

CHAPTER 5

ENVIRONMENTAL BASELINE STATUS: SOCIO-CULTURAL & ECONOMICAL ASPECTS

5.1 GENERAL

The 3000 MW Dibang Multipurpose Project is a hydropower-cum-flood moderation scheme located on Dibang river, about 1.5 km upstream of the confluence of Ashu Pani river with Dibang river, in the Lower Dibang Valley District of Arunachal Pradesh. The project has a poor connectivity from the railhead and nearby towns. It is situated about 43 km from Roing, which is at a distance of 110 km from Tinsukia, the nearest railhead. Airport at Mohanbari (Dibrugarh) is further 45 km from Tinsukia.

The scheme envisages the construction of a 288 m high (from deepest foundation level) concrete gravity dam, six 9.0 m dia., 300 m to 600 m long horseshoe-shaped HRT, an underground powerhouse with 12 units of 250 MW each and six 9.0 m dia., 320 m to 470 m long horseshoe shaped TRT. The project would generate 11330 MUs with flood moderation and 12210.12 MUs without flood moderation in 90 per cent dependable year. The project would moderate floods in the downstream areas of the Dibang Dam during the entire monsoon period to the extent of 3000 cumecs.

The proposed project is going to acquire 5827.8 ha of land out of which 5056.50 ha is Community Forest Land or Unclassed State Forest (USF). About 4009 ha of this land will come under submergence.

The impact assessment of socio-cultural and economic structure of people has emerged as a key issue in the Environmental Impact Assessment of developmental projects. Such assessments are conducted to develop the sustainability strategy for the area, where the developmental project would be executed. The present report addresses the socio-economic and cultural issues of the project affected families and families residing in the surrounding areas of Dibang Multipurpose Project. Based on these socio-cultural and economic

aspects, a comprehensive R & R Plan has been prepared to fulfill the aspirations of the local people and affected community.

5.2. ARUNACHAL PRADESH

Arunachal Pradesh covers an area of 83,743 sq. km and lies between latitudes 26⁰28' to 29⁰30' N and longitudes 91⁰30' to 97⁰30' E. Arunachal Pradesh is bordered by Bhutan in the west, Myanmar in the south and southeast, Tibet in the north and the Indian State of Assam in the south. The total population of Arunachal Pradesh is 10,91,117 with a sex ratio of 893 (Census, 2001). Interestingly, the sex ratio of SC population is 724 whereas for ST population, sex ratio is 1003, meaning more female population. The average population density is 13 persons per sq. km. About 64% of the total population of the State belongs to the Scheduled Tribe (ST) with maximum in Kurung Kumey district and minimum in Lohit district. Average literacy in Arunachal Pradesh is 54.74% with maximum in males (64.07%). Administratively, Arunachal Pradesh is divided into 16 districts, namely Tawang, West Kameng, East Kameng, Papum Pare, Lower Subansiri, Upper Subansiri, West Siang, East Siang, Upper Siang, Dibang valley, Lower Dibang Valley, Kurung Kumey, Lohit, Anjaw, Changlang and Tirap. Itanagar is the State capital of Arunachal Pradesh, which is located in Papum Pare district.

Table 5.1: Demographic Profile of Arunachal Pradesh

S. No.	Parameters	Value
1.	Population (2001 Census)	1091117
2	SC population	6188
3	ST population	705158
4	Literate Persons	484785
5	Literacy Rate	54.74%
6	Sex Ratio	893 females to 1000 males
6.1	Sex ratio in SC population	724 females to 1000 males
6.2	Sex ratio in ST population	1003 females in 1000 males

Source: www.censusindia.gov.in/Census_Data_2001

5.3. BRIEF HISTORY OF ARUNACHAL PRADESH

Every tribal group (Adi, Mishmi, Monpa, Nyishi, etc.) in Arunachal Pradesh has its own story about their migration to this land. Well documented history of Arunachal Pradesh is available from the 16th century, when Ahom kings influenced the region, though Arunachal Pradesh never came under the direct rule of the Ahom kings and British. The Ahom kings did not rule over the hills of present day Arunachal Pradesh. However, they made contact with the people of hill area. The Archaeological findings like Parshuram Kund in Lohit district, Bhismanagar and Rukmaninagar in Lower Dibang valley, ruins of Bhalukpong, Ita Fort in Papum Pare are a few evidences of the political and spiritual contacts between Assam and Arunachal Pradesh. In 1826 British took over Assam after the Treaty of Yanlaboo and influenced hilly regions also. Before 1962 Arunachal Pradesh was known as North Eastern Frontier Agency (NEFA), constitutionally a part of Assam. It was administered by Ministry of External Affairs until 1965, subsequently by the Ministry of Home Affairs of Indian Union through Governor of Assam. On 20th January 1972 it was declared as Union Territory and renamed as Arunachal Pradesh. On 20 February 1987, it became the 24th State of the Indian Union. The population of Arunachal Pradesh is of Tibeto – Burmese linguistic origin and is mostly tribal. These tribal groups have distinct cultures and traditions. The major tribes are the Daflas, the Bangnis, the Monpas, the Adis, the Mishmis, the Akas, etc.

5.3.1 Lower Dibang Valley and Dibang Valley Districts

The Dibang Valley is a district of Arunachal Pradesh named after the Dibang River or the Talon as the Idus call it. The river originates in the mountains of China and flows through the length of the valley, named after it. The major population of this district consists of the Idus and the Adis (padams). The district has been divided further into Lower Dibang Valley and Dibang Valley Districts for administrative convenience. The headquarters of the two districts are Roing and Anini respectively.

The Lower Dibang Valley district, with its headquarters at Roing, forms a part of eastern Arunachal Pradesh. The district is bounded on the north by the Dibang Valley district, on the East by the Lohit district and McMahon Line, on the west by the eastern and Upper Siang districts of Arunachal Pradesh and on the south by

the Tinsukia district of Assam. The district rises from the Himalayan foothills to the middle ranges with the highest point of Mayudia at a height of 2655 meters from mean sea level. Snow-capped peaks, turbulent rivers, mystic valleys and abundance of rich flora & fauna are a few attraction of the district. The district is well known for its largest cover of thick green forest with almost 80% of the area being notified as reserved forest, wildlife sanctuaries or unclassified state forests.

The Dibang Valley lies on the boundary of India and China. Dibang Valley District is bounded by East Siang District in the west and the Lower Dibang Valley District in the south. The district headquarters is at Anini

5.3.2 Demographic details of Lower Dibang Valley & Dibang Valley Districts

As per 2001 census, total population of Lower Dibang Valley district is 50,448 out of which 27,156 males and 23,292 females, whereas of Dibang Valley district, the total population is 7272 in which number of males and females are 4286 and 2986 respectively. The sex ratio in Lower Dibang Valley District is 856 females per thousand males and in Dibang Valley District 716 females per thousand males. Sex Ratio of the State is 893 females per thousand males. There seems to be a considerable difference between the literacy rates of both the districts. In case of Lower Dibang Valley District it is about 60.34% which is contributed by 69.21% males and 49.73% females, whereas for Dibang Valley District the Literacy Rate is 42.24% which includes 46.32% males and 36.55% females. The demographic details of Dibang Valley and Lower Dibang Valley District as per 2001 census are as under:

Table 5. 2: Circle wise demographic details of Lower Dibang Valley District

Circle	Male	Female	Total	Main tribes
Roing	18793	15834	34627	Idu-Mishmi and Adi-Padam
Koronu	1,873	1,652	3,525	Idu-Mishmis

Circle	Male	Female	Total	Main tribes
Dambuk	2137	1877	4014	Adi-Padam, Idu-Mishmi
Paglam	3355	3074	6429	Mishing, Adi-Padam, Idu-Mishmi and Galo
Hunli	581	449	1,030	Idu-Mishmis
Desali	416	406	822	Idu-Mishmis
Total	27156	23292	50448	

Table 5.3: Circle wise demographic details of Dibang Valley District

Circle	Male	Female	Total	Main tribes
Anini	2417	1652	4069	Idu-Mishmis
Mipi	157	118	275	Idu-Mishmis
Etalin	1021	554	1575	Idu-Mishmis
Arzoo	406	383	789	Idu-Mishmis
Anelih	285	279	564	Idu-Mishmis
Total	4286	2986	7272	

5.4 FINDINGS OF THE SOCIO-ECONOMIC SURVEY

A Detailed socio-economic survey was undertaken to understand the overall social and economic status of the Project Affected Families (PAFs), their life style and to assess the likely impacts of the proposed project in terms of loss of personal and community property of the PAFs.

The study area for the socio-economic aspects comprises the land getting affected due to the submergence and construction of other project components / working areas. It extended from the river bed level to Full Reservoir Level (FRL) i.e. El 545 m.

The field surveys were conducted the villages falling under the following categories:

- a) Villages/Households that will be submerged fully along with their properties.
- b) Villages/Households which are situated above submergence level but having properties below submergence level.

Further, for collecting required information from primary sources, three schedules have been designed, broadly covering the following components:

- a) Socio-Economic Household Schedule (**Annex – 5.1**).
- b) Infrastructure Schedule (**Annex – 5.2**).
- c) Village Schedule (**Annex – 5.3**).

The survey covered 43 villages comprising 859 PAFs / households. The total population of these households is 1877. Out of 859 PAFs only 115 PAFs / households of 5 villages will be affected due to submergence. Remaining 744 PAFs / households belonging to 39 villages are residing above submergence level but having jhum / agriculture land / properties below submergence level as well as having claims over USF land, which will be diverted for the construction of the project. One village viz., Eprali/Alili has both fully and partially affected PAFs.

5.4.1 Details of Fully Affected Villages

Five villages coming under the submergence area, are fully affected. The total families residing in these villages are 115 having a total population of 328. Details of fully affected families have been given in **Annex 5.4**.

Table 5. 4: Villages likely to be submerged

S. No.	Name of Village	District	Status
1.	Awali (Suklanagar)	Dibang Valley	Fully Affected
2.	Eprali/ Alili	Dibang Valley	Fully Affected
3.	New Anaya	Dibang Valley	Fully Affected
4.	Kano	Dibang Valley	Fully Affected
5.	Pinli/Kebabolin	Lower Dibang Valley	Fully Affected

Following details have been obtained from the socio-economic survey conducted in the above fully affected villages:

Table 5.5: Details of Fully Affected Villages

S. No.	Name of Villages	District	Number of Households	Number of Population
1.	Awali (Suklanagar)	Dibang Valley	26	88
2.	Eprali / Alili	Dibang Valley	15	55
3.	New Anaya	Dibang Valley	53	126

S. No.	Name of Villages	District	Number of Households	Number of Population
4.	Kano	Dibang Valley	6	19
5.	Pinli / Kebabolin	Lower Dibang Valley	15	40
		Total	115	328

5.4.2 Details of Partially Affected Villages

Thirty nine villages located above the submergence level but having jhum / agriculture land / properties below submergence level as well as having claims over USF land, which will be diverted for the construction of the project, will be partially affected. 744 PAFs / households having a total population of 1549 residing in these villages will be affected due to diversion of community land / USF for the construction of the project. Details of partially affected families have been given in **Annex 5.5**.

Summary of partially affected families, which have been obtained from the socio-economic survey conducted in these partially affected villages located above submergence level have been presented below in Table 5.6:

Table 5.6: Details of Partially Affected Villages

S. No.	Name of Villages	District	Number of Households	Number of Population
1.	Akaya	Dibang Valley	7	28
2.	Amili	Dibang Valley	25	63
3.	Amrali	Dibang Valley	9	24
4.	Amuli	Dibang Valley	2	4
5.	Anelih	Dibang Valley	23	26
6.	Angolin	Dibang Valley	11	24
7.	Apako	Dibang Valley	8	23
8.	Aprunli	Dibang Valley	9	24
9.	Arzoo	Dibang Valley	32	120
10.	Atali	Dibang Valley	10	14
11.	Ataya	Dibang Valley	6	13
12.	Eprali/Alili	Dibang Valley	5	22

S. No.	Name of Villages	District	Number of Households	Number of Population
13.	Grinli	Dibang Valley	14	19
14.	Grunli	Dibang Valley	7	17
15.	Kronli	Dibang Valley	91	224
16.	New Endolin	Dibang Valley	37	123
17.	Ranli	Dibang Valley	7	22
18.	Shisho	Dibang Valley	18	32
19.	Wanli	Dibang Valley	18	24
Subtotal (A)			339	846
1.	Alilido	Lower Dibang Valley	15	15
2.	Amali	Lower Dibang Valley	1	4
3.	Apali	Lower Dibang Valley	4	6
4.	Ato	Lower Dibang Valley	1	1
5.	Atoba	Lower Dibang Valley	9	15
6.	Brinli	Lower Dibang Valley	21	64
7.	Cheto	Lower Dibang Valley	22	25
8.	Chidu	Lower Dibang Valley	59	59
9.	Chimri	Lower Dibang Valley	4	4
10.	Ehali	Lower Dibang Valley	2	2
11.	Elopa	Lower Dibang Valley	84	84
12.	Elope	Lower Dibang Valley	22	50
13.	Erondo	Lower Dibang Valley	10	21
14.	Iluli	Lower Dibang Valley	20	42
15.	Ipili	Lower Dibang Valley	3	6
16.	Ithungo	Lower Dibang Valley	23	60
17.	Meyapa	Lower Dibang Valley	2	4
18.	Mrambo	Lower Dibang Valley	73	208
19.	New Chidu	Lower Dibang Valley	25	25
20.	Sindili / Ahokali	Lower Dibang Valley	5	8
Subtotal (B)			405	703
Total			744	1549

The estimation of land details of partially as well as fully affected families is based on field survey only as such there is no land area record available with the PAFs/land management wing of District Authorities.

The details of the families and villages getting affected is also under discussion with the District Level Rehabilitation and Resettlement Committees constituted by the respective Deputy Commissioners of Dibang Valley and Lower Dibang Valley Districts.

5.4.3 Details of Land Requirement

Total land required for various project components of the project viz. dam structure, power house structure, submergence, colony development etc. is 5827.80 ha. It includes Unclassed State Forest (USF) of 5056.50 ha out of which, 4009 ha falls under submergence and 1047.50 ha is required for various project components. Therefore, adequate compensation is required to be provided for the same. Table 5.7 provides details of land requirement for the project and Table 5.8 provides the break-up of land requirement.

Table 5.7: Land requirement for the project

S. No.	Land Classification	Land (ha)
1.	Unclassed State Forest (USF) including river bed and water body	5056.50
2.	Community land without forest cover	701.30
3.	Land under Wet Rice Cultivation	70.00
	Total	5827.8

Table 5.8: Break-up of land requirement

S. No.	Name of Project Component	Area (ha)
A.	Submergence area	4009
B.	Project area	250
C.	Project Components & Construction Facilities	
(i)	Area for Dam, DT, HRT, Pressure Shaft, Power House, TRT, cable crane on right bank & left bank	100.06

S. No.	Name of Project Component	Area (ha)
(ii)	Area for muck disposal, batch plant, switch yard & aggregate processing plant	20
(iii)	Area for NHPC, contractor camp & office	79.25
(iv)	Area for permanent Magazine opposite to Pathar Camp on left bank	2.5
(v)	Rest area for project	165.92
D.	Epali clay quarry	4.52
E.	Colony area	100
F.	Land for Rehabilitation purposes	137.02
G.	Road land -New Road & Widening of existing road	177
H.	Area for Towers for 66 KV Line from Chimari to Project site and substation at Chimari	0.2275
I.	Area for Right of Way for 66 KV Line from Chimari to project site area	81
J.	Project Components & Construction Facilities	
(i)	Area for DT outlet & TRT outlet are on right bank	13.3
(ii)	Area for muck disposal, fabrication yard & aggregate processing plant	40
K.	Eme river/Diri river deposit (As per Construction Survey Material Report)	167
L.	Nizamghat- Sirki (As per Construction Survey Material Report)	108
M.	Aya river/ Aka river fan Deposit	373
	Total	5827.8

5.5 ETHNOGRAPHIC DETAILS

The ethnographic details of the people living in the project area have been collected through a systematic anthropological approach. The approach involved in depth interviews with the people (mainly elders), group discussions and participant observation (which includes observing the way they live, eat, cook etc.). As tribal groups mainly inhabit the proposed area of the project, it is essential to understand the way of their life and their values and philosophy of life to ensure that the impact of the project do not result in a 'cultural shock' for them.

Almost all of the population directly going to be affected by the project is of Idu Mishimi Tribes. The traditions and cultures of this tribe are discussed in the following paragraphs:

The **IDU-MISHMI** is a major sub-tribe of Mishmi group. Their brethren tribes are namely the DIGARU-MISHMI (TARAONS) and the MIJU-MISHMI (KAMANS). They inhabit the Lohit district, Dibang Valley district and Lower Dibang Valley district. They are of mongoloid stock and speak the Tibeto-Burman language.

The Idu Mishmi is one of the two major tribes of the district. The Idu Mishmis can be distinctively identified among other tribal groups of Arunachal Pradesh by their typical hairstyle, distinctive costumes and artistic patterns embedded on their clothes.

People of sober nature, they still maintain deep-rooted aesthetic values in their day-to-day life with great pride and honour. All pervading goddess Nani-Intaya is the sole creator of the universe for the Idus. The Idus have their distinct dialect, which falls under the Tibeto-Burman group of languages. Traditionally, Idus believe in animism. They worship several benevolent and malevolent spirits. Nani-Intaya and Masello Zino are worshipped as creators of mankind and universe as a whole.

Mythological characters like SINE-RU a first IGU (Idu Priest) still holds high place and reverence in the minds of the people. The prints of his palm on the huge rocks at Athu Popu near Keyala Pass in Dibang Valley district on China border, is supreme and holy shrine.

The major festivals of the Idus are 'Reh' and 'Ke-meh-ha'. Reh festival is held during the month of February. It is an occasion for people to relax, enjoy, dance, eat and drink. The Idus are expert craftsman. The Idu women, in particular, are very good weavers. Their great aesthetic sense is well reflected in the exquisite designs created on the clothes produced on handlooms. The Idu men are well apt in making beautiful basketry items of bamboo and cane.

Well-developed civilization dated back in the pages of history can be found in the region. Remnants of 10th Century AD found at Bhismanagar, Chidu & Chimari villages in the lower belt of the district prove that the Idus coexisted with great harmony with the people of plains and adjoining states.

Migration: Apparently the Idu-Mishmis migrated towards the south to present habitat from Tibet through Dibang and Lohit Valleys. Some of the prominent migration points from the Tibet indicated by the ancestors are – (i) ANDIKU - the direction towards North-Pole Star, (ii) ASE-ALE - the course of Lohit river and, (iii) INNI LON PON - the region where the first rays of the sun falls. There are about seventy-six clans. Some clan counts their genealogy up-to about twenty-eight generations

Birth Ceremony: Idus believe that to have pregnancy is a great blessing of the Divine mother “INNI MASELO ZINU AYA” or Sun Goddess. After pregnancy is noticed, two cocks are tamed as sacrificial bird to offer their blood to beneficent and maleficent spirits at the time of birth ceremony for the welfare of newborn. During pregnancy the couple follow some taboos. They should not utter any abnormal outcries of birds and animals or imitate the activities of handicap persons, or kill snakes, or offer any kind of articles for burial in the grave, since the exercise of above activities is supposed to lead to deformation of the child at the time of delivery. Food and rice beer is stocked before three to two months ahead for consumption during taboo days. On delivery of the child, the father puts a bunch of shrubs at the entrance gate of the house and goes to jungle to collect the elephant grass EPONTON and RONTHEPA, a creeper of thorn species. He places them over the entrance of the room for protection of evil spirit and for welfare of the child. A well versed in hymn and experienced priest is invited to perform A-TA-YE- a ritual ceremony. He propitiates the INNI MASELO and other beneficent and maleficent spirits of parent and grant-father and mother of the child and appeases them with the blood of sacred cock and water adulterated with rice beer. The members present on the occasion are entertained with food and drink and they abstain from doing hard work for one night. The name of child is decided within five days. Main taboo remains for six to nine days. The parent including members of the house should not do any hard work like cutting with axe, digging of earth, killing of wild animals, touching of poison or irritating objects. Purification of taboo called ANGI ATHON NU is held again one day within the period in between six to nine days with the help of priest. Ritual ceremony is performed as that of A-TA-YE. On this day food and drink are prepared on large scale for entertaining the invitees.

Marriage Ceremony: The Idu-Mishmi society is patriarchal and patrilineal. The property is inherited by the son from the father. The Idu-Mishmis used to practice polygamy, but incestuous marriage is prohibited. Marriage is done through most preferably by negotiation or arranged marriage locally called “Ahelaa”.

Construction of House: An Idu-Mishmi house is a long one like a bus, rectangular size raised above two feet from the ground and supported on wooden posts usually accommodates a joint family. Bamboo, cane, wood and leaves of toku and straws are used for construction.

The front is an extension of roof with ground floor to keep the domesticated animal and next to it is a small veranda/corridor made of bamboo or plank for stepping up from the ladder to enter into house. A house may have a number of rooms with partitioned as per strength of the family members. There is a straight corridor/passage. Each room has a hearth and is used for both cooking and sleeping. The serial allocation of room consists of male room, which is called AGRAH. There may be passages in between two rooms for latrine and husking of paddy. Each room has one window towards the poultry yard and pigsty under the house.

Cultivation and Food Habits: The Idu-Mishmi practice both terrace and wet rice cultivation. Rice, Maize and Millet are the staple food of the Idu–Mishmis. Sweet potato and different kinds of Arum and vegetable are the usual crops. Their main meal is taken twice a day. They are fond of fish and meat. They preserve food by smoking and drying over the fireplace. The home brewed rice beer (YU) is quite popular.

Education: Modern education had a late start among the Idu Mishmis as they didn't have early contact with the British colonizers. But educational institutions and literacy have multiplied rapidly since independence.

Economy: Idus are expert in handicraft and weaving. The man makes basketry items out of cane, bamboo for household. The women weave cloth with different design on both ETOWE (coat) & THUWE (shirt). Many Idus purchase tractors

and other machinery equipments for cultivation of cash crops like ginger, mustard seed and other cultivation of fruits (orange, pineapple, pears etc.), tea, paddy etc.

Many literate men and women have joined government jobs, while others also undertake contract/supply works in various departments for earning their livelihood.

Death Ceremony: To die at the old age is treated as normal death but if it is accidental or premature, past acts of the deceased are supposed to have indirect effect. When a person is dead the entire village undergoes taboo for five days for male and four days for female. During period of taboo, one does not undertake any new construction work, agricultural activities.