

# **Enhancing Landscape and Ecosystem Management Project (P179935)**

**DRAFT Environmental and Social Management Framework  
(ESMF)**

**NAGALAND**

**May 2025**

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## Executive Summary

The ELEMENT Project aims to improve landscape management to enhance ecosystem services and economic benefits for the forest-dependent tribal communities in Nagaland. The program will invest in strengthening the capacities of the tribal communities and institutions to make scientific and informed decisions in sustainable land and ecosystem management. The state's forest cover has been reported as rapidly degrading, largely due to factors such as *jhum* farming, increasing population, and development activities. To address this, the project will focus on restoration of forest landscapes by introducing a landscape approach and utilizing technological solutions through community-led integrated forest landscape and natural resource management plans in selected areas in the state.

Nagaland benefits from Article 371A of the Indian Constitution, which grants special provisions for the Naga people regarding their social and religious practices, customary laws and procedures, administration of civil and criminal justice, and ownership and transfer of land with its resources. Land ownership is primarily communal, clan and family-based, or individual with only 11.70% owned by the Government, including protected forests areas. In addition, the Nagaland Village and Tribal Councils Act 1978, through the Nagaland Village Councils (Fourth Amendment) Act 2009, recognizes the establishment of traditional governing institutions -Village Councils-- in Nagaland. These councils are responsible for local governance, resource management, development planning, and maintaining law and order.

The Environmental and Social Management Framework (ESMF) is prepared in accordance with national legislation and the World Bank's Environment and Social Standards (ESSs) to ensure positive environmental and social impacts from the intervention. The project includes improved landscape, forest and natural resource management, enhanced value chains, access to markets for forest products, and strengthened capacities of local institutions and communities that will provide better opportunities for community participation and social inclusion. A Stakeholders Engagement Plan (SEP) has been developed to ensure community participation in the planning, decision-making, and project implementation. SEP outlines the community engagement and participatory approach of the project, including the involvement of diverse groups, cohorts, women, youth, and the ethnic groups under the category of '*backward tribes*'. In addition, a Grievance Redress Mechanism (GRM) will be established to handle complaints effectively.

The overall Environmental and Social Risks assessed are substantial, primarily due to the sensitive geographical setting of the project and the limited mitigation capacities of local agencies. However, given the scale and community-based nature of the project activities, the potential risks and impacts are expected to be localised, reversible and can be readily mitigated through proper planning, coordination, and established measures. The project will also exclude any high-risk activity that may result in significant impacts on natural and critical habitats. The Social Risk is assessed as 'substantial' including potential risks such as low institutional capacities for managing participatory processes, inadvertent exclusion of vulnerable groups, temporary restrictions, or limitations in accessing forest resources, impacts on customary traditional practices, management of community workers, complexities of land ownership, forest governance and rights over forest products, and geographical location of some project sites near international borders. The risk of Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) is assessed as 'moderate' with proposed mitigation measures including awareness and sensitization, mapping of GBV service providers, creating a safe space facility, establishing codes of conduct and behavioural standards, and incorporating special provisions within the projects' GRM to handle SEA/SH related grievances while ensuring complainant anonymity. However, the WB SEA/SH risk assessment tools and rating will be revisited during the project intervention as more information becomes available.

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## ABBREVIATIONS

|                   |   |
|-------------------|---|
| APC               | Agriculture Production Commissioner                               |
| CCA               | Community Conservation Areas                                      |
| CMP               | Community Management Plans  |
| CLMPs             | Community Landscapes Management Plans                             |
| CN                | Central Nurseries   |
| CSA               | Climate Smart Agriculture   |
| DDMA              | District Disaster Management Authority                            |
| DPN               | Decentralized People's Nurseries                                  |
| DPR               | Detailed Project Report   |
| ELEMENT           | Enhancing Landscape and Ecosystem Management                      |
| ESHS              | Environmental, Social, Health and Safety                          |
| ESF               | Environment and Social Framework                                  |
| FDA               | Forest Development Agency   |
| FFMC              | Forest Fire Management Committee                                  |
| FFPM              | Forest Fire Protection Plan                                       |
| FSI               | Forest Survey of India  |
| GoI               | Government of India   |
| GDP               | Gross Domestic Product  |
| GEDS              | Green Enterprise Development Scheme                               |
| GIS               | Geographic Information System                                     |
| GtCO <sub>2</sub> | One gigaton (billion tons) of carbon dioxide                      |
| HVFP              | High Value Forest Products  |
| IA                | Implementing Agency   |
| ICT               | Information and Communications Technology                         |
| ILM               | Integrated Landscape Management                                   |
| IPPF              | Indigenous People's Planning Framework                            |
| JFMC              | Joint Forest Management Committees                                |
| LMP               | Landscape Management Committees                                   |
| LRI               | Land Resource Inventory   |
| LT-LEDS           | Long-term Low-Carbon Development Strategy (LT-LEDS)               |
| LULUCF            | Land Use, Land Use Changes, and Forestry                          |
| M&E               | Monitoring and Evaluation   |
| MT                | Million Tonnes  |
| NBHM              | Nagaland Beekeeping & Honey Mission                               |
| NBRM              | Nagaland BioResource Mission                                      |
| NGIS&RSC          | Nagaland Geographic Information Systems and Remote Sensing Centre |
| NBT               | Nature-Based Tourism  |
| NE                | North-East  |
| NER               | Northeastern Region   |
| NFMP              | Nagaland Forest Management Project                                |
| NGO               | Non-Government Organization                                       |
| NTFP              | Non-Timber Forest Products  |
| PAD               | Project Appraisal Document  |
| PD                | Project Director  |

|        |   |
|--------|---|
| PDO    | Project Development Objective                         |
| PMU    | Project Management Unit                               |
| PSC    | Project Steering Committee                            |
| R&D    | Research and Development                              |
| SFDA   | State Forest Development Agency                       |
| SFIMS  | Sustainable Forest Management Information System      |
| SHG    | Self Help Groups                                      |
| SLNA   | State Level Nodal Agency                              |
| SoCRAN | Society for Climate Resilient Agriculture in Nagaland |
| TOF    | Trees outside forest                                  |
| UNFCC  | United Nations Framework Convention on Climate Change |
| VC     | Village Council                                       |
| VCDIC  | Value Chain Development and Incubation Cell           |
| VMC    | Village Management Committee                          |

## 1. INTRODUCTION

### 1.1. Purpose and Scope of ESMF

The proposed financing mechanism of the World Bank for the ELEMENT project requires the application of World Bank's Environmental and Social Framework (ESF) as it is an Investment Project Financing. The purpose of this ESMF is to draw up a mechanism for integrating environmental and social concerns into the implementation of the project. It not only defines the process for planning and implementing the environmental and social measures within subprojects and also guide subprojects to avoid or minimize adverse environmental and social impacts and also enhance the positive impacts, while supporting the strengthening of forest landscapes through development of the strong and inclusive community institutions, creation of competitive and sustainable value chains through strengthening of eco-system services and producer-owned institutions, while focusing on increased resilience of forest dependent communities.

The ESF defines ESMF as "the instrument that examines the risks and impacts of project interventions when the risks and impacts cannot be determined until the project and/ or sub-project details have been identified." Depending on the nature and location of the proposed subprojects, the project initiatives are likely to contribute to environmental and social risks and impacts within the proposed project area and its inhabiting communities during the project cycle. These impacts can potentially get exacerbated when the subproject locations are in proximity to sensitive areas and among vulnerable communities. Hence, there is a need for systematic Environmental and social management with a pre-defined framework for risk identification and mitigation. As the specific subproject locations and activities for ELEMENT are yet to be finalized, it is important to prepare an ESMF to identify and manage associated risks and impacts. Thus, the purpose of this ESMF is to describe a framework process for the management of the environmental and social issues for the subprojects, including (i) procedures for screening the environmental and social aspects related to the project, (ii) identification and analysis of the risks and impacts, regulatory mechanisms, and management/mitigation measures, (iii) details of the institutional roles and responsibilities for environmental and social management (including contract provisions and budget), (iii) plan for capacity building of key stakeholders on key E&S issues and measures, (iv) plan for monitoring and reporting on the implementation of environmental and social measures, and (v) ensuring a strategy for public disclosure and periodic consultations related to the project interventions.

The scope of the ESMF is to guide the implementation agency(ies), relevant line departments, support agencies and other key community-level stakeholders during the identification, selection, preparation, implementation, and operation of the overall Project to avoid or minimize environmental and social (E&S) risks and negative impacts and enhance opportunities to strengthen environmental and social performance and help achieve the project's intended development outcomes. This will be achieved by:

Conducting a comprehensive Environment and Social Screening of project activities to determine key risks, potential impacts/issues.

- Prepare a guidance framework by analyzing the baseline of the project area; identifying and assessing potential environmental and social impacts and risks; analysing key national and state legal requirements relevant to project; preparing a scheme cycle for E&S management and



propose effective arrangements for implementing agencies to develop their capacities to ensure E&S due diligence.

- Prepare Stakeholder Engagement Plan (SEP) for the overall project in accordance with the Bank's ESF as instruments for risk management and facilitate disclosure of relevant instruments before appraisal.
- Develop the environmental and social monitoring indicators and systems for monitoring and reporting on the ESMF performance of the project.
- Propose thematic studies and additional assessments, if any, which may be required to further inform the project in light of the ESF.
- Develop a Capacity Building Plan for the project covering the implementing agencies and other relevant stakeholder to bridge specific capacity gaps on various E&S issues that may be pertinent during project planning and implementation.

### **1.2. Project Beneficiaries**

The ELEMENT project aims to benefit forest-dependent tribal communities from vulnerable and disadvantaged rural households, farmers, villages and village communities and resource user groups interested in adopting landscape restoration practices. These communities will benefit from technical and financial support to implement technologies and approaches that improve their livelihoods and increase their resilience, while also contributing to the restoration of ecosystems and their functions. Local communities and Joint Forest Management Committees/Eco-Development Committees/Village Councils/ Bio-diversity Management Committees within the targeted landscapes will benefit from activities defined in the integrated community landscape management plans. Local collectives, like Women's SHGs and Producers Organisations that will be involved in the development of agro-forestry based value chains will also benefit from the project. The forest dependent communities within the project intervention areas will also indirectly benefit from improved landscapes and enhanced ecosystem services. The village communities will benefit from improved availability of water, higher agricultural output from soil-water conservation measures, and improved livelihoods through eco-tourism opportunities. In addition, restoration of land and enhancement in tree cover would provide fertile grounds for biodiversity conservation and development of repository of traditional knowledge. Other beneficiaries include farmers, NTFP collectors and traders, local governance institutions, women self-help-groups (WSHGs), among others

### **1.3. Methodology for Development of ESMF**

The ESMF has been prepared based on environmental and social assessments which involved gathering of data from both primary and secondary sources and included the following steps:

- Review of the Project details and meeting/discussions with various stakeholders, including the implementing agencies and other support organisations and departments;
- Sample field visits to determine the nature of environmental and social risks that could be posed by the project interventions and the nature of landscape and communities that are likely to be impacted;
- Using secondary research, literature review and secondary data sources and stakeholder consultations to establish the social and environmental baseline for the project (describing the relevant physical, biological, socio-economic conditions and human development

attainments). This included desk research of similar bank operations to understand probable social and environmental impacts;

- Defining the legal/ regulatory framework that will influence the implementation of the proposed project/sub-projects ,the inapplicability to the proposed project, extent to which they fulfil the requirements of World Bank's ESF and identifying the policy and practice related gaps that need to be bridged through additional measures;
- Carrying out stakeholder consultations with those people and institutions that have been identified through stakeholder and institutional analysis: assessing their engagement needs and identifying the optimal strategies which could be deployed to mitigate E&S risks that could be managed through closer, continuous and meaningful dialogue with them through the project life-cycle and improve the E&S performance of the project;
- Identifying the interim E&S risks and impacts and developing the risk screening criteria to be used by the project during subproject preparation and selection of activities;
- Defining the framework to be used for management and mitigation of impacts and enhance project environmental and social benefits;
- Outlining the procedures to be followed to comply with ESF requirements and country systems through preparation of various environmental and social instruments based on the nature and scale of risks.
- Proposing the disclosure methods and requirements, including need for an effective grievance redress mechanism for access by project stakeholders;
- Proposing the institutional arrangement to oversee the implementation of E&S measures proposed and periodically report on them;
- Identifying the institutional and individual level E&S capacity building and training requirements for implementing the recommended mitigation measures,
- Preparing an estimated budget to operationalise the recommended framework provisioned by the ESMP.

## 2. PROJECT DESCRIPTION

### 2.1 Rationale, Scope and Strategy

Nagaland is landlocked with rugged hilly terrain, high forest coverage and significant forest-dependent tribal population. Forests in the state range from tropical evergreen, semi-evergreen, moist deciduous, sub-tropical pine, temperate and alpine forests with extremely rich biodiversity. Tribal populations are inextricably linked to the forest ecosystem for agriculture, housing, and an array of marketable minor forest products, Bamboo brakes, medicinal plants, and other herbs and shrubs. Nagaland forests constitute about 74% of total geographical area, of which 97% is owned by the communities/ clans/individuals. About 70% of population relies on natural resources (agriculture and forests) for their living. Several High-Value Forest Products (HVFP) in Nagaland are promising inputs that could be employed for attracting private sector investments and providing community income.

Nagaland experienced a drastic drop of 23.3% in forest cover from 2017 to 2021. According to the India State of Forest Report of 2021 Nagaland posted forest cover losses of 235 sq.km and may be attributed to shifting/ jhumcultivation, felling of trees, natural calamities, anthropogenic and development pressures. With increasing population pressure, Jhum cycle has reduced from 10-15 years to 2-3 years. Excessive agricultural activity with shorter cycles has decreased the forested area and converted primary forests into secondary woodland of shrubs. Over 62% of the total land in Nagaland is now degraded. Land use changes and extreme weather events have accelerated the soil and gully erosion, leading to depletion of soil moisture and fertility, more frequent weather hazards and pressures on agricultural productivity, disproportionately affecting forest-dependent communities. It has also recorded one of the highest rates of deforestation from incidence of forest fires in the country.

State has high potential and ambitions to increase forest carbon sequestration. Nagaland has the potential to sequester between 26.5 to 27.3 million tons (MT) carbon through improvements of tree cover. Forest landscape's degradation is however a key challenge for low carbon growth. State Action Plan from 2012<sup>1</sup> singles out four challenges to sustainability (i) forest degradation due to logging, clearance of vegetation for agriculture land, establishment of new human habitations, mining, etc., exacerbated by heavy rainfalls and hilly terrain; (ii) forest fires in dry climatic conditions; (iii) development pressure, increasing urbanization impacting vegetation cover and biodiversity, and (iv) limited capacity of state forest department and other agencies to interact productively with communities and transfer knowledge on scientific management practices to communities. Nonetheless, without tackling poorly organized supply chains, lack of market linkages, shortages of skilled labor and processing technology this development potential cannot be realized.

ELEMENT aims to improve landscape management to enhance ecosystem services and economic benefits for forest-dependent communities. It will strengthen the capacities of state government and local actors to restore forest landscapes by introducing a landscape approach and helping utilize technological solutions. Through the proposed project, the degraded forest landscapes will be restored by implementing community-led integrated forest landscape and natural resource

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<sup>1</sup> Government of Nagaland, State Action Plan on Climate Change. Achieving Low Carbon Growth Trajectory. 2012

management plans in selected areas in support of improved ecosystem services, such as water availability, soil conservation, and wildlife habitat protection. Improved landscape ecosystem will contribute to: (a) enhanced carbon sequestration; (b) increased climate resilience and adaptive capacities of communities; (c) unlock economic transformation potential of forests and paving income/job opportunities for local communities. Finally, the project will strengthen the functional and technical capacities of state institutions for improved landscape governance and disaster risk prevention by introducing new technology on forest monitoring and value chain management, landscape management with active engagement of community and private sector.

## **2.2 Project Development Objective(s)**

The PDO of the project is to improve landscape management and increase benefits for targeted forest dependent communities in Tripura and Nagaland'. This will be realised through the achievement of the following **PDO level indicators**:

- I. Land area under sustainable landscape management practices (ha)
- II. People with increased benefits from landscape-based value chains (Disaggregated by sex and disadvantaged groups) (numbers)
- III. Share of target beneficiaries with rating 'Satisfactory' or above on satisfaction with project interventions (Disaggregated by sex and disadvantaged groups) (percentage)

## **2.3 Project Components and Activities**

This Project has the following components:

- I. Strengthening Capacities for Integrated Landscape Management. This component will finance consulting services, goods, small works adopting climate responsive design and materials, and equipment, training to support the participating states' institutional capacity, Information and Communications Technology (ICT) systems in support of decision making, and infrastructure to enable government partners to operate effectively.
- II. Restoring Landscapes for Improved Ecosystem Services. The objective is to restore and maintain the ecological functions and productivity of the targeted landscapes. Component 2 activities involve preparation and implementation of community-led climate-resilient landscape management plans.
- III. Enhancing Landscape-based Value Chains for Economic Transformation. This component will provide support for creating income and entrepreneurship opportunities by promoting processing units, market, and forward linkages along value chains of high value forest products, bio-resources, agriculture, and allied activities, and by promoting nature-based tourism.
- IV. Project Management, Monitoring and Evaluation. Funding will be provided for Project management, PMUs' staff and operational costs to deliver on the project development objectives.
- V. Contingent Emergency Response Component (optional) - Reallocation of credit proceeds from other components to provide immediate recovery and reconstruction support following an eligible crisis or emergency, as needed.

## **2.4 Targeted Geography**

ELEMENT will be implemented in 15 out of the 16 districts of Nagaland (excluding Dimapur) in identified geographies and watersheds based on the extent of degradation, their potential to increase carbon sequestration, the potential of the area with respect to value-chain development

and the willingness of the local communities to participate in the operation. The hydrological catchment areas of 1000 to 2000 hectare (ha) will be considered as unit of landscape and delineated as project's catchment. Investment interventions in clusters of such unit landscapes will be based on community-drawn natural resource management plans for improvement in ecosystem services, such as water availability, soil conservation, carbon sequestration and wildlife habitat protection, among others. The specific sites of project interventions will be identified at a later stage.

## 2. POLICY, LEGAL AND REGULATORY FRAMEWORK

### 2.1. Applicable Policy, Rules and Regulations

India has the longest constitution in the world with 448 articles which are further divided into twenty-two parts and twelve schedules. Out of the 448 articles, the Government of India through ARTICLE 371 of the Indian Constitution grants special status to some of the States and Union Territories of India. **ARTICLE 371A** is the special provision under the Indian Constitution for the State of Nagaland. This Article safeguards the religious or social practices of the *Nagas*, customary laws and procedures, administration of civil and criminal justice as per Naga customary laws, the ownership and transfer of the land and all its resources. No Act of the Parliament in respect to the mentioned practices shall apply to the State of Nagaland unless the Legislative Assembly of Nagaland decides to do so. Enhancing Landscape and Ecosystem Management Project (ELEMENT) is to be implemented in the State of Nagaland. As such, all the proposed components/activities of the ELEMENT will be regulated, governed, and will abide to the provisions of Article 371A.

India has a number of environmental and social regulatory frameworks and policies. These regulatory interventions are intended at protection and conservation of the environment and its resources, prevention and control of actions that may have an adverse effect on the environment, upliftment of social standards, protection of weaker sections of the society, provision of equal opportunities etc. Note worthily, due to the provisions of the Article 371A, the indigenous inhabitants of Nagaland enjoy full rights over the land and its resource and is only governed by informal customary laws which differ from tribe to tribe, village to village. As such, the prevailing customary rules, laws and regulations administered by the Village Councils (traditional authority) supersede the regulatory framework of the Government. Although India has an exhaustive list of policies and regulatory framework, in the case of Nagaland, most of the National and State laws are applicable only to areas that are owned by the State government.

## 2.2. Applicable National and State Regulations

Other key policies, legal and regulatory frameworks that are applicable are as under:

| S.No     |  | Key Features  | Reason for Applicability   | Regulatory Clearances Required & Authority                            | Relevant ESS of WB   |
|----------|--|---|--|---|----------------------|
| <b>I</b> | <b><u>Environment Regulation</u></b>   |   |  |   |                      |
| 1        | Nagaland Forest Act 1968   | The Act provides for constitution of reserve forests, village forests and its protection, regulation of forest products   | The project aims to create market linkages and improving the value chain of NTFPs  | No<br>DoEF&CC   | ESS 1 ESS 6          |
| 2        | The Wildlife Protection Act, 1972  | The Act provides for the protection of all wildlife and matters connected to wildlife and their habitats.   | The project development activities other than wildlife protection activities will not be implemented at locations which comes within the notified areas of National Park, Wildlife Sanctuary, wildlife corridors, etc. | No<br>NBWL, MOEF&CC,<br>Supreme Court of India                        | ESS 1 ESS 6          |
| 3        | Water Prevention and Control of Pollution) Act, 1974                                     | To control water pollution by controlling discharge of liquid pollutants as per prescribed standards.   | This act is applicable as minor construction works have been identified for economic transformation of the project areas.  | No<br>Nagaland Pollution Control Board (NPCB)                         | ESS 1 ESS 3<br>ESS 4 |
| 4        | Forest Conservation Act, 1980, revised guidelines of 2004, 2014, 2017 and amendment 2023 | To check deforestation by restricting conversion of forest areas into non- forested areas   | The forested areas will not be subjected to any activity of the ELEMENT project. (Applicable only to forests owned by the State Government)  | No<br>MOEF&CC/ DoEFCC   | ESS 1 ESS 6          |
| 5        | The Nagaland Livestock and Poultry Contagious Disease Act, 1980                          | The act is for prevention and spread of contagious disease of livestock   | This act is applicable as livestock and animal husbandry is a major activity under the project   | Compliance to the Act<br><br>Dept. of Veterinary and Animal Husbandry | ESS 1 ESS3           |
| 6        | Air (Prevention and Control of Pollution) Act, 1981                                      | This Act is for prevention of air pollution & control of air pollutant emissions as per the prescribed standards. The NAAQ standards (CPCB) for Ambient Air Quality have been promulgated by the MoEF&CC. | This act is applicable as minor construction works pertaining to water, animal husbandry, agriculture and allied activities are to be undertaken in the project.   | Compliance to the Act<br><br>NPCB                                     | ESS 1 ESS 3<br>ESS 4 |
| 7        | The Nagaland Agricultural Produce Marketing  | This Act regulates the marketing, establishment, and administration of markets for agricultural produce in Nagaland   | Economic transformation through this project requires marketing of agricultural produces.  | Compliance to the Act   | ESS 1                |

|    |  |  |  |                                 |                         |
|----|--|--|--|---------------------------------|-------------------------|
|    | (Regulation) Act 1985  |  |  |                                 |                         |
| 8  | Environment (Protection) Act 1986  | It is an umbrella regulation. Various, notifications, rules and schedules are promulgated under this Act.<br>It has to protect and improve the environmental quality and preventing controlling and abating environmental pollution.   | All activities under ELEMENT must be managed appropriately ensuring environment friendly developmental activities.   | No<br>MoEF&CC ,DoeF&CC and NPCB | ESS 1<br>ESS 3<br>ESS 6 |
| 9  | Noise Pollution (Regulation and Control) Rule 2000   | Ambient air quality standard has been categories and set by the MoEF&CC  | This act is applicable. All construction activities shall maintain the ambient noise level standards as per the Noise Pollution Rule of 2000   | Compliance to the Act<br>NPCB   | ESS 1 ESS 3<br>ESS 4    |
| 10 | Biological Diversity Act 2002  | The Act to provide for conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto.                         | Applicable for conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto. | No<br>DoEF&CC                   | ESS 1 ESS 6             |
| 11 | Nagaland Tree Felling Regulation Rules 2002  | It regulates the registration of tree plantation and the felling of trees.   | Some of the identified activities will be governed by this Rule.   | Yes<br>DoEF&CC                  | ESS 6                   |
| 12 | Forest Right Act - 2006, The Scheduled Tribe and Other Traditional Forest Dwellers (Recognition of Forest Right) Act, 2006 | This act recognizes the rights of Scheduled Tribes and other traditional forest dwellers to carry out certain activities such as the collection of minor forest produce/NTFP, access to grazing grounds and water bodies, traditional areas of use by nomadic or pastoral communities etc. | A majority of the population in Nagaland are Scheduled Tribes. The rights of the Naga to land and resources is also identified under Article 371a  | Yes<br>DoEF&CC                  | ESS 1, ESS 5, ESS 6     |
| 13 | Environmental Impact Assessment Notification, 2006 & subsequent amendments   | Under this notification, it is mandatory for certain building and construction projects area to obtain environmental clearance from the concerned government authority before the execution of the work.   | Agriculture value chains and rural livelihoods activities does not come under the purview of this notification. Small scale construction activities do not require EIA clearance   | No<br>MOEF&CC                   | ESS 1                   |
| 14 | Nagaland Biodiversity Rules 2012   | The Rules for conservation of biological diversity, equitable sharing of the benefits arising out of the use of biological resources and its sustainable use.  | Improvement of the ecosystem services and its value chain must ensure that it upholds the guidelines of the Nagaland Biodiversity rules  | No<br>DoEF&CC                   | ESS 6                   |



|    |   |  |  |  |             |
|----|---|--|--|--|-------------|
| 15 | State Policy of Environment and Forest 2015                         | This is the State specific interpretation of the National forest policy which provides for preservation of forest and its resources  | This policy is relevant during the implementation of the project activities  | No<br>DoEF&CC  | ESS 1 ESS 6 |
| 16 | Eco Sensitive Zone Notifications                                    | The notification regulates certain activities around National Parks and Wildlife Sanctuaries in order to negate adverse impacts on the ecosystem of such activities of the protected areas. Eco Sensitive Zones have been notified for each National Park and Wildlife Sanctuary.                            | The ELEMENT project will not be carried out in such areas that are regulated under this notification without ESA and ESMP having been prepared and approved. | No<br>NBWL, MOEF&CC                                    | ESS 1 ESS 6 |
| II | <b>Social Regulations</b>   |  |  |  |             |
| 1  | Minimum Wages Act 1948 along with Central Rules 1950                | This act ensures that the workman gets the minimum wages as fixed and notified by the Government.  | The project requires the employment of the communities/ individuals.   | Compliance of regulations, Deptt of Labour, GoN        | ESS 1 ESS 2 |
| 2  | Employees State Insurance Act 1948 along with Rules and Regulations | The Act protects the interest of workers in contingencies such as sickness, maternity, temporary or permanent physical disablement death due to employment injury resulting in loss of wages or earning capacity. It also guarantees reasonably good medical care to workers and their immediate dependents. | This act is applicable as the project will employ personnel wherever required  | Insurance<br>Department of Labour, GoN                 | ESS 1 ESS 2 |
| 3  | Nagaland <i>Jhum</i> land Act 1970                                  | The Act regulates and safeguards the customary rights to <i>Jhum</i> land in Nagaland. The Act also empowers the Government, on payment of compensation, to acquire and declare Jhumlands as protected forests for preservation of water supply and prevention of erosion.                                   | The project is aimed at restoration of landscape under <i>Jhum</i> agriculture.  | No<br>DoeF&CC  | ESS 5 ESS7  |
| 4  | Bonded Labour System (Abolition) Act, 1976 along with Rules, 1976   | The Act and rules enforce the abolition of bonded labour system. This act is implemented with an aim to prevent economic and physical exploitation of the weaker sections of the society.  | All activities shall ensure that there is no bonded labour involved during the course of the project.  | Compliance of regulations<br>Department of Labour, GoN | ESS 1 ESS 2 |
| 5  | Equal Remuneration Act, 1976 along with allied Rules                | This Act provides for the payment of equal remuneration to men and women workers. Also the prevention of discrimination, on the ground of sex, against women in the matter of employment and for matters, connected  | The project will, in all applicable case will ensure equal remuneration for both men and women engaged under ELEMENT   | Compliance of regulations<br>Department of Labour, GoN | ESS 1 ESS 2 |

|     |   |   |   |  |             |
|-----|---|---|---|--|-------------|
|     |   | therewith or incidental thereto.  |   |  |             |
| 6   | Nagaland Village and Area Councils Act 1978, renamed Nagaland Village & Tribal Councils Act, 1978 through Nagaland Village Councils (4 <sup>th</sup> Amendment) Act, 2009 | The Act recognizes the constitution of a traditional governing institution (Village Council) in Nagaland. The institution is responsible for local governance and is vested the power and duties to assist in village development and enforce customary laws, rules and regulations according to their respective customs and traditions. | The identified project areas fall under the jurisdiction of the Village Councils.   | Permission may be sought from respective Village Councils for implementation of the project.<br><br>Village Councils | ESS 7       |
| 7   | The Child Labour (Prohibition and Regulation) Act, 1986   | The Act prohibits employment of children (those who have not completed their fourteenth year) in certain occupations and processes (part II, Section 3).  | The project aims at ethical employment of the local communities for carrying out various tasks under the project          | Compliance to the Act<br><br>Department of Labour, GoN   | ESS 1 ESS 2 |
| 8   | The Nagaland (ownership & Transfer of Land and its Resources) Act 1993  | The act is a guideline to the ownership and transfer of land and its resources. It also provides guideline for regulation, restriction and imposition of tax on minerals  | This act may be applicable in part for the activities identified under the project  | No   | ESS 5       |
| 9   | Persons with Disabilities (Equal Opportunities, Protection of Rights & Full Participations) Act, 1995 & National Trust for Welfare of Persons with Disabilities Act, 1999 | It gives effect to the proclamation on the full participation and equality of the Persons with Disabilities in the Asian & Pacific Region and provides for their education, employment, creation of barrier free environment, social security, etc.   | Equal opportunities to be provided when the local communities are engaged in the implementation of the project            | Compliance of regulations<br><br>Office of the Disability Commissioner   | ESS 1 ESS 2 |
| 10  | The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013  | This Act is applicable for acquisition of land for public purposes.   | In line with the Act, Community or privately owned lands may be acquired for construction or achieving project activities | No<br>State Government   | ESS 5       |
| 11. | Sexual Harassment of  | Relevant to the Project to ensure safety and  | An Act to provide protection against  | GoN  | ESS1,       |

|     |  |  |   |     |                     |
|-----|--|--|---|-----|---------------------|
|     | Women at Workplace Prevention, Prohibition, and Redressal Act 2013 | security of women at the workplace.  | sexual harassment of women at workplace and for the prevention and redressal of complaints of sexual harassment and for matters connected therewith or incidental thereto.  |     | ESS2,ESS4 and ESS10 |
| 12. | The Right to Information Act, 2005                                 | Relevant for citizens who may need to get information under the project or about the project | The Act provides for setting out the practical regime of right to information for citizens to secure access to information under the control of public authorities, to promote transparency and accountability in the working of every public authority | GoN | ESS10               |

For use of drones: Government of India Drone rules, 2021 (amendment in 2023) will be followed, the anticipated risks are lack of maintenance/servicing of drone, unsuitable take off/landing area, lack of competence of drone operator, operation of drone in poor weather conditions, collision with external obstacles (e.g. birds, trees, spectators/community members etc.) and operation of drone without proper licensing / permits. The risks can be reduced by proper maintenance as per supplier guidance, use of drone as per manufacture guidelines, take-off and landing areas is to be agreed with the community, Barriers/ signage will be provided. Operator must be fully conversant with and trained on the use of the drone, should poses the authorized license for operation. Drone must not be flown any higher than 400 ft above the earth's surface. (<https://www.civilaviation.gov.in/index.php/ministry-documents/rules/drone-amendment-rules-2023>)

### 2.3. Applicability of EHS Guidelines of the World Bank

#### General Environment, Health and Safety Guidelines

1. General EHS guidelines provide guidance on general approach to management of EHS issues at the facility or project levels.
2. It provides specific guidance on environmental, occupational health and safety, community health and safety and construction and decommissioning related EHS aspects.
3. The guidance would be applicable and relevant for office work, field work in agriculture fields, forests as well as NTFP enterprises covered under the project at facilities.

Following sector specific guidelines are relevant for the ELEMENT project activities

- Annual crop production: The EHS Guidelines for Annual Crop Production includes information relevant to large-scale production, harvesting, post harvesting processing and storage of major annual crops, including cereals, pulses, roots and tubers, oil-bearing crops, fiber crops, vegetables, and fodder crops, located in both temperate and tropical regions. The Annexure A covers general description of the industry and Annexure B covers water management aspects. The document covers EHS guidance for the following environmental aspects that are relevant for the project: Soil Conservation and Management, Nutrient Management, Crop Residue and Solid Waste Management, Water Management, Pest Management, Use and Management of Pesticides, Fertilizers, Biodiversity and Ecosystems, Genetically Modified Crops (GM Crops), Energy Use, Air Quality, Greenhouse Gas (GHG) Emissions
- Forest Harvesting Operations: EHS Guidelines for Forest Harvesting Operations includes information relevant to Natural forest management and Non-Timber Forest Products ( NTFPs), relevant for the project. It covers EHS guidance for the following environmental aspects that are relevant for the project: Habitat alteration and loss of biodiversity, Water quality, Soil productivity, Hazardous materials management, Visual impact, Occupational health and safety hazards in forestry projects like Physical hazards, Noise and vibrations, Fire, Chemical hazards.
- Tourism and hospitality Development: The EHS Guidelines for Tourism and Hospitality Development contain information relevant to tourism and hospitality facilities, including business and city hotels, resorts, eco-lodges, and other accommodation and catering facilities. The Annex A of the document contains a full description of industry activities for this sector.
- Eco-lodges: The concept of Eco-lodges as described appears relevant for exploration in the project under Nature Based Tourism component. The term “eco-lodge” is a tourism industry label used to identify a nature-dependent tourist facility that meets the principles of ecotourism. An eco-lodge is recognized by distinct design features that are intended primarily to blend in with the natural environment. Sustainable site design requires holistic, ecologically based strategies to create projects that do not alter the site’s natural systems (e.g. ecosystems, soils, and hydrology) but instead restore these systems, if required. Aesthetically, ecolodges are typically integrated with the natural surroundings and incorporate cultural characteristics.

### 2.4. Comparison Of National Legislation and World Bank’s ESF

| World Bank’s ESS  | Related National/ State Policies   | Applicability, Gaps and Measures   |
|---|--|--|
| ESS1: Assessment and Management of Environmental and Social Risks and Impacts | <ul style="list-style-type: none"> <li>• Environment (Protection) Act -1986</li> <li>• Wild Life (Protection) Act 1972</li> <li>• Forest (Conservation) Act 1980</li> <li>• Eco Sensitive Zone (ESZs) Notifications by MOEF&amp;CC</li> <li>• Environmental Impact Assessment</li> </ul> | <p>ESS1 is applicable. Gaps related to systematically assessing, evaluating, and managing environment and social risks and impacts.</p> <p>The following measures are required:</p> <p>Prepare an ESMF for identification of E&amp;S risks</p> |

| World Bank's ESS                    | Related National/ State Policies   | Applicability, Gaps and Measures  |
|-------------------------------------|--|---|
|                                     | <p>Notification-2006 &amp; subsequent amendments</p> <ul style="list-style-type: none"> <li>• Water (Prevention and Control of Pollution) Act, 1974, 1988</li> <li>• Air (Prevention and Control of Pollution) Act, 1981, 1987</li> <li>• All applicable national and state labour laws</li> <li>• Noise Pollution (Regulation and Control Act) 2000</li> <li>• Solid Waste Management Rules, 2016</li> <li>• Hazardous &amp; Other Waste (Management and Trans-boundary Movement) Rules, 2016</li> <li>• Construction &amp; Demolition, Waste Management Rules, 2016</li> <li>• Motor Vehicles (Amendment) Act 2019</li> <li>• Guidelines to Regulate and Control Ground Water Extraction in India, 2019</li> <li>• National Building Code 2016</li> <li>• E-waste management rules, 2016</li> <li>• Energy Conservation Building Code, 2017</li> <li>• Nagaland Communitisation of Public Institutions and Service Act, 2002.</li> </ul> | <p>and mitigation measures based on the risk mitigation hierarchy</p> <p>Conduct an E&amp;S screening of subprojects, provide an exclusion list and prepare sub-project specific ESMPs where necessary;</p> <p>Develop an ESCP, and implement all material measures and actions set out in the ESCP; and</p> <p>Monitor and report on the E&amp;S performance of the project.</p>   |
| ESS2: Labour and Working Conditions | <ul style="list-style-type: none"> <li>• Building and Other Construction Workers (Regulation of Employment &amp; Conditions of Service) Act 1996, Building &amp; Other Construction Workers Welfare Cess Act, 1996</li> <li>• Contract Labour (Regulation &amp; Abolition) Act 1970,</li> <li>• Minimum Wages Act 1948, Payment of Wages Act 1936, Equal Remuneration Act 1976, Payment of Bonus Act 1965, Employees Compensation Act 1923, Employees P.F. &amp; Misc. Provision Act 1952, Maternity Benefit Act 1961</li> <li>• Child Labour (Prohibition &amp; Regulation) Act 1986, Bonded Labour System (Abolition) Act, 1976, Inter-State Migrant workmen's (Regulation of Employment &amp; Conditions of Service) Act 1979</li> <li>• Sexual Harassment of Women at</li> </ul>   | <p>ESS2 is relevant. Gaps relate to hiring and working conditions of Community Workers, creation of Workers Grievance Redressal Mechanism (GRM).</p> <p>Labour Management Procedures (LMP) to be prepared to cover the above requirements, as well as identification of potential risks and hazards, measures required to ensure worker safety, reporting of accidents and incidents, prevention of child labor, forced labor and discrimination and mechanisms to prevent GBV, SEA/SH related incidents.</p> |

| World Bank's ESS   | Related National/ State Policies  | Applicability, Gaps and Measures   |
|--|---|--|
|  | <p>Workplace (Prevention, Prohibition &amp; Redressal) Act, 2013</p> <ul style="list-style-type: none"> <li>• Inter-State Migrant workmen's (Regulation of Employment &amp; Conditions of Service) Act 1979</li> <li>• Employer's Liability Act, 1938, Employees State Insurance Act 1948, Personal Injuries (Compensation Insurance) Act, 1963</li> </ul>  |  |
| ESS3: Resource Efficiency, Pollution Prevention and Management | <ul style="list-style-type: none"> <li>• Water (Prevention and Control of Pollution) Act, 1974, 1988</li> <li>• Environmental (Protection) Act, 1986</li> <li>• Air (Prevention and Control of Pollution) Act, 1981, 1987</li> <li>• Noise Pollution (Regulation and Control Act) 2000</li> <li>• Solid Waste Management Rules, 2016</li> <li>• Hazardous &amp; Other Waste (Management and Trans-boundary Movement) Rules, 2016</li> <li>• Construction &amp; Demolition, Waste Management Rules, 2016</li> <li>• Motor Vehicles (Amendment) Act 2019</li> <li>• Guidelines to Regulate and Control Ground Water Extraction in India 2019</li> <li>• National Building Code 2016 and relevant standards of Bureau of Indian Standards (BIS),</li> </ul>                    | <p>ESS3 is relevant. The majority of ESS3 requirements are addressed by the existing regulations and indirectly for resource efficiency, pollution prevention and management aspects.</p> <p>Further, provisions need to be made to commensurate mitigation measures as: To assess the resource requirement and implement technically and financially feasible measures for improving efficient consumption of energy, water and raw materials, as well as other resources.</p> <p>Resource efficiency and pollution prevention to be assessed and minimize/control the release of pollutants to air, water and soil due to routine and non-routine circumstances, and with the potential for local impacts.</p> |
| ESS 4: Community Health and Safety                             | <ul style="list-style-type: none"> <li>• Air (Prevention and Control of Pollution) Act, 1981;</li> <li>• Water (Prevention and Control of Pollution) Act, 1974, for Pollution-Prevention-and-Management;</li> <li>• The Noise Pollution (Regulation and Control) Rules, 2000</li> <li>• Solid Waste Management Rules 2016</li> <li>• Hazardous &amp; Other Waste (Management and Trans-boundary Movement) Rules, 2016</li> <li>• Construction &amp; Demolition, Waste Management Rules, 2016</li> <li>• Harmonized Guidelines and Space Standards for Barrier Free Built Environment for Persons with Disability and Elderly Persons 2016,</li> <li>• Occupational Safety, Health and Working Conditions Code 2019</li> <li>• The Nagaland Livestock and Poultry</li> </ul> | <p>ESS4 is relevant. While acts and rules cover for all of ESS 2 and ESS 4 requirements, gaps exist for community exposure to health and safety issues.</p> <p>The gaps need to be addressed through suitable provisions in ESMPs. Also, contractor obligation as part of ESMP for Community health and safety to include need for labour influx management, air and noise pollution control, proper disposal of wastes, sewage and water, mitigation of potential SEA/SH risk etc.</p>  |

| World Bank's ESS   | Related National/ State Policies   | Applicability, Gaps and Measures  |
|--|--|---|
|  | Contagious Disease Act, 1980   |   |
| ESS 5: Land Acquisition, Restrictions on Land use and Involuntary Resettlement                     | <ul style="list-style-type: none"> <li>The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013</li> </ul>   | <p>ESS5 is relevant. Gaps relate to ensuring the voluntary nature of land donation and mitigating impacts of restrictions on land use and access to resources therein.</p> <p>Additional measures ensure consistency of customary land donation procedures with ESS5 requirements and mitigating livelihoods impacts of restricted land use have been provided in the ESMF.</p>   |
| ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources            | <ul style="list-style-type: none"> <li>Biological Diversity Act, 2002,</li> <li>Wildlife Protection Act 1972 (WLPA),</li> <li>The Forest (Conservation) Act, 1980 and amendments and The Forest (conservation) Rules 1981</li> <li>Eco Sensitive Zone (ESZs) Notifications by MOEF&amp;CC</li> <li>Wetland (Conservation and Management) Rules 2017</li> </ul> | <p>ESS6 is relevant. The National and state legal provisions almost cover all requirements in ESS6.</p> <p>The Project will adopt a negative list excluding Natural/critical habitats, eco-sensitive zones, Ramsar sites etc. areas right at the screening stage and any sub-project falling under these habitats will be excluded.</p> <p>Some subprojects are likely to be located in forest areas (un-notified / unprotected) within existing ROW. Hence, an overall project level biodiversity management measures will be planned and implemented through E&amp;S screening and ESMPs where necessary to cover ESS 6 requirements.</p> |
| ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Tradition Local Communities | <ul style="list-style-type: none"> <li>Article 371A of the Constitution of India</li> </ul>  | <p>ESS7 is relevant. Gaps relate to ensuring culturally appropriate consultations and stakeholder engagement processes.</p> <p>The Project ESMF and SEP provide measures to ensure culturally appropriate and inclusive engagement and awareness generation strategies.</p>   |
| ESS 8: Cultural Heritage   | Ancient Monuments and Archaeological Sites and Remains Act, 1958   | <p>ESS 8 is relevant. No gaps assessed.</p> <p>All major documented culturally significant heritage sites are not within the projects zone of impact.</p> <p>Chance finds procedures for physical cultural resources to be operative if they are unearthed during construction</p>  |
| ESS 9: Financial Intermediaries  |  | ESS9 is not relevant  |
| ESS10: Stakeholder Engagement and Information Disclosure   | <ul style="list-style-type: none"> <li>Environmental Impact Assessment Notification-2006 and subsequent amendments</li> <li>RTI Act 2005</li> <li>Right to information Act 2005</li> </ul>   | <p>ESS10 is relevant. Gaps related to consistent engagement with affected persons and other interested parties throughout project cycle, including the disadvantaged and vulnerable and mechanism to redress project specific grievances.</p> <p>Measures to address the gap include preparation of a SEP detailing the engagement strategies and process for setting up a project specific GRM.</p>  |

### 3. ENVIRONMENTAL AND SOCIAL BASELINE CONDITIONS

It is important to understand the current environmental and social conditions of the project area. The collection and collation of baseline data will assist the project to identify the impacts and risks associated with the project area. These baselines will assist in determining the required adaptation and mitigation measures and the appropriate approaches that may be adopted during the course of the project.

#### 3.1. Nagaland State Profile

Nagaland, located in the north east of India, covers a total geographical area of 16,579 sq. km. Geographically, the state largely has vast undulating terrain and hilly landscape and some low-lying areas giving rise to a very conducive climate with presence of perennial water and moisture that contributes to the rich flora and fauna found in the State.

The State is predominantly inhabited by multi-ethnic groups cumulatively known as the Nagas. Officially, 16 tribes are recognised by the government of Nagaland, which provides the state with its distinct social characters: cultures, traditions and dialects. As per the Census of 2011, the total population of Nagaland is 19.78 Lakhs with a sex ratio of 931. The State's population density is 119 per sqkm which is much lower than the average population density of India (382). It also records a high literacy rate of 79.55% with the male literacy rate (82.72%) being higher than its counterpart.

#### 3.2. Administrative Set-up

The administrative system in Nagaland is principally like the rest of the country. With the recent recognition of Noklak, Tseminyu, Chumukedima, Niuland and Shamator as districts, the State now has 16 Administrative Districts. As per Census 2011, there are 133 Circles Addl. Deputy Commissioner (ADC), Sub-Divisional Officer (SDO), Extra Asst. Commissioner (EAC), 19 Statuary towns and 7 census towns. The State's Rural Development department has further classified the geographical area into 74 Rural Development blocks (RD blocks).

Due to the distinct provisions of the Article 371a of the Indian Constitution, the Nagas have full rights over the land and its resources and are governed by the traditional Naga customary laws and procedures. As such, the State grants autonomy to its communities by way of constituting the Village Council which are granted the functions of local governance at the village level. The village council may consist of the village chiefs/GaonBura (or Anghs in some case) and Dobashi to deal with social, environment, administration and economic aspects in a village. They also serve as customary courts to address disputes, breaches of customary laws and usages.

#### 3.3. Environmental Baseline Conditions

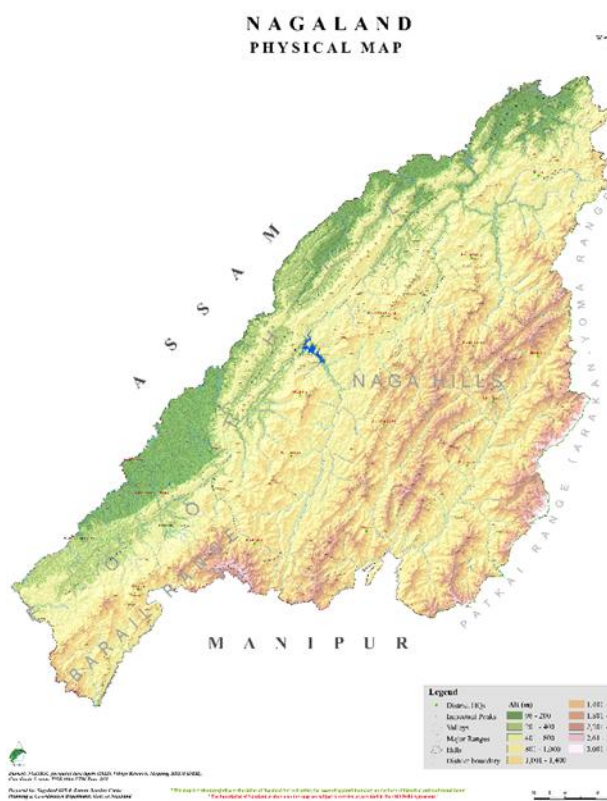
##### 3.3.1. Location and Geography

Nagaland is one of the north eastern states of India located between 25°6' N to 27°4' N and 93°20'E to 95°15'E and shares an international border on the East with Myanmar. It is a mountainous state predominantly consisting of undulating hilly terrain and a smaller plain area accounting for 8.48% of the total geographical area.



### 3.3.2. Topography and physiography

The topography of Nagaland is mountainous and much dissected, full of hill ranges, which break into a wide chaos of spurs and ridges with north-south aligned ranges defined by narrow and parallel valleys. In the north, the Naga Hills rise abruptly from the Brahmaputra valley to about 610 metres and then increase in elevation toward the southeast to more than 1,830 metres. The mountains merge with the Patkai Range, part of Arakan system, along the Myanmar border, reaching a maximum height of 3,840 metres at Mount Saramati. Nagaland comes under the Indo-Burma (Myanmar) Biodiversity hot-spot of the world.



Doyang and Dikhu in the north, the Barak in the southwest, the tributaries of Brahmaputra River Zungki and Tizu comprise the tributaries of the Chindwin River in the southeast constitutes the main sources of water in the State.

### 3.3.3. Soil

The soils of Nagaland are acidic, rich in organic carbon content (as high as 2.943%) but poor in phosphate and potash contents. The pH value of the soil ranges from 4.80 to 6.80. These soils are derived from tertiary rocks belonging to Barail and Disang series.

Owing to the large variation in topography and climate, the following types of soils occur in the state:

- i) **Alluvial soils:** Recent alluvium which is also known as *Entisol* occurs mostly in the western and South-western part of the state whereas old alluvium is chiefly found in the north-western areas of Nagaland bordering Sibsagar District of Assam. Mountain valley soil (*Entisol*) with a pH of 4.4 - 4.6 occurs mostly in the valleys of the central and eastern parts of the State covering about 224.8 kms<sup>2</sup>.
- ii) **Residual soils:** Residual soils which are generally porous and have a light texture, dominates a majority of the landscape of Nagaland. Laterite soil (*Oxizol*) with a pH of 4.2 -4.5 is the most widespread and occurs mostly in the mid-southern and the eastern parts of the state covering a total area of 4,495.8 kms<sup>2</sup>. Brown forest soil (*Mollisol*), with a pH content of 5.3-5.8 is found mainly in the intermediate high hill ranges and covers a total area of 4,952.7 km<sup>2</sup>. Podzolic soil (Spodosol) with pH of 5.4 -6.0 covers an area of about 4,835.0 sq.kms and occurs at high altitude with humid and temperate climate covering the central, southern and eastern part of the state. A Major part of the Tuensang District falls under this soil type.

### 3.3.4. Climate

Nagaland has a sub-tropical humid climate. The varying climate of the State is due to the varying topographical and physiological features. The hill sections have sub-tropical climate whereas the plain areas of the State have a warm and subtropical climate. The regions are also characterised by

warm summers and cold winters accompanied by dry spells usually beginning from November till April. The State experiences high levels of Humidity throughout. The average temperatures decrease with increase in elevation and as such, during winter, frost is common at high elevations. The analysis of past temperature records shows a steady increase in the minimum and maximum temperatures of the State. The summer temperatures vary according to the physiography and ranges mostly between 21-23°C to as high as 38 to 40°C. Analysis carried out by Indian Institute of Science, Bangalore, Nagaland shows a steady warming trend in both the minimum and maximum temperatures over the past 100 years.<sup>2</sup> It is also projected to witness an increase between 1.6°C- 1.8°C in the annual mean temperature of the State.

Being an extension of the Indian Himalayan Region, Nagaland is vulnerable to climate change. According to the “Climate Vulnerability Assessment for the Indian Himalayan Region using a common framework” research publication, the major drivers of climate change vulnerability in Nagaland were the increasing loss of forest cover, high yield variability in food grains, and the steepness of slope.

Climate change is a growing challenge and the Nation has recognised the importance of addressing its issues. Nagaland framed the first version of the State Action Plan on Climate Change in 2012 by the National Action Plan on Climate Change. Furthermore, The State Forest & Environment Policy 2015 also takes this into account and declares “The state would therefore adopt a climate friendly, equity based and sustainable development path taking into account our common but differentiated responsibilities and respective capabilities, and our regional priorities, objectives and circumstances”.

### **3.3.5. Rainfall**

Nagaland enjoys south-east monsoon with an annual average rainfall ranging for 1500mm- 2500mm. The heavy monsoon rain normally occurs from May to August with occasional dry spells during September to October.<sup>3</sup> A positive anomaly of more than 100mm was observed over parts of Nagaland in 2022. As per Indian Meteorological Department, there were three occurrences of extreme weather events (flood and rain) in 2022. Analysis of historical meteorological data by IMD shows significant decreasing trends in monsoon rainfall especially in the months of August and September.

As per the observations from 17 meteorological stations of the Soil and Water Conservation Department, Government of Nagaland, the annual average rainfall in Nagaland 2022 was 1567mm with Wokha receiving the highest rainfall of 2339mm whereas Longleng recorded the lowest with 1006mm. The total average number of precipitation days was 139 whereas the average number of rainy days was 104. Dimapur recorded the lowest number (52) of rainy days in the State.

### **3.3.6. Groundwater**

As per the estimation of ground water resource in Nagaland by the Central Ground Water Board, NER (2021), the total annual groundwater recharge in the State is 216653.51 Ham. The Net groundwater availability is estimated that the net groundwater availability is 192805.8 Ham.

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<sup>2</sup> Nagaland State Action Plan on Climate Change Ver.2012.2

<sup>3</sup> Jamir, M & Khan, T (2019). Climate Change Scenario and Its Impact on Jhum Paddy in Mokokchung District. International Journal of Research and Review .E-ISSN: 2349-9788; P-ISSN: 2454-2237  
Retrieved from [https://www.ijrrjournal.com/IJRR\\_Vol.6\\_Issue.2\\_Feb2019/IJRR0030.pdf](https://www.ijrrjournal.com/IJRR_Vol.6_Issue.2_Feb2019/IJRR0030.pdf)

The groundwater in the state is found to be generally good and safe to be used for drinking, irrigation and other purposes. However, it was found that the iron content in some areas in the valley regions of the state needs treatment before use as they exceeded the permissible limit of iron content for drinking water quality. The over-all stage of ground water development of the state is 1.04%. All the districts fall under the safe category. No poor groundwater quality zone has been demarcated in the state.

### 3.3.7. Rivers and water bodies

Nagaland is dissected by a number of perennial and seasonal river and rivulets. Doyang, Dhansiri, Tizu, Milak, Dzu, Langlong, Zunki, Likimro, Lanye and Dzuza are considered as the major rivers. Whereas Manglu, Tsurong, Nanung, Tsurang (disai), Tsumok, Menung etc are some of the lesser-known rivers of the State. The major and larger river such as the Dhansiri, Doyang and the Dikhu flow westward into the Brahmaputra River onward to Bangladesh while the Tizu River joins the Chindwin in Myanmar.

### Springs

Springs constitute an important part of village life in Nagaland and serve as major source of drinking water for villages in the hills and forests. However due to multiple reasons e.g., climate change, deforestation, land-use changes etc, the output from such springs is continuously depleting, with impact on the farm and forest produces. Information on the number of springs in Nagaland as collected by the NitiAayog as secondary data collection, is as follow:

Table No: Status of springs in Nagaland

|  |        |
|--|--------|
| Number of villages with springs                      | 639    |
| Total number of villages                             | 1428   |
| Percentage of villages which report having springs   | 44.7 % |
| Spring channel based surface flow irrigation schemes | 27     |
| Total number of surface flow irrigation schemes      | 20675  |

Source: Report by NitiAayog, 2018.<sup>4</sup>

### 3.3.8. Non-Timber Forest Produce (NTFPs)

Forest resources in Nagaland typically include wild vegetables, wild fruits, mushroom, broom, bamboo materials, bamboo shoot, cane, nuts, seeds, berries, foliage, animal feeds, medicinal plants, manures, varieties of wild flowers, fuel wood, honey, wild meat (permissible hunting), fish, crabs, insects and spices.

NTFPs have an important role in rural lives and are a part of household subsistence strategies. The varieties of organic resources in NTFP indicate its potential to be produced as profitable commodities for rural incomes and marketable products. NTFPs are the resources or products that can be extracted from the forest ecosystem and are utilized for household purposes, marketed and have social, cultural, economic and religious significance. It can also be a key strategic component of sustainable forest ecosystem management, landscape management, conservation strategies, livelihood enhancement, dietary diversity, availability of high value nutritious food and economic

<sup>4</sup>Report of Working Group I - Inventory and Revival of Springs in the Himalayas for Water Security; Contributing to Sustainable Development in Indian Himalayan Region; NITI Aayog India, 2018

enhancement. NTFPs are intrinsic to rural livelihood and influencing the socio-economic and cultural life of forest-dependent communities inhabiting in wide ecological and geo-climatic conditions in different concentrations throughout the villages of Nagaland. However, unsustainable extraction and collection of NTFPs will lead to over exploitation of natural resources without having equitable impact in economic development. For instance, the State's bamboo resource accounts for 5% of the national bamboo resource covering 4,48,000 hectares. It is intrinsically linked to the physical, social, economic and culture of the State and as such, dependency and pressure on bamboo is high. The unsustainable and unrestricted collection of such NTFPs may have a deteriorating effect on the biodiversity of the area.

### **3.3.9. Natural Hazards Profile**

#### **A. Floods**

Being a hilly, mountainous State, Nagaland is rarely affected by floods except for the plains adjoining the neighbouring State of Assam. However, flash floods occur sometime even in the hills. As per the Nagaland State Disaster Management Plan, most flash floods are caused because the roads are cut across mountain ranges and lack proper drainage systems. This in turn causes the water to accumulate on the road and flow to a concentrated outlet causing flash floods. Floods occur in the low-lying areas of Nagaland bordering Assam. Tuli under Mokokchung was flooded in 2005. The low lying areas of the town were hit by floods again in 2016 due to the swelling of the Milak river causing large scale damage to agriculture and disrupting the daily lives of the population. Dimapur is the commercial hub of Nagaland bordering Assam. It witnesses floods/flash floods often especially during the monsoon seasons. Due to the incessant rain in August 2018 (492 mm rainfall), floods were caused in several parts of Dimapur which disrupted normal activities and also caused casualties.

#### **B. Landslides**

The State is commonly threatened by landslides and often witnesses landslides that disrupts communication, road networks, and damaging infrastructures every year. Landslides keep affecting Nagaland especially in Monsoon, when heavy downpour is experienced all over Nagaland. Almost all the districts in the state are very hilly comprising of steep slopes and high relief. Nagaland is predominantly made up of shales and sandstones in various combinations. Repeated thrusting and faulting have further weakened the rocks leading to wear and tears during heavy rainfalls. On July 2018, road was cut off at Sidzu river in the district of Phek due to a major landslide upstream which formed an artificial dam and disrupted the downstream including roads and paddy fields because of uncontrolled release of water from the artificial dam. In another case, Sanuoru-Secretariat road on 30th July 2018 was affected when half of the black topped road leading to severe damage to the working women hostel. Siekhazou-BSF Camp was also completely cut off on 30th July 2018 where 1 church and 5 houses were damaged by landslide and 4 houses evacuated.

#### **C. Drought**

As per Nagaland State Disaster Management Authority (NSDMA), 2009 was officially recorded as the first year when Nagaland faced a drought like situation in 3 districts of the state namely Peren, Dimapur and Mon. As recent as September 2021 to March 2022, Nagaland was declared a drought hit State of moderate nature. This declaration was made based on the scanty deficit and less than normal rainfall received by the State during the period

#### **D. Forest Fires**

According to the latest IFSR report of 2021, the forests of Nagaland are highly vulnerable to forest fire Out of the total geographical area of 16,579 km<sup>2</sup>, 3222.24 km<sup>2</sup> is classified under "Extremely Fire

Prone”, 3129.20 km<sup>2</sup> as “Very Highly Fire Prone” and a staggering 4849.90 km<sup>2</sup> as “Highly Fire Prone”. Only 1411.70 km<sup>2</sup> was found to be “Less Fire Prone”. The Global Forest Watch has identified that Mon District with highest rate of tree cover loss due to fires with an average of 52ha per year. Fires accounted for 4.21Kha of tree cover loss in Nagaland between 2001- 2021. There were 533 Visible Infrared Imaging Radiometer Suite (VIIRS) fire alerts from 23<sup>rd</sup> May, 2022 to 22<sup>nd</sup> May, 2023 (A period of One year).<sup>5</sup> Large scale forest fires has mostly been witnessed in the Dzukou Valley of Nagaland. As recent as December 2020, the Indian Air Force had to be called in along with DoEF&CC, NSDMA/DDMA, SDRF etc to douse the raging fire.

#### **E. Earthquake**

Nagaland is situated under the seismic zone IV/V which is one of the most seismically active regions in the World. A large number of moderate to large magnitude earthquakes have occurred with epicenter within the State as well as around the range of 100 kms. Overall, the State has witnessed about 12 major earthquakes in the last 100 years. The epicenter of the Great Earthquake of 1950 with a magnitude of 8.6 on the Richter Scale was located 7 kms away from Mon Town. Another notable earthquake that affected the State was the Great Shillong Earthquake of 1897 with a magnitude of 8.7 leaving approximately 1500 people dead.

#### **3.3.10. Protected Areas**

The State is host to one National Park, the Intanki National Park and four wildlife sanctuaries, namely Ranghapahar, Puliebadze, Singphan and Fakim. The protected areas in Nagaland covers a total area of 24,594 hectares constituting 1.48% of the total geographical area of the State. Key wildlife at Intanki National park include Hoolock gibbons, elephants, sloth bears, tigers, leopards, barking deer, wild dogs, and flying squirrels. Puliebadze wildlife sanctuary is an Important Bird Areas category site, specially having birds e.g. Blyth’s Tragopan and Dark Rumped Swift. Fakim wildlife sanctuary situated near Myanmar border has animals include Tiger, Panther, Barking Deer, Jungle Cat, Hoolock gibbons, Himalayan Bear, Sambar, Wild Boar, Bison and Slender Loris. The most common birds here are namely Indian Horn Bill, Grey Pheasant, Doves, Jungle Fowl, Tragopan Pheasant and Green Pigeon. Rangpahar wildlife sanctuary near Dimapur is home to animals like bears, deer, wild goats, chitals etc. Singphan has been recently declared as 30<sup>th</sup> Elephant Reserves in India.

#### **3.3.11. Archaeological and Cultural Heritage Sites**

Four (4) sites have been identified by the Archaeological Survey of India (ASI) under the jurisdiction of the Nagaland (Guwahati Circle). These are as follows:

- Remains of Fort in Dimapur under Dimapur District
- Memorials of Mr. GH Damant, Major Cook, Subedar Nurbir Sahi in Khonoma (Kohima District)
- Stone Cairn to memory of Mr. Damant under Kohima District
- Lt. H. Forbes Grave in Suchima under Kohima District

### **3.4. SOCIAL BASELINE CONDITIONS**

#### **3.4.1. Status of Forests Cover, Resources, Type & Ownership**

As per ISFR report 2021, Nagaland has a total forest cover of 12,251.14km which accounts for 73.90% of the total geographical area of the State. Notably, in comparison to the ISFR report 2019, the State

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<sup>5</sup><https://tinyurl.com/mr3vm6zw> accessed on 22nd May, 2023

has lost a total of 235.26km<sup>2</sup> of forest cover during the period. Tuensang district recorded the highest change in forest cover losing 96.12km<sup>2</sup> whereas only Kohima and Wokha districts recorded a positive growth in forest cover with an increase of 11.82km<sup>2</sup> and 12.18km<sup>2</sup> respectively. In Nagaland, the land and its resources belong to its indigenous inhabitants (the Nagas). 88.30% of the land is either community or privately owned. Whereas the Government owns 11.70 % of the total geographical area.

### **3.4.2. Climate Change Impacts on Forests and Dependent Communities**

The forests and its resource and the biodiversity wealth of the State are a direct or indirect source of livelihood. The loss of forest cover and the decrease in biodiversity in Nagaland can roughly be attributed to anthropogenic activities and accentuated by the changing pattern of climate. Increase in temperatures may elevate the risks of forest fires causing huge loss of forest cover, wildlife or biodiversity in general. As majority of the population is either engaged in the agricultural or allied sector, a change in the pattern of rainfall or increase number of extreme events occurrences in the State may increase their dependency on forest and its resources. Climate Change or variations in climate may initiate a series of events which may alter the biological diversity leading to loss of certain flora and fauna including loss of endemic/native species, whereas inducing or disproportionately benefitting the growth of others. These factors in turn, may trigger a change in the economic activities and lifestyle of the dependent communities.

### **3.4.3. Agriculture and Agroforestry**

Agriculture has traditionally been and continues to be the mainstay of Naga way of life. About 70% of the population are engaged in Agriculture and allied sector. The areas under Terrace Rice Cultivation (TRC)/ Wet Rice Cultivation, which covers an area of 834 sq.km., falls in the valleys and foothills of the state, where perennial waters sources are available. Traditional Jhum/ Shifting Cultivation has an organic carbon content up to 3.75 %, and use of chemical fertilizer is nil, and therefore all produces of the Jhum field are Organic by Tradition. Agriculture contributes about 29.64% of the GSDP of the State.

Agroforestry is an important aspect of agriculture in Nagaland. Various crops are grown together with fruit trees, including even rice in the Jhum field. At the same time tree saplings, mainly alder is planted along with the main crop, for fuelwood and also acts as a nitrogen fixing tree, with a quick growth rate. Due to the hilly terrain, terraced farming is being promoted for agroforestry where shade tolerant economic crops like cardamom, ginger, turmeric, are grown. This terrace helps to conserve soil and water conservation and increase productivity. Many farmers also integrate livestock in the agroforestry system, especially Mithun.

### **3.4.4. Health**

Understanding health as a basic human right that every individual in a society deserves, the Department of Health and Family Welfare has been endeavouring to provide comprehensive healthcare in the State. Communitisation<sup>6</sup> was introduced in 2002 through the National Rural Health Mission (NRHM) flagship which aimed to strengthen and improve the health delivery system in the State. Although the improvements are uneven across the State, the benefits achieved through community participation and infrastructure development are noteworthy. Despite the progress made in addressing improvement in health delivery system, increase in population, habitation, emergence



of new diseases due to changing lifestyles, consumption habits, increase in demand for health facilities, poor connectivity, shortage of manpower at the health centres, infrastructures, and basic services is still a challenge especially in the rural areas and vulnerable populations of the society.

As per NFHS-5, total sex ratio per 1000 males is 1007 and child sex ratio is 945. The Infant Mortality rate (IMR) is 23.4 and under 5 mortality rate is 33. The MMR during 2021 was 36.48% in rural and 32.30% in urban areas with highest incidence among women in the age group of 25-29 years. Institutional delivery is 18.26% in urban areas while in rural areas it was 8.48% (in 2021), with 42.30% of these delivered by untrained mid-wife. High prevalence of anaemia in women is reported in Dimapur, Phek, Kiphire and Mon in the age group of 15-49 years of age. According to the 2021-22 HMIS, National Health Mission, anaemia among pregnant women is high, other lifestyle related health issues are hypertension (38%) and diabetes (58%).<sup>6</sup> Communicable diseases such as TB, malaria, viral infection, urinary tract infections, respiratory tract infection, gastroenteritis, typhoid, hepatitis, etc are some of the most commonly prevalent diseases. As per Directorate of Census Operation 2011, 13,483 females and 16,148 males in the age group of 10-29 years are disabled, majority with hearing and seeing disability followed by movement and multiple disabilities.

The State carries high burden of HIV and drug abuse among young population. As per Nagaland State AIDS Control Society, during 2021-22 out of 29,702 males and 33,025 females (including pregnant women) tested for HIV, 800 males and 665 females were found positive. During the same year of the 12,124 tested during Antenatal Check-ups (ANC), 124 females were found to be HIV positive.

The status of medical personnel in the State recorded– 452 doctors, 452 Pharmacists, 1751 nurses. The State health delivery institutions stands as: 11 District Hospitals, 21 Community Health Centres, 124 Primary Health Centres, 1 Subsidiary Health Centre, 3 Dispensaries, 2 TB Hospitals, 1 Mental Hospital, 398 Sub-Centres, 8 STD Clinic, 5 DTC, 3 Postmortem centres, 1 Para Medical School, 2 School of Nursing (GNM), 1 School of Nursing (ANM) and 1 State Health Food Lab (*Census 2011*).

#### **3.4.5. Literacy**

As per Census 2011, literacy rate in the state is 79.55% with 82.75% males and 76.11% females. In terms of literacy the ST households in the state are better off than the rest of the population. Total Literacy Rate in the state is 79.6 percent as compared to 80 percent among ST population. Total male literacy is 82.8 percent and 83.1 percent among ST male, similarly Total female literacy is 76.1 and 76.9 percent among ST female.

#### **3.4.6. Disaster Management**

The State has a dedicated disaster authority, Nagaland State Disaster Management Authority (NSDMA) established under the Home Department, Government of Nagaland (GoN). This agency was established “to spearhead and adopt a holistic and integrated approach to disaster management.” Other than the prevailing identified disaster at the National level such as earthquakes, landslides, floods, droughts, fire etc, the agency has also identified State specific disasters such as lightning and wildlife conflict. In order to make the state more resilient to disasters such as hydro- meteorological disasters, it has installed and created a network of Automatic Weather Stations which can assist in timely response to disaster prevention and action. With the initiatives of the NSDMA and the SDRF, capacity building, awareness and sensitization are carried out at regular intervals throughout the State. Various guidelines are also in place including the Nagaland State Disaster Management Plan

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<sup>6</sup>Source: India Hypertension Control Initiative-IHCI, DoHFW, Nagaland 2021

(NSDMP), Nagaland State Disaster Management Rules (SDMR), Nagaland Disaster Management School Safety Policy (NDMSSP etc. At the community level, community first responders (CFR) now called AapdaMitras have been constituted and trained as emergency disaster response unit. In cases of fire and rescue services, the State is also aided by the Fire & Emergency services department, SDRF/NDRF, DoEF&CCetc.

#### **3.4.7. Road Connectivity**

According to 2020-21 data from PWD(R&B), Nagaland have a total road network of 13,108.68 kms<sup>7</sup>. This implies that the road density (road per 100 sqkm) of the state is 80.77. Mokokchung district had the highest road density with 111 whereas Peren district recorded the lowest of 58. The State has a total National Highway length of 1507.88kms and 650kms of State Highways. Other classifications of roads in Nagaland included Major District Road (MDR), Other District Road (ODR), Urban Road, Town Road and Rural Road. A majority of the urban roads were surfaced roads (87% of the total urban roads). However, most of the rural roads in Nagaland were unsurfaced. Out of the total 4420.5 kms of rural roads, only 1376.37kms were surfaced roads.

#### **3.4.8. Households**

According to Socio-Economic and Caste Census 2011, out of the 284,310 households in Nagaland 88% are male headed and 12% women headed households- WHH (34434 households). Of these WHH, 5% were landless deriving primary income from manual casual labour while 77% had monthly income of less than Rs. 5000. Among WHHs owning agricultural land, 44% had un-irrigated land and only 24% own irrigated land.

#### **3.4.9. Women (Gender)**

Work done by women such as household chores and farming are not accounted as economic activity. Both men and women contribute to livelihood and providing food security for the family. Men contribute to agricultural activities that are physically demanding, slashing of forests, burning of jhum fields, construction of house and transportation of wood and crops after harvest. Women farmers constitute more than 70% of workers involved in agriculture. Women are primary gatherers of wild vegetables, non-timber forest produce (NTFPs), Medicinal and Aromatic Plants (MAPs), fuel wood, water, fodder, and food. Livestock such as piggery, poultry and duck rearing are common activity where women are engaged in every household, they supplement both for food as well as additional income for the family.

Women do not participate in the decision-making processes in agriculture and allied activities. Naga tradition and customary practices restricts women from inheriting landed property while movable property can be inherited. Women can receive land from her parents bought by them but not inherited family or clan property. However, women can buy land on their own. Thus, property rights and rules of inheritance, though discriminatory against women, do not prevent them from owning or inheriting landed property. It is crucial to ensure access to secured land and its resources for rural households to have sustainable livelihood and other economic activities.

As per Census 2011, Workforce Participation Rate in Nagaland is 44.7% for females and 53.4% for males. In rural areas it was 52% for females and 55% for males. About 65.2% of these women were

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<sup>7</sup> Statistical Handbook of Nagaland 2021



reported as cultivators and 7.3% as agricultural labourers. Nagaland Rural Livelihood Mission (NSRLM) aims to reduce poverty by enabling poor households to access gainful self-employment and skilled waged employment opportunities through women's economic and political empowerment. Under the project, women's self-help groups (SHG) practice regeneration, NTFP collection, processing, and marketing in 1241 villages across 74 RD Blocks of the State.

### 3.4.10. Tribal Population

The state has a population of 1.9 million, out of which 89% are STs, multi-ethnic groups cumulatively known as the Nagas. Officially, 17 major tribes are recognized by the government of Nagaland- Angami, Ao, Lotha, Sumi, Sangtam, Chang, Khamniungan, Konyak<sup>8</sup> to name a few. This coincides with the number of districts- each is inhabited with one or more tribes thereby imparting to it a distinct linguistic, cultural, traditional, and socio-political characteristic.

Nagas are indigenous tribal with their own distinct social and cultural identity. They collectively own the lands and the natural resources in and around where they live. The land and the people are inextricably linked for their identity and as the dependence upon forests and natural resources for their very existence. The ownership and control of land and its resources is fundamental to the identity and survival of tribal societies. Land and forests are valuable as forms of wealth contributing to social status. The control over forests and land resources in the form of ownership is one important factor in promoting their preservation and sustainable use of these resources. Land, forests and water resources owned by individuals, clan or village communities are used for cultivation and survival of every community.

In Nagaland, the tribal community are protected by Article 371 A of the Constitution of India. Most tribes in Nagaland as in other tribal societies, have developed their own customs and tradition which they practice and passed from one generation to the next through oral tradition. Over the generations, they have practiced and defined their own unique traditional agricultural practices. In recent years, the tribal community's existence have indicated low life expectancy due to poverty, natural hazards and impacts of climate change. There have been growing trends of aggregate poverty in Nagaland from 1987-88 to 2016-17 i.e., 34.43 to 37.92% and multidimensional poverty index (MPI) of 30.8% during 2015-16 (NSSO, 2012; Jamir and Ezung, 2017b; Jamir, 2020). It was from the mid-1970s onwards that the Nagaland government added an additional local layer to the pan- Indian reservation system by classifying each Nagaland tribe as either "forward" or "backward,"<sup>9</sup> offering special quotas to the latter (Wouters, 2018)

The Eastern Nagas, living in the erstwhile NEFA area are considered the most vulnerable among the Naga Community and are considered as '*Backward Tribes*'. They are provided affirmative support in terms of reservations in government jobs. The tribes and its categorization as *backward* depend on tribes residing in notified *backward* districts and notified tribes residing in any district. The district wise *backward* tribes are as follows:

| Sl. No. | Tribe  | District |
|---------|--------|----------|
| 1       | Konyak | Mon*     |

<sup>8</sup>Konyaks are the warrior-Nagas, largest populated race in Nagaland and live in the north-eastern hilly district of Mon.

<sup>9</sup> The tribes and its categorization as backward depend on their presence in a district. E.g., Yimkhum Naga in district Kiphire, Tuensang and Shamator are categorized as backward.

|    |             |                           |
|----|-------------|---------------------------|
| 2  | Phom        | Longleng*                 |
| 3  | Sangtam     | Kiphire*                  |
| 4  | Yimchunger  | Tuensang* & Kiphire       |
| 5  | Chang       | Tuensang*                 |
| 6  | Khamniungan | Noklak*                   |
| 7  | Chakhesang  | Phek                      |
| 8  | Pochury     | Phek (Meluri)             |
| 9  | Zeliang     | Peren                     |
| 10 | Sumi        | Sumis of Kiphire District |
| 11 | Khamniungan | Shamatore*                |

\*- Districts are notified as backward districts. As Tuensang district has separated into three districts namely Tuensang, Noklak and Shamator, by virtue of the parent district being backward the newly created districts are also considered as backward. (Reference: Government of Nagaland, Personal and Administrative Reforms Department notification dated. 14th April 2011)

#### 3.4.11. Tribal Governance

Village Councils are the local administrative bodies in every village constituted under the Communitisation of Public Institutions and Services Act 2002 in the State. Members are either elected or nominated by the community for a term of 5 years. All major decisions related to the village community are governed by the Village Council, Clan representatives, village elders, *Gaon Bura* and *Dobashis* (wherever relevant). Village Councils are responsible to address all local administration and development activities including disputes and conflicts. The Village Development Board (VDB) is also responsible for the planning and implementation of any development activities in the village.

Tribal Chieftains (Angh) are the titular heads of the Konyak and Phom tribes which are hereditary and are instituted in Mon and Longleng districts. Communities take active part in planning, implementation and monitoring of project activities, and will be collective or individual beneficiaries.

#### 3.4.12. Forest Dependence for Livelihood

The State's economy is linked to its natural resources such as the forest. The tribal population in Nagaland are forest dwellers and are defined by their co-existence with nature. As such, forests are one of the most important resource systems providing nutritional, economic as well as playing a vital role in the social and cultural values of the people. The forest and its resources provide for their subsistence and livelihood be it agriculture, fodder, fuel, firewood, medicinal plants, etc. There is stress on the forest from both private or community owned forests for timber (including firewood) which are closely linked to livelihood, employment and economy.

#### 3.4.13. Forest Governance

As per the Nagaland Economic Survey 2018-19, the government of Nagaland has 11.70% ownership of all the total geographical area of Nagaland. This includes the declared protected forest areas consisting of the Intanki National Park, Ranghapahar Wildlife Sanctuary, Puliebadze Wildlife Sanctuary, Singphan Wildlife Sanctuary and Fakim Wildlife Sanctuary covering a total area of 24,594 hectares (State Policy of Environment and Forest 2015).



Source: TERI, 2015

As most of the land including forests are community or privately owned, the State do not have regulations or influences over them. The village and the local communities have a long history of protection and conservation of forest resources. These initiatives have been traditionally practices or initiated by the village, community, Community based organisations or even individual landowners. As per available data (TERI, 2015), there are 407 documented Community Conserved Areas (CCAs) in Nagaland out of which 62 CCAs were initiated by the Department of Environment, Forest and Climate Change, GoN. The remaining 343 CCAs were established by the community/ people themselves.

#### 3.4.14. Community Conserved Areas- Scale and Spread

Traditional conservation practices such as the CCAs have helped protect the forests and the biodiversity in the State. There are records of CCAs being declared in the early 1800s in response to loss of wildlife and degradation of forests.<sup>10</sup>As per The Energy and Resources Institute (TERI) 2015 report, one-third of the Nagaland's villages had CCAs constituted under their jurisdiction (407 villages out of 1428 in 11 districts). The CCAs were present in all the districts with a majority of them being documented in Peren District whereas Dimapur and Longleng districts had 4 CCAs each. These areas covered more than 1700sqkm in geographical area.

#### 3.4.15. NTFP and Agro-forestry based Value Chains

NTFP are resources from forest that are used as food, substances, materials and commodities other than timber. NTFPs provide green social security to the rural communities in the form of food supplements, traditional medicines, fuel and fodder, low-cost building materials and source of employment and income generation.

Nagaland has various naturally available 'Non-Timber Forest Product, under-utilized crops and Forest Fruits' that are underutilised and yet to realise its full potential. Some of the popular and on-demand products of Nagaland are as follows:

<sup>10</sup> Nagaland State Biodiversity Strategy and Action Plan (n.d)  
<https://fes.org.in/resources/pdf/impact/NE/Nagaland-State-Biodiversity-Strategy-and-Action-Plan-Final.pdf>

**a) Honey:** Bee-keeping is an age old traditional practice that is intertwined in the socio-religious rituals of tribal Nagas. Traditional-cum-scientific inputs have made adoption of apiculture convenient and encouraged on a substantial scale, especially in farming areas where bees increase crop productivity through cross pollination. Apiculture supplements their livelihood source of income for comfortable living and ensuring maintenance of habitat and biodiversity. The honeybee species commonly found in the State are Rock bees (*Apis dorsata*) that thrive in critical natural resting places of dense forest and steep escarpments, the Little bees (*Apis florea*) that nest in the wild with plump honey crests on the twigs of trees and shrubs, the Asian honey bee (*Apis cerana*) found in common habitat in the midst of Naga homes and the Stingless bees (*Trigona species*) that dwell in the wild as well and are reared in boxes, tree trunks, bamboos, underground chambers. Honey production in the state comes mostly from Asian Honeybee (*Apis cerana*) and Dammer (*Stingless bee*) species which are reared and domesticated. Honey from wild bees is also collected. It is estimated that about 120,400 bee hives are presently reared in Nagaland, mostly under traditional method which is a mere 5.5% of the total potential. Current estimated honey production is 440 MT annually from both reared and wild harvest.

**b) Medicinal and Aromatic plants**

Medicinal and Aromatic Plants (MAPs) comprise of a wide range of plant species which are an invaluable source of raw materials for pharmaceuticals, phyto-chemical, perfumery, flavor and cosmetic industries. Most of these plants are categorized as 'low volume, high value' products. Commercial cultivation of MAPs is a viable option as Nagaland falls under the Indo-Burma biodiverse Hotspot. The State is rich in flora and is well known for utilising the available resources for food and more importantly, as medicine. The State is a host to a variety of medicinal plants, herbs and shrubs. Some of the MAPs are endemic to the region and the potential of the region is not fully explored.

**c) Wild edible fruits and vegetables**

Nagaland is home to many wild edible fruits and vegetables. Most of these fruits and vegetables are collected from the wild and consumed as a dietary supplement. Besides, these are sold in the local market either fresh or semi-processed. Due to lack of market intelligence, the potential of these products are untapped and process for commercialization has not been able to achieve. The creation of market linkages will uplift the socio-economic status (especially women farmers and unemployed youth) and quality of rural farmers and local entrepreneurs by virtue of its high benefit. This implies in imparting training of local producers and stakeholders involved, focus on best agronomic practices, introduction of improved processing and packaging practices, and establishment of proper mechanisms for efficient and profitable marketing of finished products.

#### **3.4.16. Eco-tourism**

Although the State has been promoting tourism for decades, eco-tourism is relatively new to Nagaland. With pristine forests, hills and natural destinations, Nagaland has a high potential for becoming an eco-tourism hotspot. The Scenic beauty of the hills and ridges accompanied by rich culture and traditions have awed many that have travelled to Nagaland in the past years. Some of the popular eco-tourism sites in Nagaland are Khonoma Green village, Mt. Saramati- the tallest peak in Nagaland, Dzukou Valley, Shilloi lake, Longwa village, Pangti- Amur Falcon Capital of the World etc.

**Major** tourist destination of the state includes Puliebadze, Khonoma, Dzukou, Mount Japfu, Kisama heritage village, Dimasa ruins and Amur Falcon rooting sites in Wokha, Longleng and Peren besides several historical and tourist sites in the districts. Dzuleke, Fakim and Thanamir are the main eco-tourism sites managed entirely by the community.

## 4. Potential Environmental & Social Risks and Impacts

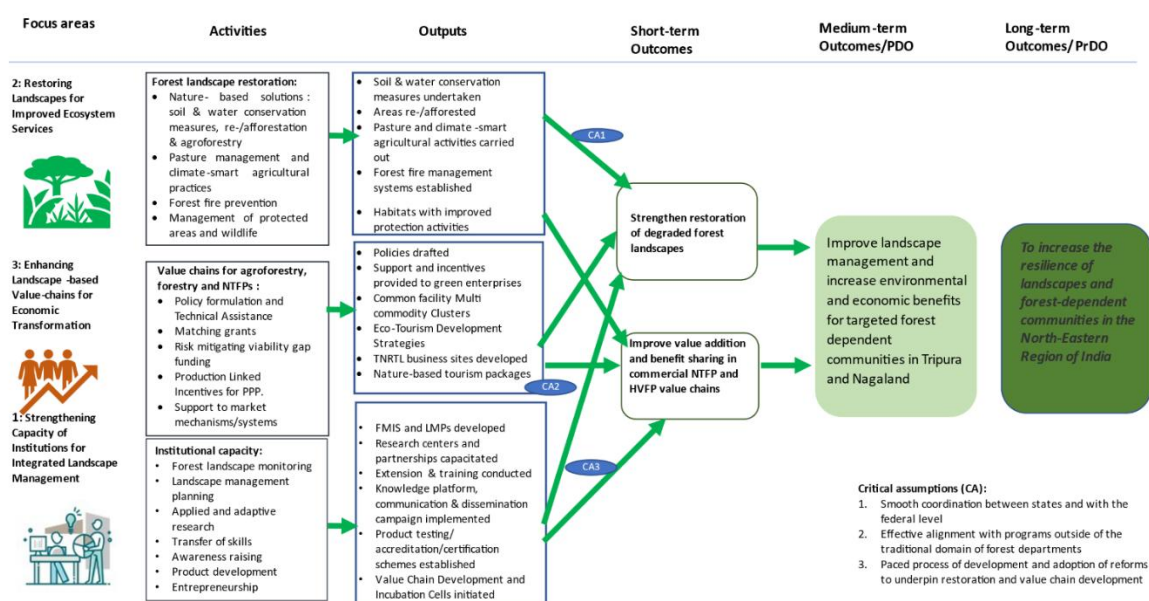
### 4.1. Typology of Project Activities

The ELEMENT Project aims to improve landscape management to enhance ecosystem services and economic benefits for the forest-dependent communities in Nagaland. The project will strengthen the capacities of the state government and local actors to restore forest landscapes by introducing a landscape approach and helping utilize technological solutions. Through the proposed project, the degraded forest landscapes will be restored by implementing community-led integrated forest landscape and natural resource management plans in the selected areas in support of improved ecosystem services, such as water availability, soil conservation, and wildlife habitat protection, among others.

The project has three components:

| Components   | Objective  |
|--|--|
| 1.Strengthening Capacity for Integrated Landscape Management         | Strengthening the capacity of state institutions in participatory planning, implementation, and monitoring- to strengthen the capacity of Forest Departments (FD) to efficiently deliver on their mandates, apply an integrated landscape approach and expand community engagement |
| 2.Restoring Landscapes for Improved Ecosystem Services               | To restore and maintain the ecological functions and productivity of landscapes and important ecosystem services by supporting the process and preparation of community landscape management plans for targeted catchments and support their implementation                        |
| 3.Enhancing Landscape-based Value-chains for Economic Transformation | to unlock the economic potential of landscape biodiversity resources, by creating sustainable linkages and support Nature-Based Tourism (NBT)  |
| 3. Project Management, Monitoring, and Evaluation                    | To support funding for states' project management, including for key staff and operational costs   |

The thematic figure covers the focus areas, associated activities, their outcomes and relationship with outcomes.



The activities to be undertaken under ELEMENT are include following key focus areas and activities under each of them.

| Focus area   | Project activities   |
|--|--|
| <u>Component 1</u><br>Strengthening capacity of institutions for integrated landscape management | Forest landscape monitoring<br>Development of Landscape management planning guidelines<br>Setting up of geo- spatial lab at Nagaland Geographic Information Systems and Remote Sensing Centre (NGIS&RSC)<br>Improvements in training facilities of state-based training institutions<br>Training and capacity building of community institutions including JFMCs, BMCs, SHGs, VC/ VDB on landscape planning<br>Skilling of women and youth on green entrepreneurship |
| <u>Component 2</u><br>Restoring landscapes for improved ecosystem services                       | Community led Catchment /landscape and forest fire management planning<br>Soil and water conservation measures, forestation and agro-forestry, spring-shed and watershed development<br>Climate Smart Agricultural practices<br>Forest fire management<br>Restoration and conversion of Jhum Areas<br>NTFP Management<br>Nursery Development for HVFP<br>Protection and Expansion of CCA/CR  |
| <u>Component 3</u><br>Enhancing landscape-based Value-Chains for economic transformation         | Support to setting up Value Chain Development and incubation cells Value-Chains for Agro-forestry, forestry and NTFPs:<br>Support to 'green' enterprises for select commodities<br>Creation of facilities and services for Nature-Based Tourism (NBT)  |
| <u>Component 4</u><br>Project Management, Monitoring, and Evaluation                             | Setting up SPMU and ZMU and engagement of internal and externally hired personnel/ consultants<br>Procurement of office infrastructure   |

The above activities under ELEMENT are likely to involve both beneficial as well as adverse environmental and social risks and impacts during various stages of the project. Identification of potential adverse risks and impacts is necessary to develop Environmental and Social Management Framework (ESMF) complying with the Environmental & Social Framework (ESF). *The project adopts a framework approach as the sub-projects have not been identified and delineated at this point of time. Thus, site specific risks and impacts have not been identified, but the activities are largely known. Site Specific ESMPs will be prepared as part of DPRs for each activity.*

#### 4.2. Overview of Environmental and Social Risks and Impacts of ELEMENT

It is envisaged that a few activities under ELEMENT may adversely impact the environmental and social features of the project sites. However, they will be localized and temporary in nature and can be mitigated through effective prevention and controlled measures using the risk hierarchy. The project is expected to benefit the tribal communities of the state through long term improvements in the quality of forest ecosystems and landscapes through community-led natural resource planning and management and reduce pressure on existing agriculture/ *Jhum* lands through expansion of *Jhum* cycles, improved access to markets for non-timber forest produce as well as high value forest produce through forest-based value chain development, and generate improved economic opportunities and livelihoods for the forest-dependent communities.

The component on strengthening the institutions for Integrated Landscape Management includes human resource and infrastructure development support to state government institutions and includes support to expansion of existing facilities and provision of equipment, strengthening capacities for participatory planning, training-capacity building and strengthening of community institutions. The E&S risks of this component include- exclusion of vulnerable groups including landless and women workers, poor and women headed households) from being considered important stakeholders during development of landscape management planning guidelines,



Occupational health and safety (OHS) related risks for construction workers- falls due to working at heights and during deep excavations, injuries due to use of machinery, potential adverse impacts on Community Health and Safety due to risks posed by measures to safeguard public order, temporary barriers on participation due to law and order related restrictions imposed on mobility, poor working conditions and low compliance with labour laws, risks of trainings and awareness programmes not using culturally appropriate communication methods, exclusion of single women and youth from poor or vulnerable groups from green entrepreneurship support and lack of effective and functional GRM for workers, labour and women for SEA/SH related grievances. Additional risks during operations include exposure to hazardous materials/chemicals and waste management, food wastes from meal kitchen; e-waste management; water management and emergency preparedness.

The component on restoring landscapes for improving eco-systems includes measures for rehabilitation of wastelands and degraded forests, improvement of soil productivity and water availability, as well as income and livelihood support to the local communities. The potential risks from forestry and agroforestry and allied activities are expected to be local and predictable with low footprint. The related E&S risks include- potential exclusion of vulnerable, *backward* tribes and landless getting benefits of landscape planning, weak capacities of state institutions in ensuring inclusive community participation, risks related to unclear working conditions for Community Workers, risk of recommended landscape management interventions being in contradiction with customary practices, increased workload as well as SEA/SH risks for women engaged in NTFP collection and processing, CHS risks of forest fires for communities living near areas with high incidence, lack of meaningful consultation with *Jhuming* communities, exclusion of women and vulnerable groups from leadership positions in Community Reserve or CCA committees, temporary restrictions on access to forest resources for forest fringe communities and absence of GRM for Community Workers and women with SEA/SH related risks.

The environmental risks anticipated from the project include (i) localized air and water pollution and increased soil erosion and runoff and from small civil works related to construction of check dams, spring-shed rehabilitation, post-harvest storage, small buildings for eco-tourism, etc.; (ii) threats to biodiversity due to increased access to forests and Eco-Sensitive Zones (ESZs) for collection of NTFPs and development of eco-tourism (iii) potential increase in human-animal conflict due to increase accessibility to the forest areas for project interventions; (iv) water and soil contamination from increased use of pesticides in agroforestry and nurseries; (v) poorly managed water conservation structures may pose risk of exposure to vector-borne and water-borne diseases; and (vi) potential health and safety risks to communities during minor construction works and during collection of NTFPs / HVFPs.

In addition, activities under enhancement of landscape-based value chains to improve socioeconomic conditions of communities would involve developing activities that may include trades in NTFPs, livelihoods support for honey and bee-keeping, piggery, fisheries and horticulture in addition to enterprise development support in the form of processing and packaging facilities, boot-camps and access to finance, market facilitation, organisation of buyer-seller meets and seeking private sector participation. These trades may pose occupational health and safety risks to engaged workers such as injuries, allergies, musculoskeletal stress etc. if managed unscientifically. In addition, organic wastes generated during these activities will also require to be managed with sanitary measures. Private sector participation in NTFP/HVFP based livelihoods may further accentuate the impacts on biodiversity by promotion of monoculture and use of exotic species to achieve economy of scale which may adversely impact the floral and faunal biodiversity but may also lead to outbreaks



of pests and diseases in plantations, Nature based tourism activities may pose risks due to generation of plastic wastes, sanitation and sewage disposal and their management, potential air pollution due to vehicular traffic and potential degradation of reserved areas due to tourist movements. The other risks of the component include lack of agency for women members engaged in the value chain, exclusion of poor HHs from livelihood support activities requiring individual contribution, OHS risks for community members and tour operators providing eco-tourism services, including those related to man- animal conflict in such areas/ eco- tourism spots.

#### **4.3. ESS-wise Environment and Social Risks and Mitigation Measures**

Anticipated environment and social risks and impacts identified against each ESS are described below:

##### **Assessment and Management of Environmental and Social Risks and Impacts (ESS1)**

The E&S risks and impacts as described in Section 5.2 above, will be managed through an Environmental and Social Management Framework (ESMF), including the Stakeholder Engagement Plan, Labour Management Procedures (LMP) and an Environment and Social Commitment Plan (ESCP) during the planning and implementation stages of the project. The ESMF includes an exclusion / negative list as provided in *Annexure 1* that prohibits activities that pose significant environmental and social risks, including activities within protected areas and eco- sensitive zones, critical habitats and Ramsar sites, involving use of classes IA, IB, or II pesticides, using child or forced labour, imposing permanent restrictions or complete loss of access to natural resources, or those of high economic value, involve private land acquisition or lead to involuntary resettlement of tribal households and that pose significant, adverse, irreversible impacts on customary tribal lands, natural or their cultural resources.

The ESMF also includes procedures for undertaking E&S risk screening of sub-projects and for preparing site-specific Environmental and Social Management Plans (ESMPs), for which generic sub-project ESMPs have been provided in the ESMF. The key ESMPs include Spring-shed management, Forest Fires management and Income Generation (for activities such as piggery, poultry, animal husbandry). (*Annexures 3-5*). In addition, based on screening, in case needed, other ESMPs such as Integrated Pest and Nutrient Management and Biodiversity Management Plan shall be developed and implemented.

The ESMF includes guidance on land take under the project, including criteria for selection of activities where communities, as per their landscape management plans, will provide land needed for activities initiated by them. Since the program will be implemented in predominantly tribal areas, key requirements of ESS7 are built into the ESMF including a robust Stakeholder Engagement Plan, institutional arrangements to facilitate strong community engagement by the PMU and ZMU, design of culturally appropriate grievance redressal mechanisms and capacity building of project teams and community level stakeholders to ensure their equitable access to project benefits.

The World Bank Group's Environment, Health and Safety Guidelines (EHSG) are applied while developing ESMF and other ESF instruments. The project will also engage full time environmental experts and social experts as well as tribal development specialist to bridge the gap in assessing and managing risks, strengthening community institutions, and involving various stakeholders right from the planning process to implementation and management of sub-projects. In addition to qualified E&S staff in the implementation structure, the Borrower will also hire Project Management Consultants (PMC) to monitor the implementation and also oversee the fulfilment of measures outlined in this ESMF and other instruments.

### **Labour and Working Conditions (ESS2)**

ELEMENT will involve engagement of direct, contract and community workers, as well as officials of Government of Nagaland on deputation/ secondment to carry out the project activities, apart from the involvement of primary supply workers. The project is expected to hire about 95 direct workers in the SPMU and the 3 ZMUs. In addition, specialists' services will be rendered by district government officials on a need's basis in the ZMU. Community workers will be engaged mainly for implementation of Component 2 activities under which community grants will be provided to the Village ELEMENT Management Committee (VEMC) including restoration of forest and degraded lands with soil and water conservation works, establishment of community nurseries, forest fire management, construction of water harvesting structures, drainage line treatments, spring-shed development and propagation of select NTFPs/HVFPs.

In view of minor construction works planned, the scale of labour deployment is expected to be low, short duration and scattered across project locations. Given this scale and use of largely local workers, labour influx related risks are not anticipated. Other labour risks are related to low awareness and orientation among the labour force on health and safety issues at worksites, low or no provisioning of occupational health and safety gears/ personal protective equipment (PPE); inadequate sanitary facilities at worksites; delayed or non-payment of fair and minimum wages; safety and security of women workers at worksites which could lead to potential risk of SEA/SH.

Conforming with ESS 2 requirements, a Labour Management Procedures (LMP) is being prepared to guide the management of labour-related issues in ELEMENT. LMP will list the relevant national labour laws and policies related to workers service conditions, wages, OHS that need to be in place. It will detail the terms and conditions related to workers, especially direct and community workers that need to be in place, measures to ensure effective contract management with respect to workers, including contractors' obligations, Workers Codes of Conduct, workers GRM, prevention of child and bonded labor, SEA/SH as well as the implementation responsibilities. The LMP will align the working conditions of Community Workers to ESS2 by ensuring that their services are voluntary, don't involve forced labour and directly benefit the community workers.

### **Resources Efficiency and Pollution Prevention and Management (ESS 3)**

The project activities that are relevant for ESS3 are (i) Afforestation, agroforestry, and nursery modernization and strengthening which have a potential risk for enhanced use and improper disposal of pesticides, chemical fertilizers and use of poly bags etc.; (ii) NTFP promotion such as Honey bee farming and processing may lead to increase in fumes due to burning of beehives for honey collection etc.; (iii) minor civil works for soil and water conservation and (iv) generation of animal wastes in piggeries, poultry and animal husbandry etc.

With respect to resource efficiency, the project preparation will identify feasible measures for: (i) efficient water usage, (ii) raw materials use by exploring use of local/alternate materials and recycled aggregates, (iii) use of innovative technology so as to minimize project's footprints on finite natural resources in the construction of soil and water conservation and erosion control measures and, (iv) enhancing energy efficiency and minimizing greenhouse gas (GHG) emissions. For pollution prevention and management, the focus will be on: (a) exclusion of banned pesticides and fertilizers and (b) management of hazardous wastes. Further, the project will implement an Integrated Pest and Nutrition Management practices based on Integrated Pest Management Plan (IPM) and Integrated Nutrition Management Plans (INM) to mitigate the potential risks emanating from these activities. Concerning carbon emissions, the project, during implementation, will estimate GHG reduction due to creation of additional carbon sink, identify climate resilient measures to suit local needs and challenges, and possible use of alternative technologies. These shall include use of IT

technologies such as Remote Sensing and GIS for monitoring forest coverage, land-usage and forest fires etc.

The project will adopt measures in line with the World Bank Group's Environmental, Health, and Safety Guidelines, for example: Environmental (Guidelines no. 1.1 to 1.8) and Forestry (Board and Particle-based Products; Forest Harvesting Operations).

#### **Community Health and Safety (ESS 4)**

The baseline status of Nagaland shows that landslides and flash floods pose serious and frequent risks for disasters with damage to infrastructure, and loss of human lives, especially during monsoons. In addition, jhum cultivation practices pose serious risk from forest fires. The fragility of the locations requires adequate safety measures such as identification of areas prone to landslides and other natural disasters, creating awareness and advisories and proper signage. In addition, increased access to biodiversity rich areas for activities related to afforestation, NTFP collection increases the risk of the communities to human-wildlife conflict. The ESMF includes provisions for managing risks activities related to forestry/agroforestry/NTFP value chains, such as avoidance of work during night and periods of wildlife movement, involvement of JFMCs Village Chief and awareness raising of communities and improved monitoring/reporting. As the project would implement afforestation and agroforestry related activities, potential risks will be mitigated through promoting appropriate and optimal use of agrochemicals to prevent adverse human health impacts from exposure during use, accidental ingestion, or misuse and if required, preparation of Integrated Pest Management plans.

Even though labor for minor construction civil works for soil and water management, spring-shed improvement, storage and processing of NTFP produces and raw materials etc is expected largely to be sourced locally, the potential of health, community safety related risks due to law and order situation and GBV/SEA/SH risks to local tribal communities from labour force, project workers/contractors and other non-stakeholders do exist and will be addressed as per the proposed mitigation measures outlined in the LMP, SEP and through the Grievance Redressal systems.

#### **Land Acquisition, Restrictions on Land Use and Involuntary Resettlement (ESS 5)**

Activities under Component 2 on augmenting production will involve soil and water conservation activities on community forest and agriculture lands and will not involve any land-use changes and will be used for conservation works as well as for setting up community nurseries and composting facilities. Activities under Component 3 related to setting up of fish hatcheries, pig feed manufacturing, polyhouse, facility centres for horticulture, honey, food processing, grading and packing facilities will emerge from the community owned landscape management plans and land requirements for these activities will be met by the communities themselves and will be located on community lands. Communities will only propose activities for which they have unencumbered land available. Based on the management plans, access to some conservation sites/ locations may be restricted by the communities themselves to enhance the forest quality or arrest degradation and may have an impact on the incomes and livelihoods of those accessing the sites. The project will identify such households during the planning process and prioritize their selection for individual livelihoods support under Component 2 and 3.

Involuntary resettlement is not anticipated and activities that involve land acquisition of tribal households, lead to loss of livelihoods for tribal communities, do not follow voluntary land donation procedures or cause significant, adverse, irreversible impacts on customary tribal lands or resources have been put in the negative list. In addition, this ESMF guides ensuring that the land take under the project follows customary land management procedures and is consistent with principles of ESS5.

The ESMF includes the selection criteria for community led activities where communities will provide any land needed for activities initiated by them. They also capture the existing customary land ownerships and tenures, their customary land donation procedures, the gaps with respect to ESS5 on Voluntary Land Donation (VLD) and recommendation for bridging those gaps. For this, detailed guidelines, and protocols to govern the VLD have been included in the ESMFs. The ESCP also sets out actions for adoption, application, verification of VLD guidelines and regular screening of checklists on any adverse land related impacts.

#### **Biodiversity Conservation and Sustainable Management of Living Natural Resources (ESS 6)**

Biodiversity conservation and management is one of the key aspects of ELEMENT, hence the project is anticipated to have positive impact on improving the living natural resources in the project areas through plantation, agroforestry and afforestation. Due to increased community access to forests for plantation, afforestation, harvesting of NTFP/HVFP, implementation of soil and water conservation and erosion control structures in forest and non-forest areas may have an adverse impact on biodiversity and increase human-animal conflict. Promotion, including plantation, of coffee, bamboo, and other NTFP-based value chains are among the species selection risks envisaged under the project. Private sector participation in NTFP based livelihoods may further accentuate the impacts by promotion of monoculture/alien species to achieve economy of scale. The project will promote mixed indigenous plantation in forest areas to increase forest density. On NTFPs, the project will not support large scale monoculture plantation, or plantation of alien/invasive species within designated forests, eco-sensitive zones and protected areas. Construction of some building units at ecotourism sites, including eco-friendly bamboo hut, nature trail, interpretation centre, check dams, etc. may require some site clearance and tree felling activities. The project envisages to sensitize and enhance capacity of the JFMCs and work with them for forest and biodiversity protection work in the identified landscapes, which can be transformational in empowering them for protection of wildlife and critical habitats. The project will involve JFMCs in eco-restoration activities in the forest area as well as in plantation on degraded forest land by selecting indigenous mixed species of prevailing environment.

Improved and state-of-the-art production and harvesting techniques will allow continued long-term production of the resource from the same natural resource base. The project will not support any sub project activities that are likely to require forest land diversion, including that from wildlife sanctuaries, national parks, critical habitats, eco-sensitive zones. The ESMF includes an exclusion/negative list of activities in the screening criteria that will eliminate the possibility of activities being taken up in critical habitats and ESMPs will be customized and prepare to manage site-specific impacts. The screening process included in the ESMF will assist in determining the need for Biodiversity Management Plan (BMP), and wherever required, the BMP will be prepared prior to implementation.

#### **Indigenous Peoples/Sub-Saharan African, Historically Underserved Traditional Local Communities (ESS7)**

Nagaland is predominantly tribal, with about 90 percent of the population comprising Scheduled Tribes. Since the project area and primary community beneficiaries of the program are tribal, the project will benefit the forest-dependent communities that are geographically isolated, marginalized and underserved and face exclusion while accessing public services, entitlements and other development benefits. Project is not expected to cause any significant adverse impacts on tribal lands or resources under customary use or occupation. All sub-project activities that may a) lead to significant, adverse, irreversible impacts on customary tribal resources, b) involve land acquisition or involuntary resettlement of tribal households, c) be opposed by local governance institutions and customary tribal leadership or d) which could lead to social conflicts have been excluded.

Given the project location and target communities a separate IPPF has not been prepared and risk mitigation measures related to ESS7 have been mainstreamed in the project design, the ESMF and the SEP. The project's institutional arrangements incorporate measures to recognize, respect and preserve the indigenous knowledge and cultural practices of the tribal communities ensure inclusive and culturally appropriate benefit sharing and community engagement mechanisms and meaningful consultations throughout project cycle. The project GRM will be dovetailed with the customary grievance redress and conflict resolution processes and all engagement and capacity building activities will use those Naga dialects that are used by the local sub-tribes.

### **Cultural Heritage (ESS 8)**

The possibility of project-related impacts on cultural heritage (in selected landscape for restoration activities) will be screened through the Screening Checklists. Consultations with communities will also be undertaken to screen any sensitive issues related to tangible, intangible and undocumented cultural heritage and resources. The ESMF includes guidance on screening of the potential for any direct or indirect impact of project activities on cultural assets and determine the presence of any other such resources that may not be listed with national or state governments (e.g., Archaeological Survey of India) but could be of local significance. Any such identified cultural heritage impacts and/or chance findings will be handled in line with national legal requirements and requirements set forth under ESS8.

### **Stakeholder Engagement and Information Disclosure (ESS 10)**

The SEP of the project has mapped all the potential project stakeholders, including the vulnerable and disadvantaged groups and their engagement needs with respect to the project interventions and has come up with an engagement strategy that addresses the needs of the disadvantaged and is culturally appropriate. The project poses risks of exclusion for the marginalised social groups like the *backward* tribes as well as vulnerable households including women headed, landless and the poor. The SEP lays emphasis on ensuring that the community led landscape management plans are collectively owned and endorsed by the community before the plans are formally accepted and their implementation is initiated. The plan also provides multiple channels for communication and proposes a new project specific GRM to address the grievance redressal needs including SEA/SH grievances of the target community and use of State GRM to redress larger grievances related to restoration of public order. The project GRM is also linked to the customary grievance and conflict resolution mechanisms available locally to ensure that the redress is accessible and in sync with the traditional practices. Additional position of a specialist has also been incorporated in the SPMU to oversee community engagement and facilitate participatory approaches during the planning and implementation of community led landscape management plans, and to ensure that communities are adequately informed, consulted with and meaningfully engaged throughout the project cycle.

## **4.4. Borrower's Overall ESS Capacity and Institutional Assessment**

The Government of Nagaland is implementing a number of externally funded projects, including World Bank-financed Enhancing Classroom Teaching and Resources Project (P172213) and Nagaland Health Project (P149340) and is exposed to the concept and requirements of the World Bank's ESF. However, the Implementing Agency (IA) SoCRAN does not have direct prior experience with ESF implementation. The SPMU headed by the Project Director, will have component-wise General Managers, apart from an Environment Specialist and a Social Development and Grievance Redressal Specialist. Similarly, the Zonal Management Units will also have a focal point to monitor and manage the E&S issues in its project area.

The ESMF also includes measures for further improvement of the E&S capacities of state, cluster and village level implementing units through intensive trainings on participatory planning and monitoring, ESF and its requirements, stakeholder engagement, grievance redressal. The E&S capacity gaps at

the State, District and Village levels will be assessed and addressed by ensuring that SPMU is appropriately staffed, engages consultants and conducts regular trainings on ESF for the PMU and district level teams. The project plans to hire Project Management Consultants to provide managerial support for planning, implementation, monitoring and evaluation activities throughout the project lifecycle and will include ESHS under its scope of work.

## 5. Environmental and Social Management Framework

Based on the Environment and Social risk identification and assessment undertaken in the previous chapter, this section provides the guidelines and procedures to be used to address the environmental and social risks and impacts associated with the ELEMENT Project, using a framework approach since the site-specific interventions are not known at this stage. These procedures will help the project team in screening the project activities for potential adverse impacts, analyse the nature of these risks and their impacts and manage them in accordance with the risk mitigation hierarchy during various phases of the project and sub-project cycles.

The key objective of this ESMF is to:

- Spell out the procedures for identifying and assessing the E&S risks and impacts related to the project and its subprojects;
- Lay down the methodology to be adopted for risk screening and its categorisation, development of mitigation measures proportionate to the nature and scale of E&S impacts posed by the project and also recommend measures that contribute to enhancement of the E&S performance of the project;
- Ensure that the sub-project level Environmental and Social Management Plans (ESMPs) are aligned with the requirements of ESF and the national regulatory framework;
- Outline the implementation arrangements, including the roles and responsibilities of the main implementing agencies, the monitoring and reporting procedures and additional measures required to augment their capacities for ESMF implementation.

### 5.1. Screening and Categorization of E&S Risks

While major E&S risks of the project have been identified in the previous section, all the sub-project level risks will need to be identified and categorised based on their magnitude, intensity, likelihood, location and the community where the activities will be implemented. After this screening, the project risk can be rated and the type of E&S measures and instruments to be prepared decided. As a first step all activities/ sub-projects in the exclusion list, provided as part of this ESMF (*Annexure 1*), or assessed to be High Risk, will not be supported by the project and will not be screened for adverse impacts.

Risk screening will be done for all other activities that are not on the exclusion list but carry some negative E&S impacts. Based on this screening exercise, undertaken using the risk screening format provided in this ESMF (*Annexure 2*) the remedial measures for managing and minimising the impact of these risks will be decided following the ESF's risk mitigation hierarchy. These measures, to be included in the ESMP, will also be part of the bidding documents of contractors executing the project. In case of activities undertaken by government departments or local institutions, these measures will be part of the terms of reference developed for the executing agencies. If and when required the contractor or the executing agency will revise the ESMPs and the measures therein in consultation with the SPMU.

### Risk Categorisation & Materially Consistent Mitigation Measures

| <b>E&amp;S Risk Category</b> | <b>Type of Sub-projects/ Activities</b>  | <b>E&amp;S Instruments or Management Tools</b>  |
|------------------------------|--|---|
| <b>Substantial Risk</b>      | Projects with potential Significant adverse E&S risks or/and impacts that are mostly irreversible, but addressed or minimized through mitigation measures  | Detailed site-specific ESMPs and other instruments as required by ToR, to be prepared by independent consultant in coordination with DPR consultant; or if prepared by DPR consultant then reviewed by Independent Consultant |
| <b>Moderate Risk</b>         | Projects with potential moderate adverse social or environmental risks or/and impacts that are few, generally site-specific, largely reversible, and readily addressed through mitigation measures | ESMP prepared by the contractor or executing agency depending the nature of activity and its implementation mechanism guided by the ESMP template provided in the ESMF  |
| <b>Low Risk</b>              | Projects with minimal or no adverse social or environmental risks or/and impacts   | ESMP prepared by the contractor or executing agency depending the nature of activity and its implementation mechanism guided by the ESMP template provided in the ESMF  |

## 5.2. Preparation of Mitigation Measures and Instruments

For sub-project activities with low to moderate risks, generic ESMP templates (*Annexures 3 to 7*) that have been included in this ESMF will guide the executing agencies to adapt them to their requirements during the sub-project preparation stage. Requirements in terms of compliance measures, regulatory clearances, and institutional capacities of the agency to implement those measures will be assessed and clearly laid down prior to implementation to ensure that they are sufficiently in place before implementation is initiated. During implementation, the activities of the executing agencies or the contractors will be regularly monitored by the project through the sub-project cycle to ensure that the recommended measures are being adopted. Most activities to be supported by ELEMENT are likely to fall in this category. For activities with substantial to high risk detailed ESMPs will need to be prepared that will provide specific measures and monitoring mechanisms and will be included in the contract documents.

## 5.3. Stakeholder Engagement Plan

The project has a component on participatory landscape management which requires outreach, mobilization, and defined roles of communities in planning, implementation, and monitoring of project activities. The SEP has been prepared and include: (i) a detailed mapping of stakeholders (communities and institutions, vulnerable households) and their engagement needs with respect to the project; (ii) a communication strategy that includes use of culturally appropriate content, language, and mediums (Nagamese- English and relevant Naga dialects in Nagaland); (iii) tools of engagement to ensure regular information dissemination, dialogue and participation, while ensuring transparency, and accountability; (iv) capacity development of project teams and village institutions on participatory planning, implementation and monitoring; (v) provision for a dedicated grievance redressal mechanisms to handle project specific grievances, including those related to SEA/SH and revisiting the GRM periodically to test its effectiveness to respond to the stakeholders requirements, and; (vi) periodic monitoring and reporting on the stakeholder engagement activities. The project will also pay special attention to address any potential barriers to the most vulnerable groups to meaningfully participate in the project. The SEPs ensure that all engagements with the tribal communities are culturally appropriate and representative village institutions are consulted at each major project milestone in the village- (a) during the preparation of larger landscape management plans, (b) during preparation of village work plans, (c) before the signing of the Community Sub-



Grant Agreement and (d) during collective project reviews. A screening template is being prepared under the ESMFs and shall be endorsed by the Village Committee for the sub-projects. The ways of engaging stakeholders during implementation as proposed in draft SEP will be consulted with the identified stakeholders (including vulnerable and disadvantaged) during the appraisal and the outcomes will be updated in final version. Sufficient information and education will be provided on likely safety and possible security risks and issues that may arise during the course of planning and implementation.

#### **5.4 Labor Management Procedures**

Labor Management Procedures (LMP) will also be prepared and adopted before the engagement of any project workers (direct, contracted or community workers). LMPs will provide guidance on the working conditions and terms of employment of the direct and contracted workers engaged at the PMUs and CMUs as well as those deployed at select construction sites in the project. The LMPs will also provide guidance on how community workers will be engaged, including the terms of their engagement.

The planned scale of civil works under the project is limited and may not require prolonged deployment of large-scale contracted workers at a given site. In the project areas, most of the construction will be small scale and involve creation of post-harvest storage and processing infrastructure. The labour is expected to be a mix of local and migrant workers but given the scale, labour influx and its related risks are not anticipated. Direct workers will be engaged at the SPMU/PMU (State), ZMU (zonal) and FMU (District level) and will mostly be subject matter specialists and consultants hired from the market. Community Workers will also be engaged under the project for watershed/ springshed development, implementation of the community led landscape development plans. The project LMP currently under preparation includes: (i) review and assessment of the existing labor laws and practices with respect to workers service conditions, remuneration, Occupational Health and Safety, codes of conduct (including specifics on zero tolerance of SEA/SH), and grievance redressal mechanisms; (ii) highlights the labour risks and mitigation measures related to different categories of workers; (iii) recommends the terms and conditions related to workers, especially community workers; (iv) key contractual obligations related to labour management (like prevention of child and forced labor) and Workers Code of Conduct that need to be included in bid documents; (v) details of GRM available to project workers to raise workplace concerns, and; (vi) assigns responsibilities for supervision of sites, labor related reporting and undertaking capacity building on labor management. LMP will ensure that working conditions of community workers are aligned to the ESS2 requirements, are voluntary and directly benefit the workers. The project Community Operations Manual will also spell out the terms of engagement of community workers to implement village level activities supported through community grants. Additionally, the ESCP includes adoption and implementation of procedures for Labor Management based on relevant provisions of the National and State legislations and consulting firms as relevant including access to available GRM.

#### **5.5 Environmental and Social Management Plans**

The ESMs shall consider various activities proposed under the sub-project and provide management measures to be followed for different phases of implementation (planning/ pre-construction, construction/ implementation) and post-construction/ post implementation phases) along with the allocation of responsibilities for its implementation, reporting and monitoring. These management measures will also include opportunities for enhancement of E&S performance through adoption of best practices and their inclusion in project components will need to be ensured. Where required,



these measures shall be made part of the subproject components and included in the contract documents. Following key ESMPs are envisaged and described in Annexures:

- Springshed management Plan: The springshed management plan shall cover environment and social aspects and impacts associated with springsheds. The plan shall cover construction activities to be undertaken for ensuring springs functionality, prevention of landslides and soil erosion and water conservation to improve soil and water availability and quality throughout the year.
- Forest fire management plan: This ESMP shall cover various environmental and social aspects associated with jhum cultivation and forest fires and impacts on soil health in the area. The plan shall cover aspects and activities for prevention as well as management of forest fires.
- ESMP of Alternate livelihood activities such as poultry, animal husbandry, piggery and fisheries etc. This ESMP shall cover environmental and social aspects and impacts associated with such activities and their mitigation measures.

In case the risks call for additional mitigation measures like a Biodiversity Management Plan, an Occupational Health and Safety Plans, considering the sensitivity of the location, then these instruments will be prepared based on the category of risks assessed and the mitigation measures recommended. For all management actions proposed, the roles and responsibilities of various project stakeholders will be clearly defined, along with tentative timeframes within which they need to be completed and the resources available for implementation.

In addition, guidelines for Voluntary Land Donation to be followed as per the Annexure 6. And as per Annexure 7, risk assessment on any community health and safety to be integrated in the ESMPs.

## 5.6 Implementation of ESMPs and other Recommended Instruments

After the preparation, approval and disclosure of ESMPs and other applicable E&S instruments based on the ESF requirements, these measures will be implemented by the agencies executing that subproject or an activity. The ELEMENT PMU directly or through supervision consultants /project management consultants shall monitor the technical implementation of the project including the measures outlined in the ESMF and periodically submit compliance and monitoring reports.

In addition, the E&S focal points in the ELEMENT PMU will also undertake monitoring visits to assess the implementation of the E&S measures. Based on these on-site visits and inputs received from the management or supervision consultants all non-compliance and their remedial measures will be flagged to the concerned executing agency and followed up. The PMU will also periodically compile and share quarterly/ half- yearly monitoring reports with the World Bank.

**Stages of Subproject Development & E&S Requirements**

| Stage of subproject cycle  | Steps for Assessment  | E&S Instrument Required  | Agencies involved   |
|--|---|--|---------------------|
| Subproject Identification  | Environmental and social screening to determine key risks and impacts and category of sub project             | Environmental and Social Risk Screening Report   | SoCRAN-SPMU and ZMU |
| Subproject design (for subprojects with low or no E&S risks that don't require further assessment) | Consultation with key stakeholders.<br>Preparation of good practice Guidance<br>Ensure integration of code of | Good International Industry Practice (GIIP) and Workers Code of Conduct/ Staff's Behavioural | SoCRAN-SPMU and ZMU |

|  |  |  |  |
|--|--|--|--|
|  | conduct into bidding documents   | Obligations  |  |
| Sub-project design (for activities with substantial to high risks including civil works) | Prepare ToR to carry out E&S assessment and prepare site-specific ESMPs and additional instruments   | ESMP & other materially consistent instruments, if needed            | SoCRAN-SPMU and ZMU                        |
| Subproject review and approval   | Review ESMP to assess if all issues have been adequately addressed; decide if sub-project should proceed to implementation, or if further alternatives or measures need to be examined | ESMP & other materially consistent instruments                       | SoCRAN-SPMU and Project Steering Committee |
| Procurement of works and services  | Integrate ESMP measures and other management plans into the bidding documents and subsequent contracts   | Bidding document with contract obligations related to E&S management | SoCRAN-SPMU                                |
| Implementation or Construction stage   | Orient contractor, executing agency on the ESMF and ESMP requirements<br>Supervise, monitor and report on ESMP compliance<br>Take corrective action where needed                       | Periodic Compliance Monitoring Report for submission to World Bank   | SoCRAN-SPMU and ZMU, Contractors, PMC      |
| Completion of Sub-project implementation   | Post construction maintenance and operation in line with measures spelled out in the ESMP  | Periodic Compliance Monitoring Reports                               | SoCRAN-SPMU, ZMU and PMC                   |

#### 5.4. Revisions and Modifications to the ESMF

Based on the ESF principle of adaptive management, this ESMF will be a live document and is liable to any revisions and modifications based on changing external circumstances or legal-regulatory regime, changes in project components or its implementation strategies, as and when required. Unexpected situations or changes in the project subcomponents would, therefore, be assessed and appropriate management measures incorporated by updating the relevant sections of the ESMF to meet the requirements. Such changes will be done in consultation with the World Bank and the implementing agencies/departments. The modified version of the ESMF will be submitted to WB for its review and approval and subsequently disclosed.

## 6. Procedures for Managing Land and Related Impacts

### 6.1. Scale of Land Requirements Under the Project

Land requirement under ELEMENT is expected to be mainly under Component 2 (Restoring Landscapes for Improved Ecosystems Services) and Component 3 (Enhancing Landscape-based Value Chains for Economic Transformation). Most of these land requirements are expected to be small scale, scattered across locations in the state and do not call for land acquisition or involuntary resettlement<sup>11</sup>. In some cases it may not involve any land-use change while in many cases the land use classification may change from forest to agriculture use/miscellaneous tree-crops or groves. Following are expected to be the component-wise specific land related requirements of the project:

| Component   | Activity   | Scale and nature of land required/ available  |
|---|--|---|
| Component 1: Strengthening Institutions for Integrated Landscape Management | Setting up of geo- spatial lab at Nagaland GIS and Remote Sensing Centre (NGIS&RSC)                            | Will involve setting up infrastructure and equipment within existing premises of NGIS&RSC and creation of additional work spaces. Encumbrance free land is available within the premises  |
|   | Upgradation of infrastructure and improvements in training facilities of state training institutions           | Will involve improvement in infrastructure and training facilities within existing buildings and premises   |
|   | Establishment of control rooms for forest fire management  | Will be set up within existing premises of Nagaland SDMA or relevant wing of State Forest Department  |
| Component 2: Restoring Landscapes for Improved Ecosystems Services          | Soil and water conservation measures, re-/afforestation and agroforestry, springshed and watershed development | Small soil and water conservation activities are expected to take place within identified watersheds (with degraded lands) on land owned by the community or individuals. No land-use change expected to take place and will directly benefit landowners  |
|   | Restoration and conversion of Jhum Areas <sup>12</sup>   | Will involve conversion of erstwhile <i>Jhum</i> areas into permanent, settled agriculture or into climax forest. In case of latter, it will not involve land use change, while in case of former land use will change without change in ownership for the long term benefit of the community/ landowners. Size of land parcels restored and converted will be site specific and will directly benefit the landowner/s. |
|   | Protection and Expansion of CCAs   | Will involve conservation, protection and further expansion of existing Community Forests/ Reserves for recognition as CCAs. Land-use is not expected to change, although there may be temporary or partial restrictions on access for dependent communities  |
|   | Community Nurseries  | This will require communities to come forward to create nurseries for commodities/HVFPs identified for value chain development and agro-forestry and will directly benefit the landowner/s  |
| Component 3: Enhancing  | Development of value-chains for Agroforestry,  | Will involve setting up grading, processing, packaging and/or storage facilities for identified commodities and   |

<sup>11</sup> Owing to its special status under the Indian Constitution, land acquisition as per national laws is not undertaken in the state of Nagaland and customary procedures are adopted even for linear development projects.

<sup>12</sup> In Nagaland, as per land use records, the Jhum or Shifting Cultivation areas are categorized as Unclassed Forest (forests and wastelands not included in Reserved or Protected forest category) and could belong to both government and private individuals or communities.

|  |   |  |
|--|---|--|
| Landscape-based Value Chains for Economic Transformation | forestry and NTFPs                                    | NTFPs/HVFPs, apart from fish hatcheries, pig feed manufacturing, poly-house for horticulture, honey, food processing on community lands leased or donated by the landowners. These will be part of community landscape management plans and based on availability and willingness of community to provide such lands for these value chain development activities. |
|  | Creation of facilities for nature-based tourism (NBT) | This will involve creating minor amenities, shades/ resting facilities, dirt tracks/ trekking routes for eco- tourists within identified CCAs/ CRs /community forests. Amenities will be temporary in nature and will require very small parcels while tracks and trekking routes will involve clearing of existing tracks.  |

## 6.2. Potential Resettlement Impacts

The resettlement impacts of the project activities are expected to be related to a) minor loss of income (in proportion to the land donated) to the landowners voluntarily donating their land, and b) loss of livelihoods for households due to temporary or partial self-restrictions imposed by the community on access to common property resources on landscapes identified for conservation and protection activities. Since most of the land requirement of the project will be small and met from community lands, the impact on individual incomes or livelihoods of these landowners is expected to be minimal. In addition, the landowners will also be directly benefitted by the project activities for which the land has been donated.

The procurement of individual or community land through voluntary land donation will follow the customary land donation practices that are in existence in the state and that are being followed for all development projects. All sub-project activities that may lead to a) involuntary resettlement and physical relocation, b) impose permanent restrictions on access to natural resources, c) significant economic displacement or loss of livelihoods, d) significant, adverse, irreversible impacts on customary tribal lands, natural or cultural resources and e) opposition by local governance institutions, tribal leadership and which could lead to social conflicts have been placed in the negative/exclusion list of the project. The E&S risk screening to be undertaken before commencement of project activities will ensure that all such activities are excluded and mitigation measures, as recommended below are in place to manage other resettlement impacts.

## 6.3. Customary land donation procedures in the State

Special provision under Article 371A of the Indian Constitution accords a special status to the state of Nagaland with respect to its customary religious or social practices, customary law and procedures, including administration of civil and criminal justice as well as ownership and transfer of land and its resources.

There is well-regulated land ownership system within the Naga community. Land is divided into community land, clan or Khel land and individual land.<sup>13</sup> Within each village boundary, land is demarcated as forests for extraction of timber for construction and fuel wood, cultivable land, non-cultivable land and land within the village for habitation. All decisions related to land ownership,

<sup>13</sup> There may be some variations in the land ownership across Naga tribes and sub-tribes. In some sub-tribes, no land is privately owned and all land belongs to either the clan or the community. Land parcels are allocated to individual families or households within the clan for various uses, including cultivation but ownership is not transferred to these families.

disposal or donation, solely lie with the landowners (community or individual). The consent given by the landowners is the only form of approval required for any land transfer, donation or use. There is no formal documentation of such transactions or transfer of ownership to anyone or body outside of the village other than the community is not permitted. Government has no role related to land ownership in the community.

Any negotiation or agreement regarding donation of land for implementation of development projects is decided by the Village Council in consultation with the landowners. Individual and donations are very rarely compensated, and usually landowners participate as beneficiaries in the project. Decision related to donation of community land for creating common amenities or facilities or donation of individual land, including their location and size, are taken by the Village Council (which consists of members chosen by the village apart from hereditary village Chiefs, *GaonBura* and *Anghs*). For all development related land requirements that the Village Council approves, it provides encumbrance free land and a non- encumbrance certificate to the implementing government agencies. Village Council also has the power to recommend changes to the location or alignments, based on their own assessment, and to ensure removal of any private or community owned structures/ assets. Where a private land must be donated, if the Council assesses the need, another land parcel is given to the land donor from the community land.

#### **6.4. Land Transaction for Development Projects**

More than 90 percent of land in Nagaland is either owned by the community or privately and land related documentation like Record of Rights (RoR) and land registry, which are prevalent and mandatory in other states, is not done. All ownership, transfer, lease, or donation related transactions are orally passed on through generations and families. As a result, the state does not exercise eminent domain and no land acquisition takes place even for national, state highways or other projects.

The concerned government agencies discuss their land requirements with the Village Council, which analyses the requirement and convenes the landowners. The agencies make an offer for outright purchase<sup>14</sup> which is then negotiated, and final price agreed upon, approved by the Village Council and the sale deed is signed. Any assets and structures, including standing crops, are also compensated based on estimates provided by the public works and agriculture/ horticulture departments.<sup>15</sup> In some cases, additional rights, or benefits (like employment) are also offered by the implementing agencies to the potential landowners.

Land requirements for creating assets for community purpose are based on voluntary donation. The council donates the land in case it is community land, otherwise, the clan or individual owners are requested for land donation. Most land requirements for community asset / utility or for creation of public facility in a region are also met by donation, with the adjoining villages themselves coming forward to offer land for the purpose.

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<sup>14</sup> Price discovery is based on local information regarding the rate at which recent land transactions had taken place.

<sup>15</sup> As compared to other states, litigations related to land transactions are rare in the state.

## 6.5. Gaps between ESS5 and Customary Land Donation Procedures

| Provisions of ESS5  | Customary Land Donation Procedures  | Gaps and Recommended Mitigation Measures  |
|---|---|---|
| Potential Land donors fully informed and consulted about project, benefits and impacts  | All project related details are discussed and deliberated upon in the Village Council meetings in the presence of village elders and concerned landowners.  | No gaps assessed  |
| Sufficient information about choices, including seeking full compensation, refuse transaction during negotiation; assurance that eminent domain will not apply    | Land donations are voluntary and do not involve monetary compensation. Compensation is usually not part of the discussion and donors participate as direct beneficiaries instead. Eminent domain is not applied in the state for land transactions for public purposes, including infrastructure or other linear projects. The process is consultative in nature and right to refusal is available with the individual or community landowner/s | No gaps assessed  |
| Sufficient time provided to owner to consider choices to take the decision knowingly & willingly, without coercion, pressure, or threat of eminent domain         | Eminent domain is not used for land take; adequate time is provided between the initial discussion and subsequent meetings for the Village Council to make an assessment along with the landowners and reach a decision. Coercion is not applied, and the Village Council largely acts as the arbitrator and facilitator in the process   | Project to ensure that not less than one month is available to the potential land donors between the initial meeting and the final discussion related to land donation.   |
| Confirmation of willingness to donate through a formal or legal process, providing consent, confirming ownership, and declaring no encumbrances on parcel donated | No documentation or Record of Rights (RoR) is maintained in the state; hence, willingness is not sought through formal-legal consent. It is largely oral and based on customary procedures wherein consent is taken in village forums/ VC meeting, orally transmitted to the family/ clan and the village and usually remains uncontested. No gift deed is executed; only a non-encumbrance certificate is provided by the Village Council      | Project can follow the guidelines of Prime Ministers Rural Roads Program (PMGSY) on voluntary land donations and execute a gift deed in instances where land donation is permanent, irreversible and not just for a fixed duration. |
| Proportion of land donated will not adversely impact donors' quality of life or livelihood  | Only those land parcels are considered for donation that don't adversely impact the incomes or livelihoods individual or community landowners. In an event where adverse impacts are anticipated; Village council allocates another land parcel to them from the community land.  | No gaps assessed. The Village Council ensures no adverse livelihoods impacts.   |
| Donation does not involve relocation or physical displacement   | Only agriculture and/ or collectively owned land is considered for voluntary donation and not residential lands that may lead to physical displacement. Some such lands may have temporary <i>Jhum</i> sheds that are seasonally used for maintenance of <i>Jhum</i> farms.   | E&S risk screening will ensure that all activities requiring physical displacement are excluded from project support.   |
| Donor is directly benefit from the project  | Individual and Community land donors are mostly expected to donate land in lieu of direct benefits of the project to self and the community   | No gaps assessed  |
| For donation of community land, there is consent of individuals using or occupying such land  | Since community lands are collectively owned, hence consensus of all, including village elders and chiefs is required before land donation, including those occupying or using the land.  | No gaps assessed.   |

| Provisions of ESS5  | Customary Land Donation Procedures  | Gaps and Recommended Mitigation Measures   |
|---|---|--|
|   | Tenancy in the conventional sense is rare in the state.   |  |
| All documentation related to consultations and agreements done and maintained transparently                 | No documentation is undertaken, other than discussions getting documented in the minutes of Village Council meetings.<br>Usually, no separate documentation is maintained on the consent provided by landowner/s for land donated. In some instances, it is prepared and shared with both the parties   | VEMC to be assigned the task to ensure that land donation related consultations are documented and maintained. |
| Mechanism available to handle any grievances raised by land donors (and other persons affected by donation) | Village Council is the apex body in all the villages for all decisions taken with the village community including disputes and conflicts within the village and inter-village. All cases get resolved by the Village Council and rarely go beyond the village or to Courts of Law. Where present the Village Judicial Committee acts as the first stage of grievance redress and most grievances are resolved at this stage itself.<br>In rare instances of contestation, the issue is arbitrated by the Village Council. | Project GRM to provide an escalation channel for grievances raised by land donors or other affected persons    |

## 6.6. Mitigation of Impacts Related to Restrictions on Land Use

In addition to the risk related to voluntary land donation, the project also poses risk of loss of livelihoods and incomes for those households that may be temporarily or partially restricted from accessing community reserves or community conserved areas or other landscapes demarcated for conservation and protection activities. These may be households that access these identified landscapes for NTFP collection or for meeting their food, fuel, or fodder needs. Such restrictions will be for sites and durations decided collected by the community itself, and formally reflected in their community owned landscape management plans.

The households impacted by such self-restrictions imposed (by the community upon itself) on access such common property resources will be compensated through livelihoods restoration strategies mainstreamed by the project itself. The Community Operations Manual to guide the use of Community Grants provided under Component 2, will lay down the procedures by which the beneficiaries for individual oriented livelihood support activities will be identified. In addition to the prioritization of vulnerable and disadvantaged households for such activities, these procedures will also ensure that the households that faced such restrictions on access to such conserved landscapes are also selected as beneficiaries of such support on priority. The projects E&S reporting will include indicators to track the inclusion of such adversely impacted households in these individual/ family-oriented livelihoods support activities. Detailed guidelines and procedures to help the project teams in ensuring VLD as per ESS5 have been provided in the Annexure 6



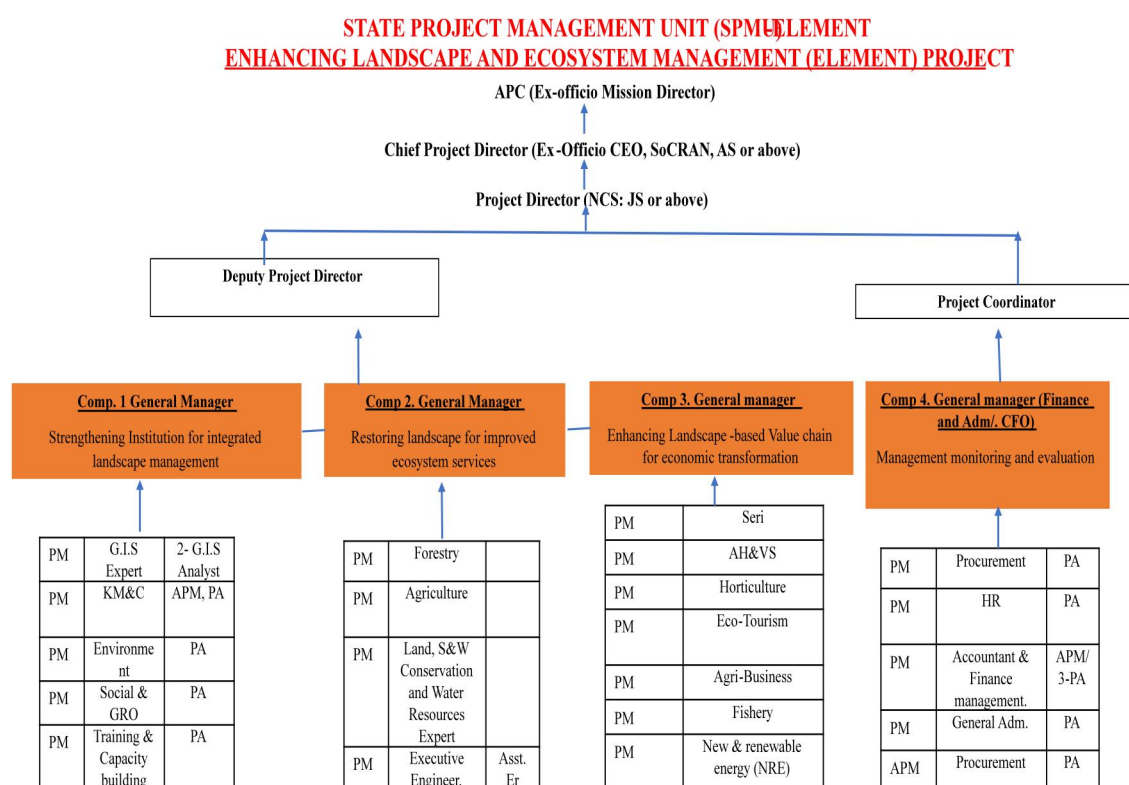
## 7. Institutional Arrangement for E&S Implementation

At the Apex level, the project will be steered by a High Power Advisory Committee with Honourable Chief Minister as its Chairperson and Agriculture Production Commissioner (APC) as its member secretary. The high-power advisory committee shall be mandated for approval of all financial and administrative policy matters related to ELEMENT, Nagaland.

The administrative hierarchy of the project is described in the Figure below. The project execution shall be supervised by the Executive Committee chaired by Chief Secretary. The ELEMENT activities will be implemented by the society, named Society for Climate Resilient Agriculture in Nagaland (SoCRAN) with support and advice of Technical Advisory Committee headed by APC.

The Chief Executive Officer (CEO) of SoCRAN shall be the Chief Project Director (CPD) of the ELEMENT Nagaland, At the state level, SPMU shall be headed by APC as Ex-officio Mission Director (MD). At the zonal level, the ELEMENT Zonal PMU shall be headed by Zonal Manager.

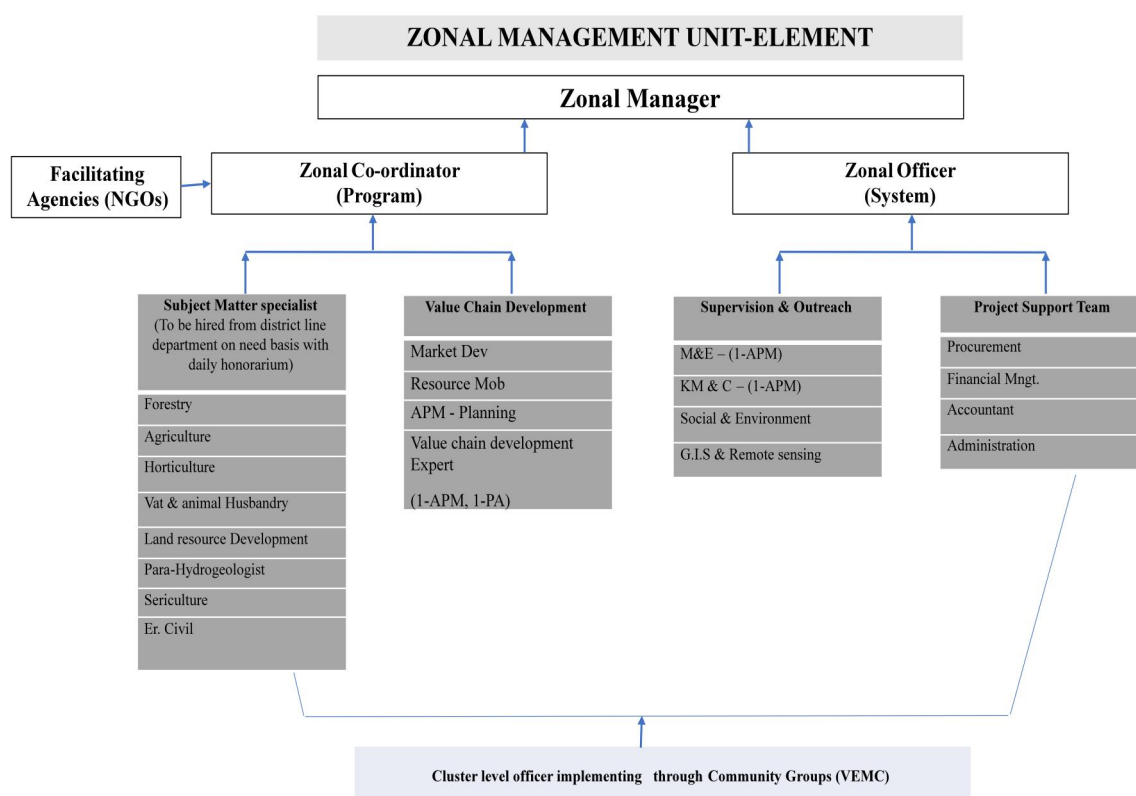
The State PMU shall function under the Project Director, supported by a Deputy Director and a Project Coordinator, as depicted below. The PMU shall be staffed with Project Managers covering technical domains such as GIS, RS, Environment, social and Grievance management, forestry, agriculture, water and land conservation etc. The project coordinator shall manage the managerial functions such as finance, procurement, general administration etc. The technical staff shall be supported by their assistants and analysts in their functions.



The Zonal management unit shall be headed by a Zonal Manager supported by one Zonal Coordinator and one Zonal Officer-Systems. The Zonal PMU shall be supported by Village or Project Facilitating Agencies (VFAs/PFAs) that will be CSOs that are already working closely with the local communities. Subject matter specialists shall be hired from district line departments on need basis as and when



required and on daily honorarium. Such specialists shall cover areas such as forestry, sericulture, para-hydrology, and civil engineering etc. Value Chain Development unit shall be established at the Zonal PMU to plan and manage NFTPs value chain development. This unit shall have an expert on Value Chain development, market development, resource mobilization and planning. The supervision and outreach unit shall have technical personnel from the domains such as GIS & RS, Monitoring and Evaluation, Knowledge management and Social and environment. The project support team at ZPMU shall cover managerial functions such as procurement, administration, finance, and accounting.



The cluster will have a cluster level officer who will implement project activities at the village / cluster level through coordination and support of Village Management Committees (VMC) and other community groups.

### 7.1. Responsibilities for Implementing the ESMF

| Specialist / Agency  | E&S Responsibilities  |
|--|---|
| Project Director/ SPMU   | <ul style="list-style-type: none"> <li>Coordinate with relevant stakeholder departments/ agencies, representatives of customary village institutions on issues related to the project.</li> <li>Ensure overall guidance, resources and coordination to ensure smooth implementation of E&amp;S activities and instruments.</li> <li>Ensure smooth functioning of the project GRM, periodically track progress and attend to grievances escalated to the SPMU</li> <li>Provide policy level support for smooth implementation of the E&amp;S activities</li> </ul> |
| Environmental Specialist, Social Development Specialist and Tribal Specialist at the SPMU and ZMUs | <ul style="list-style-type: none"> <li>Prepare annual work plans and budgets for activities related to E&amp;S and ensure they are planned, financed and implemented accordingly.</li> <li>Ensure that the ESMF, SEP, ESMPs, LMP, BMP, IPM and INM are being properly implemented at the sub project level.</li> <li>Ensure compliance with the ESCP</li> <li>Undertake environmental and social risk screening of potential subprojects and ensure preparation of ESMPs, if required</li> </ul>  |

|   |  |
|---|--|
|   | <ul style="list-style-type: none"> <li>• Organize periodic consultations with project stakeholders including strategic engagement with the women, IPs, workers, and other vulnerable groups.</li> <li>• Ensure regular dissemination of project-related information at the state and project village/ landscape level.</li> <li>• Ensure setting up and smooth functioning of the project GRM and regular reporting on its functioning.</li> <li>• Coordinate with relevant departmental and community level stakeholders and the VFA/PFAs for the purpose of implementation and monitoring of the ESMF and SEP.</li> <li>• Organize capacity building and training for all staff, consultants and contractors.</li> <li>• Communicate with World Bank on any E&amp;S concerns received from project teams, VMC, PMC and observed during the field visit</li> <li>• Support the preparation of project E&amp;S progress reports and ensuring their submission to the Bank on a quarterly basis.</li> </ul> |
| Social and Environmental Experts at the PMC | <ul style="list-style-type: none"> <li>• Responsible for supporting and monitoring activities and to ensure adequate implementation of the ESMF and the sub-project ESMPs, wherever required.</li> <li>• Providing guidance to the VMC and PFA/VFAs regarding any environmental and social issues which may arise during implementation.</li> <li>• Track contractor's activities, implementation of ESMPs, quality of work, adherence to ESHS guidelines.</li> <li>• Monitor that all workers abide by the CoC and that Community workers are engaged as per the ESF requirements.</li> <li>• Ensure adequate safety trainings are given to workers, adequate mock drills are conducted, availability of emergency evacuation plan, first aid at site</li> <li>• Submit periodic progress and follow up reports to the SPMU and bring E&amp;S issues for their attention and action, including cases of non-compliance with the ESMF or ESMPs.</li> </ul>   |

## 7.2. Capacity Building on E&S Management

Training and development of Project Staff on environmental and social management is an essential part for the effective and timely project implementation. Training and capacity building shall be done at all institutional and implementing levels for environmental and social safeguards management. The training program for various stakeholders will include orientation on project, refresher training, and creating awareness on the ESMF of the project and will also include field visits. All the institutions have very limited or no experience in environmental and social management and therefore will require extensive training to be able to fully manage the E&S risks under the project. The capacity of SPMU to carry out their respective design, planning, approval, permitting, monitoring and implementation roles will, to a large extent, determine the success and sustainability of ELEMENT.

The capacity building will include training workshops and production of guidance reports and tools. The training will also be provided during the preparation of the Community Landscape Management Plans (CLMP). The project will be drawing support from the State departments such as Agriculture, Forest, etc to implement trainings, which will be led by technical inputs from the Environment and Social Specialists in the SPMU. The main trainings are highlighted below:

- Orientation Program will be organized at the project launch, with key decision makers officials of project implementing and support agencies, relevant line departments and community level stakeholders, especially the community institutions and VMCs, apart from refresher programmes from the VFAs/PFAs through the project implementation cycle.
- State Level Workshops on different thematic areas identified below will be organized in the initial three years to acquaint SPMU, ZMU, line department officers with the ESMF (environmental and social management, monitoring and supervision). This will be done through presentations, workshops and field visits. This will be over and above the

engagement and communication outlined in the Stakeholder Engagement Plan.

- Field Level Training will be held periodically for the members of VMC, VC, VDB, women's SHGs, jointly with the VFA/PFA staff and project functionaries at the field level on all aspects of environmental and social management proposed for the project. This will be done through focus group discussions, workshops, field visits and other participatory approaches and formal trainings.

The content for the training shall include but not be limited to following environmental and social aspects:

- Occupational health and safety,
- Community health and safety,
- Labour Management, including managing Community Workers,
- Biodiversity Management,
- Implementation of ESMPs,
- Emergency Preparedness and Response,
- Construction Supervision and Audit,
- GBV and SEA-SH risk mitigation measures,
- Stakeholder Engagement,
- Participatory Approaches to Project Planning and Implementation
- Procedures for land-take and Voluntary Land Donation,
- Identification and restoration for households impacted by restricted access,
- Grievance redressal measures

The training to carry out environmental and social risk screening, implementation of ESMF and environmental and social management in undertaking construction for springsheds, forest fires management, building infrastructure expansion, post-harvest infrastructure; and agriculture and horticulture, livestock (poultry and piggery), honey processing and nature based tourism under ELEMENT will be imparted to the key functionaries at the various levels of the project.

### 7.3. Training and Capacity Building Plan for E&S Management

|   | Target Group   | Training Content   | Training Method   | Periodicity  |
|---|--|--|---|--|
| 1 | SPMU, SPMU, ZMU, PFA and Village Animators   | Orientation training on ESMF<br>Staff development program  | Lecture & Presentations;  | Before project implementation: yearly basis        |
| 2 | State level - Environment Specialist, Social specialist, PMU, Line departments officials, NGO, other interested person of the project. | Orientation and sensitization on the Environmental and social impacts and their mitigation measures; training of trainers<br>Training on ESMF data collection<br>Environmental and Social guidelines, monitoring and reporting, institutional arrangement and implementing agencies ESMF | On field demonstration, case studies and best practices, Lectures & Presentations | Before project implementation and then needs based |

|   |  |   |  |                           |
|---|--|---|--|---------------------------|
| 3 | Zonal level-<br>PMU, service provider and other person of interest.<br>Representatives of villages, line departments | Environmental issues and mitigation<br>Training on ESMF data collection,<br>Environmental and social guidelines, monitoring and reporting, institutional arrangement and implementing agencies ESMF<br>Awareness, training and monitoring under the project components  | Refresher training for each zone / cluster where the project has investment:                                       | Yearly -One for each zone |
| 4 | Village level-<br>Representatives of village Management Committee, village council members and facilitators          | Environmental and Social issues and mitigation, Training on ESMF data collection,<br>Environmental and Social guidelines, monitoring and reporting, institutional arrangement and implementing agencies ESMF<br>Awareness, training and monitoring of project component<br>Facilitate for village level comprehensive plan<br>Developing a community plan | On field demonstration, case studies and best practices<br>Lectures and presentation<br>Exposure visits, Workshop: | Annually                  |

## 7.4. Monitoring, Evaluation and Reporting arrangements

### Overview of M&E system at the Project Level

A dedicated core team as described in the section on institutional arrangement would be set up at the SPMU to monitor and report on the E&S progress of the project. An M&E officer and a project level MIS system will also be constituted for the purpose. The environment and social consultants based in the SPMU will closely work with the M&E specialist to prepare monitoring plans to assist in determining the progress of implementation of the E&S provisions, and overall outcome of implementing the environmental and social instruments and good practices. The project will also monitor and regularly report on the indicators included in the project's results framework as well as other indicators identified for regular tracking and monitoring by the SPMU, ZMU and the PFA/VFAs, including the E&S aspects of interventions related to adoption of soil and water conservation and land productivity restoration practices, and improvement in natural resource management.

However, specifically for ESMF, the following institutional parameters would be monitored, as these pertain to the adoption of the environmental guidelines and mitigation measures. This will be linked to the overall project monitoring and evaluation systems:

- Environmental and Social Managers at SPMU, ZMUs (Yearly)
- Number of trainings organized by type of training (Quarterly)

### **Indicators to be Tracked**

- Any incident/accident related to community health and safety/occupational health and safety
- Water quality improvement in Spring after spring shed management measures have been undertaken
- Number of communities/CLM plans preparing and implementing a forest fire management plan
- Increase in discharge rate of the treated springs over the baseline
- Any instances where chance finds have been identified, and the procedure followed.
- No. of Ha of land brought under organic inputs of fertilizer and manure
- No of Ha brought under CCA/CR and no. of families impacted by restricted access
- No of total families benefiting from livelihoods support activities
- No of impacted families identified for livelihoods support
- No. of traditional knowledge conservation practices identified and documented for further scaling up
- Number of communities taking up conservation activities - such as setting up of nurseries for rare, endemic/ medicinal plants;
- Projects for sustainable extraction of NTFPs/HVFPs

The Environment and Social staff at the zonal and state level shall undertake monitoring field visits to the project sites to check on implementation of the CLM plans and their impacts. After having screened the activities in the preparation phase, they shall check the effectiveness/adoption of mitigation measures, any other issues in implementing the mitigation measures, and cases where there are residual environmental or social impacts. The reporting format should cover (i) Environmental and social Impacts which were identified at screening, (ii) Environmental and Social Impacts observed during the field visit against the predicted impacts and level of undertaking mitigations and (iii) recommended additional measures for mitigating residual or new impacts, timelines and responsibilities for their completion.

### ***Supervision, Monitoring and Reporting***

To ascertain the implementation of the project activities in an environmentally and socially acceptable manner and in line with the acts/policies of Government, and World Bank ESF, periodic supervision and monitoring will be conducted by SPMU. It will help to assess the progress made in implementation of environmental and social measures required for its improvement. It will provide necessary feedback to the project management for timely decision making and achieving the objectives.

### ***Monitoring of Statutory Compliances***

For every contract under the project, the statutory compliances of the contractor will be monitored. The statutory compliances have been identified under Chapter 3 of ESMF. The monitoring and reporting arrangements are suggested as per the Table below. In cases where the Environmental and Social Experts of SPMU and ZMUs need to advise on required actions, contractors will have to implement recommended actions in a specified time bound manner.

## **Monitoring & Reporting for ESMP**

|   | Key Indicators  | Standards                                      | Monitoring Parameters  | Responsibility                      | Frequency                                     |
|---|---|--|--|-------------------------------------|---|
| 1 | Disposal of Wastes e.g. construction and demolition waste, organic wastes | Periodic Removal of Debris and other wastes    | <ul style="list-style-type: none"> <li>• Quantity of waste generated</li> <li>• Quantity of waste disposed as per the approved Waste Management Plan</li> </ul>  | Contractors / Project beneficiaries | Weekly  |
| 2 | Safety at Workplace and Construction Sites                                | Compliance with Worker Safety Standards        | <ul style="list-style-type: none"> <li>• Use of PPE by workers,</li> <li>• Provision of safety signage &amp; barricades at construction site,</li> <li>• Incidents including minor, major, fatal injuries, etc.</li> <li>• Health condition of workers.</li> </ul> | Contractors/VMC                     | Weekly  |
| 3 | Water Logging and Drainage  | As per ESMP                                    | Visual impressions   | Contractors /VMC                    | Quarterly                                     |
| 4 | Waste Water Disposal  | As per ESMP and applicable rules               | Waste and Waste Water collection and disposal  | Contractors /VMC                    | Weekly  |
| 5 | Air Quality and Noise   | As per ESMP & applicable rules                 | <ul style="list-style-type: none"> <li>• Suppression of dust,</li> <li>• Muffler and acoustic enclosures</li> <li>• Ear muff and plug.</li> </ul>  | Contractors /VMC                    | Weekly  |
| 6 | Site Restoration  | As per ESMP                                    | Restoration of all works sites   | Contractors /VMC                    | After construction                            |
| 7 | Incident/accident reporting   | As per ESIRT 2023 guidelines of the World Bank | Reporting<br>Root cause analysis<br>Corrective Action Plan   | SoCRAN                              | Within 24 hours of the incident (see Annex 8) |

## Reporting System

The reporting system will provide progress against the indicators provided for different levels of project management and the PMC and will vary during the construction and implementation phases. During the construction phase, mainly VMC will be reporting on environmental and social parameters, since bulk of the funds are to be provided under Component 2 as Community Grants. To enable coordination and reporting in a streamlined manner on ESMF implementation and environment management at subprojects, the following two periodic reports are mandated:

- **Monthly Progress Report (MPR):** Monthly progress report will be submitted by the various ZMUs to the SPMU, based on the inputs received from the PFA/VFA and the VMCs under their project unit, showing the status of implementation of Environmental and Social management measures, with photographs, digital dates, geo-tags and flagging important environmental and social management related issues emerging in the reporting quarter.
- **Quarterly Progress Report (QPR):** This is a consolidated report submitted on a Quarterly basis by the SPMU to the World Bank highlighting and flagging important Environment and social matters/issues that have emerged in the reporting period and seeking guidance on those that

require attention or advice. The format for Quarterly Progress Report (QEPR) will be finalized in consultation with the World Bank.

*These will be over and above the periodic reports received by the SPMU from the PMC, as contractually agreed between the 2 agencies.*

#### **7.5. Budget for ESMF/ESMP Implementation**

Under the Project Implementation Plan (PIP), the cost for ESMF implementation comprises staffing arrangements, adoption of E&S mitigation measures and implementation as recommended by the various E&S instruments support, apart from trainings, capacity building, additional studies or action research, monitoring and reporting. Most of the mitigation actions are already mainstreamed into the project design and do not require activities such as special constructions, though in few cases the project costs as recommended by ESMF may include items such as purchase of firefighting equipment, to mitigate the incidences of fires. The cost of implementing provisions of the ESMF, over duration of the project, is up to 1% of the total project cost, for ensuring implementation of all activities proposed under the ESMF.

**Table: Tentative budget for ESMF Implementation**

| <b>Indicative Budget for ESMF Implementation</b>  |  |                             |
|---|--|-----------------------------|
| <b>S. No</b>  | <b>Item</b>  | <b>Approx. Budget (INR)</b> |
| 1.  | E&S Mitigation Measures (other than SEP related)         | 25,00,000                   |
| 2.  | Human Resource   | 25,00,000                   |
| 3.  | E&S related capacity building and trainings              | 60,00,000                   |
| 4.  | Implementation of SEP, IEC activities and setting up GRM | 82,50,000                   |
| 5.  | Preparation of ESMPs*                                    | 17,50,000                   |
| <b>TOTAL</b>  |  | <b>2,10,00,000</b>          |
| <i>Note: *Final Budget will be available once the Detailed Project Report has been prepared</i> |  |                             |



## Annexure 1: Exclusion List for the Project

Negative/Exclusion List of Activities NOT to be supported under ELEMENT

| S No. | Details of the Activity   |
|-------|---|
| 1     | Any subproject within protected areas (including National Parks, Wildlife Sanctuaries, etc), MoEFCC /State Govt Notified Eco- Sensitive Zones around National Parks and Wildlife Sanctuaries and located/passing through Elephant Corridor or in Natural and/or Critical Habitats without ESA and ESMP having been prepared and approved. |
| 2     | Any activity that leads to conversion of natural habitats or trigger critical habitats or inside legally protected and internationally recognized areas of high biodiversity.   |
| 3     | Any subproject located in Ramsar site or Notified Wetlands  |
| 4     | Any activity that violates the provisions of applicable National and State laws and of International Treaties and Conventions where India is a signatory  |
| 5     | Any subproject activity involving prohibited zone of Archaeological monuments of the State/ Regulated zone of the monuments without NOC from competent authority  |
| 6     | Subproject/activities that support forest harvesting on a large/industrial scale  |
| 7     | Subprojects/activities will support large- scale clearing of land, dredging of water bodies, undercutting of slopes, replacement of natural vegetation that may cause permanent, irreversible impacts.  |
| 8     | Any activity that has a significant potential of causing forest fires   |
| 9     | Subprojects/activities that promote or require pesticides that falls in WHO classes IA, IB, or II and/or procurement of large number of pesticides or toxic agro-chemicals or management of hazardous waste   |
| 10    | Any project activity that leads to large-scale soil erosion and siltation of water bodies   |
| 11    | Activity that involves construction of check dam >3m in height  |
| 12    | Construction/works involving use/installation of 'Asbestos Containing Materials (ACM)   |
| 13    | Ecotourism activities triggering violation of FC Act 1980 or Wildlife conservation Act 1972   |
| 14    | Activities involving tree felling from forest area other than forest and biodiversity protection and management purpose (as per FC Act 1980)  |
| 13    | Any activity that has high probability of serious adverse effects to human health and / or environment  |
| 14    | Any activity that promotes or involves incidence of child or forced/ bonded labour  |
| 15    | Sub project/Activities that seek to impose permanent restrictions or complete loss of access to natural resources, including medicinal plants or those of high economic value for local livelihoods.  |
| 16    | Sub project/Activities that would adversely affect cultural sites, places of significance importance and protected historical assets (both living and built)  |
| 17    | Sub projects/Activities involving use of alien invasive or exotic species for planting or their large-scale promotion for development of value chains in environmentally sensitive zones  |
| 18    | Sub-project activities that involve private land acquisition or lead to involuntary resettlement of tribal households and/or create significant economic displacement or loss of livelihoods for the tribal communities   |
| 19    | Sub projects/Activities that do not follow the process and spirit of voluntary land donation (individual or community) as outlined in ESS5 of World Bank's ESF  |
| 20    | Sub projects/Activities that may have significant, adverse, irreversible impacts on customary tribal lands, natural or cultural resources   |
| 21    | Sub projects/Activities that may be opposed by local governance institutions (Village Committees/ Councils, Gram Sabhas) or by customary tribal leadership, and which could lead to social conflicts  |

## Annexure 2: Environmental & Social Screening Checklist

### Note: Purpose and Guidance for filling the Screening checklist

- Purpose of the checklist is to assess and decide:
  - Whether the project can be financed under ELEMENT
  - inform the preparation of site specific Environmental and Social Management Plans to be prepared
- Secondary data may be used along with site specific information
- Screening checklist to be reviewed and endorsed by the SPMU ELEMENT

Sub Project Name: \_\_\_\_\_

Sub Project Type: \_\_\_\_\_

Sub Project Location/s: \_\_\_\_\_

Name of Person / Agency Carried out Screening: \_\_\_\_\_

### PartA: General Information About the Sub-project

|  |  |
|--|--|
| <b>ProjectDetails:</b>   |  |
| Sub-Project Id (if generated)  |  |
| Type of proposed sub-project activity:<br>Soil and Water Conservation Measures<br>Spring-shed management<br>Agroforestry<br>Silvi-pastoral development<br>NIFP related activities<br>Nature Based Tourism activities<br>Others, specify: |  |
| Location of the sub-project activity   |  |
| District   |  |
| Block  |  |
| Village Council (s)  |  |
| List of environmental resources in the project areas (i.e. forests, cultural / heritage /sacred sites, water bodies etc.)  |  |
| Key environmental and social issues/challenges faced in the landscape area (e.g. degraded forest areas, pollution in water bodies, loss of native species etc.)  |  |
| Current land use management practices within the landscape   |  |
| Selected interventions to address Environmental and Social issues/challenge:   |  |

### Part B : Details of Environmental and Social Screening

|    | Topic  | Yes / No, If yes, provide details |
|----|--|-----------------------------------|
| 1. | Will the construction, operation or decommissioning of this sub-project generate, cause or release any of the following? |                                   |
| a. | Construction and Demolition Wastes   |                                   |
| b. | Solid Wastes   |                                   |

|  |   |  |
|--|---|--|
| c.   | Waste Water   |  |
| d.   | Hazardous waste   |  |
| e.   | Accidents   |  |
| <b>2.</b>  | <b>Any other impacts?</b>   |  |
| a.   | Nos. of Trees likely to be felled   |  |
| b.   | Forest Land Diversion Required (sqkm)   |  |
| c.   | Other Environmental Impacts   |  |
| <b>3.</b>  | <b>Does the proposed sub-project activity require any land? (provide area of land )</b>   |  |
| a.   | Private Land  |  |
| b.   | Government Land   |  |
| c.   | Community land  |  |
| <b>4.</b>  | <b>Will the project result in impacts on:</b>   |  |
| a.   | Private structures, if so, type   |  |
| b.   | Public structures/buildings, if so type   |  |
| c.   | Common property resources<br>(such as religious/cultural/ drinking water/wells/etc)   |  |
| d.   | Grazing/pastureland, burial ground and others (specify)   |  |
| e.   | Fishing activity or usage by fisherman/boat operators   |  |
| f.   | Trees or crops  |  |
| g.   | Loss of social forest on which nearby residents/local population are dependent for fuelwood/grazing etc.  |  |
| h.   | Existing land uses on and around the project area (e.g., community facilities, agriculture, tourism, private property) will be affected           |  |
| i.   | The approximate number of households to be affected (likely to experience impacts on land, structures, or livelihoods)                            |  |
| j.   | Approx. Number of scheduled tribe households  |  |
| k.   | Is the site chosen for this work free from encumbrances?  |  |
| l.   | What are the required modalities of land acquisition?   |  |
| <b>5</b>   | <b>Labour and construction activities</b>   |  |
| a.   | Will the sub-project activities require labour from outside the area?   |  |
| b.   | Will the project involve dangerous construction activities which may be a safety concern to workers?  |  |
| c.   | Will the project result in construction workers moving into the area for medium to long term stay?  |  |
| <b>6. Resource Consumption and Pollution Generation from Proposed Activities</b> |   |  |
| a.   | Potential impact due to storage of materials e.g. pesticides, fertilizers, wastes or pollution due to releases during various project activities. |  |
| b.   | Potential Health & Safety Risks in the neighborhood including the release of toxic gases, accident risks due to subproject components             |  |
| c.   | The potential impact of the activities leading to emitting of air pollution etc.  |  |
| d.   | Potential noise pollution or disturbance to surrounding habitats/communities  |  |
| e.   | Will the project cause water pollution?<br>(of water bodies/ groundwater)   |  |

|           |  |  |
|-----------|--|--|
| f.        | Will the activities have proposed at the site(s) impact water quality (surface or underground) and water resource availability and use? Will this sub-project involve the dredging of water bodies, canals, etc?                             |  |
| g.        | Will the project cause odour nuisance?   |  |
| h.        | Will the project produce solid or liquid wastes; including construction/demolition wastes such as de- weeding wastes, muck/silt, dust); polluted liquids, etc?   |  |
| <b>7.</b> | <b>Community Health &amp; Safety</b>   |  |
| a.        | Will there be any potential safety concerns to construction workers/ host communities  |  |
| b.        | Potential disruption to common property, accessibility, traffic disruptions, conflicts, or disruption to the local community within the subproject area  |  |
| c.        | Are there likely to be female workers working in close proximity to male workers   |  |
| d.        | Will project construction take place at or near the school or pedestrian access that women and girls use for their daily activities  |  |
| e         | .Do the project activities entail risk of Accident risks e.g. falls from height, drowning, fires etc ?   |  |
| <b>8</b>  | <b>Impact on Land Acquisition, Restrictions on Land Use and Involuntary Resettlement</b>   |  |
| a.        | Does the project have the potential impact of (pre-construction or construction stage) on the Land belonging to local inhabitants?   |  |
| b.        | Are the project activities likely to cause displacement and resettlement?  |  |
| c.        | Does the project require land on donation for the project?   |  |
| d.        | Is it private or community land?   |  |
| e.        | Is the donation voluntary in nature?   |  |
| f.        | Have all requirements of voluntary donation been met before taking the land for project purpose?   |  |
| <b>9.</b> | <b>Impact on Biodiversity</b>  |  |
| a.        | Does the site preparation require the cutting of trees? If yes, please furnish the following details:<br>How many trees are to be cut?<br>Species of the above trees<br>Are there any protected/endangered species? If yes, provide details. |  |
| b.        | Potential noise and/or disturbance to surrounding habitats/ communities  |  |
| c.        | Does the proposed project site involve any breeding or ground for vectors?<br>If yes, provide the following details.<br>-Name of the Aquatic Organism<br>-Type of Habitat<br>-The year in which the activity takes place                     |  |
| d.        | The potential risk of habitat fragmentation due to the   |  |

|            |  |  |
|------------|--|--|
|            | clearing activities (e.g., Hindrance to the local biodiversity like disturbing the migratory path of animals/birds etc.  |  |
| e          | Will the project lead to the loss of biodiversity due to growth of monoculture crops, trees etc.?  |  |
| f.         | Will the intervention result in the permanent or temporary loss of the following-Crops, Fruit trees, Petty shops, Markets, Shops, grazing lands, any other please specify?           |  |
| g.         | Will the project contribute to any long-term significant adverse (negative), large scale, irreversible, sensitive impact at a regional scale or area broader than the project sites? |  |
| h.         | Will the project cause any degradation of land / eco-systems expected due to the project?  |  |
| i.         | Will the project cause physical changes in the project area (e.g., changes to the topography) due to earth filling, excavation, earthwork or any other activity?                     |  |
| j.         | Will the project cause changes in the stability of hill slopes leading to the risk of landslides? Soil erosion?  |  |
| k.         | Will the project result in the stagnation of water flow or pondage or weed growth?   |  |
| l.         | Where does the project plan to get its primary materials? Will that have an impact on biodiversity?  |  |
| <b>10.</b> | <b>Impacts on the local tribal population in the sub-project area</b>  |  |
| a.         | Is the project site or area in a schedule VI area  |  |
| b.         | If not, does the area have tribal groups?  |  |
| c.         | If yes, what are the tribal groups?  |  |
| d.         | Does the group have traditional cultural, economic, social, or political institutions different from the mainstream society?   |  |
| e.         | Does the group have a minority language different from the official language of the country or region?   |  |
| f/         | Does the project have the potential impact on the Land belonging to local tribal populations?  |  |
| g.         | Do the project activities have risk of reducing access to the forest produces for their personal usage and income earning?   |  |
| <b>11.</b> | <b>Impact on Cultural Heritage</b>   |  |
|            | <b>Is the sub-project located in whole or in part within 100 meters from</b>   |  |
| a.         | Protected limits of notified archaeological sites or monuments.  |  |
| b.         | Historic places that are regionally or locally important   |  |
| c.         | Religious Places   |  |
| d.         | Any impact on intangible cultural beliefs, practices?  |  |
| <b>11.</b> | <b>Stakeholder Engagement</b>  |  |
| a.         | Who are the likely stakeholders in the planning, execution of these sub-project activities?  |  |
| b.         | Are there any existing CBOs and SHGs, if so, what are they engaged in?   |  |

|    |   |  |
|----|---|--|
| c. | How do the communities prefer to interact with project authorities? Meetings, FGDs, etc and through what mode; on what topics and at what frequency |  |
| d. | Were the probable environmental impacts discussed with stakeholders?  |  |

**Result/ Outcome of Environmental Screening Exercise**

|    |  |  |
|----|--|--|
| 1. | Regulatory Clearance Required          |  |
| 2. | Forest Clearance Required              |  |
| 3. | Environmental Management Plan required |  |
| 4. | Other                                  |  |

**Result/ Outcome of Social Screening Exercise**

|    |                               |  |
|----|-------------------------------|--|
| 1. | SIA Required                  |  |
| 2. | Land Required (sqm)           |  |
| 3. | Structures likely to affected |  |
| 4. | RAP is required               |  |
| 5. | Other                         |  |

**12. Supportive maps and photographs as below:**

1. Google map of the watershed / cluster
2. RS /GIS map of the Cluster
3. Map showing land use pattern of the landscape

**Environment and Social Screening Declaration**

|             | <b>Environment Expert</b> | <b>Social Expert</b> |
|-------------|---------------------------|----------------------|
| Date        |                           |                      |
| Name        |                           |                      |
| Designation |                           |                      |
| Signatures  |                           |                      |

### Annexure 3: ESMP Template for Spring-Shed Development

**Objective:** Addressing the issues of springs, streams and underground water flow regeneration and rejuvenating the dying springs by enhancing their recharge

The prime focus of the Spring-shed Development is to identify recharge areas of springs and streams thereby enhancing its recharge. This will, in turn, enable proper management and equitable distribution of water.

The ESMP will also serve as a climate change adaptation initiative that will help to enhance water security.

#### **ACTIVITIES TO BE CARRIED OUT:**

**a. Baseline survey and resource mapping of the village water resources:** Resource mapping of an area/ village will include the identification and location of springs, streams and lakes, dependency of water users, recharge areas, measurement of discharge, survey of rock exposure like dip, strike, direction and social structures such as the local governance and the land tenure systems etc

**Role and responsibility:** *Para-hydrogeologists will be recruited from the market for carrying out the resource mapping. These trained personnel will be aided by the community during the course of the data collection.*

**b. Preparation of the Spring-shed Development Plan:** Remote Sensing and GIS will play a very vital role in the preparation of the Spring-Shed Development Plan. High resolution maps and GIS tools will be used for the preparation of the thematic layers for the springs, aquifer and recharge area

**Role and responsibility:** *The GIS Cell at Land Resources Department, Government of Nagaland will be the nodal office tasked with the preparation of the Springshed development plan.*

**PREPARE THE PLAN FOR MINOR CONSTRUCTION AND OTHER WORKS** to enhance the water recharge of springs and streams,

A Memorandum of Understanding (MoU) with the respective Village Councils will be signed before the implementation of the programme. Natural and dense forests will in, whatsoever way, not be used for the construction and other works. The Spring-shed recharge developmental works such as staggered contour trenches, recharge pits and check dams will only be built in areas that have undergone degradation or deterioration of some order. Moreover, areas with more than 50% slope gradient are not considered for spring-shed development.

Occupational Health Hazard (OHS) awareness sessions on hazards and risks and their management shall be provided. Work area housekeeping shall be maintained to prevent slip, trip and fall risks. Availability of first aid and emergency transportation and treatment at medical facility shall be ensured at all times

#### **Structures to be built for Spring/stream rejuvenation:**

The following type of structures shall be planned and built, based upon the baseline information about the springs collected through hydrogeological studies, field survey and the estimation of spring water discharge rates during various seasons. These structures will be built with the help of the local communities after proper training.

#### **Staggered Contour Trenches:**

Contour trenches are small rectangular structures of varying size constructed on sloping land in a staggered manner. Like in the pond it is connected by feeder channels. The slope of the walls should be not more than 50 degree. The size of the trenches and their spacing depends on the slope of the land. In higher slope areas, we need to make smaller trenches with closer spacing.

Construction of staggered contour trenches and ponds along the trails shall be carried out as follows:

| Slope | Size of staggered contour trench |       |       | Volume of trench | Total trenches per ha |
|-------|----------------------------------|-------|-------|------------------|-----------------------|
|       | Length                           | Width | Depth |                  |                       |
| %     | M                                | M     | M     | Cum              | Nos                   |
| 40-50 | 2.50                             | 0.75  | 0.75  | 1.41             | 120                   |
| 30-40 | 2.50                             | 0.60  | 0.6   | 0.9              | 160                   |
| 20-30 | 2.00                             | 0.60  | 0.45  | 0.54             | 200                   |
| <20%  | 2.00                             | 0.45  | 0.45  | 0.405            | 240                   |

#### **Dugout pond/ Water Harvesting Pond/ Recharge pit**

Dugout pond/water Harvesting Pond (WHP)/ Recharge Pit: these are rectangular dugout structures, constructed usually in a natural depression area on sloping land. The standard size is usually Length =10 feet, Breadth =10 feet and Depth = 2.5 feet with site specific modifications. The dugout ponds/water harvesting Ponds (WHP) or the recharge pits shall be located in the natural depressed areas. The feeder channel which is connected from both sides to the pond helps to harvest additional surface flow. The walls are usually built at a 45 degree slope to prevent caving in. The size, volume and the total number of recharge pits per hectare for the proposed activity are as follows:

| Size of Dugout pond/ Water Harvesting Pond/ Recharge pit |       |       | Volume of Pit | Total pits per ha |
|--|-------|-------|---------------|-------------------|
| Length   | Width | Depth |               |                   |
| M  | M     | M     | Cum           | Nos               |
| 50   | 15    | 1.5   | 11250         | 500               |

Promotion of agricultural activities e.g. paddy fields and terraced fields for growing crops, shall also help. Paddy fields function as ponds since the surface runoff is diverted to terraces which hold the water. This helps in enhancing the percolation of rain water and recharges the springs downstream. Terraced fields reduce the surface runoff as the steps help in slowing down the speed of water and increase the ground water recharge. Plantation crops such as coffee have also been identified alongside the construction structures to reduce runoffs and also enhance the livelihood of the dependent communities.

**Check dams-** wherever soil erosion is found to be severe, engineering measures such as the building of loose boulder check dams or brushwood check dams will be taken up as a developmental activity to prevent both soil and water runoffs thereby increasing the rate of infiltration of water and enhancing spring recharge. The size and particulars of the check dams (loose boulder check dams or brushwood check dams) for the activity are as under:

| Size of check dams |         |        | Volume of check dams | Quantity per ha |
|--------------------|---------|--------|----------------------|-----------------|
| Length             | Breadth | Height |                      |                 |
| M                  | M       | M      | Cum                  | Nos             |
| 6                  | 1.5     | 0.6    | 5400                 | 2               |



**Role and responsibility for minor construction:**

For all minor constructions, it has been identified that the communities (comprising the daily wage earners) from the village will be involved in the process of construction. The available tools and equipment with the community will also be utilised as and when necessary.

**Supervision:** All constructions related to spring-shed development will be aided by the Technical support team under the Project Facilitating Agency (PFA) of the ELEMENT Project. The PFA will supervise the work and ensure its timely completion with negligible risks. The PFA along with the technical team will provide reports at regular intervals which will be assessed by the State Project Management Unit.

**Monitoring and evaluation**

Construction works monitoring: Construction and other works by the community workers for spring-shed as mentioned above is to be monitored by the Project Facilitating Agency . The PFA will be required to provide quarterly assessment reports to the State Project Management Unit.

During the construction phase, the ESMP progress shall be monitored for the number of structures constructed out of total planned for the specified duration as well as the E & S aspects identified and managed during the period,

Implementation stage monitoring :The lean period discharge of the spring taken before the implementation of works to act as a baseline which needs to be compared with every year during the lean period. Hydrograph of the springs to be developed and monitored for each year.

During the implementation stage, Para-hydrogeologists with support from the trained village council members shall monitor the spring discharge rates at specified frequencies and assist in the development of spring specific hydrograph for monitoring purposes.

## Annexure 4: ESMP Template for Forest Fire Management

### RATIONALE

Nagaland with a total area of 16,579 sq km constitutes 0.50 percent of geographical area of the country. It is rich in forest resources and falls within Indo-Burma biodiversity hotspot. As per the latest Indian State of Forest Report (ISFR 2021), Nagaland has a total forest cover of 12,251.14sq km accounting for 73.90% of its total geographical area. It also identifies the forest in Nagaland to be highly vulnerable to forest fire .Out of the total geographical area of 16,579km<sup>2</sup>, 3222.24 km<sup>2</sup> is classed under “Extremely Fire Prone”, 3129.20km<sup>2</sup> as “Very Highly Fire Prone” and a staggering 4849.90km<sup>2</sup> as “Highly Fire Prone”. Only 1411.70km<sup>2</sup> was found to be “Less Fire Prone”.

Table 1: Vulnerability of Forests to Forest Fires As per ISFR report 2021

| S.No. | Forest Fire Prone Classes. | Geographical Area      | Percentage of total forest cover |
|-------|----------------------------|------------------------|----------------------------------|
| 1.    | Extremely Fire Prone       | 352.24sq km            | 2.88                             |
| 2.    | Very Highly Fire Prone     | 3129.20sq km           | 25.52                            |
| 3.    | Highly Fire Prone          | 4849.90sq km           | 39.59                            |
| 4.    | Moderately Fire Prone      | 2477.96sq km           | 20.23                            |
| 5.    | Less Fire Prone            | 1411.70sq km           | 11.76                            |
|       | <b>Total</b>               | <b>16,578.53 sq km</b> | <b>100</b>                       |

Forest Fires have a disastrous impact on the landscape thereby affecting the ecology, wildlife and also resulting in high social and economic losses. These will hamper the food security, sustainability of agriculture, forestry and thereby increasing the vulnerability of communities’ dependant in it. There is a need for adequate information and training on proper forest fire management in the State. For a successful implementation of this activity, there is a dire need of engaging the communities thereby enabling their capacity to tackle and prevent forest fires at the community level

### RELEVANCE OF THE PROPOSAL TO ELEMENT (Enhancing Landscape and Ecosystem Management) Project

ELEMENT is a forest landscape and Ecosystem Service Management project and the key objective is to strengthen and restore the landscapes in the State. Forest fires management forms a key role in the sustainability and protection of existing forests.

### OBJECTIVES

The prime objective is to minimise forest fires through “Community led forest fire risk mitigation”.

This objective is to be achieved through informing, enabling and empowering communities and incentivising them

### ACTIVITIES

#### Component 1: Strengthening Community Institutions - Knowledge and Capacity Building for Forest Landscapes and Ecosystem Services Management

##### a. Sensitization and awareness creation on forest fire prevention and management

Awareness generation among communities is one of the best methods of preventing forest fires. Awareness must be generated at all the strata of the society, beginning with the decision -makers up to the grassroot level. Educating the masses must lead the way to bringing a change in management perspective including prevention of forest fires. This will require organisation of various sensitization programmes at the state and village level. Traditional media such as TVs and radios will be used for generating awareness. IEC materials will also be created and circulated among the general masses.

##### b. Training for State Project officials engaged in forest fire protection and management

Capacity building is the most vital stride towards prevention and management of forest fire. As such, it is imperative that a pool of master trainers in the art of modern forest fire management and fighting techniques is generated. These trained officials will act as Master trainers for the State and can divulge their knowledge to all stakeholders with special emphasis at the village/community level.

As no specialised training institute on Fire management exist in the State, the trainings can be sought from premier disaster management institutes such as National Institute of Disaster Management (NIDM), New Delhi, centres of National Disaster Response Force (NDRF) and other leading disaster management institutes. The officials must undergo the training at regular intervals so as to stay updated with the latest developments in the field of forest fire management. The officials will be nominated from relevant departments or from any of the ELEMENT Project Management Units.

**c. Training for the local communities led by the trained State officials**

Members of the Village Management Committee (VMC) will also serve as the Forest Fire Management Committee (FFMC) and designated as the Nodal committee for Forest Fire related incidents. The roles of the FFMC is to unify the communities in case of forest fire incidents. The State officials trained in forest fire protection and management will train all the FFMCs that have been constituted at the village level. They will also be imparted training on critical reading of forest fire alerts and post fire assessment. They will also be trained in the usage of Forest fire app (to be developed) will be used to alert higher authorities of forest fires and its possibilities. Enhanced capacity through these trainings will lead to better forest fire protection and management.

**d. Research**

There is a need to support forest fire management through in-depth research to fill critical knowledge gaps. Most communities, especially those residing in the rural areas are highly dependent on the forest and its resources. A potential forest fire may render the community helpless and devoid of the basic necessities such as food. The environmental and social impacts may be felt differently by different communities. There is also a need to bridge the gap between the prevailing Indigenous Traditional Knowledge (ITK) of forest fire management and the modern techniques. This will help strengthen the existing operational and policy gaps in fire management while also integrating the ITKs of the local communities. All these information generated through this research will be useful for creating a robust framework on Fire Prevention and management, and enable pre and post disaster action as per the need of the community.

The proposed research are titled as follows:

- Assessment of Environmental and Social impacts of Forest fire in Nagaland
- Research on indigenous Traditional Knowledge (ITK) of Nagaland in forest fire prevention and management

The research will be carried out by State Research and development institute.

**e. Purchase of safety gears, tools and equipment for forest fire management**

The most common community response in cases of forest fire in Nagaland is to set traditional fire lines using traditional tools. Also, Fire is also dozed by throwing sand/soil or a combination of soil and water. The fire blazes are also beaten with wild bushes/plants till it is extinguished. Although the traditional tools achieves the task, the communities require more modern safety gears, tools and equipment for proper management of forest fire. This will include the use of fire resistant safety gears, fire rakes, fire brooms, beaters, spades and axes.

**COMPONENT 2: Strengthening Forest Landscapes**

**a. Community support in forest fire management- Recognising the efforts by way of awards**

Incentivisation is arguably one of the more efficient methods for motivating the general public. A similar approach will be undertaken to encourage the communities to extend their support towards prevention of forest fire. Altogether, two awards will be constituted per year. These awards will be instituted for villages and community based organisations (village bodies/Tribal societies/SHGs etc) each year for those involved in forest fire management/control or/and achieving the least number of forest fire cases.

**b. Development of mobile based fire alert app**

In the age of technology, mobile is one of the most widely used devices. Almost every individual has access to a mobile phone. Various telecom companies have set up a huge network of connectivity covering the length and breadth of Nagaland. It is imperative that the infrastructure and accessibility be taken advantage of. A fire information and alert app will be developed to provide accurate and timely reports of forest fire. The app will also include features such as the ability to send ground validation on pre-fire alerts integrated with GPS which any user can use to transmit useful data on forest fire. Through the support of the local governing institutions such as the village council, the app can be made mandatory for the communities and individuals owning land in fire prone areas.

**c. Fire Risk Zonation Mapping up to village level.**

Although many agencies have prepared fire risk zonation mapping covering Nagaland for prevention and preparedness planning to identify areas vulnerable to forest fires, it is imperative that the State prepares an updated Fire risk zonation map.

**TIMEFRAME**

| Sl. No | ACTIVITY  | 1 <sup>st</sup> year | 2 <sup>nd</sup> year | 3 <sup>rd</sup> year | 4 <sup>th</sup> year | 5 <sup>th</sup> year |
|--------|---|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1      | Sensitization and awareness creation on forest fire prevention and management |                      |                      |                      |                      |                      |
| 2      | Training of Trainers  |                      |                      |                      |                      |                      |
| 3      | Training for local communities  |                      |                      |                      |                      |                      |
| 4      | Awards for community support in forest fire management                        |                      |                      |                      |                      |                      |
| 5      | Development of Mobile based fire management app                               |                      |                      |                      |                      |                      |
| 6      | Fire risk Zonation mapping up to village level                                |                      |                      |                      |                      |                      |
| 7      | Final Assessment report   |                      |                      |                      |                      |                      |

**MONITORING AND EVALUATION**

There would be component wise physical and financial monitoring and evaluation on half yearly and yearly intervals at SPMU and ZMU level on the Performa given below. Communities and community based organisations would be involved in Participatory M&E as well.

## Annexure 5: ESMP Template for Poultry and Other Livelihoods Activities

(Template to be adapted for other alternate livelihood generation activities e.g. animal husbandry, piggery, fisheries etc)

| Sr. No. | Environmental and Social issues and impacts  | Mitigation Measures and/or Safeguards  | Responsibilities                          |                         |
|---------|--|--|---|-------------------------|
|         |  |  | Planning & Execution                      | Supervision/ Monitoring |
| 1.      | Siting Criteria for New Poultry Farms  | <ul style="list-style-type: none"> <li>• 100 m from major water courses like rivers, lakes, canals and drinking water sources like wells, summer storage tanks, to avoid contamination due to leakages/spillages, if any.</li> <li>• 10-15 m from rural roads/internal roads/village foot path.</li> <li>• The poultry sheds should be adequately spaced away from farm boundary to allow cross ventilation and odour dispersion.</li> </ul>                 | SPMU / Poultry Farm Owners/ Beneficiaries | ZMU,PFA                 |
| 2.      | Regulatory/ Monitoring Mechanism for Poultry Farms   | <ul style="list-style-type: none"> <li>• Animal Husbandry Department of the State/Districts to assist the poultry farms for implementation of Environmental Guidelines CPCB for Poultry.</li> </ul>  | SPMU / Poultry farm owner/ Beneficiary    | ZMU, PFA                |
| 3.      | Gaseous emissions viz Ammonia (NH <sub>3</sub> ) and Hydrogen Sulphide (H <sub>2</sub> S) emanated from the excreta generated from the poultry causes odour. | <ul style="list-style-type: none"> <li>• Proper ventilation and free flow of air over manure collection points to keep it dry by conveying ventilation air through the manure pit shall be ensured to prevent obnoxious odour in the area.</li> <li>• Poultry housing shall be ventilated allowing sufficient supply of fresh air to remove humidity, dissipate heat and prevent build-up of gases such as methane, carbon dioxide, ammonia, etc.</li> </ul> | SPMU / Poultry farm owner/ Beneficiary    | ZMU, PFA                |
| 4.      | Display of Project Information Board   | <ul style="list-style-type: none"> <li>• Project Information Board should be designed and displayed at the Poultry Farm.</li> </ul>  | SPMU / Poultry farm owner/ Beneficiary    | ZPMU, PFA               |
| 4.      | Solid waste from poultry droppings manure/ litter and dead birds   | <ul style="list-style-type: none"> <li>• Excreta shall be scratched at least once in two days as needed for mixing of litter and to keep bedding material (rice husk, saw dust, wood shavings etc.) dry. This waste shall be utilised for composting after completion of the cycle.</li> </ul>   | SPMU / Poultry farm owner/ Beneficiary    | ZPMU, PFA               |

| Sr. No. | Environmental and Social issues and impacts                               | Mitigation Measures and/or Safeguards  | Responsibilities                       |                         |
|---------|---|--|--|-------------------------|
|         |   |  | Planning & Execution                   | Supervision/ Monitoring |
|         |   | <ul style="list-style-type: none"> <li>The litter /manure storage facilities shall be minimum 2 m above the water table and of adequate size based on type and number of birds handled. It's base should be constructed with stone slabs or concrete or impermeable compacted clay.</li> </ul>   |  |                         |
| 6.      | Waste water generation from cleaning operation                            | <ul style="list-style-type: none"> <li>Manure should be protected from run-off water and from unwanted pests/insects.</li> <li>Well-designed storage facilities should be provided to contain manure /litter.</li> <li>Manure shall be protected from runoff water and covered to avoid dust and odours in storage pits.</li> <li>The dry manure dump shall be covered with permanent roof or with plastic / similar material to prevent air emissions and the precipitation falling on it.</li> </ul>   | SPMU / Poultry farm owner/ Beneficiary | ZPMU, PFA               |
| 7.      | Breeding of flies and Rodents, etc. are the other issues in poultry farms | <ul style="list-style-type: none"> <li>Proper treatment and disposal of manure, ventilation of sheds, control of temperature, good sanitation, swift repairs of leaks, avoidance of feed spills, prompt removal of broken eggs and dead birds shall be ensured for control of flies in the poultry farms.</li> <li>The farm should have provisions of wire nettings, traps, fly-repellents, insecticides etc.</li> <li>Methods for the control of rodents may include: i) exclusion ii) trapping glue boards iii) tracking powder iv) rodent proof doors and windows to eliminate rodents/pest infestation.</li> </ul> | SPMU / Poultry farm owner/ Beneficiary | PMU, PFA                |
| 8.      | Carcasses of Dead Birds   | <ul style="list-style-type: none"> <li>Carcasses of dead birds shall be promptly collected on regular basis and disposed appropriately without damaging the environment as per CPCB guidelines.</li> <li>Mortalities on poultry farm by proper animal care and disease prevention program shall be reduced.</li> <li>Sudden onset of mortalities among</li> </ul>  | SPMU / Poultry farm owner/ Beneficiary | ZPMU, PFA               |

| Sr. No. | Environmental and Social issues and impacts | Mitigation Measures and/or Safeguards   | Responsibilities                       |                         |
|---------|---|---|--|-------------------------|
|         |   |   | Planning & Execution                   | Supervision/ Monitoring |
|         |   | <p>birds shall be informed immediately to the district health and veterinary departments.</p> <ul style="list-style-type: none"> <li>• Proper facilities (burial pit) shall be provided for collection, storage, transport and disposal of dead birds.</li> </ul>   |  |                         |
| 9.      | Generation of Domestic Hazardous Wastes     | <ul style="list-style-type: none"> <li>• Domestic hazardous wastes (vaccines, vials, medicines, syringes, etc.) shall be disposed as per provisions of "Solid Waste Management Rules, 2016".</li> </ul>   | SPMU / Poultry farm owner/ Beneficiary | ZPMU, PFA               |
| 10.     | Use of Antibiotics                          | <ul style="list-style-type: none"> <li>• As per Bureau of Indian Standards 1374: 2007 on poultry feed specifies that the use of antibiotic growth promoters is not recommended in poultry feed, hence use of antibiotics should not be mixed with feed or administered for non-therapeutic purposes without prescription for diseased birds.</li> <li>• Regulation for use of antibiotics shall be followed as per the advisory/directions issued by Department of Animal Husbandry, Dairying and Fisheries and Ministry of Health and the Drug Controller General of India.</li> </ul> | SPMU / Poultry farm owner/ Beneficiary | ZPMU, PFA               |

## Annexure 6: Guidelines, Protocols and Checklist for Voluntary Land Donation

1. **Appropriateness of Land Donation:** Land donation is, generally, only suitable for community driven projects where the community (and each member owning or using the land) wishes to provide small amounts of land to support initiatives that will benefit the community. This is an important point to bear in mind in assessing whether voluntary donation is appropriate. The donation of land for medium to large scale infrastructure, particularly in cases where a government agency or entity that has a statutory obligation to provide the infrastructure and/or services for which the land is required, is not appropriate. Voluntary donation should be used only to support small scale community infrastructure where impacts are minor and the community is expected to directly benefit from the assets created on these lands.
2. **Negative impact:**
  - Limit any potential harm associated with a proposed voluntary donation. These include that: (a) the proportion of land donated by any individual cannot exceed 10 percent of the potential donor's land holding; and (b) the donation of land will not cause any physical relocation, c) owners have willingly and voluntarily consented to provide the land.
  - In some cases of VLD, the donor of the land may request compensation or other benefits to be paid as a condition of the land transfer not in connection to the transfer of the land itself, but in relation to structures or other fixed assets on the land. This can lead to conflict with other individuals also donating land and has the potential to undermine the VLD process. A donor may also agree to transfer only part of the land required. Such requests need to be carefully evaluated at the outset and, if agreed, documented appropriately.
  - Due diligence and consultation are important. It is often not possible to implement the VLD unless adequate information is gathered regarding owners, users/ tenants/ those dependent on those land, legal requirements and community practices, and is available at the outset. Such information is important to ensure that the voluntary land donation is sustainable and occurs without causing conflict in the community. In some circumstances, disputes can arise between the owner of the land, who wishes to donate, and the user(s), who do not; such issues need to be resolved in a transparent and equitable manner.
3. **Assessment that land is voluntarily donated:** It is necessary to focus on whether the owner(s) or user(s) of the land fully understand:
  - What the land is going to be used for, by whom and for how long;
  - That they will be deprived of the ownership or right to use the land, and what this really means;
  - That they have a right to refuse to donate the land;
  - Whether there are proposals which would allow other land to be used;
  - What they will need to do to donate the land, and what costs are involved;
  - The effect of the donation on their family, what they can do if they (or their family or heirs) want the land back.
4. **Principles of VLD:**
  - A. Determine and document that VLD is appropriate in the circumstances of the project.**

The team should record the reasons why it thinks that the donation of land is appropriate for the project. In certain cases, only some of the land the project requires will be donated or



alternatives to land donation exist. The project team should identify (in as much detail as possible):

- What the land will be used for;
- How much land the project will require on both a permanent and temporary basis;
- How much of the land will be donated;
- What alternatives to donation exist (e.g., right of use, right of way);
- The terms of the donation;
- The identities of the parties who intend to donate and their extent of awareness about the VLD procedure;
- The beneficiary of the donation; and
- Any details that are relevant to why donation may be appropriate.

#### **B. Verify the requirements to transfer, and formalise the transfer of, the land**

It is important to understand the process that should be followed to transfer the land, and appropriate ways to formalize the transfer so as to achieve certainty for both the transferee of the land and the project. This will require consideration of the legal and administrative requirements but also, particularly in the case of customary land, local and community processes. In some cases, these will constitute two different, but parallel (and overlapping) systems and a process will have to be established to ensure that the requirements of each system are satisfied. An important consideration will be how transparent the process and the decision-making process is, and what can be done to enhance the process.

#### **C. Conduct due diligence on who owns and uses the land**

Given the specific issues surrounding land ownership and use, it is important that the project team carries out careful due diligence to understand the type of land rights that exist in the project area, and to identify any issues relating to land ownership and use. Thereafter, a more specific due diligence must be conducted on each parcel of land proposed for donation to identify:

- The owner or owners of the land;
- The users of the land, or any parties that occupy the land (either physically or through ownership of an asset or conduct of livelihood or business activities on the land);
- Any competing claims of ownership or use;
- Structures and assets on the land;
- Any encumbrances on the land.

It is important to: (a) identify the right that is being transferred (an ownership right, a use right, a right of way, etc.); and (ii) check whether the transferee has the right s/he claims to have. In many circumstances where careful due diligence has not been carried out, significant conflict has arisen at a later stage when another party claims that they have the same or a competing right. In some circumstances – but not all – the transferee will have documentary evidence of such right. Where no such evidence exists, the due diligence can establish customary rights by speaking with local community leaders and neighbours.

#### **D. Disclosure and Consultation**

The decision to donate must be taken based on a full understanding of the project and the consequences of agreeing to donate the land. Accordingly, the parties that will be affected by the donation (the owners and users of the land) must be provided with accurate and accessible information regarding what the land will be used for, for how long, and the impact the donation will have on them and their families. It is important that prior written notification indicating the location and amount of land that is sought be provided and that its intended use for the project is disclosed and sufficient time is provided to the owners to arrive at a decision.

Where the intention is to deprive the parties affected by the donation of the land permanently, or for a significant length of time, this must be made clear. It should be noted that in many communities the concept of alienation of land is uncommon and difficult to understand, and care needs to be taken to ensure that the implications of this are fully understood. It is also important to decide who else should be consulted about the proposed donation; for example, spouses and older children.

There should be a clear agreement as to which party will pay the costs associated with the donated land. This could include measurement costs, documentation and notarial fees, transfer taxes, registration fees. It should also include the costs of re-measuring/re-titling the transferee's remaining land and any new documentation relating to it.

#### **E. Establishing Informed Consent**

It is crucial that the project team is confident that the decision to donate was taken in circumstances of informed consent or power of choice. The right to refuse must be a legitimate right, unconditional, and the potential transferee must be capable of exercising it in the local community and political context. For this reason, it is important to be sure that the decision to donate is undertaken without coercion, manipulation, or any form of pressure on the part of public or traditional authorities. For collective or communal land, donation must be based upon the informed consent of all individuals using or occupying the land.

#### **F. Documentation**

It is necessary to distinguish between: (a) the agreement to donate the land; and (b) the document that carries out and evidences the legal transfer of the land. While it is important to have evidence of an intention and agreement to donate the land, it is equally important to ensure, where required and appropriate, that the land is legally transferred. While the process relating to the legal transfer of the land is frequently complicated and time consuming, it must be addressed. [In specific circumstances, for example where the land is being transferred to the community, it may not be necessary to legally transfer the land. However, experience indicates that lack of formal transfer can create significant uncertainty in the future, which impacts on the sustainability of the infrastructure and services and can have a negative effect on community relations.]

The project team should:

- Identify the appropriate documentation, including the agreement to make the transfer and any legal documentation that may be required;
- Ensure that the agreement:
  - Refers to the consultation has taken place;
  - Sets out the terms of the transfer;
  - Confirms that the decision to transfer was freely made, and was not subject to coercion, manipulation, or any form of pressure;
  - Attaches an accurate map of the land being transferred (boundaries, coordinates);
  - Sets out who will bear the costs of the transfer (e.g., notarial fees, taxes, title issues) and documenting the residual land rights;
- Ensure that all necessary parties sign the documents, including obtaining consent from spouses and children over a certain age;
- Ensure that the transfer and title (gift deed) is registered or recorded; and
- Ensure that the land remaining after the donated land is excised is properly titled, registered or recorded.

It is also important to maintain a record of the process that has been followed, which includes records of consultations that were held, copy of the due diligence that was conducted, formal statements of donation, establishing informed consent and documents, registrations or records evidencing the legal transfer.

### G. Grievance Arrangements

The project specifies means by which donors (and, potentially, persons whose use or occupancy was not recognized in the transfer of land) may raise grievances, and measures to ensure consideration of, and timely response to, grievances raised. The grievance process includes participation of reviewers not directly affiliated with the project implementing agency. Grievances may be referred to customary conflict mediation arrangements where they are not directly affiliated with traditional leaders who are a party to the donation process. Alternatively, grievances may be referred to grievance mechanisms established for project purposes. The grievance process imposes no cost upon those raising grievances, and participation in the grievance process does not preclude pursuit of legal remedies under the laws of the country.

### 5. VLD Protocol Checklist

- The checklist should be used by TT to check the completeness of the VLD Protocol.
- A complete VLD Protocol will have the following minimum contents:

| Contents of the VLD Protocol  | Yes | No | Remarks |
|---|-----|----|---------|
| ✓ Clear justification provided on the appropriateness of VLD in the project context             |     |    |         |
| ✓ Explanation of the requirements of the donation and the formalization of the donation         |     |    |         |
| ✓ Clear and detailed due diligence on the owners and users of land donated                      |     |    |         |
| ✓ Clear and detailed consultation and disclosure arrangements                                   |     |    |         |
| ✓ Steps taken to establish informed consent of the person donating the land explained in detail |     |    |         |
| ✓ Details on documentation of the legal transfer of land donated provided                       |     |    |         |
| ✓ Detailed and appropriate grievance redress mechanism established                              |     |    |         |

## **Annexure 7: Assessing and managing additional risks related to community safety**

In case of risks related to safety concern to project-affected people, their assets and project itself, measures to mitigate contextual risks involving multiple participants need to be considered. Any acts of abuse (not following the prescribed law of the land) on project affected persons must be reported within 48 hours to the WB task team.

### **A. Some guiding questions for Risk Assessment**

1. *Are public security personnel already deployed to the project site?*
2. *Are there risks of tension due to different backgrounds among the security personnel, community members, and project workers?*
3. *Are there prevalent/ existing tension, based on the presence/ population of conflicting communities and past/ recent incidence.*
4. *Are there threats/ risks based on past deployment and incidents – both reported and unreported.*

### **B. Inputs on documentation and risk management**

1. An actionable and practical document outlining any areas of concern and possible risks.
2. Assessment should demonstrate that it has identified and evaluated relevant security risks (both inter-group/ethnic or deployment-related) and has consulted project stakeholders, including project-affected communities, local Non Governmental Organizations (NGOs), local businesses and other groups.
3. Refer to the existing law and order situation of the region/ district based on the latest NRCB data, including aspects related to incidence of major crimes (rape/ murder/ suicide/kidnapping), crimes against women and vulnerable.
4. In case there are allegations of unlawful or abusive acts of security personnel, report unlawful and abusive acts to the relevant authorities, inform WB and urge appropriate parties to take action to prevent recurrence.
5. Keep in touch with the relevant authorities to have updated information on security deployed and security concerns.
6. Depending upon the assessment, propose mitigation measures.
  - a. Identify the vulnerable who are more susceptible to security risks and ensure the assessment and mitigation measures addresses them.
  - b. Identify former experts at local level who can play a critical role in interface with Security personnel and educating the community.
7. Ensure providing information to all community members on applicable security restrictions and periodically engaging with the local security team to update them on project activities and local/ regional mobility requirements for implementation and monitoring.
8. Clear Code of Conduct for the community members and project's workers in case of any interaction with Security Personnel.

## Annexure8: Form B as per World Bank ESIRT Guidelines 2023

*To be completed by Borrower within 24 hours*

| B1: Incident Details          |                    |   |                      |
|-------------------------------|--------------------|---|----------------------|
| Date of Incident:             | Time:              | Date Reported to PIU:                                   | Date Reported to WB: |
| Reported to PIU by:           | Reported to WB by: | Notification Type: Email/'phone call/media notice/other |                      |
| Full Name of Main Contractor: |                    | Full Name of Subcontractor:                             |                      |

| B2: Type of incident (please check all that apply) <sup>1</sup>  |
|--|
| Fatality <input type="checkbox"/> Lost Time Injury <input type="checkbox"/> Displacement Without Due Process <input type="checkbox"/> Child Labor <input type="checkbox"/> Acts of Violence/Protest <input type="checkbox"/> Disease Outbreaks <input type="checkbox"/> Forced Labor <input type="checkbox"/> Unexpected Impacts on heritage resources <input type="checkbox"/> Unexpected impacts on biodiversity resources <input type="checkbox"/><br>Environmental pollution incident <input type="checkbox"/> Dam failure <input type="checkbox"/> Other <input type="checkbox"/> |

<sup>1</sup>See Annex 1 for definitions

| B3: Description/Narrative of Incident   |
|---|
| <p><i>Please replace text in italics with brief description, noting for example:</i></p> <p>I. <i>What is the incident?</i></p> <p>II. <i>What were the conditions or circumstances under which the incident occurred (if known)?</i></p> <p>III. <i>Are the basic facts of the incident clear and uncontested, or are there conflicting versions? What are those versions?</i></p> <p>IV. <i>Is the incident still ongoing or is it contained?</i></p> <p>V. <i>Have any relevant authorities been informed?</i></p> |

| B4: Actions taken to contain the incident  |                   |               |        |
|--|-------------------|---------------|--------|
| Short Description of Action  | Responsible Party | Expected Date | Status |
|  |                   |               |        |
|  |                   |               |        |
|  |                   |               |        |
| <b>For incidents involving a contractor:</b><br>Have the works been suspended (for example, under GCC8.9 of Works Contract)? Yes <input type="checkbox"/> ; No <input type="checkbox"/> ;<br>Trading name of Contractor (if different from B1):<br>Please attach a copy of the instruction suspending the works. |                   |               |        |

| B5: What support has been provided to affected people |
|---|
|   |

## Incident Types

The following are incident types to be reported using the environmental and social incident response process:

**Fatality:** Death of a person(s) that occurs within one year of an accident/incident, including from occupational disease/illness (e.g., from exposure to chemicals/toxins).

**Lost Time Injury:** Injury or occupational disease/illness (e.g., from exposure to chemicals/toxins) that results in a worker requiring 3 or more days off work, or an injury or release of substance (e.g., chemicals/toxins) that results in a member of the community needing medical treatment.

**Acts of Violence/Protest:** Any intentional use of physical force, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, deprivation to workers or project beneficiaries, or negatively affects the safe operation of a project worksite.

**Disease Outbreaks:** The occurrence of a disease in excess of normal expectancy of number of cases. Disease may be communicable or may be the result of unknown etiology.

**Displacement Without Due Process:** The permanent or temporary displacement against the will of individuals, families, and/or communities from the homes and/or land which they occupy without the provision of, and access to, appropriate forms of legal and other protection and/or in a manner that does not comply with an approved resettlement action plan.

**Child Labor:** An incident of child labor occurs: (i) when a child under the age of 14 (or a higher age for employment specified by national law) is employed or engaged in connection with a project, and/or (ii) when a child over the minimum age specified in (i) and under the age of 18 is employed or engaged in connection with a project in a manner that is likely to be hazardous or interfere with the child's education or be harmful to the child's health or physical, mental, spiritual, moral or social development.

**Forced Labor:** An incident of forced labor occurs when any work or service not voluntarily performed is exacted from an individual under threat of force or penalty in connection with a project, including any kind of involuntary or compulsory labor, such as indentured labor, bonded labor, or similar labor-contracting arrangements. This also includes incidents when trafficked persons are employed in connection with a project.

**Unexpected Impacts on heritage resources:** An impact that occurs to a legally protected and/or internationally recognized area of cultural heritage or archaeological value, including world heritage sites or nationally protected areas not foreseen or predicted as part of project design or the environmental or social assessment.

**Unexpected impacts on biodiversity resources:** An impact that occurs to a legally protected and/or internationally recognized area of high biodiversity value, to a Critical Habitat, or to a Critically Endangered or Endangered species (as listed in IUCN Red List of threatened species or equivalent national approaches) that was not foreseen or predicted as part of the project design or the environmental and social assessment. This includes poaching or trafficking of Critically Endangered or Endangered species.

**Environmental pollution incident:** Exceedances of emission standards to land, water, or air (e.g., from chemicals/toxins) that have persisted for more than 24 hrs or have resulted in harm to the environment.

**Dam failure:** A sudden, rapid, and uncontrolled release of impounded water or material through overtopping or breakthrough of dam structures.

**Other:** Any other incident or accident that may have a significant adverse effect on the environment, the affected communities, the public, or the workers, irrespective of whether harm had occurred on that occasion. Any repeated non-compliance or recurrent minor incidents which suggest systematic failures that the task team deems needing the attention of Bank management.