CHAPTER II

GEOGRAPHICAL FRAMEWORK
Nagaland, one of the easternmost states of Indian union was inaugurated as the sixteenth state on the 1st of December, 1963. Prior to December 1, 1957, a part of it known as Naga Hills District was one of the districts of Assam. By Naga Hills Tuensang Area Act, No.42 of 1957, the Naga Hills District and Tuensang Frontier Division were transferred from Assam to North East Frontier Agency, and formed Naga Hills Tuensang Area, a new administrative setup under the Central Government. The Naga Hills Tuensang Area became a de-facto state under the name Nagaland with de-facto legislature and ministry in 1961, and in 1963 it was made a de-jure state.

Nagaland approximately extents from 25° 6''- 27° 4'' north latitudes and 93°20''-95°15'' east longitudes. The total area of the state is around 16,579 sq km. It is bounded by Assam in the north, north-west and west; Arunachal Pradesh in the north-east; Manipur in the south and Myanmar in the east.

2.1 PHYSIOGRAPHICAL STRUCTURE

Excepting some plain areas on the south-western part along the foothills and in the valleys along river beds, the rest of Nagaland is completely hilly. The hills are a continuation of the Burma Arc being joined with the sub-Himalayan ranges in the north and stretching into the hills of Manipur. The ranges stretch in general from north-east to south-west breaking into wide chaos of spurs and ridges, deep gorges
and narrow valleys. Physiographically, the state can be divided into three physical divisions:

1. Western low range
2. Middle hilly range
3. Eastern mountainous region

The western low range areas rise from the plains of Assam in the western part of the state; among the three divisions this range has the lowest elevation. The altitude ranges from 110 meters to 600 meters above sea level. The extreme western part bordering Assam is dotted with a few plains. The most important of them is the plain of Dimapur, this plain starts around Chumukedima on the foothill of the state and merges into the plain of Sibsagar district of Assam; it covers an area of about 150 sq km. Another plain is found around Naginimora in the mid-west of the state covering about 50 sq km; it starts at the foothills near Kongon village of Mon district and extents up to Dikhu River. The third plain is located in the north western part of the state, with an average area of about 75 sq km it lays around Tizit of Mon district.

Near to the plains on the western side of the state are few valleys located at an average altitude of 300 meters above sea level. In the south-western part of the state

---


lies the valley of Ghaspani and in the mid-west of the state are the valleys of Baghty, Bhandari and Merapani which are situated in Wokha district. On the north of Merapani lies the valley of Lakhuni in Mokokchung district. Bhandari and Lakhuni are contiguous to each other and it extends to the plains of Assam. The northern most of the valleys is Tiru valley; it is also called as Tirupathar and is situated in Mon district.

On the east of the western low range is the middle low range which is characterized by continuous hilly ranges with an altitude between 600 meters and 1,200 meters. This hill ranges run through the middle of the state from north-east to south-west direction. Here the hills gradually rise in altitude turning into high hill ranges which spreads farther to the eastern part of the state.

The eastern mountainous region is marked by serrated ridges and is separated from one another by deep valleys. It is mostly dominated by rugged terrain and lofty hills which remain covered by dense forest and grassland for most part of the year. The altitude of the ranges varies from 1200 meters to 2400 meters and above, and is generally higher towards the eastern part of the state. The eastern mountainous region has the highest peak i.e. The Saramati with an altitude of 3,826 meters above sea level. This region forms the great watershed between Myanmar and Nagaland.

There exist several mountain ranges in the state which play a vital role in governing the climatic conditions, rainfall, population structure and economy. The Barail range, an important mountain range in the state, enters Kohima district from southwest direction and runs towards north-east up to Phek district. Towards the south of Kohima it further merges with the adjoining mountain ranges and extents towards Manipur. The Japvo mountain range situated in the southern part of Kohima has the second highest peak (Japvo 3,014 meters above sea level) in the state. It is followed by Kapu with 2,841 meters; Paona with 2,791 meters; and Kapamesu with 2,429 meters above sea level, all situated in Kohima district. The western side of the state bordering Assam plains has more or less the same topographical nature of the mountainous terrain with comparatively lower elevation; however it is interesting to note that Doyang the longest river in the state passes through most of the ranges in the western part of the state. The important ranges are Wokha, Sanis and Bhandari with the altitude varying from 600 meters to 1,800 meters above sea level.

**Geological structure**

Geologically, Nagaland which constitutes the northern part of the Indo-Burma ranges is bounded on the western part by the pre-Cambrian Mikir Hills Massif and tertiary shelf sediments of Assam plains, and on the north-west by the Brahmaputra.
plainas through lineaments. On the eastern side lies the western central low land of Burma containing a gigantic thickness of Cenozoic sediments. The state runs into the so called 'Eastern syntaxal bend' of the Himalayas in the north and it passes southward into the hills of Manipur and Cachar (Assam) enclosing tertiary sediments. In the south-east ward these hills can be located running through Chin Hills and Arakan Yomas (Myanmar) into Andaman-Nicobar Island in the Bay of Bengal, and finally linking themselves with the chain of islands in the further south of the Indian Ocean.

The hills of Nagaland, created during the Tethyan orogenic belt form a part of the Alpine-Himalayan mountain chain. These are built up mostly by the thick sequence of Cenozoic and late Mesozoic sediments and are bounded on the eastern side bordering Myanmar by an Ophiolite complex and shelf sediments (Fig 2.1). In the western part of the state, the most prominent morphological tectonic sedimentary crustal block is the 'Belt of Schuppen'.

The general rock sequence in the state can be grouped into:

1. The Nimi formation of Paleozoic age.
2. The ophiolite complex of upper cretaceous.
3. The Disang group of lower and middle Eocene age.

---


4. The Barial group of Eocene and Oligocene age.

5. The Surma group.

6. The Tipam group.

7. The Namsang beds of Mio-Pliocene age.

8. The Dihing group of Pliocene-Pleistocene age.

The Nimi formation which covers the eastern fringe of Nagaland extents from Mollen in the south to Saramati in the north for about 30 km in length.\(^6\) It is thrust over the ophiolitic complex from the east and consists of crystalline limestone, quartzite, phyllite, etc. The Ophiolite complex which also occurs in the eastern part of Nagaland is tectonically sandwiched between the Nimi formation in the eastern side and the Disang formation in the western side. Minerals such as magnetite, nickel, chromium, cobalt, copper, zinc, etc mostly occur in areas characterized by Ophiolitic complex of the state.

The Disang group of rocks formed by a very thick sequence of fly ash sediments occurs in the intermediate hill regions. It covers nearly half of the surface area of the state. This group gradually merges with the overlying Barial group of rocks which are predominantly mollasic sediments. The Barials are mainly confined to the ‘Belt of Schuppen’ in the outer hill areas and also crop out as outliers over Disang in some higher ridges in the intermediate hill areas. The main rock types found in the

---

\(^6\) Op cit, Directorate of Geology and Mining (1978)
Fig. 2.1

NAGALAND
GEOLOGICAL STRUCTURE

Faults & Thrusts
Recent Alluvium
Pleistocene
Pliocene
Miocene
Oligocene
Eocene

Fig. 2.1
Barial group are well bedded sandstones, shale, clay and coal. The Barial rocks are followed by an unconformity over which Miocene Surma group of rocks are deposited. The Surmas are exclusively confined to the 'Belt of Schuppen' and are of mollassic sediments of sandstones, shale and clay. The Tipam groups of rocks which overlie the Surmas are mainly confined to the 'belt of Schuppen' though they also occur in the eastern high hill areas overlying the Disangs.

The Namsang beds are found overlying the Tipam group of rocks in the western part of Nagaland and are absent in the intermediate and eastern hill ranges. The rocks of Namsang bed consist of a poorly consolidated Litho-sequence comprising conglomerate, grids, mottled clays and sandstones. The Dihing group on the other hand, resting over the Namsang beds with a minor unconformity is found in few places in the outer areas of the state. Gravels, thin clays and sands are the main constituents of the Dihing group.

The eastern part of the state seems to be more endowed with the mineral resources. The Nimi formation in the eastern fringe is said to have the largest limestone deposits of the state. The associated sheared granites, schist and quartzite are found in this formation. The Ophiolite belt also provides diverse mineral presence represented by podiform chromite, magnetite, nickel, cobalt, base metal, asbestos, etc. The Disang sediments which spread over a vast area of intermediate hill ranges also exhibit occurrences of limestone, brine springs, slates, black shales and pyrites. The Barial group of rocks occurring mostly in the 'Belt of Schuppen' is rich in coal.
The important coal belt such as Borjan and Tiru-valley of the state are confined to the Barial rocks only. The Tipam and Surma groups of rocks also hold promise for yielding glass sands, clays, iron laterites and building materials.

**Drainage pattern**

In Nagaland the expanse of the hills being relatively small, there are only a few rivers which are seasonal as well as perennial. The major drainage systems in the state are Doyang, Dikhu, and Tizu. These river systems are of dendritic nature. Excepting Tizu, all run towards west and flow into the Brahmaputra. The Tizu river system flows towards the east and joins Chindwin River of Myanmar (Fig 2.2). Doyang is not only the largest but the longest river in the state. It originates from Japvo hill in the southern part of the state. Originating near Mao in Manipur state, it flows in a north-easterly course for about 72 kms and ultimately turns sharply to north-west direction forming a rectangular drainage pattern. This river drains areas of different districts. In the south, it flows through the Kohima district and flows towards the eastern edge of Phek district. Flowing northward it enters Zunheboto district and then flows through Wokha district. After flowing towards south-west of wokha district it leaves the hills and finally falls into Dhansiri in Sibsagar district of Assam. Doyang is joined by many streams in its central and western part. Chubi is a supplementary system of Doyang which flows southward from Mokokchung district and joins Doyang. With its origin at the Nerhema area in Kohima district, Nzhu
Fig. 2.2

NAGALAND
DRAINAGE PATTERN
another tributary of Doyang flows through Miphong in Rengma area and joins Doyang in Wokha district. Dikhu rising near Naroto Hill in Zunheboto district forms an important drainage system. It flows towards the north along the border of Mokokchung and Tuensang districts. In the north it is joined by Yangyu, an important river in Tuensang district, from this confluence Dikhu flows north, then turns west and passes through Mokokchung district and Mon district and flows past Naginimora (Mon district) to join Brahmaputra in Assam.

Dhansiri springing from the south-western part of Kohima district takes a westward course forming a natural boundary with north Cachar hills of Assam at the extreme south-west of the state. From Cachar, it takes an eastward direction and flows through the Rangapahar-Dimapur plain in Dimapur district. Leaving the district it flows northward until it falls into the Brahmaputra. This river receives almost all the western and southern drainage of Nagaland.

Tizu also called as Ti-ho or Nantaleik forms an important drainage system in the eastern part of the state. It assumes a special significance as it exposes the Ophiolite complex of Nagaland in its deep gorge sections providing vital geological information. It rises in the southern part of Tuensang district and flows in a northern direction. After flowing northwardly it turns eastward and then to south-east direction joining the Chindwin in Myanmar. Zunki is an important tributary of Tizu.

River. It originates in the eastern corner of Tuensang district and flows southward to join Tizu in the south.

Milak is another important river that flows across the Mokokchung district. Its source is found in the heart of Mokokchung town itself, at an altitude of about 1,300 meters above sea level. Among the Aos through whose land alone it flows, it is known as Milak, the continuity of which in Assam is known as Jhanzi. It flows northward until it leaves the hills and turn westward for the plains in Assam. A notable tributary of Milak is Tsurong, which rises in the east of Lakhuni village and flows between Yachang and Lirmen villages in Mokokchung district.

It can be stated that the river basins coupled with physiographic conditions have performed the role of natural ecosystem where the separate tribal groups have settled and have acquired definite and distinct characteristics. Naturally, these rivers form the territorial boundaries of different tribal groups in the state. This can be identified in the case of the Doyang River which acts as a demarcating line of several tribal groups such as the Rengmas, Angamis, Lothas and Aos. Dikhu does similarly for the Aos, Sangtams, Phoms and the Konyaks. Furthermore, these rivers influence to a great extent the settlement, the social milieu as well as the economic pattern of the people in the state.
2.2 CLIMATE AND RAINFALL

The climate of Nagaland is comparable with that of any other hill regions of the country. However it shows spatial variations. While it is warm sub-tropical in the western low lying areas and in the foothills, it is moderate sub-montane in the mid-slopes and lower ranges of the western flanks. Cool and temperate climate prevails in the eastern part of the state where the difference between summer and winter temperature varies from 5°C to 25°C. Winters are very cold over the hills and at times snow occurs over large areas. Over the foothills the range of summer and winter temperature is between 12°C to 32°C. Comparatively, southern Nagaland has a salubrious climate, as it is sheltered by lofty mountains such as Japvo in the middle and Saramati in the north east. The bulk of precipitation received by the land through south west monsoon stretches from June to September. There is not a single completely dry month in the year. The rainy seasons characterized by high humidity and dry spells that occur during June to September are muggy and enervating. The relative humidity is low during winter months and high in the rainy months.

The climate of Nagaland exhibits four seasons:

(a) Winter (December to February)
(b) Pre-Monsoon (March to April)
(c) Monsoon (May to September)
(d) Retreating Monsoon (October to November)
NAGALAND
MONTHLY AND ANNUAL RAINFALL

Fig. 2.3
Winter season usually commences from the month of December with a steep fall in temperature, and it continues till the first week of February. During this period the cold wind along the high ranges of Saramati in the eastern part of the state mixed up with the north-east monsoon winds blows particularly over the eastern part of the state. January is the coldest month all over the state when frost falls in a few places like Zunheboto, Phek, Kiphiri, Aghunato, Pfutsero, etc. The average temperature in winter season varies between 10.48°C and 17°C; and the average rainfall is generally low during this period. From the first week of March with a gradual rise in temperature the pre-monsoon starts. This period is characterized by strong winds, accompanied by thunderstorms. The wind generally blows from south-west and at times the velocity raises up to 100 kmph, making the sky clear almost throughout the day. The monsoon season sets in the middle of June and continues up to the middle of September. The temperature raises upto 25°C in July, and it is also during this period that the heaviest rainfall is experienced. From the month of September the temperature as well as rainfall decreases and the land experiences the onset of retreating monsoon. At this time of the year whenever there is depression in the Bay of Bengal, the state gets clouded sky and there is drizzling and rainfall heavier than that in the Gangetic west Bengal.

As depicted in Fig 2.3 there are regional variations in the intensity of rainfall over the state. The interior part of the state covering southern part of Wokha, southwest Zunheboto and northeastern part of Kohima districts receives the highest annual
rainfall ranging up to an average of 3500 millimeters. The least density of rainfall is received in the southern and in the western parts of the state, these parts receive an average annual rainfall of around 1500 to 2000 millimeters. The northern and eastern part of the state receive moderate rainfall of about 2000 to 3000 millimeters annually. Regional difference is also found in the monthly distribution of rainfall, the density of rainfall is highest in the month of August in the northern part of the state, while the density is highest during the month of June in the eastern part of the state. Meanwhile the highest density is experienced during the month of July in the southern and southwestern part of the state.

2.3 SOIL TYPES AND NATURAL VEGETATION

Except in the valleys and along the foot hills with comparatively level land and gentle gradient, the soil cover in Nagaland is thin. Soil erosion is a common feature caused primarily by torrential rain over the hills coupled with extensive practice of Jhum cultivation.

The state has a variety of soils. The soils in the southern part covering the districts of Kohima, Phek, Zunheboto and the southern portion of Tuensang district mostly consist of high base status soils of humid regions, shallow black, brown and alluvial soils. Recently formed soils and alluvial soils are found in the west covering the districts of Wokha and Mokokchung. In the northern part of the state covering the districts of Mon and the northern part of Mokokchung and Tuensang, the soils are

42
red loamy, red sandy and alluvial. Soils in Nagaland are in general, acidic and the PH value ranges from 4.8 to 5.62. The organic carbon contents of the surface soil are quite high, but the soils are very poor in available phosphate content. The soil texture varies from sandy loam to silty coarse sandy and sandy loam. Primarily, the soils of Nagaland can mainly be grouped under Entisol, Oxisols, Mollisols and Spodosole. Entisols are the alluvial soils occurring mainly in the valleys and foot hills of the western and south western part of the state. These soils are characterized by Ochric Epipedam, low organic matter and lighter colour and are good for agriculture. Oxisols are strongly weathered soils characterized by low base exchange capacity and massive structure. These soils occur mainly over the foot hills and lower ranges in mid-southern part and in the eastern part of the state, upto an elevation range of 750 meters above sea level. Mollisols occur over cool and temperate areas and are characterized by a Mollic Epipedam, high organic matter and high base saturation. In the state this type of soil is mainly found in the intermediate high hill ranges. Spodosol type of soil mostly occurs in the central, southern and eastern part which is of higher altitude with humid and temperate climate suitable for coniferous vegetation. Based on the soil types and the variation

---


Fig. 2.4

NAGALAND
FOREST TYPES
in altitude and climatic conditions, the vegetation in Nagaland can be classified into (fig 2.4):

(a) Sub-tropical moist deciduous forest
(b) Sub-tropical evergreen rainforest
(c) Temperate evergreen highland forest
(d) Coniferous forest
(e) Degraded growth

Sub-tropical moist deciduous forest

It is confined to the elevation between 200 and 450 meters above sea level representing one of the major ecological types with a rich floristic diversity. The western and north-western part of the state bordering Assam in the west and Arunachal Pradesh in the north, and the south-western foothills of the state falls under this type. There is a bewildering wealth of species in this forest; some important species of trees are Hollock (Terminalia myriocarpa), Gamari (Gmelina arborea), Gogra (Schima wallichii), Amari (Amoora wallichii), etc. There is a variety of canes (Calamus) in this forest, especially in the foothills. Apart from the canes numerous shrubs and herbs covers the ground. This forest is being lost in many places due to extensive jhuming and unregulated felling of timber trees.
Sub-tropical evergreen forest

This forest is concentrated on the northwestern part in and around Tizit (Mon district) and on the areas receiving an annual rainfall of about 200 cms and at the elevation varying from 400 meters to 1400 meters above sea level. The flora is quite diverse, especially in the lower elevations where the forest merges with patches of semi evergreen forest. The forest exhibits blurred multitiered nature of different layers. Some important species of trees are: Hilika (Terminalia myriocarpa), Hingori (Castonopsis indica), Koliori (Cyclastemon assamicus), Moj (Allbizzia Lucida), etc. Some of the important commercial species of trees are found in great profusion in this forest.

Temperate evergreen highland forest

This type of forest is confined to higher elevation from 1300 meters to 3500 meters above sea level. Due to heavy rainfall and high humidity, the vegetation is quite luxuriant. It is found along the international boundary in the eastern and in a narrow strip of land running from north to south in the middle part of the state. The top canopy is constituted by commercially important species such as Champa (Michilia champaca), Amari (Amoora wallichii), Simul (Bombax ceiva), Hillock (Terminalia myriocarpa), Urium (Bischofia javanica), etc. The branches of these trees are heavily moss-laden and offer a suitable habitat for a luxuriant growth of epiphytic species, orchids and ferns.
Coniferous forest

Found mainly in the areas of colder and higher altitude in the south-eastern part covering Tuensang and Mon districts. Pines (Pinus insularis) are widely grown in almost pure strands. At some places broad-leaved species such as Gogra (Schima wallichii) are also noticed interspersed with these pines.

Degraded growth

Of all the types of forest it has the widest spread one which covers about 40% of the state area. It is mostly confined to old jhum fallows. Besides these forests, there are a number of reserved forests namely the Intangki, Rangapahar, Singpham, Fakim, and Puliebadze. Almost all are located in the south western part of the state.

The total area of land covered by forest in Nagaland is around 862930 hac; it constitutes only 17.3% of the total geographical area. The low percentage of forest cover to total area is mainly due to the practice of shifting cultivation in the rural areas and the unregulated felling of trees for timber and fuel. Moreover, the increase in human population, heavy incidence of grazing and pressure on land for agriculture and settlement is also been responsible for depletion of forest cover.

Realizing the gravity of the situation created by wanton felling of trees and the damage caused to the environment by the traditional practice of jhum activities, efforts are being made by the government of Nagaland to check the further destruction of forest.
2.4 ECONOMY

The economy of the state is predominantly agricultural. The factors determining distributional pattern of rural population relate mostly to the productivity of the soils. The post independence period has witnessed remarkable changes and development in all economic sectors. Participation of workers in different economic activities has also increased. However, in most of the areas, agriculture still absorbs about 70% to 75% of the total main workers.

Agriculture

Agriculture is the mainstay of the people of Nagaland. Even by 1950 almost 95 percent of the population was directly dependent on agriculture. Now with the gradual growth of economic activities in the secondary and tertiary sectors the percentage of people living on agriculture is decreasing. Jhum cultivation is the main type of cultivation practiced by majority of the people. Jhum or shifting cultivation as a rule is cultivated for two seasons only and the crops are entirely dependent on rainfall. Besides, terrace cultivation is practiced in some parts of the state, mostly in the areas of Angamis, Chakesangs and Zeliangs.

Food grain production scenario in Nagaland has witnessed a remarkable change during the last three decades mainly due to expansion in area under cultivation. It increased from 62,00M.T during 1964-65 to above 283.45 thousand M.T by the end of 1998-99 with area coverage of 212.64 thousand hectare. The productivity has also
increased from 700kg to 1300kg per hectare of land. This has been brought about due to screening and selection of potential locally cultivated varieties; use of improved seeds, better agronomic practices; use of manures and fertilizers; plant protection measures; increase in irrigation facilities and use of small farm powers and machineries. Lately, the government of the state has expanded its activities by introducing tea, pulses, sugarcane, oilseeds and other cash-crops for cultivation.

The topography, soil and the climatic condition of the state are more favorable for growing of horticultural crops, although the staple food of the people is rice. There is a great potentiality for the cultivation of fruits, vegetables, species, plantation crops, medicinal and aromatic plants, flowers and mushrooms, etc in the state. In the year 1999-2000, 10980 hectares of land was under fruit cultivation; 17655 hectares under vegetables; and 3185 hectares under spices in the state. During the same period 80984 M.T of fruits; 200215.4 M.T of vegetables and 33373.5 M.T of species were produced. At present there are about 14 government run nurseries and farms which are mostly located in the western part of the state.  

Fishery and Animal husbandry

Lately, the development of fisheries is making its impact on the economic scene of Nagaland. With the initiatives taken by the government of Nagaland around 3700

---

hectares of water area have been developed. About 4500 M.T per annum of fish was produced during 1999-2000. The paddy-cum-fish culture is also traditionally practiced in a few pockets of the eastern part of the state, especially in Phek and Kohima districts.

Sericulture and its development in the state are also making its own share of dent on the economic landscape. The state possesses 3 Eri seed grainages, 1 oak tsar seed grainage and 1 modern mulberry seed grainage. In the year 2000, 3.80 lakhs DFLs of eri and 0.20 lakhs DFLs of oak tsar were produced and supplied to the private rearers and commercial rearers. Sericulture is a labor intensive agro-based industry having ample scope to provide gainful employment opportunities. During the year 2000, a total of 1200 persons got self employment in different sericultural activities. Nagas are fond of rearing pigs and poultry in a traditional way. Cattles are also widely reared and facilities are being extended by the state government to the people so as to enhance their economy. During 1997-1998, there were 383308 heads of cattle; 36131 buffalo; 33345 mithun; 2363058 poultry birds, and around 47000 tones of milk; 465 lakhs number of eggs and 171000 tones of meat were produced in the state. There are 4 veterinary hospitals and 27 dispensaries in the state.

Mineral resources and Industries

The state has already been brought under the mineral map of India. Coal and lime stones are now commercially extracted and coal seams have been located in the
Basal Argillaceous formations in Mokokchung district in the vicinity of Lirmen, Nokpu and Lakhuni. Occurrence of coal has been reported from Dikhu river area, west of Namsang-Chingchang area lying between the border of Mon and Tuensang districts. In the eastern part of the state investigation for limestone, nickel, cobalt, chromium and clay deposits has been carried out. Marble occurs near Myanmar border in Tuensang district. Magnetite deposits have been located in Pokphur tract in Tuensang district and eastern part of Phek district. Limestone containing very high calcium-oxide and low insoluble has been found in Nimi village of Kiphiri in Tuensang district. Limestone reserves are also found in Phek district. Building materials such as sandstone, slates, stream gravels and boulders are found in large quantities in the state. Sandstones are found near Kohima, Mokokchung and Wokha districts. Slate occurs and is mined in Tuensang district where it is popularly used for roofing purpose. Besides, salt is produced from brine water obtained in some of the wells located in villages of Yisi, Purr, and Ozeho in Kohima district. Survey and analysis of rock samples conducted by Oil and Natural Gas Commission reveals that the western part of Nagaland is rich minerally and holds good hydrocarbon prospects. Presence of hydrocarbon has also been located in Champang in Wokha district.

Nagaland is still in its infancy in the field of industry. Lack of raw materials, power, market, transport and technical labour are some of the factors that hinder the development of industries in the state. In 1963 when Nagaland attained its
statehood, industry was almost nonexistent in the state. Since then, the government has initiated several schemes such as establishment of industrial centers, modernization of handloom and handicraft sectors, promotion of garment industries, development of agro-forest and mineral based industries. Recently, a new industrial policy has been formulated to boost industrial consciousness and development in the state. Another industrial project a mini cement plant at Wazeho in Phek district is functioning under North Eastern Council. One fruits and vegetable processing and cold storage plant is located at Dimapur district which was commissioned on 1995 with an installed capacity of 5MT per day. This unit has been producing fruit squash, slice as well as bamboo shoots, etc, for marketing as well as for export purpose. Another medium industrial unit 'the Mechanized Bricks Co Ltd' located at Dimapur district was started with the proposed capacity of one lakh bricks per day.

Even though Nagaland has only a few medium sized industries, it abounds in cottage and small scale industries which are found in almost all the Naga villages. Traditionally, Nagas are adapted to weaving, bamboo and cane works, carpentry and wood carving, blacksmithy and potteries. It is evident from the fact that the government has been putting a great effort for the development of cottage and small scale industries. Nearly 1059 units of small scale cottage industries are permanently registered. Among those units 18 medicinal and essential oil demonstration farms including one training cum production centre, 4 bee keeping demonstration farms, 1 carpet weaving training centre, 1 dying centre; 4 handloom weaving training
centers; 1 pineapple fibers cum spinning plant and 1 cottage match factory have
been set up by the government. The latest census on handloom reveals that there are
about 43,000 weavers in the state who depend on the handloom industries for their
livelihood. At present, 4 mini industrial estates have been identified at
Chuchuyimlang, Saring in Mokokchung district, Baghty in Wokha district,
Viswema in Kohima district; where all necessary infrastructures have been built to
promote industries in the state.

2.5 TRANSPORT AND COMMUNICATION NETWORK

Before the Naga Hills was opened for administration during the last quarter of the
19th century, there was no road worth the name. However, from 1876 a few roads
connecting Kohima with Samaguting (Chumukedima), Kohima with Wokha and to
Mokokchung, and Mokokchung to Amguri were constructed. Later, bridle roads
were constructed to connect Zunheboto with Mokokchung. Only after 1948
Tuensang was connected with Mokokchung. Later Kohima to Samaguting road was
extended upto Dimapur in the west and up to Imphal in the south. During the
Second World War Dimapur-Imphal road was widened and metalled for traffic. It
was only after creation of Nagaland as a state in 1963 that priority was given to the
widening and metalling of the existing and the development of new ones. At present
Dimapur-Kohima-Imphal (National Highway No 39), Kohima-Mokokchung-
Amguri (National Highway No 61), Mokokchung-Tuensang; Mokokchung-
Fig. 2.5

NAGALAND ROAD PATTERN (1991-1992)
Zunheboto, Kohima-Zunheboto, Kohima-Phek, Mon-Sonari, etc are all metalled. Apart from these, there are many other roads connecting every administrative outpost and villages being metalled. The total length of roads in the state is around 8690 Kms. Nagaland State Transport Organization which starts functioning from 1964 are in full operation. Buses ply from Kohima to Dimapur, Kohima to Wokha, Kohima to Zunheboto, Kohima to Phek, Kohima to Kipheri, Mokokchung to Mariani, Mokokchung to Tuensang, Mokokchung to Zunheboto, Mokokchung to Amguri, Tuensang to Kepheri, Mon to Sonari, Dimapur to Guwahati and Jorhat. Bus services are being operated in 102 routes covering even remote villages in the state. The road development in Nagaland cannot be said as uniform due to constrains imposed by topography and rugged terrain. However, development of roads has been going on in a rapid pace despite the inhospitable and rugged topography. Since, the topography of Nagaland is hilly it forbids development of railways. The main line of the North East Frontier Railway from Guwahati to Dibrugarh passes through Nagaland only in a small area having a station at Dimapur. This station caters to the needs and commercial transactions between Nagaland and Manipur and the other parts of the country. Another railway line from Simulguri to Naginimora in Mon district was laid as a branch line of the North Eastern Frontier Railway. This line was initially introduced for carrying the coal of Borjan colliery through Naginimora. It nevertheless is of great service for those in the north western part of the state.
The only aerodrome in Nagaland is located at Dimapur. It was constructed during the Second World War for military use. Only after the statehood of Nagaland it began to be used as a regular airport for flights from Calcutta to Dimapur. Now, it connects flights from Dimapur with Jorhat, Calcutta and Guwahati, etc.

During the time of Indian Independence there were only three post offices in Naga Hills, located at Dimapur, Kohima and Mokokchung, and two extra departmental branch post offices at Wokha and Zunheboto. After the formation of the state of Nagaland, postal facilities were gradually extended to all other administrative headquarters and some villages. In 1970 the Nagaland postal division was created and its headquarter was set up at Kohima. In 1973 Nagaland telephone division was created and now it functions from Dimapur. All the district headquarters are now served by telephone.

2.6 ADMINISTRATIVE DIVISIONS

The contact between the Britishers and Nagas took place when the latter tried to find out a regular communication with Manipur through the Naga inhabited hilly areas. This growing need of communication with Manipur through Naga Hills impelled the British to conduct exploratory expeditions into the hills, during the early part of 19th century. Between 1935 and 1850; the Britishers conducted no less than ten military

---

NAGALAND
ADMINISTRATIVE DIVISIONS (2001)
expeditions. But the desired result was not obtained because of the continuous raids made by the Nagas into the British territory and also upon the exploratory parties. So in 1851 the Britishers realizing that the expeditions to the hills were futile, adopted the policy of non-interference towards the Nagas and followed a Lassez Faire policy towards Naga Hills. However, this policy was a failure because the Nagas still raided the settled area of administration in the plains. In view of all these happenings and pressures, in 1862 the then commissioner of Assam recommended to the Lieutenant Governor to abandon the policy of non-interference and to adopt a practical as well as effective measure to control the Nagas. On the recommendation of the lieutenant governor of Assam, a new district inhabited by the Nagas called Naga hill District was formed in 1866. Samaguting (Now Chumukedima in Dimapur district) was made the Deputy Commissioners headquarters. In 1876 the district headquarters was shifted to Wokha (Lotha area) for administrative convenience. However, after two years the headquarters of the district was transferred to Kohima. It is now the capital of the Nagaland state.

---


Until 1st Dec. 1957 Naga hills district was one of the district of Assam. In 1957, Tuensang area was detached from NEFA by an act called the Naga Hills Tuensang Area Act and formed a new administrative unit known as Naga Hills Tuensang Area (NHTA) under the central government. The governor of Assam acting as an agent of the President of India administered the NHTA, which was divided into three districts: Kohima, Mokokchung and the existing Tuensang. In 1961, NHTA came to be known as Nagaland a de-facto state. On 1st Dec, 1963 it was formally inaugurated as a state under the name Nagaland and became the sixteenth state of Indian union.

Ten years later, in 1973 the districts of Nagaland were re-organized, dividing the district of Kohima into Kohima, Zunheboto and Wokha; and Tuensang into Tuensang and Mon. In the year 1997 the existing Kohima district was divided into Kohima and Dimapur, thus raising the number to eight. Under each district there are subdivisions which are further subdivided into administrative units or circles (Fig 2.6). During 1991-2001 a total of five new circles were created bringing the total number of administrative circles to 93 and twenty eight community development blocks in the state. It is in these levels that the major part of the analytical work of the present study will be done.
2.7 THE WORD ‘NAGA’, COMPOSITION OF NAGA TRIBES AND THEIR SETTLEMENT IN NAGALAND

The study of migration and settlement of the people of a region is necessary in order to understand the historical aspect of the demographic setup in a proper perspective. In fact such a study from geographical point of view becomes more relevant for a state like Nagaland, the homeland of more than a dozen tribes such as Angami, Ao, Chakhesang, Chang, Kheinmungan, Konyak, Lotha, Phom, Rengma, Sangtam, Sema, Tikhir, and Zeliang. These tribal groups are collectively called as “Naga”.

There are a number of versions with respect to the nomenclature ‘Naga’ which is being used as a common term for an indigenous people consisting of nearly 35 tribes at the tri-junction of China, India and Myanmar. Their intriguing history and culture has always baffled the scholars. As to the origin there are, apart from scholars views many legends and mythological stories in prevalence among the different Naga communities. Ptolemy, a Great geographer of the 2nd century, locating what the Hindus spoke of as ‘Nagalog’ or naked people during his visit to western and southern India, writes of Nagas as ‘Nagalog’ which means the realm of the naked.  

Dr. W.C. Smith (1925) mentioned in his book the opinions of different scholars about the origin of the word ‘Naga’. According to the opinion of Peal, writes Dr.


Smith that the true form of the word is not ‘Naga’ but ‘Noga’ from a root Nog Nok, meaning ‘people’. They are so named in the Buranjis or “History of the Kings of Assam” dating from the 13th century; they are still always called Noga by the Assamese and Naga only by the Bengali babus, probably through a popular etymology and confusion with the Naga (snake) worshipers of India. But it is to be feared that the form Naga is “now too firmly established to be set aside, more specially as it has been extended to the land itself fast well as to the people”. “It has been generally believed” writes Dr. Smith to the opinion of Captain. J. Butler, that the term Naga is derived from the Bengali word Nangta, or the Hindustani word Nanga, meaning ‘Naked’, ‘Crude’ and ‘Barbarous’.

Another version, admitting that the origin of the word is unknown, W. Robinson gave his opinion that the word probably came from the Sanskrit word, and that it was applied in derision to the paucity of clothing; he further remarks that “what ever be the origin of the word Naga, it appears that the appellation is entirely unknown to any of the hill tribes themselves. The inhabitants of these hills are divided into numerous communities or races; and they know themselves by the designations of their respective tribes only and not by any name common to all the races”. 79

According to the legends and mythological stories, the Konyaks hold the view that their ancestor came out from stones along with progenitors of other tribal groups.

The Angamis say that they are the descendants of those who emerged from the bowels of the earth in the south of their present habitat.\textsuperscript{80} The Aos also hold the view that they originated at Chungliyimti from a group of stones, which were shaped in the form of the male and female human reproductive organs.\textsuperscript{81} Similarly, Chakesang, Rengma, Sema, Zeliang and Lotha maintain that their ancestors came out of stones in a place known as Khezakenoma. Although, these traditional stories are based on superstition and animistic beliefs, a close study of these views reveals that the Naga tribes are not autochthonous to Nagaland but moved into their present land from outside. Apart from these legends, there are many views expressed by different scholars regarding the origin and migration of the Nagas, who belong to origin of the Indo-Mongoloid Race.\textsuperscript{82}

On the basis of their affinities with the tribes of south-east Asian countries, scholars have conjecture that the Nagas migrated from the east to the present homeland. Originally, the Nagas came from central Asia where they were known as the Non-Chinese Chinang tribes.\textsuperscript{83} From there they first moved towards the north-west border of China, many centuries before the Christian era. Later on, these tribes


\textsuperscript{81} Mills, J.P (1973) "The Ao Nagas" London. PP.1-2.

\textsuperscript{82} Elwin, V (1961) "Nagaland Research Department Advisor's Secretariat" Shillong. P.2

spread over to China, Philippines, Bhutan, Burma and Nagaland. Whatever might have been the route of their migration, and whichever might be there original home, Nagas appear closely akin to the primitive communities of Indo-China, Malaya, Indonesia, Taiwan and the Philippines Island. Dr. Smith enumerates some characteristics of the Nagas which are common with Indonesian and the people of Malaya. The important ones are head-hunting, disposal of dead on raised platform, tattooing by pricking, hilly residence, etc. This goes to prove that one time or the other the Nagas were closely connected with the tribes of south-east Asia, practically with the tribes of Borneo, the Batas of Sumatra, Igorots, Ifugaos and others of Philippines, and some tribes of Formosa. Furthermore, he believes that the Nagas belongs to the same blood found in the people of Burma, Sikkim, Bhutan and other hilly areas of the North-east India. Another hypothesis that the Nagas once upon a time dwelled near the sea or must have come from the sea coast, is also strengthened by their fascination for and use of marine articles such as cowries and couch-shells, which they used as ornaments and decorations. Further, there is a great resemblance between log drum hewn out of huge log and used by the Nagas in olden days and the ones popularly used by the islanders of Indonesia and Philippines. All this supports the view that the Nagas have cultural affinities with

---


the tribes of south-east Asia and the Oceania and they had come from the east some centuries back.

**Migration and Settlement**

The migration of peoples has been an important aspect in history since the inception of human society. There has been migration from one country to another and from one continent to another. This movement has always shaped and reshaped human history. In the European continent, the Germanic and Celtic tribes crossed over to Rome and laid the foundation of early medieval society. India also has its long history of migration of Aryans crossing over from central Asia and settled in India. The Non-Aryans came both before and after the Aryans to the Indian sub-continent. The non-Aryans who were in mainland India before the advent of the Aryans are generally described as Aborigines, but their ancestors too must have migrated to India in different phases. There is evidence to show that some of the tribes of non-Aryans migrated to India much before the arrival of the Aryans. In the context of India, the North-western and North-eastern frontiers have been the main entry points from early times. In the North Eastern frontier; we find that the Boros were one of the first major groups who migrated to the plains of Assam. The other early groups

---

who preceded the Boros are the Khasis. The tribes who came after these early groups and settled in this region were the various tribes of Koch, Hajong, Dalu, Garo, Mikir, Dimasa, Ar leng, Moram, Lalung, Rabha, Mech, Adi, Apatani, Mishing, Nishi, Ahom, Singpho, Kuki, Mizo, Naga, Meitie and so on. The Nagas who settled in the Naga Hills, have various theories of their migration, recorded by different scholars. However the earliest specific reference to the Nagas was by Claudius Ptolemy in 150 AD in his “Geographia”, where he referred to the Naga country as the realm of the naked. On the basis of language, the origin is assigned by Sir G.A. Grierson to that of the Tibeto-Burmans who came with the second wave of migration from North-Western China between the upper waters of the Yangtse-Kinang and Hoang-Ho Rivers. Though no exact period can be determined with precision as to the arrival of the Nagas at their present hilly homeland, record given in Ahom Buranjies has it that Nagas had already settled in the Naga hills when the Ahoms came to Assam in the 13th century.

When there is no written record on anything it becomes difficult to carry on any analytical work about the past. The same is the case for the migration of the Nagas

---

90 Claudius Ptolemy; “Geographia VII” Part II, Original Text in Greek.
to their present territory. However, it can be conjectured from the few records that
the Nagas once settled in the South East Asia. Their ancestors along with other tribal
groups had to shift because of the growing population pressure on the land. The
other factor which added to the migration within Asia was the expansion of the
Chinese Han who pushed southward as population grew in the cradle area in the
valley of the yellow river. They filled up sub-tropical and tropical China and the
pressure of population triggered the momentum which set off great ripples of
migration affecting the whole of Asia. Buchanan a noted scholar remarks, “Over
hundred of years the pre-Chinese peoples of central Asia were displaced into the
uplands areas of Indo-Chinese lands far to the south and their pressure in turn
triggered tribal movement which affected the whole of mainland south-east Asia and
the adjoining island world”. These immigrants’ tribes took different routes: some
took the Himalayan section which extends down through the Patkai, Arakan Yuma,
and Banda Arch towards Sumatra and Java, and some took the pacific section which
extends from Formosa through the Philippines Borneo and on to Japan”. Going by the above one can conclude that the Nagas were among those tribes who
migrated from China through the Patkai section and settled on the way in the Naga


Hills. And on the question of the route of migration that the Nagas took, Mr. Alemchiba, a noted Naga scholar remarks "We can conclude that the original stock starting with the century of dispersion in Sikiang province first moved westerly and upon reaching the headwaters of Irrawady and Chindwin rivers, bifurcated into several directions, ultimately leading to Tibet, to Assam, to the hills ranges between Assam and Burma. That branch which came to the hill range moved further west and entered Naga Hills. Another wave from south-east island taking a north-westerly direction entered Naga Hills using Burma as a corridor". 95 It becomes amply clear that the Nagas came from the Mongolian stock that migrated from China in one wave. It must have continued for some centuries in various groups. Even oral source, folklore and other legendary sources do support in suggesting that the Naga tribes came into the present habitat in different waves.

The first waves of migrants were the Angamis, Semas, Rengmas, Chakhesangs, etc. They entered Nagaland from the south through the mountain fringes near the valley of Manipur. As per the tradition, these tribes moved from the plains of Manipur and reached Mekruma (located in the northern part of Manipur). 96 From Mekruma they advanced further towards the north and reached Khezakenoma (a village in Chakhesang area bordering Manipur). It is from Khezakenoma that the different


The second wave of immigrants was the Aos, Chang, Kheinmungans, Sangtams, Yimchungers, etc. It is believed that they migrated from Thaungdut (near the river Japfu Mountain, whence they spread towards their occupied area. Another Angami group moved a little northward and entered Chakesang area. The Lothas moved northwardly and after halting at some places in between reached Kohima and from Kohima entered the present area from several directions and finally settled in and around Wokha. The Rengmas proceeded northward through Angami area and settled in and around Tseminyu. Another group of Rengmas moved westward and went to the plains towards the Kaliani and Dhansiri rivers in Mikir hills. They are known as the western Rengmas. The Semas took a north-east route and reached Swemi village and settled there for sometime. But as the pressure on them mounted from other tribal groups such as Angamis and Chakhesangs they left swemi village in two groups: one moved straight to the north and entered the present Sema area, and the other group moved west-ward towards Kohima village. But latter turned to the north east and joined the former group. The Chakhesangs spread to the north; north-east and east without moving far from Khezakenoma, and finally occupied the southeastern part of the state bordering Manipur. The Zeliangs believed that their ancestors came from the Japfu Mountain, whence they spread towards their occupied area. Another Angami group moved a little northward and entered Chakesang area. The Lothas moved northwardly and after halting at some places in between reached Kohima and from Kohima entered the present area from several directions and finally settled in and around Wokha. The Rengmas proceeded northward through Angami area and settled in and around Tseminyu. Another group of Rengmas moved westward and went to the plains towards the Kaliani and Dhansiri rivers in Mikir hills. They are known as the western Rengmas. The Semas took a north-east route and reached Swemi village and settled there for sometime. But as the pressure on them mounted from other tribal groups such as Angamis and Chakhesangs they left swemi village in two groups: one moved straight to the north and entered the present Sema area, and the other group moved west-ward towards Kohima village. But latter turned to the north east and joined the former group. The Chakhesangs spread to the north; north-east and east without moving far from Khezakenoma, and finally occupied the southeastern part of the state bordering Manipur. The Zeliangs believed that their ancestors came from the Japfu Mountain, whence they spread towards their occupied area.
Chindwin in Myanmar) through different routes at different times. Though exact route taken by the Aos cannot be ascertained there is evidence to prove that they came through Thangkul area in Manipur and moving towards north, touching the outskirt of the present Chakhesang area and entered Yimchung area; and went northward through Sangtam area and reached Chungliyimti. After staying in Chungliyimti for a considerable period of time they went westward crossing the river Dikhu and founded Soyim village (now known as Ungma village near Mokokchung town). It was from this village they seem to have spread into different directions and occupied the present area. The migration route of the Sangtams and Changs is also traced towards the east along the Tizu River, a tributary of Chindwin River in Myanmar. They moved westward and settled in the central part of the state. The Yimchungers and the Kheinmungans formed another wave of immigrants which entered their present home from Myanmar by taking the route directly westward. The Kongyaks unlike the other tribes entered their present area from the north-east and are occupying the extreme north-east part of Nagaland. There is a legend about the Phom tribe that they at one time stayed together with the Sangtams; but it is more probable that they entered from the east directly into their present habitat and some of them migrated even as far as the Ao area in the west. It is difficult to assert with certainty why the migration pattern of the Nagas was

invariably a movement from one place to another, and what the circumstances were that forced them to migrate from their original homeland. However, certain factors which might have compelled them to wander can be drawn out. The nomadic characteristics present in the tribalistic mental makeup, the adventurous trait of the Nagas who by nature are adventure loving people and their zeal for exploration of more lands might have triggered the movement from one place to another. The politico-social instability between the tribal groups might also have been an important factor which resulted in fighting among the tribal groups and forced the weaker groups to migrate to other places. Thirdly, overpopulation in the existing settlement which put an immense pressure on land might have been another important factor that forced some portion of population to break away. The fourth factor could have been the economic one which urged the people to move in search of better and more fertile lands. The dispersion into different directions after reaching the present land can also be attributed to the above mentioned factors. 

Nagas after reaching Nagaland began to inhabit the land, each carving out its own territory. At the moment, the relative-spatial positions of their territories within the state are as follows: The northernmost part of the state is occupied by the Konyaks and the Phom tribes. In the south of the Konyak territory is the Ao tribe occupying the north-western part of Nagaland. Further south of the Ao territory does the Lotha tribe inhabit the mid-western part of the state. To the south of the Lothas are the Angamis who are in the south-western part of the state. Zeliangs inhabit the south-
western part of the Angami territory and on the east of Zeliangs are the Chakhesangs who occupy the south-eastern part of the state. On the north-west of Angami territory are the western Semas. The Kheinmungan territory occupies the south-eastern part of the state which is bounded in the south by the Chirrs, Tikhirs and Makware. On the west of the Kheinmungan area are the Yimchungers and in the north of Yimchunger territory is the Konyaks territory. The main group of Sema occupies the central part of the state, bounded in the west by Lotha territory, on the North by Aos, on the east by Yimchunger and on the south by Angamis and Chakhesangs.