feasible and practicable for use by teachers in the school. (xv) All the experts felt that the suggested instructional media had been taken into account through locally avaiable resources and low-cost material.

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CHAPTER-IV

THE PROBLEM AND PROCEDURE

CHAPTER-IV.

The Problem and Procedure.

4.0. INTRODUCTION:

A review of related literature shows the need to conduct research in this area and its basic principles of interdependence of environmental conditions of public life in general and schooling children at primary school level in particular in the State of Nagaland appears urgent need to study minutely.

During the last few decades, there has been increasing consciousness and concern that the environment in which we live has been deteriorating very fast. The air we breath and the water we drink is getting polluted, rains are becoming erratic, forests are getting depleted, large numbers of plant and animal species are becoming extinct, the top soil is been eroded and even the ozone layer is getting damaging. There is also global warning. This environment degradation threatens the very existence of human being created by human activities such as urbanization, industries, factories, air crafts, automobiles, nuclear experimentation's, agriculture, power plants etc.

Like any life form, man also has to depend on the natural resources for his survival. He has to transport material available in nature and transform them into desired forms and quality. To achieve this man has to work, human labour is the driving forces for exchanges between nature and society. These exchanges have to recur constantly. Man is, therefore, under pressure to accelerate the exchanges to sustain as well as to develop. However, he has not been doing enough to maintain a balance between the exchanges. Almost all activities of human society have, as a result these human activities influence the environment and thus degraded the quality of environment physically, chemically, biologically and even ethically.

In fact, we receive all the life supporting materials from our environment but, in return, we do little for the environment. This over all exploitations and improper utilization of natural resources, consequently, lead to a decline in the diversity and productivity of flora and fauna.

In this context, it is necessary to study and understand the various ways in which human activities have been affecting the natural bio-physical system. This will enable us to develop awareness, positive attitudes and help to learn to live harmonious balance with nature according to its own carrying capacity as an individually nature discipline particular and also help to develop policy guidelines, action plans and management techniques to achieve the desired goal of sustainable development alongwith conservation and preservation of environment at large.

Ultimately, Nagas realized the ultimate limits of natural resources. Its forest land is squeezing day-by-day due to deforestation, fuel wood, jhuming cultivation, falling of trees for trade, land potentials reducing, soil erosion and landslides, exhaust fertile land there by reducing productions, water scarcity problems, species of flora and fauna diminishing in the state, air and water pollution, high rate of population growth, coupled with people's ignorant about the nature and its values. In its own perspective, a modest attempts has to be undertaken to start with the child's life and school learning to make train man and women for environmentally humanistic approach. Consequences of man's interventions should also be examined to learn lessons and chalk out an appropriate action plan for the future to sustain the generation to come. Environmental studies aims to provide a need based basic knowledge and understanding of environmental education to learners at all levels of formal and non-formal education beginning from primary school level. It deals with issues related especially to social, economic and ecological perspective of environment, designed to inform and support environment literacy efforts.

Hence, study course on status and problems of teaching environmental studies, pedagogy of teaching, methods, training programme for subject teachers of environmental studies, infrastructure facilities and paucity of empirical knowledge regarding the effectiveness of environmental studies curriculum in Nagaland impelled the

investigator to conduct the present study to evaluate the ongoing imparting environmental studies in the State of Nagaland.

While conducting the present study special attention was paid to know how do Naga children with different educational background, socio-economic condition and other Environmental variation react to concepts introduced in Environmental studies curriculum. Except a few isolated attempts, comprehensive efforts have been made to highlight these questions. The extent to which variations due to prolong deprivation, educational level, sectorial condition and sex determine acquisition of Environmental studies may be examined. Are these variables relevant to a wide variety of attainment of Environmental studies at primary school level? Do these variables interact among themselves in producing a cumulative effect on attainment of Environmental studies? Are different levels of awareness attainment hierarchical in nature? These critical questions are very pertinent in the context of introducing Environmental studies as a compulsory subject in school curriculum.

Findings of the present study will provide guidelines to the curriculum framers in selecting specific concepts and content area in Environmental studies curriculum at different levels of primary education. Classroom teachers will be able to specify their interaction procedures for different educational levels, Environmental facilities and content areas of the curriculum. Keeping in view the above, the present study was conducted.

4.1: STATEMENT OF THE PROBLEM.

Thus the problem undertaken is being stated as "A STUDY OF THE STATUS AND PROBLEMS OF TEACHING ENVIRONMENTAL STUDIES AT PRIMARY SCHOOL LEVEL IN NAGALAND".

4.2: OBJECTIVES OF THE STUDY:

The following were the objectives of the present study:

i) To make an enquiry into the nature and scope of the existing Environmental Studies programme in Nagaland.

ii) To study the existing facilities available for teaching of Environmental studies programmes in Nagaland.

iii) To study the professional preparation of teachers of Environmental studies at primary level.

iv) To study the methods and techniques followed in the teaching of environmental studies.

v) To find out awareness level and attitude of students and teachers towards Environment and its relationship with human life.

vi) To find out impact of Environmental studies on daily living of primary school children.

vii) To suggest measures helpful in improvement of teaching of Environmental studies at primary school level.

viii) To develop a programme for Environmental studies for primary school level.

4.3: DEFINITION OF THE TERM USED.

4.3.1: STATUS:

Status refers to present ongoing effectiveness of learning and its future important.

4.3.2: PROBLEM:

Problem refers to difficulties in achieving the programmes and policies under taken.

4.3.3: TEACHING OF ENVIRONMENTAL STUDIES:

Infact, children's learning occurs in the context of social and educational environment both inside and outside the School. Their functioning in such

groups, the knowledge and the skills that they acquire and the attitudes and values that they develop will greatly determine the way in which they will later approach adult responsibilities. Teaching in Primary years includes personal hygiene, child as a member of community(Social being), love and protection of nature, develop positive attitudes and awareness eco-system and balance managing the environment were highlight.

This deals with methodology of teaching skills, techniques, approaches and development in child's basic awareness towards enhancing effective learning the environmental aspects.

4.3.4: PRIMARY SCHOOL:

It includes Class-I to IV standards and age group of 6-9 years and in the case of rural pupils even 7 to 10 years of age because of their late Schooling.

4.4: DELIMITATION:

The study is limited to evaluate 120 Primary Schools of both public and private covering rural and urban areas of all 8(eight) districts in Nagaland.

4.5: DESIGN OF THE STUDY:

The design of the study consists of population, sample of the study, tools, questionnaire, interview schedule, participatory observation and Data collection and measures for analysis.

4.5.1: POPULATION:

Population of the study covers all the students admitted in grades-I to IV in 1406 Primary Schools of Nagaland. It also includes all the Experts, Head Teacher/Teacher In-charge and Subject Teachers teaching Environmental studies at Primary level in Nagaland.

4.5.2: SAMPLE OF THE STUDY:

The sample of the study includes 120 Primary Schools, classified into 60 rural Primary Schools and 60 urban Primary School. It also further splits into 30 Public Primary Schools and 30 Private Primary Schools in amongst the 60 rural sample and 30 Public Primary School and 30 Private Primary Sections from amongst the 60 urban Schools. Sample were drawn randomly, 15 each Primary Schools from all 8(eight) districts in Nagaland. Teachers teaching Environmental studies at grade-III to IV at the selected Schools were included in the sample.

4.6: TOOLS USED:

In order to fulfil the objectives of the study, following tools were developed and used:-

i) QUESTIONNAIRE

ii) INTERVIEW SCHEDULE

iii) PARTICIPATORY OBSERVATION

4.6.1: QUESTIONNAIRE:

Three sets of questionnaires were developed by investigator. They were for experts (officials of School Education, NCTE, Kohima, SCERT, DIETS), Head Teacher/Teacher In-charge, subject Teacher of Environmental studies. Questionnaire were confined to the different aspects of Environmental studies at Primary School level such as :

> Curriculum.

> Text Books contents and units covered.

> Training of Teachers.

> Teaching methods.

> Evaluation techniques.

> Curricular and co-curricular activities.

> Teachers awareness level.

- Students awareness level.
- Impact of Environmental studies.

Questionnaires were developed to collect data from Experts, Head Teacher/Teacher In-charge and Subject Teachers of Environmental studies (See Appendices 1,2,3&4).

4.6.2: QUESTIONNAIRE FOR EXPERTS:

The main aspects of questionnaire were :

i) Personal data.
ii) Numerical information regarding Subject matter of environmental studies.
iii) Philosophical and objectives of Environmental studies.
iv) Coordination mechanism between the allied Departments.
v) Course contents of Environmental studies and its relevancies.
vi) Research work conducted or not.
vii) Expert Committee on environmental studies, its effectiveness and impact responses.
viii) Expert consultative meeting, its agenda and functions.
ix) Status of Environmental Awareness programme, protection, development, pollution control measures.
x) Experts vision to meet the growing demands of Environmental improvement.
xi) Suggestions fore better functioning.

4.6.3: QUESTIONNAIRE FOR HEAD TEACHER/TEACHER INCHARGE:

The main aspects of questionnaire were:-

i) Personal data.

ii) Numerical information regarding the School.

iii) Functioning of :

(a) Policy makers/planners/decision makers of department).

(b) Subject Teacher of Environmental studies.

(c) Pupil's learning achievements.

(d) Pattern of respective Schools/Institutions.

iv) School programmes on Environment interest

v) Teachers training, syllabus on Environmental studies, Teaching methods, course contents.

vi) Experts and teachers responses.

vii) Pupil's learning achievement on Environmental studies.

viii) Parents, community and NGOs cooperation.

ix) School Administration.

x) Review of the progress.

xi) Self Evaluation.

xii) Suggestion for improvement.

4.6.4: QUESTIONNAIRE FOR SUBJECT TEACHER:

The main aspects of questionnaire were:-

i) Personal Data.

ii) Numerical information regarding the School.

iii) Functioning's of (a) Experts.

(b) Head Teacher/Teacher In-charge.

(c) Pupils.

iv) Cooperation.

v) Teaching pedagogy.

vi) Orientation programmes of Subject Teacher of Environmental studies organized by.

vii) Impact of training.

viii) Learning Environment.

ix) School programmes.

x) Pupils awareness and achievements.

xi) Co-ordination mechanism.

xii) Self evaluation.

xiii) Review of progress.

xiv) Suggestion for better and effective improvement.

4.6.5: INTERVIEW SCHEDULE:

Interview Schedule was developed to collect relevant information from the pupils to assess the effectiveness of the imparting Environmental studies at Primary School level in Nagaland.

The main components of interview schedule were:-

i) Pupils awareness level.

ii) Pupils interest.

iii) Pupils opinion for over all programme of Environmental studies.

iv) Impact of Environmental studies on Pupils life.

v) Programme of Environmental studies in Nagaland and future changes.

vi) Policy decisions on its suitability.

vii) Teachers commitment preparation.

viii) Preparation for future.

ix) Functioning of Head Teacher/Teacher In-charge etc.

4.6.6: PARTICIPATORY OBSERVATION :

Observation sheet were developed by investigator to observed real Class-room teaching and to surveyed institutions in order to collect informations regarding:

i) Infrastructure facilities.

ii) Library.

iii) Co-curricular activities programmes.

iv) Nature studies programmes.

v) Excursion/Tour/Field trips.

vi) Publications.

vii) Seminar/Workshop/Symposium.

viii) Training etc.

4.6.7: COLLECTION OF DATA:

To fulfil the objectives of the study, data were collected from both Primary and Secondary sources. From Primary source, data were collected through 3(three) sets of questionnaires and by conducting interview by investigator through personal visits to the institutions.

Questionnaires were personally distributed to Experts, Head Teacher/Teacher In-charge and Subject Teacher of Environmental studies. Investigator himself interviewed Pupils, Teachers, Village leaders, experts to collect relevant information regarding the functioning of the programme on Environmental studies at Primary School level and learning effectiveness on the part of the pupils.

Data were also collected from Secondary source through survey of official records of Directorate of School Education, Kohima SCERT, Kohima, Nagaland Board of School Education, Kohima and related departments were conducted to collect basic information on policy, programmes, activities and curriculum of Environmental studies at Primary School and also collected information related to teachers training programmes, orientation and research works.

Basic information related to status, problems and programmes of Environmental studies were collected through questionnaire interview schedule and participatory observation.

4.6.8: MEASURES FOR ANALYSIS:

Data collected through questionnaire, interview schedule and participatory observation were reported accordingly. Data collected were presented in tabular form. Responses of the functionaries were converted into numbers and percentage(%) and analyzed accordingly.

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CHAPTER-V

RESULT:ANALYSIS,INTERPRETATION AND DISCUSSION

CHAPTER-V.

5.0: RESULT: ANALYSIS, INTERPRETATION AND DISCUSSION:

5.1: INTRODUCTION: This Chapter is devoted to the interpretation of result of the study. The result is presented in the form of 3(three) sets of responses to the questionnaires such as:-

i) Subject experts deals with the Head of Departments or Head of Institutes including departmental officials especially policy makers, decision makers and planners.

ii) The second set of questionnaire deals with the Head Teacher/Teacher In-charge of Primary Schools.

iii) The third set of questionnaire deals with the subject teachers of environmental studies, teaching the subject below Class-IV covering both rural and urban, public and private primary schools in Nagaland.

The detailed information relating to subject matter of the studies were collected through 3(three) sets of questionnaires. One interview schedules was prepared for the pupils and participatory observation was done to observed the entire ongoing programmes in the School which enables the investigator in collecting cross-checking information in a concret form.

The study covered the entire aspects of the ongoing environmental studies programmes at primary school level in Nagaland covering all 8(eight) districts. The data collected is shown as below:-

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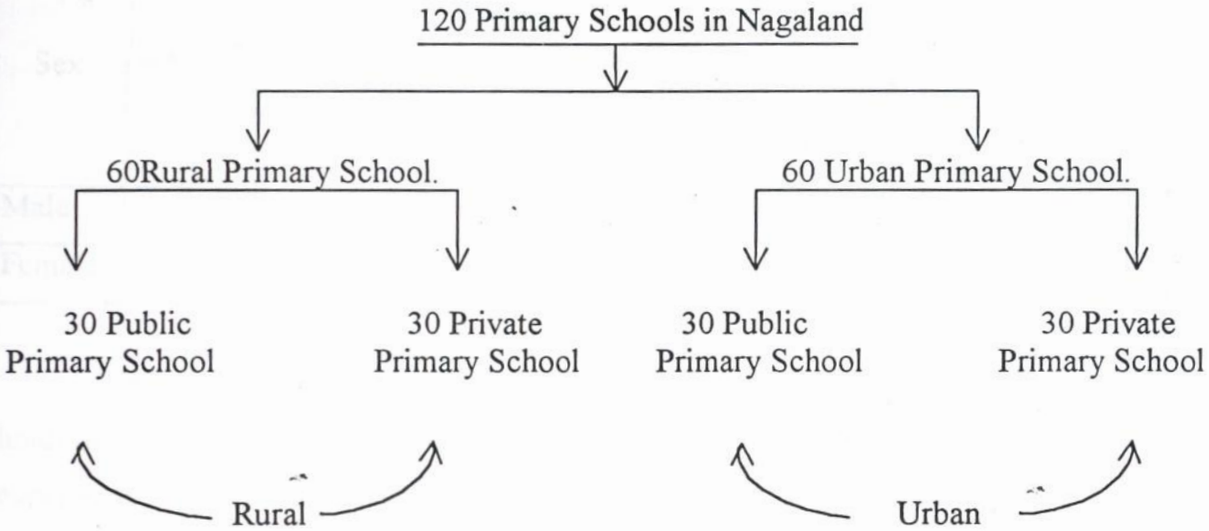
SKETCH.



5.2.: DISCUSSION:

5.2.1: QUESTIONNAIRE-I EXPERTS:

In analysis, the first set of questionnaire which dealt with the responsible personnel mostly who were personally envolved in planning, policy making, decision making, curriculum framing, administrative responsibilities for effective implementation of subject matter at primary Schools in Nagaland. Those were selected from Directorate of School Education(Primary Section), Text Book Cell, Kohima, State Council of Educational Research and Training (SCERT)Nagaland,Kohima, Principals, Lecturers of District Institutes of Education and Training in Nagaland, Nagaland Board of School Education,Kohima(Social Science Cell), Lecturers of Nagaland College of Teacher Education, Kohima.

Valuable and relevant information were collected from the field experts basing on their nature of work and experiences in dealing with planning, policies and programmes, strategies and pedagogy of teaching of environmental studies at Primary School level. The informations furnished by the above stated officials (experts) were analyzed with the following Tables:

TABLE-8.

Back ground of subject Experts.

Sex	Experience						Beginning of ES	
	0-5	5-10	10-15	15-20	20-25	25-30	Before 1970	1970 - 1980 & above
Male	2	3	3	3	NIL	1	1	12
Female	2	2	NIL	2	NIL	NIL	NIL	7

Table indicates that out of 20 experts 7(seven) females and 13(thirteen) males holding key position in this area of subject mostly ranging from 5 to 20 years of their experience in the job. 95% (19 out of 20) of experts shares their views that Environmental studies as a subject course content was started in early Eighties (80s), however, even prior to that the content matter were included in the course in different style as Social Studies or Social Science etc. at the Primary level, Study also shows that the practical experiences of experts involves in this aspects is emerging and the threshold, deserving need to address the issues of environmental aspects through the medium of School Education.

Survey of official records had also revealed that environmental studies has recorded during 1980s covering the entire aspects of child's life phenomena.

Experts involved themselves in framing the curriculum of Environmental studies for Primary Schools in Nagaland were a thoughtful and attempts to bring the child's life to a sense of love of nature, the nature as a basic condition of all living and non-living organism. Keeping in view, natural set up of life style and living conditions which are entirely circle round the nature are incorporated in course studies. This subject attempts to integrated the whole life activities with that of natural domains and guided by the nature indications such as heat, cold, rain, cloudy, plants growth and development, animals and insect behaviours depending upon the seasons. Hence, logically the course of studies are tried to bring the life of pupil at their initial learning stage closely to nature and develop a sense of reality in life.

As child interacts with the natural environment, education should based on environmental concepts. There is urging need to inculcate the ideas and ideals of importance inter dependence human life with other animals, birds, fishes and even insects depending upon seasonal significance which is expect to develop awareness and real life situation realization in child, so as to continue to live the life of eco-friendly and maintain balanced the eco-system and start to live know-how a harmonious life.

Logically, the primary objective of Environmental studies at Primary School level in Nagaland has drawn attention basing on its philosophical background to relate the pupils to day-today daily life activities and linking with composite nature of natural phenomena through the learning and schooling.

"Children the father of man," children are supreme assets of the country because they will be tomorrow's youth and provide the human potentials required for a country's development. From the birth, a child interact with natural phenomena sub-consciously and experienced by sense or feeling. During this period, the neonate under goes and all round development. He is able to have physical growth and development alongwith mental, Social and emotional, provided the environmental condition are favourable. Alfred Adler wrote, "The style of life, in our experience, is developed in earliest childhood, lets give the child his childhood,The nation its human wealth."

A child by his birth introduced him into a new World and begins to experienced with wordly natures. Perhaps, his experiences begins with varied activities, thereby he begins to feels and learns cosmic in nature. Hence, the course of studies hovering round the life of a child and his environmental conditions aiming to linking the life with nature. Therefore, it has been envisaged in Class-I to IV. The pupil would be introduced to both physical and Social elements of environment. Environmental studies at this stage consists of broad and composite instructional area which draw its information from different Social Sciences such as History, Geography, Civics in order to develop Social values and attitudes which are conformity with the cultural heritage of our society and its accepted goals on the one hand from different physical Sciences such as physics, Chemistry, Biology in order to develop Scientific values and attitudes are in the

conformity with material existence in both living and non-living forms on the other hand. While identifying competences like formulating questions, classifications, finding out causes and effect relationship drawing inferences etc. the level of achievement has been determined on the basis of mental maturity of a child.

The objectives for teaching Environmental studies at the Primary stage in Nagaland are as follow:-

1) To help the child to explore and understand his physical and cultural environment.
2) To develop in the child a sense of belongingness to his environment through a widening of his mental horizons from his home and School to the wider world.
3) To develop among children a spirit of maturity in the physical environment and socio-cultural values in individuals as well as in the community.
4) To develop child awareness towards his immediate environment.
5) To help the child to love and care the nature.

Tribal children in general and Naga children in particular have strong affinity and association with their natural environment, and begins to enjoy and live with nature, viz. Rain, sunray, light, air, trees, plants, grasses, animals, birds and even insects. To set few examples Naga rural children still enjoy with raining signing praise rain saying " TSÜGHU BOBOLILO-TSÜGHU ZOZOLILO" which means "Rainfall come more and more-we 'll enjoy" and another occasion children addresses the rain "Stop raining" for the working parents in their fields. They also sing alongwith the wind blow the bamboo holes making melodious sound. Like wise, children even enjoy with the behaviours of animals and insects. Amongst these, the favourite and popular insects for rural children is SCRAB(mostly found on Oak Tree). Children tied Scrab with thread and when the Scrab started flying producing sweet sound, child also begins to sing with it. The also enjoying with the wind blow movement of plants, trees, flowers and beautiful nature colours of raibow. School children, even today enjoying the nature characteristics of environment.

Infact, the objectives of the course contents deals with ascending character in another words from near to far or from within to without. Accordingly the course contents begins from Class-I-IV as follows:-

CLASS-I:

Units:	(1)	Our body	(2)	Our family	(3)	Our home
	(4)	Our School	(5)	Our neighbourhood	(6)	Transport
	(7)	Occupation	(8)	Water	(9)	Our earth
	(10)	Our sky				

CLASS-II.

Units:	(1)	Our body	(2)	Our family	(3)	Our home
	(4)	Our School	(5)	Our neighbourhood	(6)	Transport
	(7)	Water	(8)	Our earth	(9)	Our sky

CLASS-III. **Part-I.**

Units:	(1)	The world we live	(2)	Life in our State
	(3)	Life in our district	(4)	Our heritage

Part-II.

Units:	(1)	Living things.	(2)	Our body,food & health.
	(3)	Materials and their properties	(4)	Weather and season.
	(5)	The earth and the sky.		

CLASS-IV. **Part-I.**

Units:	(1)	Our country.	(2)	Resources and their deve-Lopment.
	(3)	Means of transport and Communication.	(4)	Life in different parts of our country.
	(5)	Things that make our rich and beautiful.	(6)	How to govern ourselves.

Part-II.

Units:	(1)	Living things	(2)	Human body, nutrition and health.
	(3)	Material and their properties.	(4)	Air, water and weather.
	(5)	Soil and crops	(6)	Force, work and energy.
	(6)	The earth and the sky.		

TABLE-9.

Cooperation from Allied Department and course contents.

Get helps from Allied Department						Allied Departments are			
FA	MA	PF	JPI	CA	AO	CO	EO	DO	NR
NIL	2	11	5	NIL	2	10	4	2	4
NIL	10%	55%	25%	NIL	10%	50%	20%	10%	20%

	Course contents are base					Contents are	
	TO	PO	OD	ON	C	LBSR	CGLR
	12	4	2	2	NIL	12	8
%	60%	20%	10%	10%	NIL	60%	40%

FA = Financial Assistance

MA = Material Assistance

PF = Policy Framing

JPI = Joint Programme Implementation.

CA = Contribution of all above

AO = Any other

CO = Cooperation one

EO = Encouraging one

DO = Discouraging one

NR = Non-response

TO = Theoretical Oriented

PO = Practical Oriented

OD = Oral Discussion

DN = Demonstrative in nature

C = Combination of No.

LBSR = Local need base and socially relevant

BCGR= Base on Central Govt. recommendation with less local relevancy.

It indicates that non of the experts gave their opinion regarding the financial assistance particularly from the allied departments or any other sources except the normal department budget allocations. Data shows financial assistance from allied departments was nil, material assistance 2(10%) policy framing 11(55%) joint programme implementation 2(25%) study reveals that, there is more concerned for policy framing/matter amongst the allied departments, since 55% of experts expressed their experiences in this regard. Whereas, in other sectors, there is still need to mobilized active support for effective and realistic development.

Question of allied departments coordination mechanism, the study reveals its satisfactory result. 50% cooperative one, 20% encouraging one, 10% discouraging one and 20% non-responsive. However, though, there is need to mobilize active supports from the allied departments. Perhaps, almost all concerned departments are developed environmental awareness and shares positive opinion.

Data also indicates that the course contents on environmental studies are still based on theoretical orientation. The study shows 12 experts(60%) theoretical orientation, 4 experts (20%) practical orientation 2 experts(10%) oral discussion and 10% demonstration in nature. Study also shows 60% of experts expressed their opinion that the contents of subject matters are in favour of local need based and socially relevant. 40% of experts shares their opinion that the contents of Environmental studies are based on Central Government recommendation with less local relevancy. These experts shares their desires to add more local fabrics in the curriculum by integrating the broad outlook and local relevancies.

TABLE-10.
Curriculum on Environmental Studies:

Curriculum Subject content are			States of ES curriculum			Units irrelevant		Present curriculum locally need based		Curriculum will bring Tve.impact		Existing of ES Cell	
PR	HLI	IM	R	IR	UD	YES	NO	YES	NO	YES	NO	YES	NO
18	2	NIL	18	2	NIL	1	19	16	4	18	2	4	16
90%	10%	NIL	90%	10%	NIL	5%	95%	80%	20%	90%	10%	20%	80%

PR = Practical and Relevant
HLI = Heavily Loaded and Irrelevant
IM = Impracticable
R = Relevant
IR = Irrelevant
UD = Undecided

Data indicates that 90% of experts expressed their experiences regarding the course contents relevancy. 5% viewed that the contents are heavily loaded and need modification and 5% expressed the irrelevant.

Curriculum and syllabus presently imparting at Primary School is locally need based. 80% in favour and 20% gave negative opinion. The course contents of subject matters makes the pupils aware of their surroundings and how it helps and sustains the living beings, and also how to preserve the non-living things too, which have a direct impact on the daily life of children.

The renewal of curriculum (1989) for Environmental studies Part-I(Social Studies) and Part-II(Science) is done strictly in accordance with the document developed by NCERT, titled "National Curriculum for Primary education-A frame work," which is for runner the national policy on education 1986 (NPE) considering the decision taken by the State Government that the Science components are to be incorporated in English primers and Readers in the Primary level, the Curriculum Cell decided to develop two sets of curricula. The first set, Environmental studies Part-I and II as a normal course in conformity with national curriculum and the second set for Class-V and VI assuming that the policy of integrating the thematic concepts of Environmental studies (Components of Social Studies and Science) with the English primer Readers will continue so as to reduce the curriculum load on tender children of lower age group, when they have to develop fully the language skill.

As the child in early age interacts with the Environment in its totality, integrated approach is visualized in designing curriculum for Class-I and II in environmental studies and Science components are not separated at this level. While developing the curriculum in Environmental studies for Class-III and IV units on Social Studies and Science are separated into Part-I and II respectively. In Part-I aspects on Social and Physical Environment are developed and in Part-II Science, the course contents is so organized as to develop in the children awareness, understanding and concern about the natural and physical Environment.

While developing these syllabus, efforts have been made to provide adequate scope and innovative and flexibility to creative teachers for innovation and improvisation. While formulating the curriculum, the expected behaviour outcome (EBO) after studying the content, activities to be done by the teachers and children in the Class-room and outside, evaluation procedure in brief and also the approximate number of periods to be

devoted to each unit are included, so as to enable the teachers to transact the curriculum in an effective manner.

TABLE-11.
Research and Training on Environmental Studies.

	Conduct of Research		Training organised for Teacher		Curriculum expert Committee exist		Teachers Response				Students Response			
	YES	NO	YES	NO	YES	NO	S	AV	DO	MR	S	AV	DS	MR
	2	18	15	5	8	12	8	7	1	4	8	8	1	4
%	10%	90%	75%	25%	40%	60%	40%	35%	5%	20%	40%	40%	5%	20%

S = Satisfactory
AV = Average
DS = Discouraging one
DS = Dissatisfactory
MR = Mix-response

Table dealt with research and training on Environmental studies, revealed that no research work on Environmental studies had been conducted in the State. 2(10%) of experts expressed about the conduct of research work on Environmental studies, however, in their opinion too, they have mentioned about their participation in like related programmes in other State, once in 1989 on Social Forestry in U.P. and once in 1990 on socio-economic activities in Jaintia Hills. In their participation, those experts expresses the programme relevancy, with State of Nagaland. On the other hand, 18(90%) of experts gave their professional opinion that such research work on environmental studies has not, and yet to. They suggested that in order to evaluate the effectiveness of ongoing environmental studies as a subject at Primary stage. A research work is on need basis and should conduct in order to find out appropriate feasibility and importance of the subject in pupil's life in particular and society in general, and also need to locate the weak aspects for corrective and further improvement.

In regard to imparting teachers training for subject teachers of Environmental studies 15(75%) of experts share their experiences in organizing and conducting the

training programmes. They expressed the pattern, duration and phases of training. Most of the training are conducted by SCERT and DIET about 5(five) days orientation training programmes covering 40 teachers in each programme. 3 to 4 times(Phase manner) in a year. Rest of 25% of experts are working in coordination with nodal departments and institutions.

Formation of curriculum expert committee is concerned in nodal departments 12(60%) of experts gave their negative opinion and 8(40%) favoured the idea. However, the course responsible is restructured and entrusted the SCERT, and this department is looking after the entire aspects of primary section including the course contents and other departments are coordinating with SCERT. Whereas, Directorate of School Education(Text Book Cell), Nagaland Board of School Education are coordinating Secondary courses under the nomenclature of Social Sciences. In both the NBSE and SCERT are having separate Cell of Social Sciences which covers the lower section as well as primary stages under the style of Environmental studies.

The question of Teachers' and Students' responses, the study shows in both the respects, the experts rated satisfactory. 8(40%) satisfactory, 7(35%) average, 1(5%) discouraging one and 4(20%) mix-response. That indicates in order to arouse the interest of subject teacher of Environmental studies, teachers need to be motivate in a better way or draw their attention and discipline. Whereas, the students responses in both grades satisfactory and average 8(40%) and 8(40%) respectively, 4(20%) mix-response and 1(5%) dis-satisfactory. Study reveals that there are sections or group of pupils who are still ignorant about the importance of Environment may be because of their isolation or confinement within their natural elements at their locality. This group of pupils attract the attention of policy to streamline before it is too late.

TABLE-12.

Impact of ES on daily life of Children and Teachers function.

	Impact of living					Are Children Envtly. Conscious		Teachers function satisfactory	
	VG	G	AV	P	NI	YES	NO	YES	NO
	NIL	4	12	4	NIL	8	12	6	14
%	NIL	20%	60%	20%	NIL	40%	60%	30%	70%

VG = Very Good
G = Good
AV = Average
P = Poor
NI = No Impact

The impacts of Environmental studies on daily life of children and teachers functioning. 60% average, 20% good, 20% poor and both very good and no impact Nil. It shows, there is strong evidence in learning of environmental studies have significance impact on the daily life of children studying from Class-I to IV and onwards study. In 2(two) decades or so of imparting Environmental studies at Primary School level in Nagaland has achieved exact balancing at the average grade.

According to experts opinion, study also shows that Naga children are picking up Environment friendly habits. Children started caring plants, vegetation's, sanitary conditions, cleanliness, differentiate the wild plants and crops, living along with domestic animals and also developed awareness for schooling in every morning which indicates a sense of responsibility in child's daily life.

Data also indicates that the experts were not still satisfied with the academic functioning of the subject teachers of environmental studies at Primary School level in Nagaland. Experts opined that Subject Teachers are concentrating on theoretical alone and less activity based learning.

Study through continuous and comprehensive evaluation to know about the impact of imparting Environmental studies on pupils life. The weightage of subject contents to importance of global, nation, social, local and even individual concepts as a member of community living beings need to inculcate environmental friendly, hence ambitious measures to arouse the potentials of subject teachers who are directly dealing with course and pupils by adopting (a) holding meeting to discuss and suggest measures for

improvement, (b) giving and showing teaching qualities and skills to perform job in a better way, (c) Suggest concern teachers to go for training depending upon their need based situation in order to motivate, dedicate and have self commitment to activate their professional specialization, which have direct impact on growing soul.

TABLE-13.
Expert Consultative Committee and its Functioning.

Meeting held						Agenda for meeting			Visit of School by Committee					
WK	MON	QRT	HY	OY	DNA	PCS	PI	SI	WK	MON	QRT	HY	OY	DNA
-	-	-	-	2	18	4	3	13	-	-	-	-	-	20
-	-	-	-	10%	90%	20%	15%	65%	-	-	-	-	-	100%

WK = Weekly
MON = Monthly
QRT = Quarterly
HY = Half Yearly
OY = Once in a year
DNA = Does not arise
PCS = Progress of Course Study
PI = Problem of Implementation
SI = Strategy for Improvement

With regard to experts consultative committee and its functioning, data indicated that so far expert committee could not organize consultative discussion on the subject matter. 90% negative and 10% gave positive opinion. It shows that the experts consultative meeting need to organize in broad perspective for its improvement.

Regarding the agenda for discussion experts conveyed their opinion that meeting discussion needs to cover all the progress of course study, problem of implementations and strategy for improvement.

Experts officials admitted that they had yet to visit the Schools in this regards to survey the over all progress of Environmental studies in Nagaland. Experts strongly advocated the need of official visit and evaluate the implementation of course effectiveness and progress to elicit the ground realities.

TABLE-14.

Funding and co-ordination regarding Environmental programme.

Separate fund available		Funding agencies			Co-ordination Mechanism	
YES	NO	STATE	FINANCIAL INSTITUTE	NGOs	YES	NO
NIL	20	20	NIL	NIL	7	13
-	100%	100%	-	-	35%	65%

Table indicates there is no such separate funds specifically for environmental studies. The course is running alongwith other courses under general fund for the concern department. Except State funding for the department budget allocations, there is no any other financial resources for the progress and improvement of environmental studies in the state. Emerging facts, there is a need to mobilize the resources for the separate fund for environmental concerned at all level of study.

Allied departments coordination mechanism is of great importance, hence, department of School Education Research and State council for Educational Research and training coordinating with other allied Departments such as Forest and Environment Departments, Soil and Water Conservation Department, Rural Department, Wasteland Development Department, Agriculture Department etc. need close coordination for effective protection, preservation and promote Environment sustainable and forge to achieve desirable eco-friendly at public level in general through public awareness programme and pupils in particular through their course of studies. Experts are of their opinion that systematic and cordial coordination is utmost emerging need amongst the planners, policy decision makers of related departments to put their concrete efforts to promote environmental development in the State.

It had been a general feeling that natural Environment is disturbed in Nagaland. This general feeling is of what late realization in public life of Nagas. It is true that traditional Nagas life circle round the nature and were natural core of life. In those days with the abounding of natural vegetations and undisturbed Environment, Nagas were not aware of their Environment except their property concepts. However, with increase of large scale of jhuming cultivation, uses of forest products, wanton feeling of trees by means of log business and trading, jungle burning, systematic method of hunting wild animals,

fishing and trapping of birds, large scale of using motor vehicles, installation of small and cottage industries, saw mills, rice mills, near by populance, use of generator etc. causing air, water, and even sound pollution which disturbed the natural Environment up to extend of imbalance atmospheric conditions in Nagaland.

Naturally Nagaland has got rural character with the advent of modernity in life style, semi-urban and urban town emerged rapidly in Nagaland. Environmentally, Environment conditions appears rural Environment and urban Environment. Rural

Environment increased decades by decades. Rural Nagas entirely based on cultivation occupation, e.g. jhuming cultivation and farming for their livelihood, leisure occupation such as hunting, community fishing, trapping birds etc. which is common to all community. Such rural activities contribute to imbalance Environmental conditions but a negligible. Perhaps, the worst affect of rural Environment problem was that late concept of logging and timber trading caused a massive destruction to rural natural evergreen forest by means of side income of few able and greedy rural Nagas.

As on when Naga villagers were influenced by monetary benefit in exchange of their natural wealth, attitudes and aptitudes were also drastically changed. Ultimately, values of their natural gifts were abandoned because of their massive deforestation. The immediate consequences of rural Naga ignorance towards their natural gifts of wealth's affect their yearly cultivation harvest. Obviously, due to massive deforestation, scarcity of water were evidenced. Farmers facing water scarcity especially at hill slope terraced field. Villagers even conveys that water sources reduced the water velocity even in stream. Villagers even evidenced diminished land fertile's. They could differentiates credentials and potentials of soil in certain particular plot of field, which used to harvest 100 basket of paddy in those days has now reduced to 60 or 50 basket of paddy. Villagers even discussing and started develop awareness about the land potentials. Having practical experiences and instances of immediate consequences of deforestation known to villagers.

It is pertinent question of the State and the people, what would be the environmental condition in near future in Nagaland, it is utmost necessary to address the issue contiguously and consciously. If steps are not taken ambitiously to promote and

protect environmental conditions in Nagaland, the future awaiting the life may be undesirable and unfit for healthy one. Realizing the facts, people in general and pupils in particular needs to aroused interest and awareness to regain nature, aiming to sustain the living by inculcating ideal skills to live with nature harmoniously. Hence, important stresses on tree farming and tree plantation which have dual benefits, banning jungle burning, restricting hunting and fishing, minimized jhuming cultivation, encourage hill lock type of terraced cultivation and other alternative vision for public life general and pupils at all stages of School children to develop skills for preserving, protecting and promoting the environment through School curriculum entitled and rightful to learn by all.

TABLE-15.
Community Participation and Public Awareness on Environment.

NGOs Working o Environment		Community Participation				Public Edn Initiatives		Public Awarenes Programme	
YES	NO	S	R	OCC	YST	YES	NO	YES	NO
12	8	-	-	20	-	3	17	2	18
60%	40%	-	-	100%	-	15%	85%	10%	90%

S = Satisfactory
R = Regularly
OCC = Occasionally
YST = Yet to start

Data on community participation and public awareness on Environment indicated mix-response on community participation and NGOs working on environmental protection and preservation in Nagaland. Evidently , there are some NGOs working on Environment. Notable organizations such as Centre for Environmental Education(CEE) Nagaland Branch, people's Group and Government undertaken e.g. Nagaland Environment Protection and Economic Development(NEPED) etc. are contributing at war footing.

Community participation in environmental Development in Nagaland is in its infancy stage. 100% experts expressed that communities are occasionally taking parts in its noble endevour. Naga communities such as Village Council, Village Development Board, Societies and Students organizations are taken initiatives to regain natural values and improve the environmental conditions in their respective jurisdiction such as adopting

resolution certain code of conducts on Environment, banning jungle burning, hunting and trapping wild animals and birds during reproductive months, imposed restriction on chemical poisoning of fishing, restriction on felling of certain trees, reserving certain hill lock for wild life sanctuary etc. These agencies have also undertaken the tree plantation projects in coordinating with concerned Departments and Church agencies. However, these activities are been carried out occasionally.

Study also revealed on the steps taken for public education on importance of Environment is almost non-existent. 85% of experts gave negative and 15% gave positive opinion. It shows that public education mission is lacking behind the needs.

Study also reveals 2(10%) experts agreed and 18(90%) expert dis-agreed the public awareness programme. It shows only few Departments or Agencies are imparting awareness programme.

5.2.2: QUESTIONNAIRE-II. HEAD TEACHER/TEACHER INCHARGE:

Second set of questionnaire deals with the Head teacher/Teacher In-charge from selected Primary Schools in Nagaland. Questionnaire concentrated on the assigned responsibilities, how effectively they administered the course implementation of environmental studies. This set of questionnaire covered the entire aspects of School administration, academic supervision, School programmes and activities covering both the subject teachers effectiveness as well as students role and their achievements.

TABLE-16.
Back ground of Head Teacher/Teacher-In-Charge.

SEX	EDUCATIONAL QUALIFICATION					EXPERIENCE					
	Under Matric	Matric-ulate	P.U.	Gradu-ate	Post Graduate	0-5	5-10	10-15	15-20	20-25	25-30
Male	98	102	119	108	18	7	9	17	21	37	22
Female	72	134	92	72	12	1	4	2	-	-	-
Total	170	236	211	180	30	8	13	19	21	37	22

827 Teachers 120 Teacher In-Charge

Table indicates 98 male, 72 female under Matric, 102 Male, 154 Female Matriculates, 119 male 92 female P.U, 118 male 72 female graduates 18 male 13 female

Post graduates out of 827 teachers teaching in 120 selected Primary Schools covering both rural and urban Schools.

Study reveals that there are still under qualified teachers teaching in schools in Nagaland. However, there is significant improvement in regard to education qualification.

Table also shows that the In-charge of Schools are mostly male teachers. Out of 120 teachers In-charge only 7 female teacher In-charge and 113 male teacher In-charge are looking after school affairs. Most of them(99 teachers) are senior teachers with experience of 15 and above years in teaching profession.

TABLE-17.
Teacher-Pupils Ratio.

Sex	Teacher	Pupil	Ratio
Male	445	12,754 Boys	
Female	382	11,726 Girls	
Total	827	24,480	1:29

Data showed that out of 120 selected Primary Schools only 7(seven) female Head Teachers and 113(thirteen) male Head teachers are looking the School affairs.

Data shows that there are 445 male teachers and 382 female teachers teaching in 120 selected Schools covering all the 8(eight) districts in Nagaland. 12,754 boys and 11,726 girls (Total-24,480) students studying in 120 Primary Schools. The ratio of Teacher pupil is 1:29. It shows the ratio of Teacher/Pupil is comfortable and the out come of teaching learning is expected to be satisfactory. However, there is dis-proportionate ratio in privately own Schools where the pupils are much out number the expected ratio than the Public Primary Schools. Logically, people prefer the better and wishes the better. In Nagaland Public School performing are reducing and show poor and low performance, people started questioning the credibility of Public Schools and sending their children/wards to Private Schools.

TABLE-18.

Structure of Study Sample and School Garden:

Primary School	Rural	Urban	Total	Grand Total	School Garden	
					Yes	No
Public	30	30	60	120	23	107
Private	30	30	60	120 Primary School	-	-

Table shows that the flow of data collection covering 120 Primary Schools both rural and urban areas and both public and private schools. Data were collected from 60 rural schools and 60 urban Primary schools. Again it was further splited into 30 public and 30 private Primary schools and 30 private schools and 30 public schools from both rural and urban school covering all the 8(eight) districts in Nagaland.

Pertinent question of core curricular activities of the School garden, study reveals that out of 120 Primary Schools, only 23 Primary Schools are having School garden mostly in rural Schools. 107 Primary Schools are not having School garden. Almost all the urban Schools are not aware of School garden, however, it is worth to mention that the teachers and pupils took keen interest in plantation programme, whenever, such activities are organized. When talk about the nature and natural phenomena, rural School pupils have more advantages and more information by their practical daily life. Rural pupils have got their own natural way of acquainted with natural green vegetation. Even the minor child can identifies the uses of these natural elements as they are a custom of it. On need base teacher-In-charge of Primary Schools are of the view that plantation techniques and methods should also incorporated in school curriculum.

TABLE-19.

School Programme and Activities:

Pupils				School Plantation Programme		Orientation Programme						Subject teacher Of ES				Teaching methods		
CD	DP	EP	UA	YES	NO	UNV	WO	DSE	SCERT	NGOs	CD	NA	TRN	UTRI	NT	CTWT	SF	NI
62	8	30	20	70	50	-	12	70	10	4	24	24	36	52	8	32	20	68
51.60 %	6.66%	25%	16.66 %	58.3 %	41.66 %	-	10%	58.3 %	8.33%	3.33%	20%	20%	30%	43.33 %	6.66 %	34.40%	24%	81.60%

CP =Care for plants

CD =Co-ordination with many Deptts.

DP =Destroy plants
EP =Enjoys with plants
UA =Unaware
UNV =University
DSE =Directorate of School Edn.
SCERT=State Council for Edn.Research And Training
NGOs =Non-Governmental Organisation
NI =Need to Improve
NA =Non of the above
TRN =Trained
UTRN =Untrained
NT =Need to be trained
CTWT =Can teach without training
SF =Satisfactory
NS =Not up to standard

Regarding the School activities and pupils mentalities towards the natural vegetation, School plantation programmes, orientation training facilities and progammes for subject teachers and methods of teaching the subjects were covered and data indicated that 51.60% of Head teacher gave their opinion that the pupils care for plants, 25.08% enjoys with plants, 16.66% unaware and 6.66% destroys the plants. Till then study reveals the positive opinion is much higher and have scope for further improvement. 58.34% Teacher In-charge conveyed plantation programmes in their respective Schools and 41.66% of them are yet to organize. This shows that many Schools are not aware of plantation programmes and its values, hence, need to encourage in a larger scale.

On orientation programme concerning the over all projected programmes on environmental studies for subject teachers, it is interestingly to note that out of 120 Teachers in-charge of Primary Schools, 70(58.34%) of them confirmed the programme conducted by SCERT, 12(10%) Directorate of School Education, 10(8.33%) NGOs, 4(3.33%) coordination with other departments including the Apex Church Body Nagaland Baptist Church Council(NBCC), 24(20%) of them expressed their isolation which shows depriving their facilities and opportunities in this regard. Centre of learning Nagaland University is yet to initiate and extend its policy and programme for the development of environment sustainable programmes through academic encouragement.

Regarding, training imparted by concern departments to subject teachers of environmental studies in particular is also need to be enhanced. As it shows 24(20%) trained 36(30%) untrained 52(43.34%) need to be trained and 8(6.66%) can teach without training. Obviously, that the training programmes organized by the departments are extending to Government Primary School teachers mostly. Almost all the 60 Private

Schools both rural and urban areas Principals/Teacher In-charge expresses their opinion about the Government attitudes towards the Private Schools in regard to teachers training. Opportunity and provision should also be extended to Private School teachers, hence, logically both the Private School

and Public School teachers are teaching same Text Book and course contents. However, so far concerned department have not been extended such privileges to Private School teachers, they lamented.

Study also revealed that since the equal opportunity for training programme is yet to extend to cover all categories of Schools in Nagaland, there is parity of teaching methodology at Primary School level. This gap of techniques and methods of teaching is a matter of a great concern in the field of teaching profession. Out of 120 teacher-In-charge, 32(26.68%) gave their satisfactory opinion 20(16.64%) not up to standard and 68(56.68%) favours need to improve in teaching methods especially the subject teachers of environmental studies at Primary School level in Nagaland.

TABLE-20.
Course Aspects:

Syllabus on Envtl. Studies			Teaching Method Based				Teaching Aids		Course Contents of Envt. Studie			
R	IR	NI	CB	PB	TDL	EB	YES	NO	R	IR	NAMC	HL
42	14	64	48	24	22	26	36	84	60	9	27	24
35%	11.66%	53.33%	40%	20%	18.33%	21.67%	30%	70%	50	7.5	22.5	20%

R = Relevant IR = Irrelevant
NI = Need to Improve CB = Child Based
EB = Experience Based PB = Police Based
TDL = Traditional NAMC= Need to Add More Contents
HL = Heavily Loaded

Table dealt with syllabus, methods of teaching based, teaching aids, contents, study shows that the syllabus on Environmental studies still need to improve and bring more closer to

Naga life pattern and locally relevancy, indicated that 64(53.34%) expresses opinion that there is need to improve, 43(35%) relevant and 14(11.66%) irrelevant.

On the teaching based method, 48(40%) gave opinion; methods are child based, 24(20%) policy based 22(18.34%) traditional method and 26(21.66%) experience based method. This shows a combination of teaching methods are emerging to meet the need of effective learning, however, experience based method is yet to be adopted.

In regard to teaching aids, 26(30%) got sufficient T.A. agreed, 84(70%) did not. This shows that teaching aids are not sufficiently available, or otherwise the concerned School failed to provide T.A. However, study indicated that teaching aids can be easily managed in School by using immediate locally available items which are closely and easily understandable to pupils. Of course, there is limited or almost neglected aspects of material supply by concerned departments. Hence, locally available resources can mobilize and make good use of it.

Concerning course contents, of Environmental studies at Primary School, the Head teacher gave their opinion as 60(50%) relevant, 9(7.5%) irrelevant 27(22.5%) need to add more contents and 24(20%) of them rated heavily loaded.

TABLE-21.
Over All Programme:

Entl.Studies Program Satisfactory		Orientation Programme fo Subject teachers of Ent Of ES		Approach concerne Deptt. for effectiv implementation of ES		Interest taken by allie Deptts. For effectiv implementation of ES	
YES	NO	YES	NO	YES	NO	YES	NO
81	39	120	-	7	113	17	103
67.5%	32.5%	100%	-	5.83%	94.16%	14.16%	85.84%

Table indicates that over all programme of environmental Sudies at Priumary School level in Nagaland is satisfactory. 81(67.5%) teacher in-charge of Primary School are satisfying would the performance of subject teachers of Environmental studies and pupils learning. On the other hand 39(32.5%) of them expressed their negative views and suggested that both the pupil and teacher should into confidence and see that logical reason

should be able to interpreted into real life practical experience in due course of teaching and learning.

In regard to orientation programme of teachers training, 120(100%) of Head/Teacher in-charge of Primary Schools supported on consensus opinion as an utmost important for greater and effective methods as a teaching force. An opportunity for Environmental Studies to be undertaken in debt and for the various aspects to be followed, if not at leisure, atleast with adequate time available for completion desirable goal. It has been a strong views that the training programme should regularly organized for both public and private primary school teachers on equal important basis.

Concerning the approaches of department authority for effective implementation of Environmental studies in Nagaland, only 7(5.83%) teacher in-charge share their experiences and vitiates their ideas with concerned authority. However, in some cases positive response were awaited in vain, 113(94.16%) of them did not even aware to approach the authority.

Study also shows interest taken by the allied Departments for effective implementation of environmental Studies in Nagaland is of what far neglected one. Out of 120 Head Teachers/Teacher In-Charge only 17(14.16%) gave positive answer and 103(85.84%) gave negative reply. Study shows that there is a need to improve coordination mechanism among the allied departments to enhance the greater interest of various

TABLE-22.

Concerted Responsibilities:

Pupils Achievemen on E.S.		Parents awareness or envt. Studies		Parents Cooperation		Community/NOGs efforts			
YES	NO	YES	NO	YES	NO	SF	DS	NK	NM
96	24	54	66	57	63	18	9	20	73
80%	20%	45%	55%	47.5%	52.5%	15%	7.4%	16.66%	60%

SF = Satisfactory
DS = Dissatisfactory
NK = Not known to them
NM = Need to mobilize

Table indicates that pupil's achievement on environmental studies satisfactory. 96(80%)rated satisfactory result, 24(20%) express negative views.

Parental awareness on environmental studies is a mixed response. 66(55%) rated negative, 54(45%) rated positive. This shows that majority of parents are still ignorant about the importance of environment. Mentions are made that rural parents did never bother about the consequences of environment careless attitudes and need to educated them for safer future.

Table also shows parental cooperative for the successful implementation of ES is still poor. This could be because of their lack of awareness about the environment. Out of 120 teacher in-charge 57(47.5%) positive, 63(52.5%) negative, data shows that parents are yet to extend their cooperation, yet Naga parents are generally educational conscious.

Study reveals that the community and NGOs efforts are needed to mobilize. 73(60%) need to mobilize, 20(16.66%) not known about, 18(15) satisfactory and 9(7.5%) dissatisfactory in regard to community participation for the development and achievement of ES. Study shows that community and NGOs are in need motivate and mobilize their extend their valuable contribution for the development and protection of environment by way of workshops, seminar, contact with teachers and pupils, consult with various allied departments, suggest policy and programme as constructive pressure group as a participant, supportive partner and educating to public in general and pupils in particular. School administrators in Nagaland anticipating community and NGOs cooperation.

TABLE-23.

Environment Day, Ethics, Curriculum:

Environment Day		Environmental Ethics		Environmental Curriculum, Social relevancy	
YES	NO	YES	NO	YES	NO
5	115	97	23	91	29
4.16%	95.84%	80.84%	19.16%	75.84%	24.16%

Table indicates most of the Schools in Nagaland does not celebrate the World Environment Day along with the rest of the World. Only 5 Schools, (4.16%) Private School observes World Environment Day to make the pupil feel that she/he is a member of

Environment and has got personal responsibilities for better and quality Environment. 55 Private and all 60 Public School of both rural and urban areas are yet to organize to celebrate the World Environment Day.

With regard to celebration of World Environment Day, Environmental ethics and Environmental curriculum on Social relevancy indicates only 5 Schools, (4.16%) Private School observes World Environment Day to make the pupil feel that she/he is a member of Environment and has got personal responsibilities for better and quality Environment. 55 Private School and all 60 Public School of both rural and urban areas are yet to organize to celebrate the World Environment Day.

Study showed that 97(80.84%) expressed positive answer and 23(19.16%) gave negative results that imparting of environmental studies is based on environmental ethics. It means most of the Head Teachers in Primary Schools agreed with logic conclusion that Environmental studies has its based on ethics.

In regard to present environmental curriculum and social relevancy with special reference to Nagaland, 75.84% rated positive and 24.16% rated negative. It shows that curriculum on environmental studies have social relevancy and strong advocacy so far academic consumption is concerned.

Basically, Naga style of living is community welfare oriented. Every individual having respect for social fabrics in regard to habits, action, behaviours, belief and so on. Traditional community norms has become unquestionable social binding. Naga tribal ethos entirely nature in-glove in their life spheres. Their ideas, understanding, skills work patterns and experiences, techniques, mentality, attitudes and aptitudes behaviouristics conducts were closely associated with nature. Their day-to-day activities depends on types of seasons, climatic conditions, weather, accordingly their activities were even guided by nature predictions.

Artistically, Naga oral tradition in replacing by literacy society though oral tradition will ever remain guiding pattern in its society. Literary automatically influenced the Nagas to pick up literary consciousness and their will power develops education a concrete

discipline. Perhaps, the best wisdom, they exercise their innate capacity and steadily a new concepts over take the old thinking in away.

They begin to hunts for education. In the process Nagas need to realize the potent importance of their environment. Conceptual notion on environment is a salvage to nature, hence, environmental studies as a device and method of approach to enable the child to understand the natural environment and develops a sense of greening life alongwith his holistic growth which will help and environmentally rational being and living a balancing environment equation.

5.2.3: QUESTIONNAIRE-III SUBJECT TEACHER OF ENVIRONEMNTAL STUDIES.

Whole gamut of School activities depends on how its teacher is effective.

Third set of questionnaire deals the active front of School activities in a real situation at grass root level in School Education. Teacher, the pillar of pupils' learning, in fact, this questionnaire aimed to elicit the information relating to subject matter and management of the course. Questionnaire tried to collect information from concern departments on policies and programme implementation, administrative directive and supervisions of experts and School administrator from the subject teachers of Environmental Studies.

Informations were drawn from the subjects of the same School for cross-checking information besides the interview schedule for pupils of the same School and spot observations made by the investigator.

TABLE-24.

Background of Subject Teachers of Environmental Studies:

Sex	Marital status		Training		Qualification					
	Married	Unmarried	Trained	Untrained	Under Matric	Matriculate	P.U.	Graduate	Post Graduate	Total
Male	57	19	23	61	15	20	23	15	3	76
Female	30	14	16	20	7	12	15	10	-	44
Total	87	33	39	81	22	32	38	25	3	120
	120		120				120			

Table indicates on the marital status, 57 males, 30 females were married and 19

Males, 14 females were unmarried teachers. All together 76 male teachers and 44 female teachers are teaching ES at Primary School of 120 selected Primary Schools.

Data also shows 23 male and 16 female 39 Subject teachers obtained training and 61 male and 20 female teachers are yet to obtain training for effective teaching in their scheme of works. Untrained teachers most of them are on ad-hoc basis and reluctant attitude to go for training more over these group of teachers are even deprived to obtain training, rather, Department is not encouraging the ad-hoc teachers to go for training in Nagaland. This Department policy and attitude appears obstacles to larger group of teachers who are dealing with subject matters. On the other hand training programme are not extending to private school teachers. Again this group of teachers are teaching without obtaining basic training. Hence, it is strong view that training opportunity should extended to private school teachers on equal terms.

Table also indicates on qualification for Primary Teachers. Out of 76 male teachers, 23 were P.U, 15 were graduate and 3 were post graduate. For female, out of 44, 7 were under matric, 12 were matriculate, 15 were P.U, 10 were graduate and Nil post graduate. On the question of minimum qualification for primary school teachers, there is lacuna within the norms for appointment. Government of Nagaland has set criteria of requisite minimum qualification for the post of Primary Teacher. Pre-University and equivalent for advance areas and matriculate for backward areas. In the interest of quality education for all, this dis-cremenatory attitude of government need rectification. This criteria should be discouraged by the Government, if at all, government is sincerely and determined to impart equal educational values to all Nagas in an equal terms. Rather, logically, higher or well qualified teachers be appointed against educationally backward areas with certain incentives, which may panacea to this genuine issues.

TABLE-25.
Job Experience:

SEX	JOB EXPERIENCE IN YEARS							TOTAL
	0-5	5-10	10-15	15-20	20-25	25-30	30-33	
MALE	10	12	20	13	11	5	5	76
FEMALE	8	9	10	8	5	4	0	44
TOTAL	18	21	30	21	16	9	5	120

Data reveals on job experience, majority both male and female teachers of ES are below 20 years in teaching profession. Study shows that the senior teachers in the schools are not comfortable to deal with emerging contents which are recent one, hence, this particular subject is mostly dealt by the young teachers who have acquainted with the contents. Out of 120 subject teachers, 90 of them are below 20 years in profession directly dealing with subject matters.

TABLE-26.

TEACHING OF ENVIRONMENTAL STUDIES ALONGWITH OTHER SUBJECTS:

ENVT. STUDIES	ENGLISH POEM READING HRYMES	ARITH TIME TABLE	LIFE VALUES	DRAWING H/WRITING	SPELL & DICTATION
120	77	51	76	53	32

Data shows Subject Teachers of ES are also handling other subject. 77 English, 51 Arithmatic and Time Tables, 76 Life Values, 53 Drawing and Handwriting, 32 Spelling and dictation besides co-curricular activities. Study also reveals that besides lesson plans, play way method, story telling method, simple demonstrative type of teaching, uses of locally available teaching aids really makes their scheme of teaching learning effective.

TABLE-27.

ORIENTATION, TRAINING FOR ES TEACHERS:

Orientation programme on ES		Training programme calls by				
YES	NO	UNV	DSE	SCERT	DIET	NGOs
39	81	NIL	2	30	4	2

UNV =University

DSC =Directorate of School Edn.

SCERT =State Council for Educational Research and Training

NGOs =Non-Governmental Organizations.

Data indicates 39(32.5%) of Subject Teachers obtained training and 81(67.5%) ae yet to go for training. It may be stated that training programs extending mostly to public school teachers. Study shows out of 60 public primary schools, only 39 of them attended

the training and 21 primary teachers and all 60 private school subject teachers of ES are yet cover by this programme for subject teachers are to organize ambitiously.

Amongst the 39 trained teachers, 30 teachers attended the training conducted by SCERT, 2 Directorate of School Education 4 teachers attended training conducted by DIET, and 2 NGOs. Study reveals that non of the teachers attended any programme organized by the University. Subject teachers who attended the training conducted by NGOs. Especially Apex Church Body Nagaland Baptist Church Council(NBCC) appreciated the organizational efforts to improve the environment in the State by stream lining people through School learning.

TABLE-28.

TRAINING STATUS, RELEVANCY, NEEDS CONVENIENT:

Training programme on ES			Training and Class-room interaction				Need to organize			TA/DA		Convenience	
R	IR	undecided	EF	NR	PH	NAA	Y	HY	QRTLY	YES	NO	YES	NO
33	2	3	37	NIL	2	NIL	72	36	12	39	-	33	15

R =Relevant
IR =Irrelevant
EF =Effective
NR =Not relevant
PH =Partially help
NAA =Not at all
Y =Yearly
HY =Half yearly
QRTLY =Quarterly

Table indicates, out of 39 trained teachers 33 subject teachers rated relevant 2 Irrelevant and 3 Undecided. It is general opinion of the trained teachers of ES that training courses are suitably relevant.

Study shows 37 trained subject teachers expressed their professional opinion that training is effectively helping in greater way in discharged of their scheme of work in class-room interaction as well as cocurricular activities. This group of teachers fell confidence in their professional assignments amongst the trained teachers, 2 of them expresses that obtaining training partially helps their usual class-room interactions. This shows that there must be some loopholes in entire programme, may be subject matters, arrangement, material supply. Confident building and other facilities, this has to identify for further improvement.

TABLE-29.
COURSE CONTENTS, METHODS OF TEACHING:

Course content of ES			Methods of teaching ES							
R	IR	UNSY	PM	DM	ST	DIS	DRA	Q	EXR	LD
99	21	NIL	21	27	35	15	12	16	12	31
82.5%	17.5%									

R = Relevant
IR = Irrelevant
UNSY = Play way method
DM = Demonstration "
ST = Story telling "
DIS = Discussion method
DRA = Dramatization "
EXR = Excursion "
LD = Learning by doing "

Table indicates the course contents of environmental studies at primary school level in Nagaland is quit relevant 99 subject teachers rated relevant 21 irrelevant and unnecessary nil, which shows generally the course of studies are relevant.

On best suitable methods adopted by the subject teachers of ES. 21 Play way method, 27 Demonstration, 35 Story telling, 15 Discussion, 12 Dramatization, 16 Questioning method, 12 Excursion, town and field trips and 31 teachers.

Uses learning by doing. While technically considers the strategies adopted by the subject teachers of ES. Majority are adopting story telling method, learning by doing method and demonstration method follow by play way methods for effective teaching learning in their scheme of job according to need based situation spread over sectorial of the State.

Teachers' pertinent questions, how do they organize effective programme for pupils' participation in learning process, most of the teachers adopted motivational methods to win the pupils friendly confidence in their scheme of teaching by organising teachers-pupil joint endeavours, group play and singing, group work together, demonstration types of congenial learning were mostly adopting by the subject teachers.

TABLE-30.

TEACHERS-IN-CHARGE/PARENTS/PUPILS CO-OPERATION:

Teachers In-charge co-operation		Parents Co-operation		Pupils Interested		Pupils Aware	
YES	NO	YES	NO	YES	NO	YES	NO
106	14	67	53	113	07	98	22
88.34%	11.16%	55.84%	44.16%	94.16%	5.84%	81.66%	18.34%

Table indicates the teachers-in-charge cooperates with the subject teachers scheme of work is almost consensus. 106(84.34%) teacher in-charge fully cooperates with the subject teachers out of 120 subject teachers. 14(11.16%) expresses their regrets that some of teacher in-charge do not extend cooperation in some occasion. In some cases, in-charge interferes other colleague affairs which in turn creates confusion on otherwise discourages. This problem, a matter of seriousness in teaching professional ethics among the colleagues.

Parental cooperation in this field area, study shows 67(55.84%) extend cooperation 53(44.15%) still lacking behind.

Study also reveals pupils interest in learning the subject, 113(94.16%) subject teachers express their finding possibility and 7(5.84%) subject teachers gave negative reply. However, the table shows that pupils are interesting in learning the Environmental studies.

Generally, subject teachers of ES are convinced that pupils awareness is awakening and they were a sense about developing responsibility in pupils mind. 98(81.66%) positive and 22(18.34%) negative opinion were collected, resulted that the pupils are aware of their immediate environment. This opinion is supported by the instances of pupils care for plants love animals (especially young one), pupils feel like to rear young babies of animals and birds, when pupils happen to come near river or ponds, they feel like to see fishes and other water insects and started raising a number of questions pertaining to their affairs. This could be because of pupils interest and awareness towards his immediate surroundings and elements which constitute his environment.

TABLE-31.

PUPILS EFFECTIVE LEARNING:

Effective learning takes place					Pupils learning is affection by				
AH	AS	Icr	Ocr	OS	LD	ID	PO	IIns	Aa
18	36	48	10	18	50	40	14	14	84

Pupils state of mind						Constant supervision	
P	F	H	IM	ARY	L	YES	NO
36	40	46	3	NIL	7	115	05
						95.84%	4.16%

AH	=	At home	IINS	=	Intensive Instruction
AS	=	At School	Aa	=	All above
Icr	=	Inside the class-room	P	=	Pleasant
Ocr	=	Outside the class-room	F	=	Free
Os	=	Open space	H	=	Happy
LD	=	Learning by doing	IM	=	Inmood
ID	=	Involvement in demonstration	Ary	=	Angry
PO	=	Pupils' observation	L	=	Lazy.

Table indicates pupils learning take place mostly at school and inside the class-room. Subject teachers of ES 36(30%) of them rated at school and 48(40%) of them inside the class-room. 18(15%) at home 18(15%) open space and 10(8.33%) outside the class-room.

Naga children in general, mostly prefer free type of conducts, even their education too become effective. When they under proper surveillance of teachers, their learning may take place. In this case learning may be effective when they are physically and mentally within the supervision, perhaps school and class-room favourable.

Table also shows that subject teachers of ES strongly advocates that pupils learning becomes effective through learning by doing and pupils personal involvement in demonstration. 50(41.67%) teachers advocates learning by doing, 40(33.33%) teachers demonstration, where as 34(123.33%) teachers strongly views that learning become effective through all above such as learning by doing, involves in demonstration, pupils self observation, intensive instruction etc. depending upon the calibre of pupils. It is true that

learning depends upon the nature and types of children and their capacity of understanding, hence teaching strategy and methods may varied.

Study also reveals, that pupils feel happy free and pleasant when they are expose freely outside the class-room. 46(38.33%), 40(33.33%) and 36(30%) respectively and 3(2.5%) in mood. All together 125(104.17%) rated positive aspects while 7(5.83%) rate lazy study also reveals non of the pupil feel angry when they are free. It shows generally pupils prefers free and excitement is a part of their learning and for child, joyful learning is best suitable medium for their effective learning.

TABLE-32.
ENVIRONMENTAL PROGRAMME AT SCHOOL:

School Garden		School Plantatio programme		Pupil Interest in plantation		School Envt satisfactory	
YES	NO	YES	NO	YES	NO	YES	NO
23	97	47	73	91	29	70	50
19.16%	88.34%	39.16%	68.34%	75.67%	24.33%	54.33%	41.67%

Data dealt with environmental programmes at School such as School garden, Scholl plantation programme, pupils interest in plantation and over all School environment. Regarding the School garden, study reveals out of 120 Primary Schools only 23 rural primary Schools are having their School garden and 97 Primary Schools are not aware about the School Garden. Investigator investigates why most of primary schools could not set up their School garden, due to following reasons:

In Rural Areas:

- For Villagers domestic animals.
- Poor fencing provision.
- School compound encroached by private individuals.

- Donated landowners restricts to set up School garden beyond the stretch of School compound.
- Pupils hardly realize the importance of School garden works.
- Primary Teachers mostly concerned for their domestic works, besides School affairs.
- Sometime it disturbs regular classes.
- Some parents interferes in School working programmes.

In Urban Areas:

Urban and semi-urban primary School problems are some what different from that of rural Schools. Most of the urban and semi-urban Schools could not set up School garden because of non-availability of plots for garden purpose. Mover over, urban School activities mostly confined and concentrated on theoretical aspects rather practical.

On the question of school plantation programmes, 47(39.16%) primary school organised their school plantation programme in school compound as well as in their location and 73(68.34%) P/school are yet to organise amongst the 47 public school who organised such programme are mostly rural schools and some few urban public school.

The study also shows that most of the public school did not taken interest in not aware of the programmes. Almost all the rural schools are having plenty of natural, herbs, plants and trees and even Fungis and Algai found around the school or village surroundings. Perhaps this plenty conditions may take them not aware of programme. However, the schools in urban areas need to put priority on this programme on inter-disciplinary benefits to safe the environment in one aspect and on the other hand to prepare the pupils from the beginning of their education, so as to let them enable to preserve, protect and promote the environment.

Study shows though most of the schools does not organise the school plantation programmes, yet pupils are still taking interest in plantations children are acquainted themselves with the natural plants. a) Subject teachers expresses that the pupils interested

in plantation and 29 teachers rated unaware. It could be quite possible because in rural schools pupils actively participating in helping their parents during saving seasons both terraced field and jhumming cultivation. Naturally even minor child observes their parents daily work activities and begins to assimilate the concepts of working pattern and latter stream line their life vocation ideas also starts to develop in child by observing their parents manual activities such as gardening, Craft works, weaving etc.

Natural gift of Nagaland safe her environment inspite of her Negligence and ignorance about the environment. Her hillock, nature purified, water, landscape, Green forest, and vegetations provides free opportunity from the contaminated environment. Her Hills and Mountains range prevents the natural calamities except landslides. It is observed that the school buildings are mostly locating at top hill-lock which is most ideal place for educational institutes, this natural location provides satisfactory environmental conditions, generally subject teachers of ES favours the satisfaction.

TABLE-33.
SCHOOL SANITATION IMPACT OF ES ON ENVIRONMENT:

School Sanitation				Pupil's altitude on sanitary			ES has brought				
S	AV	DIS-S	I	RC	ASC	NASC	DI	IEC	RIE	DPA	CAab
14	58	12	26	10	44	14	62	20	48	22	30
11.66%	48.34%	10%	21.66%	8.34%	36.66%	11.66%	51.66%	16.66%	40%	18.34%	25%

S = Satisfactory
AV = Average
DIS = Dis-satisfactory
I = Improving
RC = Remain Constant
ASC = Aware of school Condition
NASC = Not Aware of School Sanitary Condition
DI = Desire to Improve
IEC = Improvement in environmental Condition
DPA = Develop Positive attitude towards nature
CAab = Combination of all above

Table indicates sanitation condition at Primary Schools in Nagaland is average 58(48.34%) average 26(21.66%) improving 14(11.66%) satisfactory, 12(10%) dis-satisfactory and 10(8.34%) remain constant. Study shows that sanitation condition is average with improving rate.

On the pupils attitudes towards the school sanitation, 62(51.66%) desire to improve, 44(36.66%) aware of school sanitation and 14(11.66%) not aware of school sanitation. It reveals that the teachers , pupils and community members has realized the importance of school sanitation and their locality and desire to improve the prevailing sanitary conditions.

More importantly, study reveals that the impact of imparting ES in school curriculum at primary level in Nagaland has brought a realization the importance of environment out of 120 subject teachers of ES covering all 8(eight) districts 60 rural primary schools and 60 urban primary school and further proportionate split into 30 public primary school 30 private primary school of both urban and rural areas. In Nagaland 48(40%) subject teachers of ES marked realization importance of environment, 30(25%) combination of all above, 22(18.34%) developed positive attitudes and 20(16.66%). Improvement of environmental condition. This contribution is self evaluation by 120 subject teachers which shows the positive(+ve) indication.

TABLE-34.

IMPACT OF ENVIRONMENTAL STUDIES AND PUPILS ACHIEVEMENTS:

Pupil achievement in ES					Pupil achievement in other subjects					
EXCL	V.GOOI	GOOD	AV	POOR	EXCL	V.GOOI	GOOD	AV	POOR	V.POOR
6	16	62	28	5	8	11	60	31	5	4
5%	13.34%	51.66%	23.34%	4.16%	6.66%	9.16%	50%	25.84%	4.16%	3.34%

EXCL = Excellent
V.good = Very good
AV = Average
P = Poor
V.P = Very Poor

ENVT. DAY CELEBRATION	
YES	NO
5	115
4.16%	95.84%

Table reveals the impact of introducing ES at Primary school level in Nagaland and pupils achievement in ES and other subjects. A comparative statement of ES shows 62(51.66%) good, 28(23.34%) average, 16(13.34%) very good, 6(5%) excellent, 5(14.16%) poor and 3(2.5%) very poor. Pupils achievement and other subjects 60(50%) good,

31(25.84%) average, 11(9.16%) very good, 8(6.66%) excellent, 5(4.16%) poor and 4(3.34%0 very poor. Study shows in this comparative analysis on the pupils achievement on ES and other subjects ranging from average to good, which needs to enhance the upward achievement scale.

Data indicates Primary schools in Nagaland are not aware of global celebration of environmental programme rather it is yet to be introduced to educational institution including the primary school, by the concerned department.115(95.83%) out of 120 sample primary school are not observing the World Environment Day along with the rest of the World. Only 5(4.16%) of Private Urban Primary School celebrate the occasion. In celebration, various programmes such as, talks, debates, seminar, song competition, flower shows and tree plantations marks the occasions. Study suggested that the concerned department should take a lead and initiate through out the State and directed the School to observe the important occasion of nature.

5.2.4: INTERVIEW SCHEDULE:

Interview schedule was developed to collect relevant informations from pupils (age group of 6-10) of Class-I-IV). This interview schedule was developed in a simplest method in order to elicit the holistic informations pertaining the entire aspects of pupils' life spheres such as: pupils health, sense, understanding, welfare's, parental cares, teachers' love, pupils interaction with socio-cultural environment, his/her place in nature set ups, his/her daily life habits, pupils essential needs, pupils as a member of universal family, pupils first instances as a beginners foundation, pupils interest and desires etc. are covered.

Interview schedule covered mostly Class-III and IV pupils spread over to 120 selected Primary Schools. Out of 120 sample primary schools 60 rural schools splits into 30 public school and 30 private schools and again 60 urban schools further splits 30 public and 30 private primary schools covering all 8(eight) districts of Nagaland.

The main components of interview schedules included:

1) Pupils Bio-data.
2) Family member relations and back ground.
3) Home environment.

4) Friendship and neighbourhood.
5) Daily life habits.
6) School activities.
7) Interaction with peer group and teachers.
8) Natural elements and pupils use of it.
9) Impact of nature on pupils life and feeling.
10) Universal course and understanding.
11) Food, fruits and vegetables.
12) Types of living and non-living beings including animals, fishes, birds and insects etc.
13) Material uses to sustain the life.
14) Natural gifts for sustaining the life.
15) Pupils understanding capacity.
16) Pupils evolvement and achievements in School programmes.
17) Pupils game plays.
18) Pupils deserving for good life.

In due course of interaction with virgin soul, it is quite impressive and pleasant to have heart-to-heart chat with child's minds. Their feelings so mild in dealing with. Pupils movements and gesture expressions are full of interesting. They come out with reality in them, though replies and responses are mostly gestural spoken and expression. The investigator finds pleasantly satisfied to interact and richly collect informations pertaining to their home life, group life, School life and even personal grounds.

Interview reveals that there are sharp differences between rural pupils and urban pupils. Rural pupils are more adventurous and active in physical aspects inspites of their poor health conditions. These pupils are active in motor skills for instances, these pupils are expert climbing the trees, as if monkey like, climb stiff rock slop, fast run-down to low land from top hill lock, carries bucket full of water from distance, carries basketful of fire woods, pumking, maize, vegetables and even paddy from fields. They even carries bundles of paddy seedling from place to place in terrace field especially during the sawing seasons. Their roles and activities are observed voluntarily interest in their affairs.

Higher age group pupils in rural School and late Schooling pupils are more practical experience based and skill oriented. However, they are reluctant from free expressions and responses. They take times to talk even if they know the matters. Even if they(pupil) know, they hesitate to read and write, unless he/she is convinced. Rural pupils are observed more on psy-cho-motor oriented rather than cognitive.

Whereas, urban pupils are observed a bid slackness in their physical activities. This could be because of their narrow environment and confinement within the parameter of their four walls family jurisdiction. Theirs look restrict and reserve mostly. Perhaps, urban pupils are more mentally advance than the rural pupils inspite of their confinements. This sect of pupil could read, write and respond better than rural pupils. This could be because of the privilege, facilities, parental back ground and conditions, course of study mostly urban influences.

Investigator interacted with 268 pupils. Out of 268 pupils mostly of class-III and IV standard, 140 pupils hails from rural primary schools and 128 pupils hails from urban schools covering both public and private institutions.

In due course of interaction with pupils, first of all, investigator develops cordial relationship with pupils and win their confidences. In many of the occasions, investigator faced language problems while interviewing the pupils. Most of the rural pupils reluctant to express their feeling rather, they hesitate to interact with investigator unless their parents, teachers and elders encouraged them to talk with.

When the pupils starts interaction, their facial expression shows even scares and nervous and consumes some more times. But whatever, these group of pupils talks, they came out with all realities. Their slow response and contents of talks are with full of real experience and was interesting to note.

Sometimes investigator find hard time even to share toffee with the pupils. Rural pupils reluctant to take sweets from the investigator's hand, when I ask some pupils time and again why they are reluctant to share sweets, I got surprised response, that, "Mummy teaches us not to accept anything from the strangers hand." Immediately, I convinced them, that I am not a stranger, "I am one of your teachers as well as like one of your

parents." Then, after these pupils starts sharing, talking freely and I had a nice time with them.

Over all interview schedule revealed that:

- Pupils were not much aware of their surrounding, simply they enjoys with them.
- Pupils hardly differentiate subject matters between environmental studies with other subjects.
- Whatever, pupils do, they do it in wholesome manner.
- Pupils deserves much love and care from parents, teachers, elders and even peer group.
- Their day to-day activities goes on naturally without much interference.
- Pupils narrates about their teachers dealings.
- Pupils prefer jolly and friendly type of teachers-easy learning comment.
- Pupils hardly differentiate trained and untrained teachers.
- Pupils were aware of their home work, class-test and examinations.
- Rural pupils mostly spend their study hours in domestic affairs of family, such as, collecting fire woods, carrying water, pounding the rice, collect domestic animals feed(grass etc) sometimes, they even work in the field with their parents after school including all types of domestic works.
- There is urging need to bridge the gap between the urban and rural pupils mentality.
- At Primary school level, to arouse academic consciousness more commitment and dedicated efforts are needed.
- Most of the public primary school teachers are sending their children to private school.

5.2.5: PARTICIPATORY OBSERVATION:

Participatory observation was done to observe real class-room teaching and surveyed institutions in order to collect information about School infrastructure facilities, School programmes, Library, Publication, Seminar, Symposium, Morning Assembly, School social work, School Games and Sports programme, School nature studies, Field studies activity programme and Training etc.

Observer found that the subjects in relation to their primary aims and objectives, philosophical and ethical basis of course programmes, policies, methods, techniques, administrative supervision, evaluation, teaching method, uses of teaching aids, pupils learning responses and achievements were under passive observation by the observer.

Besides the flow of courses, the infrastructural and institutional management by the government and public undertaken, teaching staff patterns, teachers' training, subject teacher scheme of work in dealing with environmental studies and other subject and also pupils participation in learning process and achievement out come were observed minutely.

5.2.5.1: OBSERVATION COMMENTS INCLUDED:

- Policies and programmes on environmental studies is an inspiration and directive of National Programme on environment.
- Environment is natural heritage of man kind and environmental studies is an approach to understand its values.
- Man is Environment consumer, and its capacity to feed is limited, hence, judicious utilization of natural resources is a need and necessity.
- Ecological link with man and nature need to address in School curriculum.
- Policy, decision makers and implementers (teacher) need to develop coordination mechanism for the benefit of consumers(pupils).
- Allied departments need to have a sense of inter dependence and greater joint endeavours towards environmental benefits.
- Educational system need sensitize natural influence-its concepts, application, evaluation need a realistic perception.
- School infrastructures are not a healthy one to meet the needs of up coming minds.
- Intellectual extension programme on mass environmental is missing.
- The beauty and glory of the environment can used as a teaching aid by the teachers and as a learning aid by the pupils.

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CHAPTER-VI

SUMMARY, CONCLUSION AND SUGGESTIONS

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SUMMARY, CONCLUSION AND SUGGESTIONS.

6.0: Rationale of the study:

A review of related literature shows the need to conduct research in this area and its basic principles of interdependence of environmental conditions of public life in general and schooling children at primary school level in particular in the State of Nagaland appears urgent need to study minutely.

During the last few decades, there has been increasing consciousness and concern that the environment in which we live has been deteriorating very fast. The air we breath and the water we drink is getting polluted, rains are becoming erratic, forests are getting depleted, large numbers of plant and animal species are becoming extinct, the top soil is been eroded and even the ozone layer is getting damaging. There is also global warning. This environment degradation threatens the very existence of human being created by human activities such as urbanization, industries, factories, air crafts, automobiles, nuclear experimentation's, agriculture, power plants etc.

Like any life form, man also has to depend on the natural resources for his survival. He has to transport material available in nature and transform them into desired forms and quality. To achieve this man has to work, human labour is the driving forces for exchanges between nature and society. These exchanges have to recur constantly. Man is, therefore, under pressure to accelerate the exchanges to sustain as well as to develop. However, he has not been doing enough to maintain a balance between the exchanges. Almost all activities of human society have, as a result these human activities influence the environment and thus degraded the quality of environment physically, chemically, biologically and even ethically.

In fact, we receive all the life supporting materials from our environment but, in return, we do little for the environment. This over all exploitations and improper utilization of natural resources, consequently, lead to a decline in ti diversity and productivity of flora and fauna.

In this context, it is necessary to study and understand the various ways in which human activities have been affecting the natural bio-physical system. This will enable us

to develop awareness, positive attitudes and help to learn to live harmonious balance with nature according to its own carrying capacity as an individually nature discipline particular and also help to develop policy guidelines, action plans and management techniques to achieve the desired goal of sustainable development alongwith conservation and preservation of environment at large.

Ultimately, Nagas realized the ultimate limits of natural resources. Its forest land is squeezing day-by-day due to deforestation, fuel wood, jhuming cultivation, falling of trees for trade, land potentials reducing, soil erosion and landslides, exhaust fertile land there by reducing productions, water scarcity problems, species of flora and fauna diminishing in the state, air and water pollution, high rate of population growth, coupled with people's ignorant about the nature and its values. In its own perspective, a modest attempts has to be undertaken to start with the child's life and school learning-to make train man and women for environmentally humanistic approach. Consequences of man's interventions should also be examined to learn lessons and chalk out an appropriate action plan for the future to sustain the generation to come. Environmental studies aims to provide a need based basic knowledge and understanding of environmental education to learners at all levels of formal and non-formal education beginning from primary school level. It deals with issues related especially to social, economic and ecological perspective of environment, designed to inform and support environment literacy efforts.

Hence, study course on status and problems of teaching environmental studies, pedagogy of teaching, methods, training programme for subject teachers of environmental studies, infrastructure facilities and paucity of empirical knowledge regarding the effectiveness of environmental studies curriculum in Nagaland impelled the investigator to conduct the present study to evaluate the ongoing imparting environmental studies in the State of Nagaland.

While conducting the present study special attention was paid to know how do Naga children with different educational background, socio-economic condition and other Environmental variation react to concepts introduced in Environmental studies curriculum. Except a few isolated attempts, comprehensive efforts have been made to highlight these questions. The extent to which variations due to prolong deprivation,

educational level, sectorial condition and sex determine acquisition of Environmental studies may be examined. Are these variables relevant to a wide variety of attainment of Environmental studies at primary school level? Do these variables interact among themselves in producing a cumulative effect on attainment of Environmental studies? Are different levels of awareness attainment hierarchical in nature? These critical questions are very pertinent in the context of introducing Environmental studies as a compulsory subject in school curriculum.

Findings of the present study will provide guidelines to the curriculum framers in selecting specific concepts and content area in Environmental studies curriculum at different levels of primary education. Classroom teachers will be able to specify their interaction procedures for different educational levels, Environmental facilities and content areas of the curriculum. Keeping in view the above, the present study was conducted.

6.1: STATEMENT OF THE PROBLEM.

Thus the problem undertaken is being stated as "A STUDY OF THE STATUS AND PROBLEMS OF TEACHING ENVIRONMENTAL STUDIES AT PRIMARY SCHOOL LEVEL IN NAGALAND".

6.2: OBJECTIVES OF THE STUDY:

The following were the objectives of the present study:

i) To make an enquiry into the nature and scope of the existing Environmental Studies programme in Nagaland.

ii) To study the existing facilities available for teaching of Environmental studies programmes in Nagaland.

iii) To study the professional preparation of teachers of Environmental studies at primary level.

iv) To study the methods and techniques followed in the teaching of environmental studies.

v) To find out awareness level and attitude of students and teachers towards Environment and its relationship with human life.

vi) To find out impact of Environmental studies on daily living of primary school children.

vii) To suggest measures helpful in improvement of teaching of Environmental studies at primary school level.

viii) To develop a programme for Environmental studies for primary school level.

6.3: DEFINITION OF THE TERM USED.

6.3.1: STATUS:

Status refers to present ongoing effectiveness of learning and its future important.

6.3.2: PROBLEM:

Problem refers to difficulties in achieving the programmes and policies under taken.

6.3.3: TEACHING OF ENVIRONMENTAL STUDY:

Infact, children's learning occurs in the context of social and educational environment both inside and outside the School. Their functioning in such groups, the knowledge and the skills that they acquire and the attitudes and values that they develop will greatly determine the way in which they will later approach adult responsibilities. Teaching in Primary years includes personal hygiene, child as a member of community(Social being), love and protection of nature, develop positive attitudes and awareness eco-system and balance managing the environment were highlight.

This deals with methodology of Teaching skills, techniques, approaches and development in child's basic awareness towards enhancing effective learning the environmental aspects.

6.3.4: PRIMARY SCHOOL:

It includes Class-I to IV standards and age group of 6-9 years and in the case of rural pupils even 7 to 10 years of age because of their late Schooling.

6.4: DELIMITATION:

The study is limited to evaluate 120 Primary Schools of both public and private covering rural and urban areas of all 8(eight) districts in Nagaland.

6.5: DESIGN OF THE STUDY:

The design of the study consists of population, sample of the study, tools, questionnaire, interview schedule, participatory observation and Data collection and measures for analysis.

6.5.1: POPULATION:

Population of the study covers all the students admitted in grades-I to IV in 1406 Primary Schools of Nagaland. It also includes all the Experts, Head Teacher/Teacher In-charge and Subject Teachers teaching Environmental studies at Primary level in Nagaland.

6.5.2: SAMPLE OF THE STUDY:

The sample of the study includes 120 Primary Schools, classified into 60 rural Primary Schools and 60 urban Primary School. It also further splits into 30 Public Primary Schools and 30 Private Primary Schools in amongst the 60 rural sample and 30 Public Primary School and 30 Private Primary Sections from amongst the 60 urban Schools. Sample were drawn randomly, 15 each Primary Schools from all 8(eight) districts in Nagaland. Teachers teaching Environmental studies at grade-III to IV at the selected Schools were included in the sample.

6.6: TOOLS USED:

In order to fulfil the objectives of the study, following tools were developed and used:-

i) QUESTIONNAIRE

ii) INTERVIEW SCHEDULE

iii) PARTICIPATORY OBSERVATION

6.6.1: QUESTIONNAIRE:

Three sets of questionnaires were developed by investigator. They were for experts (officials of School Education, NCTE, Kohima, SCERT, DIETS), Head Teacher/Teacher In-charge, subject Teacher of Environmental studies. Questionnaire were confined to the different aspects of Environmental studies at Primary School level such as :

- Curriculum.
- Text Books contents and units covered.
- Training of Teachers.
- Teaching methods.
- Evaluation techniques.
- Curricular and co-curricular activities.
- Teachers awareness level.
- Students awareness level.
- Impact of Environmental studies.

Questionnaires were developed to collect data from Experts, Head Teacher/Teacher In-charge and Subject Teachers of Environmental studies (See Appendices 1,2,3&4).

6.6.2: QUESTIONNAIRE FOR EXPERTS:

The main aspects of questionnaire were :

i) Personal data.

ii) Numerical information regarding Subject matter of environmental studies.

iii) Philosophical and objectives of Environmental studies.

iv) Coordination mechanism between the allied Departments.

v) Course contents of Environmental studies and its relevance.

vi) Research work conducted or not.

vii) Expert Committee on environmental studies, its effectiveness and impact responses.

viii) Expert consultative meeting, its agenda and functions.

ix) Status of Environmental Awareness programme, protection, development, pollution control measures.

x) Experts vision to meet the growing demands of Environmental improvement.

xi) Suggestions fore better functioning.

6.6.3: QUESTIONNAIRE FOR HEAD TEACHER/TEACHER INCHARGE:

The main aspects of questionnaire were:-

i) Personal data.

ii) Numerical information regarding the School.

iii) Functioning of :

(a) Policy makers/planners/decision makers of department).

(b) Subject Teacher of Environmental studies.

(c) Pupil's learning achievements.

(d) Pattern of respective Schools/Institutions.

iv) School programmes on Environment interest

v) Teachers training, syllabus on Environmental studies, Teaching methods, course contents.

vi) Experts and teachers responses.

vii) Pupil's learning achievement on Environmental studies.

viii) Parents, community and NGOs cooperation.

ix) School Administration.

x) Review of the progress.

xi) Self Evaluation.

xii) Suggestion for improvement.

6.6.4: QUESTIONNAIRE FOR SUBJECT TEACHER:

The main aspects of questionnaire were:-

i) Personal Data.

ii) Numerical information regarding the School.

iii) Functioning's of (a) Experts.
(b) Head Teacher/Teacher In-charge.
(c) Pupils.

iv) Cooperation.

v) Teaching pedagogy.

vi) Orientation programmes of Subject Teacher of Environmental studies organized by.

vii) Impact of training.

viii) Learning Environment.

ix) School programmes.

x) Pupils awareness and achievements.

xi) Co-ordination mechanism.

xii) Self evaluation.

xiii) Review of progress.

xiv) Suggestion for better and effective improvement.

6.6.5: INTERVIEW SCHEDULE:

Interview Schedule was developed to collect relevant information from the pupils to assess the effectiveness of the imparting Environmental studies at Primary School level in Nagaland.

The main components of interview schedule were:-

i) Pupils awareness level.

ii) Pupils interest.

iii) Pupils opinion for over all programme of Environmental studies.

iv) Impact of Environmental studies on Pupils life.

v) Programme of Environmental studies in Nagaland and future changes.

vi) Policy decisions on its suitability.

vii) Teachers commitment preparation.

viii) Preparation for future.

ix) Functioning of Head Teacher/Teacher In-charge etc.

6.6.6: PARTICIPATORY OBSERVATION :

Observation sheet were developed by investigator to observed real Class-room teaching and to surveyed institutions in order to collect informations regarding:

i) Infrastructure facilities.

ii) Library.

iii) Co-curricular activities programmes.

iv) Nature studies programmes.

v) Excursion/Tour/Field trips.

vi) Publications.

vii) Seminar/Workshop/Symposium.

viii) Training etc.

6.6.7: COLLECTION OF DATA:

To fulfil the objectives of the study, data were collected from both Primary and Secondary sources. From Primary source, data were collected through 3(three) sets of questionnaires and by conducting interview by investigator through personal visits to the institutions.

Questionnaires were personally distributed to Experts, Head Teacher/Teacher In-charge and Subject Teacher of Environmental studies. Investigator himself interviewed Pupils, Teachers, Village leaders, experts to collect relevant information regarding the functioning of the programme on Environmental studies at Primary School level and learning effectiveness on the part of the pupils.

Data were also collected from Secondary source through survey of official records of Directorate of School Education, Kohima SCERT, Kohima, Nagaland Board of School Education, Kohima and related departments were conducted to collect basic information on policy, programmes, activities and curriculum of Environmental studies at Primary School and also collected information related to teachers training programmes, orientation and research works.

Basic information related to status, problems and programmes of Environmental studies were collected through questionnaire interview schedule and participatory observation.

6.6.8: MEASURES FOR ANALYSIS:

Data collected through questionnaire, interview schedule and participatory observation were reported accordingly. Data collected were presented in tabular form. Responses of the functionaries were converted into numbers and percentage(%) and analyzed accordingly.

6.7: MAJOR FINDINGS OF THE STUDY:

The data analyzed, discussed and interpreted indicates that subject matter of Environmental studies imparting at primary school level in Nagaland has started since early 80's. However, the subject matter contents were imparted much prior to that in the form of different subject e.g. Social Studies/Social Science etc. The informations were collected through the responses to the questionnaires such as (1) Experts, (2) Head Teacher/Teacher In-charge, (3) Subject teacher of Environmental studies. Besides the questionnaires, an interview schedule and participatory observation were also conducted and collect cross-checking information from the interviewees and observed the entired operational implementation of the subject at all level of functionaries as well as beneficiaries. Infrastructural and facilities need for the effective benefits of the learns were also minutely observed and surveyed the official records by the investigator.

In depth study delves into entire aspects of ongoing Environmental studies as a specific subject at primary school level in Nagaland covering the beginning of the course, experts back ground and gender positions amongst the planners and policy makers, departmental cordial coordination mechanism, course contents and its impacts on pupils, teachers programmes, policies and programme on environment, rural and urban environment stratification, operational and functioning of functionaries, educational facilities and provisions, community consciousness parents and pupils interest and responses concerning the environment etc. were investigated. The out come of study are given here below separately according to nature questionnaires, interview schedule and participatory observation.

Finding regarding the functioning's of subject experts, Head Teachers/Teacher-In-charge and Subject Teachers of Environmental Studies and their over all assigned responsibilities in regard to their key roles indicates as follows:

- Male experts out number the female experts.
- Environmental studies began early 1980s at Primary School level in Nagaland.
- Allied departments functional coordination mechanism is of great important for further improvement.
- Course contents of Environmental studies still based of theoretical oriented one.
- Course contents of Environmental studies is of now relevant, however, there is need to put more emphasis on locals fabrics.
- There is no separate Cell for environmental studies in concerned departments.
- Science components at Primary level are integrated in English Premier and Readers.
- No research work is conducted in this field by the concerned departments.
- Curriculum and syllabus for Primary stage is entrusted to SCERT Nagaland.
- Teachers training's on environmental studies are organizing in a phase manner.
- Subject teachers of Environmental studies need to be motivated in a better way.
- There is no special fund for environmental studies except normal departmental budgets.
- Learning Environmental studies significance impact on daily life of pupils.
- Subject expert committee functioning's are not encouraging one.
- There is a need to constitute experts consultative committee.
- Systematic and cordial coordination is utmost emerging needs amongst the planners, policy and decision makers of related departments to put their concerted efforts to promote environmental development.
- It has been general feeling that natural environment is disturbed in Nagaland.
- If present trends of environmental conditions continues, the future awaiting the life may be undesirable and unfit for healthy one.

- Community participation in preserving and protecting flora and fauna in the state need sincere realistic efforts.
- Widening Naga mentality between rural and urban environment is appearing.
- There is no balanced utilization of its natural resources.
- Nagas mentality and its land carrying capacity is need to streamline.
- Under qualified teachers are still teaching in schools, however, there is significant improvement in regards to teachers educational qualification.
- Attainment of concrete level of learning is relatively easier for primary school children.
- Teacher-In-charge realized basic important of school activities including school plantation.
- Subject teacher training programme need to cover both public and private school teachers on equal basis, since both the school teachers are teaching the same course. Opportunity and provision should also extended to private school teachers.
- Teaching has got its own technical method.
- Teaching immediate locally available items which are rather closely and easily understandable to pupils.
- Orientation training programmes should organize on regular basis.
- School administrator anticipate community cooperation for smooth conduct of course for environmental benefit.
- Naga oral tradition is slowly replacing by literacy society, though later will ever remain guiding pattern in its society.
- Environmental studies as a device and method of approach to enable the child to understand the natural environment.
- Environmental studies at primary level is child based and relevant, however need to includes more local fabrics in the curriculum.
- Department need to provide special fund specifically to promote environmental activities at school level.
- Should provide better learning facilities to primary schools.
- Proper supervision and guidance is some what lacking.
- Higher the qualification, higher the professional confidence.

- Experience supplement responsibilities.
- Teaching Environmental studies has earned inter disciplinary ideas.
- Environmental studies job is every body concern.
- Environmental studies course contents is an integration of entire life spheres and new mental operations emerge.
- Accept and recognize the colleagues devotion, encourage the swift functioning's in school.
- Pupils learning takes place effectively when motivate to rise in their mental activities.
- Pupils curious to involves in learning activities.
- In some cases, school activities restrict pupil's independent learning.
- Environmental studies is pupil's eco-friendly course.
- Curriculum for the environmental studies should designed on the basis of locally available materials.
- Subject teachers of environmental studies should take into confidence while framing the curriculum.

6.8: CONCLUSION:

The study concluded as a gradual and continuous process. It further revealed that ethno perceptions hooks for attainments of new concepts at lower level and same preserve at higher level.

From the result of the present study it is concluded that the environmental studies was imparted in early 1980 at Primary School level in Nagaland. It is found that the course contents of environmental studies are based on theoretical oriented and less practical one, though the course are relevant. Study also found that there is need to put more emphasise on local fabrics in course content. It has been found that there is no separate cell for environmental studies in concerned department. Some of Science components are included and integrated in English premier and reader for primary level. State Council of Educational Research and Training under the directive of NCERT frame the syllabus of environmental studies. Learning of Environmental studies have strong impact on the daily life of pupils.

In regard to teachers' training on environmental studies SCERT has been regularly organizing orientation course on phase manner. Study also felt necessary to extend the teachers' training programme to both public and private school teachers. Environmental studies as a device and method of approach to enable the child to understand the natural environment in which he/she is a member and consumer of environment.

Under qualify teachers are still teaching in schools, however, there is significant improvement in regard to teachers educational qualification. In fact, higher the qualification higher the professional confidence. Teaching of environmental studies has earned inter-disciplinary ideas in which course contents is an integration of entire life spheres and thereby new mental operation emerged. Environmental studies pupil eco-friendly course, hence, aroused their interest to involves in learning activities. Perhaps, curriculum for environmental studies should design on the basis of locally available materials and need to include more local fabrics so as to make learning effectively. While framing the curriculum in environmental studies, subject teachers should take into confidence.

Widening of Nagas life style and mentality between rural and urban environmental gap is appearing, could be because of syllabus in Nagaland are more on urban influence. Hence, concerned department, policy makers and planners, subject experts and member of community should put efforts to streamline the gaps. Environmental condition in Nagaland is disturbed due to people's un-healthy attitude towards the natural gift. Community participation in preserving and protecting flora- and fauna in the State of Nagaland need sincere realistic efforts.

6.8.1: SCHOOL AND SCHOOLING CHILDREN:

School is second home of learning after home. A child is introduced to a new environment and began to develop his social life by contact in a situation where he meet parental like care by his teacher and homely friends of School inmates. A lots of strange activities start take place in child's life and begin to grow with what he sees and learned from the School.

To Nagas children, School is not a strange home. Children free contacts and care freely roam around have strong social affinity and began to develop mobile concept and adventurous personality in their later life. Perhaps, their education too, care free including their immediate surroundings. Environmental studies as a subject must lead pupils from their immediate perception and experience to a wider understandings. It must develop their capacity to go beyond the anecdotal and the particular. Non of that happen by chance. School curriculum and subject contents deals with interplay between child and his environment. Subject contents among others key aspects, that each of those subject makes its unique contribution and combines with in providing environmental studies at primary section link with higher studies. Convinced that pupils must first learn about his phenomena in order to understand complex environmental aspects within our own specific education policies and structure will promote environmental studies.

Importantly, environment is for our children's future, hence, concrete foundation to visualize the eminent future for up coming generation, what need to be done to reduce the damages we do to it, what opportunity and feasible there in for improving the quality of our environmental conditions to coup with practical solution. Pupils should draw on what they learn at school.

Course contents aimed to equip pupils with the knowledge, skills and understanding that they need in life times. Understanding must relates to the issues that underlie functional learning should be able to relate the enter-relatedness among human beings, their cultures and biophysical surroundings and the concept of using resources sustainably.

Emerging vital important to promote environment through school education right from the schooling so as to equipped beginners potentials to face the challenges in tomorrow's world as responsible citizens. Interpretation and view points strongly re-enforced the important links between integrated and inter-disciplinary learning through school curriculum in dealing with subject matters to have a sound reciprocal benefits in terms of practical solution to problems.

Suitable approach for school goers have immense significance for pupils in life long process and will earned holistic views. Universally admitted that the child continuously carried life messages from generation to another. Perhaps, life notions goes

on with the child's education. A child learn and pick-up what he interacts. His first interaction remains vivid in his memory and act as guiding principle in one's life. Hence, pupils' first hand information should be in such away which can help the pupil to love the nature, understand the nature and learn to live harmoniously with nature in due course of their study. This will develop mental asset in pupils' mind in his life long process to preserve, protect and conserve the natural elements and also promote the quality environment in which society expect from the up coming citizens. Keeping in view, that the school curriculum should basically aimed to achieve environmentally desirable results.

Study indicates that the following could be the desirable alternatives for the environmental salvage in Nagaland when the public in general and the school goers in particular adopts:

- judicious utilization of natural resources.
- Development of positive attitudes and aptitudes of the people.
- Enhance awareness degree.
- Inculcate positive behaviour towards the gifts of nature.

6.8.2: STATUS OF TEACHING ENVIRONMENTAL STUDIES:

Status of Teaching Environmental Studies refers to present ongoing effectiveness of learning of subject matters, impacts on pupil's daily life and its future important.

The status of teaching environmental studies in Nagaland as based on the present study are as follows:

- To help the child to explore and understand his physical, social and cultural environment.
- To develop in the child a sense of belongings to his environment through a gradual widening of his mental horizons from his home and School to wider World.
- To develop among children a spirit of maturity in the physical environment and socio-cultural values in individuals as well as in the community.

- Providing children with opportunities to observe local environment features, problems and phenomena and changes in the community and living things like plants and animals.
- Allowing them to classify living and non-living things on the basis of criteria or on the basis of criteria chosen by the children by themselves.
- Helping them to draw in escapable or obvious inferences from such observations and classifications.
- Guiding children in conducting simple outdoor project such as counting the number of people, animals, cars, cycles, passing through a given reference point, keeping the note of seasonal variations in vegetable and fruits, observing the life cycle of common tree or an insect (e.g. butterfly).
- A move from formal towards informal methods.
- An increasing stress on child-centered as opposed to teacher directed learning, and on helping children to find things out of themselves.
- Widening the teaching-learning environment to include the whole space of the school so that children are not confined to one class-room for a days activities.
- Telling them suitable factual or imaginative stories, reciting poems, having children sing songs and role-play as demanded by the topic and the situation.
- Helping them to celebrate birth days, community or national festivals.
- Providing them with such timely topics and questions the answers to which the child can find by discussing with parents, elders, teachers or fellow-classmates.
- To foster clear awareness, acquire the knowledge values, attitudes, commitment and skill needed to protect and improve environment-"*Eco-friendly pupil.*"
- Helping children to prepare paper or clay models as they observes things.

6.8.3: PROBLEMS OF TEACHING ENVIRONMENTAL STUDIES:

Problem refers to difficulties in achieving the programmes and policies undertaken. The study covered the entire aspects of the ongoing Environmental Studies programmes at Primary School level in Nagaland covering all 8(eight) districts with both Public and Private Institutions.

The problem of teaching environmental studies at Primary level are mentioned below:-

- Environmental studies started in early eighties with National directions and found less local commitments.
- Allied Departments coordination mechanism is still lacking behind the needs for further improvement.
- Subject Expert Committee is yet to form and periodical consultative meeting for better functioning is utmost important which is missing.
- More emphasis on local fabrics in course contents of environmental studies is necessary.
- There is no separate cell for environmental studies in concerned department.
- No research work is conducted in this field.
- No separate fund specifically for this subject which a vital.
- Widening Naga pupils mentality between rural and urban environment is appearing.
- Commitment and ambitious programme for improvement is lacking.
- Under qualify teachers to deal with the subject matters are still handling the course.
- Course programme concentrating on theoretical oriented and neglecting practical aspects.
- Special facilities and provision specifically for teaching of environmental studies is lacking.

- Subject teachers training programmes should extended to both public and private school teachers since both are teaching the same course this level of schooling.
- There is a gap between the ethno methods of seasonal usages and practices and modern concepts through school curriculum which resulted missing link.
- Highly qualified teachers refused to serve in remote rural areas.
- There is an urgent need to develop environmental awareness, positive attitudes and consciousness in Naga pupils beginning from primary level which still needs efforts.
- Community participation is not an encourage one, hence need to mobilize.
- Most of the primary schools are not having School garden that indicates lacking practical activities in school.
- Supply of learning materials for lower grade pupils by the concerned department is almost nil, which showed learning by doing methods, demonstration, devices, and self help learning are depriving in the State.
- School building, furnitures, teaching aids and other learning materials are in shabby condition especially in public primary schools which is directly effecting the teaching-learning activities in the State.

6.8.4: PROGRAMME FOR ENVIRONMENTAL STUDIES FOR PRIMARY SCHOOLS IN NAGALAND:

Environmental Studies involve a child's investigation and systematic exploration of his own natural and social environment and prepare himself to solve the problems for improving his life.

Even before a child enter school he benefits from social contacts with person outside his immediate family and neighbourhood. By in reaching programme for environmental studies with broad based and special attentions on curriculum, methods of teaching, co-curricular activities, teaching aids, library, laboratory, effective teachers and

the dynamic administrators can maximise the potential of children besides the special programmes such as nature studies, field studies, visit to sanctuaries etc. from the suggested educational programme for environmental studies for primary school in Nagaland for further improvement.

Environmental educational consciousness and facility opportunity for pupils to learn his immediate environment and make linkage learning course of study to live with what he/she learn emphasise on practical knowledge helps the pupils to understand that he/she is a member of his/her environment and have a roll to play for its betterment. Environmental programme should be such which can help to nurture the child to love and care the natural vegetation. Programme for measures to enrich the ideas, values, attitude, commitment and skill to protect and improve the environment so as to help the pupils to learn the bio-genetic interdependence and relationship and also help to understand that all the species are equally important and have living web.

Create programme for active involvement and participation of schooling children in environmental awareness and conservational activities. In view of this, impart teachers training to handle the course competently and ensure personal commitment are seen realistic and valuable for successful implementation of environmental studies, teachers appreciate the basic environmental entitlement for all children by having clear concept, aims and objectives of environmental studies. Evaluate and identified the special talent and interest of each teacher and built on them and established the best for their particular current needs and also identify the week points in teachers teaching carrier and remove the obstacles.

Curriculum on environmental studies need focus on eco-supportive and sustainable at grass-root level and paid equal emphasis on both theoretical as well as practical experience to protect and promote environment. Teaching method should be transparent to enable children to understand what is taught. Recognised the Environmental studies as life long need based, techniques and methods of nursery bed and plantation should included in syllabus, enough space for school garden for pupils participation in

practical works. Theoretical should be linked with that of practical life of student so as to bring out potentials in child which will help them in their life long process.

Gardening, tree plantation, rearing of animal, bird and fishes, care of plant etc. should be included in the curriculum and each students should be privileged to plan at least one tree on compulsory basis and marking should be included to assess accordingly along with plant, animal, bird and fish treatment methods. Inclusion of specific content on working systems of Naga farmer(Parents) on both Jhum and Terraced cultivation methods. Pupils should be privileged to visit nearby botanical garden, zoo, plant genetic centres, farms, educational tour to nearby natural forest will also be of a great inspiration for children towards environment safe guard. Journal for natural flora and fauna is needed in Nagaland to increase environmental awareness. Songs, poems on our nature be revived and included in curriculum. Recognizing environment and its importance in human life should be a priority of the State.

6.8.5: EDUCATIONAL IMPLICATIONS:

Apart from the above findings of the study, an ambitious efforts needed in order to improve the status and standard of Primary learners for environmental friendly habits by learning environmental studies in the beginning of their schooling. Inclusion of Environmental Studies in School Curriculum has demanded research findings in school settings in support of this programme. Research findings are awaited in developing curriculum, designing instructional procedure, selection of instructional materials and choosing suitable tools for evaluation. Present study is imperative that with rise of educational levels, children learning horizon in environmental studies increases. Findings
are viable in educational development as it relates experimental background. In this regard, while seeking valuable suggestions from the Experts, Head Teacher/Teacher In-charge and Subject Teachers of Environmental studies pertaining to course; based on their day-to-day practical experiences in dealing with their assigned jobs, status and standard of subject matter at Primary School level and progressive achievement, they fabulously attributed following in the form of suggested educational programme for further improvement:

- Set Environmental educational consciousness.
- Linkage learning course of study to live with what one's learn (practical knowledge)
- Set opportunity for pupils to learn his immediate environment.
- Make pupil understand that he/she is a member of his environment and have a role to play for its betterment.
- Nurture the child to love and care natural vegetation.
- Facilitate the pupils to enrich the ideas, values, attitudes, commitment and skills to protect and improve the environment.
- Help the pupils to learn the bio-genetic inter dependence and relationship.
- Also help the pupils to understand that the all the species are equally important and have living web.
- Create programme for active involvement and participation of children in environmental awareness and conservational activities.
- Impart teachers training to handle the course competently.
- Ensure that teachers personal commitment are seen realistic and valuable for successful implementation of environmental studies.
- Ensure that all teachers appreciate the basic environmental entitlement for all children.
- Ensure that the aims and objections of Environmental studies at primary School are understand by all teachers.
- Evaluate the special talents and interest of each teacher and build on them.
- Advice teachers on different methods of environmental approaches, assets and established the best for their particular current needs.
- Identify the weak points in teacher's teaching carrier and remove the obstacles.
- Cooperate with other staff initiatives even if they are of little personal interest "*quid pro quo.*"
- Curriculum of environmental studies need to be frame Eco-supportive and sustainable at grass-root level.
- Need equal emphasis on both theoretical and practical experiences oriented.

- Both parents and pupils should involve in practical knowledge to protect and promote environment.
- Teaching method should be transparent to enable children to understand what is taught.
- Every possible efforts should encourage to make pupils environmentally conscious.
- Variety concept (Primary knowledge) about local environment should incorporated in the course.
- Recognized the Environmental studies as life long need based.
- More field work soon after theory classes will be best way to understand the subject matters.
- Techniques and methods of nursery bed and plantation should include in syllabus.
- Attractive colour picture in Text Book of Environmental Studies is required to attract pupils attention.
- School need enough space for School garden.
- Supply of free Text Book right from the beginning of the year be ensured.
- Mass education on environmental studies is a need.
- Curriculum should include local potentials.
- Theoretical aspects should be link with that of practical life of students.
- Pupils schooling and learning should be based on life situation.
- Periodical training for subject teachers of environmental studies should be organised on regular bases.
- Evaluation on pupils achievements should include both theoretical and practical components.
- Intensive survey and consultation at grass-root level(implementers) is advisable while framing curriculum on Environmental studies.

- Tree plantation should be included in the curriculum. Each student should be privilege to plant at least one tree on compulsory basis and marking should be included to assess accordingly.
- Up to date subject matter information should facilitate.
- Quality study material and teaching aids are much more important to provide.
- Variety of fruits, flowers, green vegetation, plant and their treatment methods should also be incorporated in School curriculum.
- Pupil should made aware that they are contributor to environment.
- Inclusion of specific content on working systems of Naga farmer(parents) so that pupils consciousness may arouse.
- Subject teachers and pupils should be privileged to visit nearby Botanical garden, zoo, plants genetic centres, farms etc.
- Educational tour to near by natural forest will also be of a great inspiration for children towards environment safe guarding.
- Journal on natural flora and fauna is needed in Nagaland to increase environmental awareness.
- Songs, poems on our nature be revived and included in the curriculum.
- Recognizing environment and its importance in human life should be a priority of the State.

6.8.6: REFLECTION OF THE STUDY:

Initiatives from all quarters need to take note of importance of environmental heritages of flora and fauna of the State by adopting two broad strategies. One on public life in general by means of public education through wide media coverage, camping and extension programmes on how to develop positive attitudes and eco-mentality of public in general in use of natural resources in a judicious way. On the other hand, the School curriculum in environmental conscience from the beginning of Schooling to subsequent studies aiming linking of learning for living in this millenium a greenery Nagaland.

Alternative vision and means to meet the growing demands of environmental improvement depends on how policy makers and planners of the State visualize the

programmes according to the needs. As of now, plants and animals species are diminishing in number. Animals, birds and fishes population are reducing in the state owing to massive destruction of their shelter which compels them to migrate to safer sanctuary and also a large scale of hunting, fishing and killing of wild animals and birds for lust consumption and prestige as sporting etc. Realizing the fatal, the attitudes of people should environmentally normalized and develop friendly sentiment with nature.

Traditional ethos in Naga society, those who chopped enemies head, during war, killed giant wild animals even birds like hornbill, eagle etc. big snake (like python) and cut down the giant trees were praised and gain reputation, frame and prestige in Naga social life. This custom and tradition encouraged the able persons in doing so lead to cares none. However, perhaps, traditional mentality is some how to be replaced with modern understanding. So as to recovered the loss natural heritage, by educating the masses. This realization aims to have developed new motions and encourage to take up and tackle the imposes such as :

- Scientific farming(without destroying the standing trees).
- Ban killing of wild life's especially for community feasting, commercial purposes, VVIP & VIP reception and presentations.
- Ban chemical poisoning of birds and fishes.
- Ban traditional practices of jungle burning.
- Restrict random tree felling.
- Reserved compact area for wild life sanctuary in Naga villages.
- Minimize jhum/shifting cultivation and encourage alternative farming.
- Educate public/farmers the methods and techniques of plantations.
- State, public agencies, organizations and individuals should shoulder the responsibilities to over come the environmental menace.

Followed by environmental pollution, the state experiencing pollution problems. Fast reducing the natural components, the environment components are hampered. Consequently, there is direct effect on the life of people by climatic deterioration, contamination of filthy air, water, smoke and harmful gases, unhealthy sanitation, started

living in a congested and crowded places especially in Naga urban areas have witnessing the environmental pollution which leads to even the extend of health hazards.

In Nagaland environmental pollution can be described in two ways:

6.8.6.1: URBAN TOWN ENVIRONMENT:

A new phase style of Nagas life were some what different from that of olden days. Young Nagas were influenced by urban facilities and started concentrating in Urban Town as apart of their education, job seeking, business, exposures etc. Good or bad modern mentality of our young one contributes to urban domicile problem in Nagaland. On the other hand, there is no proper town planning, road, drainage system, and amenities are very poor or almost neglected in most of the towns in Nagaland causing the pollution problems,. High vehicular and its impact on congested and poor road conditions produces gaseous and dusty conditions which are not safe for healthy living. Carbage disposal system and dumping facilities are neglected one, poor condition of public toilets in public places, poor drainage and outlet system, rearing animals near by public places, educational institutions and even government offices effects the inmates in those establishments, unspacify public marketing places contributes to a great environmental pollution's in urban areas. Disguise and blessing, unfortunately there is no big industries, hence, industrial wastes problems is not known as yet.

6.8.6.2: RURAL VILLAGE ENVIRONMENT:

Rural fabrics were natural blessing in yester years. Natural virgin were the beauty of the land of Nagas. Barter system of economy were the main trade ideas, labour exchanges were the working system in those days, exploitations were unknown beyond their needs. Everythings were within the frame work of human needs in a judicious way. As on when Nagas were exposed to monetary system of economy, their demands were beyond limits. Exploitation of natural resources began. Virgin nature were disturbed by both needy and greedy fellows. Rural villagers activates their activities, random feeling of giant trees by means of trades. Villagers started explore costly heritage for means of easy money. When this ideal concepts evolves among the Naga Villagers without realizing the consequences, they began felling trees extensively causing environmental problems.

So called Nagaland rich vegetation and fertile land, reduces its natural potentials. Perhaps, an ambitious measures to prevent and control the environmental problems even in rural areas in Nagaland has become a felt need of the hour. Revitalizing the living standard of the villagers, such as working system, eating habits, improvise sanitary conditions, health care, educate the villager to develop positive attitudes towards the environmental concerns and food webs requires a lot of attention at the most and could be panacea to issues.

In doing so, rural State of Nagaland the natural quality of our environment can preserve and promote the natural gifts and prevent from deterioration of our environment which will have direct impact on living beings.

By seen the gravity of environmental conditions in Nagaland, concentrated efforts from all quarters need to address the common problem and adopt suitable approach in honest endeavour to over come the menace. Every individual has got roles to play, as human activities has direct effects on environment in a reciprocal way. Conceptual understanding in regard to environment is essential in Nagaland context. Two pronged approaches are requires to dealt with the issues:

6.8.6.3: <u>PUBLIC</u>:

For public in general people and its government requires environmental protection and an addition support system which goes beyond simply mechanism of sanctions or compliance that support the moral duty which one acknowledges towards nature. More over, there must be inner incentives to act in a way which are ultimate conducive to the well being of not only the present generation but also of future generations. That moral guidance for environmental protection and conservation has been enshrined in the Naga traditional code of conduct (see Chapter-2 Page-). It is imperative, that Nagas agree on the critical need for an environmental discipline, one that would serve as a frame work to guide communities and people. A tree environmental citizenship could evolves when awareness and sensitivity concerning environment among the numbers of the general public is improved. Nagas environmental realization could be motivational force and a rallying point.

Way back to Nagas animism (till later 70s or early 80s) and its beliefs appears purest form of universal in nature. For simple example for Naga young fellow, it was taboo and prohibited to cut the giant trees for certain public purposes before observing ghenna/ritual by priestly fellow or elderly people amongst the group/villagers. Children were strictly forbidden to cut the trees on the public road way sides or public places for fear of sickness or boil on the body. Even the diversion of river course from one direction to other, or erecting the community rostrum or community feast, retuals were performed before doing any things. This shows that the Nagas way of life confined to naturality and associated with purest form of natural code of ethics. Inspirational ideas are in need to set straight for the continuous and integrated promotion of environmental values in life spheres for its harmonious growth in Nagaland are suggested as below:

- Realized that environment is common heritage of mankind and has got no boundary or demarcation .
- Types of environmental climatic conditions should not be considered as environmental discrimination but accept as nature.
- Nagas traditional practice and respect for nature should revitalized as moral obligation to protect, preserve and promote our natural gifts.
- Nagas should develop environmental consciousness and perceives a person as a member of environmental community.
- Love and respect nature, like all other creatures, we are integral part of nature as well as users and consumers of natures.
- Recognize societal obligations to hold natural resources entrust, not only for present generation but also for future generations. Nagas should aimed sustainable development for ecological sound.
- Accept and acknowledge responsibility individually and collectively for mass public awareness camping at all levels of public life both in rural and urban Nagaland.
- Think positively and act righteously, need society to encourage restraint and caution the use of natural resources and attempt to control few greedy and exploitative tendencies.

- Prevail wisdom for up coming generation. They have a right to the same richness of bio-genetic variety in the plants and animals world as at present.
- Inculcate greening feelings in people's mind by enhancing logic values and qualities and put efforts with commitment and dedication to regain the lost and protect flora and fauna of the State, which in some cases becoming extinction slowly.
- Create new pattern of eco-friendly behaviour of individual, group and society as a whole.

6.9: SUGGESTIONS FOR FUTURE STUDIES:

The following are the suggested areas for further research work:

1. To study the status of environmental studies and students achievement at primary school level.
2. To study the socio-economic background of students and its relations with their achievement in environmental studies.
3. To study the students awareness of environment and their achievement in environmental studies.
4. To study the impact of environmental studies on daily life of students.
5. To study the relationship between social cultural tradition of Naga society and relevance of environmental studies.

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APPENDICES - I

DEPARTMENT OF EDUCATION
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Date.....

TITLE OF RESEARCH STUDY:

"A STUDY OF THE STATUS AND PROBLEMS OF TEACHING ENVIRONMENTAL STUDIES AT PRIMARY SCHOOL LEVEL IN NAGALAND"

DR. R.P. SHUKLA
SUPERVISOR

N.SAVITO SÜMI
RESEARCHER

Dear Sir/Madam,

I Mr. N. Savito Sümi, Lecturer,Nagaland College of Teacher Education Kohima, doing Ph.D. title-" A STUDY OF THE STATUS AND PROBLEMS OF TEACHING ENVIRONMENTAL STUDIES AT PRIMARY SCHOOL LEVEL IN NAGALAND."

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Your kind co-operation in this regard is highly solicited.

Yours faithfully,

To,
_____
_____
_____
_____

N.SAVITO SÜMI
C/O, Dr. R.P. Shukla
Head,Department of
Education:Nagaland University,
Kohima-797001

QUESTIONNAIRE

EXPERTS:

Name :-
Date of Birth :-
Sex :-
Married/Unmarried :-
Edn.Qualification :-
Present position;
a) Designation :-
b) Institution :-
Date of joining_____day of_____month 19_____

1. Since when Environmental studies has been imparted at Primary School level in Nagaland.

_____day of_____month 19 _____

2. Please kindly mention some of philosophical reasons behind Environmental studies as a subject.

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____

3. As a subject expert, will you please mention some of the Primary objectives of Environmental studies at Primary School level in Nagaland.

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____

4. Do you get helps from allied departments with reference to:

i) Financial assistance - [ ]
ii) Material assistance - [ ]
iii) Policy framing - [ ]
iv) Joint programme implementation - [ ]
v) Combination of all above - [ ]
vi) Any other - [ ]

5. Allied Department(s) is/are:

i) Cooperative one - [ ]
ii) Encouraging one - [ ]
iii) Discouraging one - [ ]
iv) Non-responsive - [ ]

6. Course contents on environmental studies are based on:

i) Theoritical orientation - [ ]
ii) Practical orientation - [ ]
iii) Oral discussion - [ ]
iv) Demonstrative in nature - [ ]
v) Combination of No.....

7. Contents of subject matter on Environmental studies are:
   i) Local need based and socially relevant - [ ]
   ii) Based on Central Government recommendation with less local relevancy - [ ]

8. Curricular subject contents are :
   i) Practical & relevant - [ ]
   ii) Heavily loaded & irrelevant - [ ]
   iii) Impracticable - [ ]

9. The present curriculum/syllabus on Environmental studies is:
   i) Relevant - [ ]
   ii) Irrelevant - [ ]
   iii) Un-decided - [ ]

10. Could you please mention some of the units/contents on Environmental studies included in syllabus up to Class-IV which are irrelevant.

    (i) _____ (ii) _____
    (iii) _____ (iv) _____
    (v) _____ (vi) _____

11. The present curriculum on Environmental studies is local need based. - Yes/No .
12. Do you think curriculum will bring significant impact in Nagaland. - Yes/No.
13. Do you have Environmental Cell under your establishment: - Yes/No.
    If no, please mention your opinion;

    (i) _____ (ii) _____
    (iii) _____ (iv) _____

14. Have you ever conducted any research work on Environmental studies. Yes/No.
    If yes, please specify:

Year	Research conducted

15. Do you organise training programmes for subject teachers: Yes/No.
    If yes, please mention:

    i) Once in a month - [ ]
    ii) Fourthnightly - [ ]
    iii) Quarterly - [ ]
    iv) Half yearly - [ ]
    v) Yearly - [ ]

16. Do you have curriculum expert committee on Environmental studies: - Yes/No.
If yes, please mention:

i) Selected from field specialization - [ ]
ii) Based on practical experience - [ ]
iii) Nature of Administrative Responsibility - [ ]
iv) All above.

If no, what suggestive measures you would like to mention.

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____

17. Teachers response to Environmental studies are:

i) Satisfactory - [ ]
ii) Average - [ ]
iii) Dis-couraging one - [ ]
iv) Mixed-response - [ ]

18. Students response to Environmental studies are:

i) Satisfactory - [ ]
ii) Average - [ ]
iii) Dis-satisfactory - [ ]
iv) Mixed-response - [ ]
[ ]

19. Impact of Environmental studies on daily living of children in Nagaland are:

i) Very good - [ ]
ii) Good - [ ]
iii) Average - [ ]
iv) Poor - [ ]
v) No impact - [ ]

20. Are Naga children Environmentally conscious: Yes/No.
21. How do you evaluate the impact of imparting Environmental studies on students daily life? Please specify:

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____

22. Are you satisfied with the functionings of Environmental studies teachers :Yes/No.

If no, What types of academic/administrative decision you usually take:

i) Holding meeting to discuss and suggest measures for improvement - [ ]
ii) Giving and showing teaching qualities and skills to perform job in a better way: [ ]
iii) Suggesting concern teacher to go for training - [ ]
iv) Depending upon the need based situation - [ ]
v) Any other, please mention:

_____
_____

Contd

23. Experts consultative meeting is used to organise:

1)	Weekly	-	[ ]
ii)	Monthly	-	[ ]
iii)	Quarterly	-	[ ]
iv)	Half yearly	-	[ ]
v)	Once in a year	-	[ ]
vi)	Does not arise	-	[ ]

24. Agenda of consultative meetings are usually :

i)	Progress of course study	-	[ ]
ii)	Problem of implementation	-	[ ]
iii)	Strategy for improvement	-	[ ]

25. Expert Committee on Environmental studies used to visit the Schools:

i)	Weekly	-	[ ]
ii)	Monthly	-	[ ]
iii)	Quarterly	-	[ ]
iv)	Half yearly	-	[ ]
v)	Yearly	-	[ ]
vi)	Does not arise	-	[ ]

26. Do you get separate funds for the function of this course programme. Yes/No.

27. If yes, please mention the funding agency:

i)	From State	-	[ ]
ii)	From Financial Institutions	-	[ ]
iii)	From NGOs	-	[ ]
iv)	From all above	-	[ ]

28. Do you have coordination mechanism between the allied Departments for successful implementation of Environmental studies : - Yes/No.

If yes, kindly mention the allied departments:

(i) _____ (ii) _____

(iii) _____ (iv) _____

(v) _____ (vi) _____ etc.

29. It has been general feeling that Natural Environment is disturbed in Nagaland. What could be the major casual factors? Please share your views:

_____

_____

_____

_____

Contd...

30. What would be Environmental condition in near distance future in Nagaland will/ may be:

_____
_____
_____
_____

31. Is there any NGOs working on Environmental protection/preservation in the State of Nagaland: - Yes/No.

If yes, please mention those organizations:

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____

32. Community participation in Environmental protection/preservation in Nagaland is:

i) Satisfactory - [ ]
ii) Regularly - [ ]
iii) Occasionally - [ ]
iv) Yet to start - [ ]

33. Have you ever conducted public education on importance of Environment in your State: - Yes/No.
If no, please mention measures you like to take:

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____etc.

34. Public awareness programme on quality Environment is satisfactory:- Yes/No.

If yes, please mention some of the out comes of such programmes.

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____

If no, as an expert please suggest need based strategies:

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____ etc.

Contd...

35. Your vision on Environmental in the next millennium in Nagaland is/are:

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____ etc.

36. Alternative vision and means to meet the growing demands of Environmental improvement is/are:

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____ etc.

37. Please suggest Environmental pollution control measures:

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____ etc.

38. Please suggest suitable measures to preserve Environmental heritage in Nagaland.

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____ etc.

39. Please suggest the best suitable approach to impart Environmental education in public life in general and School goers in particular:

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____ etc.

40. Do you think that the following could be the desirable alternative(s) for Environ mental protection:

i) Judicious utilization of its natural resources: Yes/No.
ii) Positive development of attitudes and aptitude of the people: Yes/No.
iii) Enhanced awareness degree : Yes/No.
iv) Enculcate positive behavious towards the gifts of nature: Yes/No.

41. Any other suggestions :

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____ etc.

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APPENDICES - II.

DEPARTMENT OF EDUCATION
NAGALAND UNIVERSITY : KOHIMA CAMPUS
KOHIMA-797001

Date.....

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N.SAVITO SÜMI
C/O, Dr. R.P. Shukla
Head,Department of
Education:Nagaland University,
Kohima-797001

QUESTIONNAIRE:

Head Teacher/Teacher In-Charge.

Name of the School :
Name of the Head Teacher/Teacher In-charge :
Age :
Sex :
Educational Qualification :
Date of joining as Teacher :
Date of joining as Head Teacher/Teacher In-charge :

1. Year of Establishment of your School :

————day of ————month of————

2. There are————students in this School :

————boys————girls.

3. There are ———— teachers in this School :

Sex	Training		Educational Qualification				
	Trained	Untrained	P.G.	Graduate	P.U.	Secondary	Middle
Male							
Female							
Total							

4. Is there garden in your School: - Yes/No.

If yes, what types of plants are grown, please indicate:
(i) _____(ii) _____
(iii) _____(iv) _____
(v) _____(vi) _____ etc.

5. What are the natural trees and plants growing/grown in and around your School? Mention some:

(i) ———————— (ii) ————————
(iii) ———————— (iv) ————————
(v) ————————(vi) ———————— etc.

6. Students of this School:

i) Care for plants - [ ]
ii) Distroys the plants - [ ]
iii) Enjoys with plants - [ ]
iv) Unaware - [ ]

Contd...

7. This School organises tree planation programme: - Yes/No.

8. Orientation programme for subject teacher of Environmental studies organised by :
   - i) University - [ ]
   - ii) Directorate of School Education - [ ]
   - iii) SCERT - [ ]
   - iv) NGOs. - [ ]
   - v) In coordination with many departments - [ ]
   - vi) Non of the above - [ ]

9. Subject teachers of Environmental studies were:
   - i) Trained - [ ]
   - ii) Un-trained - [ ]
   - iii) Need to be trained - [ ]
   - iv) Can teach without training - [ ]

10. Envirnmental studies teaching methods are :
   - i) Satisfactory - [ ]
   - ii) Not up to the standard - [ ]
   - iii) Need to improve - [ ]

11. Syllabus on Environmental studies are :
   - i) Relevant - [ ]
   - ii) Irrelevant - [ ]
   - iii) Needs improvement - [ ]

12. Teaching methods are :
   - i) Child-based - [ ]
   - ii) Policy based - [ ]
   - iii) Traditional - [ ]
   - iv) Expenrience based - [ ]

13. Are the relevant teaching aids available? - Yes/No.

14. Course contents of Environmental studies are :
   - i) Relevant - [ ]
   - ii) Irrelevant - [ ]
   - iii) Need to add more contents - [ ]
   - iv) Heavily loaded - [ ]

Contd...

5. Are you satisfied with the over all programmes of Environmental studies at primary School level in Nagaland: - Yes/No.

If no, as Head Teacher/Teacher In-charge,please mention your suggestion:

i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____ etc.

6. Do you feel that there should be provision for orientation programme for subject teachers. - Yes/No.

7. Have you ever approached concerned Department authority for effective imple mentation of Environmental studies in Nagaland: - Yes/No.

If yes, was there positive response? - Yes/No.

8. Have you ever come across initiatives or interest taken by allied departments for effective implementation of Environmental studies in Nagaland besides the School Education Department. - Yes/No.

If yes, in what ways: Please mention:

i) _____ (ii) _____
iii) _____ (iv) _____
v) _____ (vi) _____ etc.

9. Are you satisfied with the pupils learning achievements on Environmental studies. - Yes/No.

If no, What you like to suggest, please mention:

i) _____ (ii) _____
iii) _____ (iv) _____
v) _____ (vi) _____ etc.

20. Are the parents aware about Environmental Education? - Yes/No.

21. Do the parents extend their co-operation? - Yes/No.

22. Community/NGOs efforts are :

i) Satisfactory - [ ]
ii) Dis-satisfactory - [ ]
iii) Not known to them - [ ]
iv) Need to mobilize - [ ]

Contd...

23. Do you celebrate Environment Day in your School? - Yes/No.

24. If yes, what are the activities generally done on the occasion? Please specify:

_____

_____

_____

25. Do you feel that curriculum on Environmental studies is based on Environmental Ethics. - Yes/No.

If no, please give your suggestions:

i) _____ ii) _____
iii) _____ iv) _____
v) _____ vi) _____ etc.

26. Do you feel that present Environmental curriculum is socially relevant with reference to Nagaland: - Yes/No.

27. As Head teacher/Teacher In-charge of School, please offer your suggestions to improve status of Environmental studies(Education).

_____

_____

_____

_____

28. Any other suggestions:

_____

_____

_____

_____

oo0oo

APPENDICES - III.

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NAGALAND UNIVERSITY : KOHIMA CAMPUS
KOHIMA-797001

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N.SAVITO SÜMI
C/O, Dr. R.P. Shukla
Head,Department of
Education:Nagaland University,
Kohima-797001

QUESTIONNAIRE

TEACHER.

Name :
Date of Birth :
Sex :
Married/Unmarried :
Trained/Untrained :
Edn. Qualification :
Date of joining as Teacher :

Name of School_____ P.O._____
Dist._____ State_____

1. Year of Establishment_____days of _____month 19_____.

2. Do you teach Environmental studies: - Yes/No.

If yes, how do you differentiate teaching of Environmental studies from that of teaching other subjects:

(a) Preparation for teaching :
_____
_____
_____

(b) Methods of teaching :
_____
_____
_____

(c) Teaching Aids:
_____
_____
_____

(d) Teaching Learning:
_____
_____
_____

3. What other subject do you teach? Please specify.

_____
_____
_____

Contd...

4. Have you attended the orientation programme on Environmental studies: Yes/No.

If yes, please mention :

(i) Weekly - [ ]
(ii) Monthly - [ ]
(iii) Quarterly - [ ]
(iv) Half yearly - [ ]
(v) Yearly - [ ]
(vi) Only _____times in service period.

5. Who calls for the training programmes.

i) Directorate of School Education - [ ]
ii) University - [ ]
iii) SCERT - [ ]
iv) DIET - [ ]
v) B.Ed. Training College - [ ]
vi) NOs - [ ]
vii) Other organization - [ ]

6. Training programme on Environmental studies was :

i) Relevant - [ ]
ii) Irrelevant - [ ]
iii) Undecided - [ ]

7. Orientation training programme is need to be organised:

i) Quarterly - [ ]
ii) Half yearly - [ ]
iii) Yearly - [ ]

8. Do you get TA/DA for attending the programme: - Yes/No.

9. Is it convenient for you to attend the training programme? - Yes/No.

If no, please mention your suggestions:

(i) _____ (ii) _____
(iii) _____ (iv) _____
(v) _____ (vi) _____

Contd.....

10. How far training activities are relevant to your usual class room interaction.

i) Effective - [ ]
ii) No relevancy - [ ]
iii) Partial help - [ ]
iv) Not at all - [ ]

11. Course contents of Environmental studies at Primary School level in Nagaland is/are:

i) Relevant to pupil's understanding - [ ]
ii) Irrelevant to " " - [ ]
iii) Unnecessary - [ ]

12. Best suitable method of teaching Environmental studies at Primary School level is/are:

i) Play way method - [ ]
ii) Demonstrtation " - [ ]
iii) Story telling " - [ ]
iv) Discussion " - [ ]
v) Dramatization " - [ ]
vi) Questiong " - [ ]
vii) Excursion " - [ ]
viii) Learning by doing - [ ]

13. What method do you usually adopt for your effective class room teaching?

(i) ---------- (ii) ----------
(iii) ---------- (iv) ---------- etc.

14. As a teacher, how do you organise effective programmes for pupil's participation:Comment:

(i) ---------- (ii) ----------
(ii) ---------- (iv) ----------
(v) ----------(vi) ----------

15. Do the Head teacher/Teacher In-charge extend cooperation to your scheme of works? - Yes/No.

If no, what approach you usually adopt?

i) ---------- ii) ----------
iii) ---------- iv) ---------- etc.

Contd...

16. Do the parents come forward in helping you? - Yes/No.

If no, What devices you used to coϕnvince them:

i) ———————————— ii) ————————————
iii) ———————————— iv) ———————————— etc.

17. Do the pupils take intest in learning Environmental studies? - Yes/No.

If no, What strategies you adopt to influence them:

i)————————————————(ii)————————————
iii)————————————————(iv)———————————— etc.

18. Are the pupils aware of their immediate surroundings: - Yes/No.

If no, as a teacher how do you arouse their awareness:

(i)————————————————(ii)————————————
(iii)————————————————(iv)———————————— etc.

19. Pupils learning is effective mostly

(i) At home - [ ]
(ii) At School - [ ]
(iii) Inside the class room - [ ]
(iv) outside the class room - [ ]
(v) Open space - [ ]

20. Pupils learning become effective through
i) Learning by doing - [ ]
ii) Involvement in demonstration - [ ]
iii) Pupils self observation - [ ]
iv) Intensive instruction - [ ]
v) All above - [ ]

21. When pupils come out of class room they appeared:

i) Pleasant - [ ]
ii) Free - [ ]
iii) Happy - [ ]
iv) Inmood - [ ]
v) Angry - [ ]
vi) Lazy - [ ]

22. Do you keep on constant supervision over your pupil's activities: Yes/No.

Contd...

23. Do you have School garden? - Yes/No.

If yes, give objectives of setting up School garden:

i) _____ ii) _____
iii) _____ iv) _____
iv) _____ vi) _____ etc.

If no, please give your openion:

i) _____ ii) _____
iii) _____ iv) _____ etc.

24. Do you organise School plantation programme in your School? - Yes/No.

If yes, what are the plants/trees mostly growing? Please mention:

i) _____ ii) _____
iii) _____ iv) _____
v) _____ vi) _____ etc.

25. Whether pupils take interest in plantation programme: - Yes/No.

If no, what measures you used to take?

i) _____ (ii)_____
iii) _____(iv)_____ etc.

26. Do you feel that your School Environment is satisfactory? - Yes/No.

If no, what do you want to suggest?

i) _____ ii) _____
iii)_____ iv) _____
v) _____ vi) _____ etc.

27. Is School sanitation:

i) Satisfactory - [ ]
ii) Average - [ ]
iii) Dis-satisfactory - [ ]
iv) Improving - [ ]
v) Remain constain - [ ]

Contd....

28. Pupils are:

i) Aware of School sanitary conditions - [ ]
ii) Not aware of School sanitary condition - [ ]
iii) Desire to improve - [ ]

29. Introducing Environmental studies at Primary School level has brought:
i) Improvement in Environmental condition - [ ]
ii) Realization importance of Environment - [ ]
iii) Developed positive altitude towards nature - [ ]
iv) Combination of all above mentions - [ ]

30. Pupil's achievement in Environmental studies in last examination:
i) Excellent - [ ]
ii) Very good - [ ]
iii) Good - [ ]
iv) Average - [ ]
v) Poor - [ ]
vi) Very poor - [ ]

31. Pupil's achievement in other subjects in last examination:
i) Excellent - [ ]
ii) Very good - [ ]
iii) Good - [ ]
iv) Average - [ ]
v) Poor - [ ]
vi) Very poor - [ ]

32. Do you celebrate Environment Day in your School? - Yes/No.

33. If yes, what are the activities done on the occasion? Please specify:
_____
_____
_____

34. Give your valuable suggestion particularly on curriculum of Environmental studies:
_____
_____
_____

35. Any other suggestion:
_____
_____
_____

oo0oo

APPENDICES-4

INTERVIEW SCHEDULE
(CLASS-III&IV)

1. **What is your name?....**
2. **How old are you?.....**
3. **Where do you live?.....**
4. **What is your parents?....**
5. **How many brothers and sisters do you have?.....**
6. **Does your parents and family members loves you?....**
7. **Do your work at home?....**
8. Do you have friends in your nieghbour?...
9. What is the name of your school?...
10. In which class do you read?....
11. When do you usually get up in the morning?....
12. When do you usually go to bed at night?....
13. Do you like your home surrounding?...
14. What items do you mostly eat at home?....
15. In the morning when you get up what usually do you used to do?...
16. At what time you usually go to school?...
17. How far is your school from your home?...
18. How many days do you go to school in a week?
19. Besides reading and writing what do you do in school?...
20. Does your teachers loves you?...
21. Does your teachers ask you to do something in school?
    If yes, What are the activities you usually do?...
22. Do you get any advise from your teachers?...
23. Do you take bath every day?....
24. Where do you get water from?...
25. What are the sources of water?...
26. What are the uses of water?...
27. Have you seen river?...

28. What do you see in the river?...
29. From where do you get rain?...
30. How do you feel in a rainy day?...
31. What do you feel in a sunny day?...
32. Where the sun rises?...
33. Where the sun sets?...
34. Day is bright or dark?...
35. What do you see in the sky during the day?...
36. What do you see in the sky at night?...
37. How many seasons are there in a year?...
38. Name the different types of seasons....
39. Who produce the food grains?...
40. Name some of the domestic animals that you have at home.....
41. Animal living in jungle are called.....
42. Whether birds are living creature or non-living creature?...
43. Name one of the water animal?....
44. Have you ever seen the mountains?....
45. Do you have school garden?...
46. If yes, what are the plants that are growing in your garden?...
47. How do you go to school?..
48. What are the means of transportation?...
49. What do you see in the forest?...
50. What is the test of Sugar?...
51. What is the test of Lemon?...
52. From where do you get fruits?...
53. What materials are use to construct a house?...
54. Do you plant trees in your school compound or nearby your home?...
55. Do you like flowers?....
56. Do you feel pleasant when you see growing trees/plants?...
57. Do you know that we get oxygen(fresh air) from the tree?...