

CONTENTS

SERIAL NO.	CONTENTS	PAGE NO.
CHAPTER 1 INTRODUCTION		
1.1	Water Resource Projects	01-1
1.1.1	Understanding the Environmental Clearance Process	01-3
1.2	Need for the Project	01-4
1.3	Dibang Multipurpose Project: Historical Milieu	01-4
1.4	Environmental Management	01-9
1.5	Preferential Aspects of The Proposed Site	01-10
1.6	Environmental Impact Assessment	01-11
1.7	Environmental Appraisal Procedure	01-11
1.8	Monitoring	01-12
1.9	Need for the EIA Study	01-12
1.9.1	Objectives of the Study	01-13
1.9.2	Details of Work Plan under each Environmental Component	01-14
1.9.2.1	Water Environment	01-14
1.9.2.2	Land Environment	01-14
1.9.2.3	Biological Environment	01-15
1.9.2.4	Socio-Economic, Health and Cultural Environment	01-15
1.9.3	Additional Studies	01-16
1.10	Outline of The Report	01-17
CHAPTER 2 METHODOLOGY		
2.1	Study Area	02-1
2.2	Environmental Baseline Study	02-1
2.2.1	Physical Resources Aspects	02-1
2.2.2	Ecological Aspects	02-6
2.2.3	Human Resources and Quality of Life Values	02-7
2.3	Assessment of Impacts	02-9
2.3.1	Scoping Matrix	02-9
CHAPTER 3 ENVIRONMENTAL BASELINE STATUS: PHYSICAL ASPECTS		
3.1	General	03-1
3.2	Dibang Catchment	03-1
3.2.1	Landuse/Land Cover Details	03-2
3.2.2	Slope	03-4
3.2.3	Soils	03-4
3.2.3	Capability Classification	03-5
3.2.4	Physiographical, Topographical and Relief Features of The Catchment	03-5
3.2.5	Dibang Catchment Drainage System and Drainage Pattern	03-7



EIA Report of Dibang Multipurpose Project

3.3	Meteorology	03-9
3.3.1	Precipitation Characteristics	03-9
3.3.2	Precipitation Data Network	03-9
3.3.3	Temperature	03-11
3.3.4	Humidity	03-13
3.3.5	Cloud Cover	03-13
3.3.6	Wind	03-13
3.3.7	Special Weather Phenomena	03-14
3.4	Geology of The Reservoir Area	03-14
3.4.1	Bed Rock Geology	03-14
3.4.1.1	Precambrian Meta-Sedimentaries	03-14
3.4.1.2	Ithun Formation	03-15
3.4.1.3	Hunli Formation	03-15
3.4.1.4	Ultramafics	03-16
3.4.1.5	Igneous Complex	03-16
3.4.2	Structure and Tectonics	03-16
3.4.2.1	Structures	03-20
3.5	Landslides	03-21
3.6	Seismology	03-30
3.6.1	Tectono-Stratigraphic Set Up	03-30
3.6.2	Tectonic Setting	03-32
3.6.3	Seismicity of The Region	03-33
3.6.4	Stress Distribution / Fault Plane Solution	03-35
3.6.5	Seismic Risk	03-38
3.6.6	Reservoir Induced Seismicity	03-40
3.7	Water Quality	03-42
3.8	Soil Characteristics	03-46
3.8.1	Soil Quality	03-47
3.8.2	Inference	03-51
3.9	Ambient Air & Noise Quality	03-52
3.9.1	Ambient Air Quality	03-52
3.9.2	Noise Quality	03-52
CHAPTER 4 ENVIRONMENTAL BASELINE STATUS: ECOLOGICAL ASPECTS		
4.1	Terrestrial Ecology	04-1
4.1.1	Forest Types	04-1
4.1.1.1	Assam Valley & Eastern Sub-Montane Semi-Evergreen Forests (2b/C1a And 2b/C1b)	04-1
4.1.1.2	Subtropical Moist Deciduous Forests	04-2
4.1.1.3	East Himalayan Subtropical Wet Temperate Forests (8b/C1)	04-2
4.1.1.4	Subalpine or Temperate Montane Forests	04-3
4.1.2	Major Floral Species Found in Submergence Area	04-3
4.1.3	Major Floral Species Found in 10 Km Radius of Reservoir	04-15
4.1.4	Gymnosperms	04-35



EIA Report of Dibang Multipurpose Project

4.1.5	Pteridophytes	04-35
4.1.6	Bryophytes	04-36
4.1.7	Algae	04-37
4.1.8	Fungi	04-37
4.1.9	Economic Plants	04-38
4.1.9.1	Medicinal Plants	04-38
4.1.9.2	Ornamental Plants	04-39
4.1.9.3	Edible Plants	04-39
4.1.9.4	Timber Yielding Plants	04-40
4.1.10	Endangered Species of Flora	04-41
4.1.11	Phyto-sociological Studies	04-44
4.2	Fauna	04-74
4.2.1	Mammals	04-74
4.2.2	Avi-Fauna	04-76
4.2.3	Snakes and other Reptiles	04-80
4.2.4	Amphibians	04-82
4.2.5	Fishes	04-83
4.2.5.1	Migratory Fish Species	04-86
4.2.6	Butterflies	04-87
4.3	Phytoplanktons, Zooplanktons and Benthos	04-88
CHAPTER 5 ENVIRONMENTAL BASELINE STATUS: SOCIOCULTURAL & ECONOMICAL ASPECTS		
5.1	General	05-1
5.2	Arunachal Pradesh	05-2
5.3	Brief History of Arunachal Pradesh	05-3
5.3.1	Lower Dibang Valley and Dibang Valley Districts	05-3
5.3.2	Demographic details of Lower Dibang Valley and Dibang Valley Districts	05-4
5.4	Findings of the Socio-economic Survey	05-5
5.4.1	Details of Fully Affected Villages	05-6
5.4.2	Details of Partially Affected Villages	05-7
5.4.3	Details of Land Requirement	05-9
5.5	Ethnographic Details	05-10
CHAPTER 6 ASSESSMENT OF IMPACTS		
6.1	General	06-1
6.2	Impacts on Land Environment	06-1
6.3	Impacts on Water Resources	06-6
6.4	Impacts on Water Quality	06-6
6.5	Impacts on Terrestrial Flora	06-9
6.6	Impacts on Terrestrial Fauna	06-10
6.7	Impacts on Avi-Fauna	06-11
6.8	Impacts on Aquatic Ecology	06-12
6.9	Impacts on Noise Environment	06-16



EIA Report of Dibang Multipurpose Project

6.10	Air Pollution	06-17
6.10.1	Pollution due to Fuel Combustion in various Equipments	06-18
6.10.2	Emissions from various Crushers	06-18
6.10.3	Fugitive Emissions from various Sources	06-18
6.11	Impacts on Socio-Economic Environment	06-19
6.12	Increased Incidence of Water-Related Diseases	06-20
ANNEXES		
1.1	Project Layout Plan	
4.1	Details of Phyto-sociology	
5.1	Proforma for Household Level Schedule Social Survey for Project Affected Persons (PAPs) getting affected due to the proposed project	
5.2	Proforma for Infrastructure	
5.3	Proforma for Social Survey Village Level Schedule	
5.4	Details of Fully Affected Families	
5.5	Details of Partially Affected Families	

