

# Final Report

## ESIA Gap Closure | 50 MW Solar PV Plant | Raichur, Karnataka

Radiance Renewables Pvt Ltd  
03 April 2025



## Document History

| Version              | Doc. Date    | Author | Reviewed by           |
|----------------------|--------------|--------|-----------------------|
| Draft Report         | 04 Oct 2023  | Envint | Radiance              |
| Revised Draft Report | 06 Nov 2023  | Envint | Radiance & Eversource |
| Final Report         | 20 Nov 2023  | Envint | Radiance & Eversource |
| Revised Final Report | 14 Feb 2024  | Envint | Radiance & Eversource |
| Rev2 Final Report    | 11 Mar 2024  | Envint | Radiance & Eversource |
| Rev3 Final Report    | 20 Sept 2024 | Envint | Radiance & Eversource |
| Rev4 Final Report    | 30 Sept 2024 | Envint | Radiance & Eversource |
| Rev5 Final Report    | 21 Oct 2024  | Envint | Radiance & Eversource |

|                                    |                                                       |                     |   |
|------------------------------------|-------------------------------------------------------|---------------------|---|
| <b>Prepared by:</b>                | Nisha Patnekar<br>(Associate)                         | <b>Reviewed by:</b> | - |
| <b>Reviewed &amp; Approved by:</b> | Lucille Andrade<br>(Partner)<br><br>Date: 21 Oct 2024 |                     |   |

# Table of Contents

|                                                                 |                                     |
|-----------------------------------------------------------------|-------------------------------------|
| <b>Executive Summary .....</b>                                  | <b>6</b>                            |
| <b>1 Introduction .....</b>                                     | <b>12</b>                           |
| 1.1 Background .....                                            | 12                                  |
| 1.2 Purpose of the Study .....                                  | 12                                  |
| 1.3 Summary of Gaps in ESIA Report .....                        | 12                                  |
| 1.4 Scope of Work .....                                         | 14                                  |
| 1.5 Approach & Methodology .....                                | 14                                  |
| 1.6 Organization of the Report .....                            | 16                                  |
| <b>2 Project Description .....</b>                              | <b>17</b>                           |
| 2.1 Salient Features of Project .....                           | 17                                  |
| 2.2 Project Location .....                                      | 17                                  |
| 2.3 Transmission Line Details .....                             | 18                                  |
| 2.4 Project Land Requirement & Procurement Process .....        | 18                                  |
| 2.5 Temporary Workers' Camp .....                               | 25                                  |
| 2.6 Water for the Project .....                                 | 25                                  |
| <b>3 Applicability of Reference Framework .....</b>             | <b>26</b>                           |
| 3.1 Addendum to Applicability of International Standards .....  | 26                                  |
| 3.2 Radiance & GGEF ESGMS .....                                 | 29                                  |
| <b>4 Baseline Environmental and Social Status.....</b>          | <b>32</b>                           |
| 4.1 Baseline Environmental Monitoring .....                     | 32                                  |
| 4.2 Biodiversity Profile of Study Area .....                    | 41                                  |
| 4.3 Stakeholder Consultation.....                               | 45                                  |
| <b>5 E&amp;S Impact Assessment .....</b>                        | <b>50</b>                           |
| 5.1 Analysis of Alternatives .....                              | 50                                  |
| 5.2 Impact Assessment - Transmission Line.....                  | 53                                  |
| 5.3 Impact Assessment: Biodiversity.....                        | 58                                  |
| 5.4 Impact on Labour & Working Conditions .....                 | 59                                  |
| 5.5 Impact Assessment on Water Resources .....                  | 63                                  |
| <b>6 E&amp;S Management Plan.....</b>                           | <b>66</b>                           |
| 6.1 Capabilities and Performance .....                          | 66                                  |
| 6.2 Radiance Renewables ESG-MS .....                            | 67                                  |
| 6.3 Grievance Redress Mechanism .....                           | 68                                  |
| 6.4 Monitoring & Reporting Procedures .....                     | 68                                  |
| 6.5 Schedule and Cost of ESMP.....                              | 69                                  |
| <b>Annexures .....</b>                                          | <b>70</b>                           |
| Annexure 1: Emergency Response & Preparedness Plan.....         | 71                                  |
| Annexure 2: Stakeholder Engagement Plan .....                   | Error! Bookmark not defined.        |
| Annexure 3: GGEF ESGMS .....                                    | Error! Bookmark not defined.        |
| Annexure 4: Primary Land Due Diligence Checklist.....           | Error! Bookmark not defined.        |
| Annexure 5: Socio Economic Primary Profile Sheet Template ..... | Error! Bookmark not defined.        |
| Annexure 6: Questionnaire for Landowners .....                  | Error! Bookmark not defined.        |
| Annexure 7: IBAT list and Biodiversity Reports .....            | Error! Bookmark not defined.        |
| Annexure 8: Environmental Monitoring Reports .....              | Error! Bookmark not defined.        |
| Annexure 9: Questionnaire for Stakeholder Consultation .....    | Error! Bookmark not defined.        |
| Annexure 10: Grievance Redressal Mechanism .....                | Error! Bookmark not defined.        |
| Annexure 11: Labour Management & HR Policies .....              | Error! Bookmark not defined.        |
| Annexure 12: Cost & Schedule of Gugal O&M ESMP .....            | Error! Bookmark not defined.        |
| Annexure 13: Gram Panchayat NOC .....                           | Error! Bookmark not defined.        |
| <b>Disclaimer .....</b>                                         | <b>Error! Bookmark not defined.</b> |

## List of Figures

|                                                                                  |    |
|----------------------------------------------------------------------------------|----|
| Figure 2-1 : Project Location and Administrative Boundaries .....                | 18 |
| Figure 2-2 : Land Procurement Process .....                                      | 19 |
| Figure 4-1 : Identified E&S Sensitive Receptor in Study Area (buffer 10 km)..... | 32 |
| Figure 4-2 : Air, Noise & Soil Monitoring Locations .....                        | 33 |
| Figure 4-3 : Ground Water Quality Monitoring Locations .....                     | 37 |
| Figure 4-4 : Social & Culturally Sensitive Receptors in Study Area .....         | 45 |
| Figure 4-5 : Photographs of Stakeholder & Landowners Consultation .....          | 49 |
| Figure 4-6 : Stakeholder Consultation Locations .....                            | 49 |
| Figure 5-1 : Location of Transmission Line and the Project Site .....            | 52 |
| Figure 5-2 : Location of Access Road .....                                       | 53 |
| Figure 6-1 : Organisation Structure for the Construction Phase .....             | 66 |
| Figure 6-2: Organisation Structure for the O&M Phase .....                       | 67 |

## List of Tables

|                                                                                                     |    |
|-----------------------------------------------------------------------------------------------------|----|
| Table 1-1 : Summary of Gaps .....                                                                   | 12 |
| Table 2-1 : Land Requirement Details.....                                                           | 18 |
| Table 2-2 : Land Procurement Process .....                                                          | 20 |
| Table 2-3: Land Procurement rates .....                                                             | 22 |
| Table 2-4 : Summary of Landowner Consultation .....                                                 | 24 |
| Table 3-1 : IFC Performance Standards, their Applicability & Comparison with Indian Regulations ... | 26 |
| Table 4-1 : Primary Environmental Monitoring Baseline Data Collection .....                         | 33 |
| Table 4-2 : Ambient Air Quality Monitoring Results .....                                            | 34 |
| Table 4-3 : Noise Level Monitoring Results.....                                                     | 36 |
| Table 4-4 : Ground Water Quality Monitoring Result.....                                             | 38 |
| Table 4-5 : Soil Quality Monitoring Results.....                                                    | 39 |
| Table 4-6 : Floral Profile of Study Area .....                                                      | 41 |
| Table 4-7 : Observed Species during Biodiversity Survey .....                                       | 44 |
| Table 4-8 : Summary of Socio-Economic Profile of Study Area .....                                   | 46 |
| Table 4-9 : Details of Stakeholder Consultation .....                                               | 47 |
| Table 4-10 : Summary of Community Concerns on the Project .....                                     | 47 |
| Table 5-1 : Project Phase and Associated TL & Access Road Activities.....                           | 53 |



## Abbreviations

|         |                                                     |        |                                                                       |
|---------|-----------------------------------------------------|--------|-----------------------------------------------------------------------|
| AAQ     | Ambient Air Quality                                 | IBAT   | Integrated Biodiversity Assessment Tool                               |
| ACSR    | Aluminum Conductor Steel Reinforced                 | IFC    | International Finance Corporation                                     |
| AN      | Ambient Noise                                       | ICC    | Internal Complaints Committee                                         |
| ATL     | Pre-Agreement to Lease                              | ILO    | International Labour Organization                                     |
| AZE     | Alliance for Zero Extinction                        | IUCN   | International Union for Conservation of Nature                        |
| CEO     | Chief Executive Officer                             | KPTCL  | Karnataka Power Transmission Corporation Limited                      |
| COO     | Chief Operations Officer                            | kV     | Kilo Volt                                                             |
| CPCB    | Central Pollution Control Board                     | MoEFCC | Ministry of Environment, Forests and Climate Change                   |
| CSR     | Corporate Social Responsibility                     | MW     | Megawatt                                                              |
| CR      | Critically Endangered                               | MWp    | Megawatt Peak                                                         |
| DC      | District Collector                                  | NAAQS  | National Ambient Air Quality Standards                                |
| DD      | Demand Draft                                        | NABL   | National Accreditation Board for Testing and Calibration Laboratories |
| DISCOMS | Distribution Company                                | NTS    | Non-Technical Summary                                                 |
| E&S     | Environmental and Social                            | O&M    | Operation and Maintenance                                             |
| EHS     | Environment, Health and Safety                      | PHC    | Primary Healthcare Centre                                             |
| EIA     | Environmental Impact Assessment                     | PL     | Project Land                                                          |
| EN      | Endangered                                          | PPE    | Personal Protective Equipment                                         |
| ESG     | Environmental, Social Governance                    | PS     | Performance Standards                                                 |
| ESGMS   | Environmental & Social Governance Management System | PSS    | Pooling Substation                                                    |
| ESIA    | Environmental & Social Impact Assessment            | RET    | Rare Endemic Threatened                                               |
| ESMP    | Environmental & Social Management Plan              | SC     | Scheduled Caste                                                       |
| FCDO    | Foreign, Commonwealth & Development Office          | SEAH   | Sexual Exploitation, Abuse & Harassment                               |
| GCF     | Green Climate Fund                                  | SEP    | Stakeholder Engagement Plan                                           |
| GGEF    | Green Growth Equity Fund                            | SIF    | Significant Injury or Fatality                                        |
| GHG     | Greenhouse Gas                                      | SOI    | Survey of India                                                       |
| GRM     | Grievance Redressal Mechanism                       | SOP    | Standard Operating Procedure                                          |
| GRP     | Grievance Redressal Panel                           | SPCB   | State Pollution Control Board                                         |
| GW      | Ground Water                                        | SPV    | Special Purpose Vehicle                                               |
| HCM     | Human Capital Management                            | ST     | Scheduled Tribe                                                       |
| HR      | Human Resource                                      | TL     | Transmission Line                                                     |
| IBA     | Important Bird Area                                 | VU     | Vulnerable                                                            |

# Executive Summary

## E.1 Context Setting

Radiance Renewables is one of India's fastest-growing renewable energy power developer. The company develops competitive renewable energy solutions for commercial, industrial and residential customers, enabling them to achieve their sustainability goals. Radiance Renewables Private Limited has been promoted by Eversource Capital, India's leading climate impact investor. The company's presence spans across the pan India, with a current portfolio of operational and managed assets of 419 megawatts peak (MWp).

Eversource Capital is an equal joint venture between Everstone Group & Lightsource bp. Everstone Group is one of Asia's premier investment managers with assets across private equity, sustainability and climate impact and other sectors. Lightsource bp, is a global leader in development and management of solar energy projects.

Radiance Renewables is setting up a 50 MW Solar Power project ("Project") near Hirerayakumpi Village, in Devdurga Tehsil, Raichur District, Karnataka, India.

As part of Radiance Renewable's Corporate Policy, the company carried out an Environmental & Social Impact Assessment (ESIA) study of the project. Final ESIA report is dated 05 January 2023. Several gaps were highlighted in the ESIA Report by the investors. Radiance Renewables thus commissioned services of M/s Envint Services LLP ("Envint") for undertaking a gap closure study of the ESIA report for the project.

The ESIA gap closure exercise was conducted in conformance to the following reference framework:

- Applicable local and national environmental and social regulations (including that of the state nodal agency for Renewable energy development)
- IFC Performance Standards on Environmental and Social Sustainability (2012)
- IFC/World Bank EHS General Guidelines
- IFC/World Bank EHS Guidelines for Power Transmission and Distribution (2007)
- GGEF/Radiance ESGMS

**This ESIA Gap Closure report is to be read in conjunction with the ESIA Report dated 05 January 2023.**

## E.2 Project Overview

The Gap Closure ESIA study is carried out for the upcoming solar energy project located near Hirerayakumpi Village, Devdurga Tehsil of Raichur District, in the State of Karnataka (India). The power generated in the project will be transmitted via a 3.2 km long, 110 KV transmission line to Karnataka Power Transmission Corporation Limited's 110/11 KV substation situated in Gugal village. The TL would involve development of 13 towers of which 4 would be located within the project boundary while the remaining 9 towers would be located outside the project boundary. The site is accessible via an unpaved road developed for the project that joins with the road connecting the villages of Hirerayakumpi and Masihal.

The entire project (including all key and associated components) is being developed over land admeasuring 207.75 acres of which 202 acres would be the PV area, 0.075 acres for the transmission tower and 5.0 acres for the access road. The entire land is leased for a period of 29 years & 11 months. The land selected for the project is private agricultural land that is not suitable for agricultural purposes due to low fertility of the land.

There are no notified international (Such as IBA, AZE, World Heritage Sites) or legally protected areas (Wildlife Sanctuaries, Protected Areas, Tiger reserves, etc.) in the project influence area.

The land procurement process was understood from the land aggregator. It was confirmed by the land owners that land lease process and lease agreements were compliant with various international good practices and applicable laws and regulations. It was confirmed that there are no pending disputes or court cases in relation to the land procured for the solar energy project. Also, it was noted that no informal settlers or structures that may need relocation were involved in the project.

No temporary workers camp will be established in the project area. The contractor appointed for the project is responsible for temporary accommodation of workers, if any. The contractor will establish a worker's camp following the guidelines provided by Radiance Renewables.

Water for construction and O&M phases of the project will be supplied through water tankers. About 50,000 liters of water per MW will be required for civil works, dust suppression, drinking and domestic use. A maximum of 54 KL of water will be consumed on an annual basis during the operation & maintenance (O&M) phase.

### **E.3 Applicability of Reference Framework**

Radiance has developed Environmental Social & Governance Management System (ESGMS) aligned with GGEF requirements and IFC Performance Standards (IFC PS). As per the requirement of ESGMS, Radiance conducts ESIA studies, due diligence, environmental monitoring as a part of ESG risk and impact assessment and management. The ESIA is undertaken to outline the existing and potential risks and impacts associated with one or more project sites from planning to the decommissioning phase and plan mitigation measures.

The aspects included across the IFC PS are covered under various Indian regulations. A mapping of the same is presented in the report. GGEF has adopted the IFC Project Exclusion List to identify a list of activities that the Fund will not finance. The Project does not trigger any of the GGEF Exclusion List items. The Project is classified as Category B in accordance to IFC Performance Standards as part of the review of environmental and social risks and impacts associated with the project.

### **E.4 Baseline E&S Conditions**

#### **E.4.1 Environmental Baseline Monitoring**

The ambient air quality (AAQ) was assessed for two locations within the study area. The pollutant concentrations in the ambient air in the study area were compared with National Ambient Air Quality Standards (NAAQS) of Central Pollution Control Board (CPCB). The 24-hour average concentration of PM<sub>10</sub>, NO<sub>x</sub> and SO<sub>2</sub> monitoring in the study area were observed to be well within NAAQS except PM<sub>2.5</sub> at AAQ1 that exceeded the standards by a small margin. This minor deviation at AAQ1 was attributed to its location, which was surrounded by anthropogenically disturbed land within the project site and lack of vegetation. Conversely, the upstream station, AAQ2, reported a concentration that was only

half of that observed at the downstream station, as it was surrounded by agriculture land. The results for ambient air quality parameters were also compared with World Bank Group's EHS Guidelines. The 24-hour average concentration of PM<sub>10</sub>, PM<sub>2.5</sub> and SO<sub>2</sub> at both the locations exceeded General EHS guideline standards.

The baseline ambient noise levels were monitored at four locations for 24 hours. The ambient noise levels monitored at site were compared with CPCB standards for ambient noise (for residential zones) and World Bank Group's EHS Guidelines. The average ambient noise levels obtained for all the four locations were observed to exceed the permissible limits for both day & nighttime. The exceedance of noise recorded was not because of any source present at the project site but due to the cyclone & rainy conditions during noise monitoring.

The ground water quality was assessed for two locations within the project influence area namely Gugal and Matpalli Villages. The results for ground water quality parameters were compared with IS 10500:2012 and World Bank Group's EHS Guidelines. The parameters like alkalinity, hardness, total dissolved solids, pH, magnesium, and chloride exceeded the acceptable limits specified. However, they remained within the permissible limits, except for alkalinity and pH which exceeded the permissible levels as well. It was understood that these parameters exceed the standards in this region in general.

The soil quality was assessed for one location within the project site. The soil analysis was carried out as per the different set method reference. It is observed that the project site soil has a high pH value and potassium levels.

#### E.4.2 Biodiversity Profile

The biodiversity was studied for a buffer of 10 km around the project site boundary that included the transmission line alignment. Different types of habitats were identified during the desktop review that were verified during the site visit. These included agricultural fields, ponds/ lakes, wetlands, woodland, riverbank, rural areas and peri rural areas. During the site survey it was found that the region is rich in species diversity

A total of 43 floral species belonging to 22 families were observed within 5 km buffer of the project site. Fabaceae was the most dominating family in the area with 12 species. None of the species identified in the region are rare, endangered or threatened. There were also no religious/sacred trees in the project site.

During the site survey Aves from 69 different species, totaling to 383 Individuals were spotted. Additionally, 63 species of birds were also reported in the region as per various sources such as E-bird, EIA/ ESIA of projects in neighboring areas. Three Schedule 1 species (as per Wildlife Protection Act 1972) were spotted in the project influence area namely *Aquila nipalensis* (Steppe Eagle (IUCN- EN)), *Pavo Cristatus* (Indian Peafowl (IUCN-LC)) and *Sterna aurantia* (River Tern (IUCN- VU)). The project is however not expected to impact any of the species mentioned above as these were found at least 4 km away from the project site and are attracted to particular habitats that are not near the project site.

Snake species such as Reddish Peninsular Cat Snake (*Boiga forsteni*) were spotted by the project staff in the site. As per the H&S Policy of Radiance the staff needs to wear appropriate PPEs for self-protection and to prevent snake bites. Project site maintains a 'Faunal Carcass Register' to record disturbances to local fauna due to project activities as well as a 'Near Miss' register to record occurrences of herpetofauna (Snakes) and Arachnida (Scorpions) species in the project site.

#### **E.4.4 Social Baseline**

A stakeholder consultation was conducted with villagers in the Gugal, Chickraikumpi, Hireraikumpi, Matpalli and Masihal villages within the study area. While interacting with villagers, it was found that medical facility such as, Primary Healthcare Centre (PHC) was available only in Gugal village. No medical facilities were present in Chickraikumpi, Hireraikumpi, Matpalli and Masihal villages.

Primary school (1<sup>st</sup> to 7<sup>th</sup> standard) was found to be present in every village. Only three (Gugal, Hireraikumpi & Matpalli) out of five villages had Anganwadi facilities. Higher secondary school (8<sup>th</sup> to 10<sup>th</sup> standard) was found to be present only in Hireraikumpi village.

ST/SC population was absent in the study area. The primary occupation was farming and the majority of respondents in group discussion were engaged in farming activities. Some villagers were reported to be working in urban areas. The project site has a separate 'Stakeholder Engagement Plan' (SEP) that identifies the stakeholders, engagement process and grievance redress mechanism.

### **E.5 Impact Assessment**

#### **E.5.1 Analysis of Alternatives**

The alternatives assessed for transmission lines and access roads are based on location and technology. Alternatives for transmission line conductors, tower design and location were considered. For access road, location-based alternative was assessed. ASCR conductors, that are very widely used for all transmission and distribution purposes, especially for long spans and high voltage transmission will be used in the project. The project will deploy B, C, and D types of transmission towers that is the most suitable transmission tower technology based on the available corridor and design criteria for transmission of 110 KV. There are no structures (permanent or temporary) within the setback distance of the transmission towers and transmission line. There are also no E&S sensitive receptors present in the area of influence of the transmission line.

The access road to the site (of approx. 1 km) connecting to the Hirerayakumpi - Masihal village road is being specifically developed for the project. This new access road traverses along the boundaries of agricultural fields and is the shortest route to the project site. The road alignment thus results in least amount of disturbance and land procurement.

#### **E.5.2 Assessment of Impacts**

For assessment of the E&S impacts, the process presented in the ESIA Report dated 05.01.2023 has been followed to maintain consistency. Impacts of the transmission line and access roads has been assessed.

The impacts identified are of 'Moderate' and 'Minor' and most of these would be 'local' in extent and have a 'short' duration.

## Summary Table

| Nature of Impact                                  | Impact Significance | Residual Impact Significance |
|---------------------------------------------------|---------------------|------------------------------|
| 1. Impact Assessment of Transmission Line         |                     |                              |
| a) O&M Phase: Occupational Health & safety Impact | Negligible          | Negligible                   |
| b) O&M Phase: Biodiversity impacts                | Minor               | Minor                        |
| c) O&M Phase: Community Health & Safety Impacts   | Negligible          | Negligible                   |
| 2. Impact Assessment - Biodiversity               | Minor               | Minor                        |
| 3. Impact on Labour & Working Conditions          |                     |                              |
| a) Human Resource Management                      | Minor               | Negligible                   |
| b) Sexual Exploitation, Abuse & Harassment (SEAH) | Minor               | Negligible                   |
| c) Labour Risks                                   | Minor               | Negligible                   |
| 4. Impact Assessment on Water Resources           | Moderate            | Minor                        |

## E.6 Environmental and Social Management Plan

### E.6.1 Capability & Performance

It is estimated that 80 skilled, semi-skilled and unskilled labourers would be hired and deployed at the site by the contractor during the construction of the plant. A 3<sup>rd</sup> Party vendor would be hired for labour related compliance. A safety supervisor (Owner's Engineer) would be appointed by a 3<sup>rd</sup> party contractor for the project during construction phase. The project manager would have the overall responsibility to manage and administer all aspects of the EPC contract and assist with negotiations of the EPC contract as well as preparation of technical exhibits. The project manager would drive execution of the project, keeping it on schedule and on budget, while maintaining relationships with clients, stakeholders, and vendors.

During the operational phase, it has been estimated that approximately 35 technicians will be deployed at site by Radiance Renewables. EHS head of Radiance Renewables will ensure that EHS induction training and job specific trainings are being identified and provided to the concerned personnel for operation of the solar plant.

### E.6.2 Radiance ESG-MS

Radiance Renewables is committed to ensuring that the projects are managed in a manner reflecting sound environmental, social and governance management practices. For this purpose, company has adopted the Environmental, Social and Governance Management System (ESG-MS) which has been developed to formalize GGEF's commitment to environmental and social management. The ESGMS and underlying procedures were developed in conformance to World Bank Group's EHS Guidelines (General & Sector-specific).

### E.6.3 Grievance Redress

Radiance Renewables has a separate grievance redressal mechanism for internal & external grievances aligned with GGEF ESGMS. These practices are followed at the level of the subsidiaries/SPVs of Radiance Renewables and the project site. GRM establishes the process for

addressing grievances raised by internal & external stakeholders in connection with activities of projects owned, developed or operated by Radiance Renewables. For internal grievances, HCM department or respective department heads are responsible for recording internal grievances directly or through specified mail id. For records of external grievances, a separate register & website has been facilitated. A grievance register is available with the security guards to record external grievances. Awareness about the register among local people will be created by the deployed security personnel.

#### **E.6.4 Monitoring & Reporting**

Radiance Renewables follows a monitoring procedure that is aligned with GGEF ESGMS. It defines an indicative minimum monitoring criterion along with the minimum monitoring frequency. As per the category of 50 MW solar project (Category B) monitoring frequency has been specified for at least one visit during the construction phase and annual visits during operational phase of the project.

There are various types of reporting formats with specific objectives ranging from a monthly to an annual reporting and an event-based reporting. The Monthly reporting would cover matrices and indicators related to Greenhouse gas (GHG) emissions avoidance, operational parameters, leading HSE indicators and lagging HSE indicators.

The quarterly reporting would cover parameters on ESG & HSE (Unsafe acts, unsafe conditions, near misses and significant injury or fatality (SIF) initiatives undertaken in the quarter, gender-disaggregated data for the workforce (permanent + contractual) and ESAP closure progress.

The Annual reports would encompass information about the greenhouse gas emissions associated with the portfolio companies, their progress in meeting the UN Sustainable Development Goals (UNSDGs) relevant to Eversource's priorities, and their adherence to the IFC PS, accidents/incidents that have occurred in the quarter and corporate social responsibility expenditure.

The Event based reports would be case specific in case on any serious incident and be submitted within 48 Hours.

#### **E.6.5 Management Plan**

ESMP attached in ESIA report dated 05.01.2023 has been updated as per gaps identified in present study. The cost and schedule for the implementation of the same has been added.



# 1 Introduction

## 1.1 Background

Radiance Renewables is one of India's fastest-growing renewable energy power developers. It was incorporated in 2018, as a private equity owned developer. The company develops competitive renewable energy solutions for commercial, industrial and residential customers, enabling them to achieve their sustainability goals. Radiance Renewables Private Limited has been promoted by Eversource Capital, India's leading climate impact investor. The company's presence spans across pan India, with a current portfolio of operational and managed assets of 419 megawatts peak (MWp).

Eversource Capital is an equal joint venture between Everstone Group & Lightsource bp. Everstone Group is one of Asia's premier investment managers with assets across private equity, sustainability and climate impact and other sectors. Lightsource bp, is a global leader in development and management of solar energy projects. Eversource manages India's largest climate impact fund with anchor investments from India's National Investment & Infrastructure Fund (NIIF) and UK Government's Foreign, Commonwealth & Development Office (FCDO).

As part of their venture in the solar sector, Radiance Renewables is setting up a 50 MW Solar Power project in Raichur District, in the State of Karnataka, India ("Project"). The solar project is located near Hirerayakumpi Village, in Devdurga Tehsil, Raichur District, Karnataka, India (Hereinafter referred to as 'the project').

India's Central Electricity Authority set a target of producing 50% of the total electricity from non-fossil fuels sources by 2030. India has also set a target of producing 175 GW by 2022 and 500 GW by 2030 from renewable energy. The project by Radiance Renewables will contribute towards achieving this national target of 500 GW.

## 1.2 Purpose of the Study

As part of Radiance Renewable's Corporate Policy, the company carried out an Environmental & Social Impact Assessment (ESIA) study of the project. Final ESIA report is dated 05 January 2023. Several gaps were highlighted in the ESIA Report by investors of Radiance. Radiance Renewables thus commissioned services of M/s Envint Services LLP ("Envint") for undertaking a gap closure study of the ESIA report for the project.

## 1.3 Summary of Gaps in ESIA Report

The gaps identified in the ESIA Report are summarized below in **Table 1-1**. A reference to the section of this ESIA Gap Closure Report that addresses the gaps is also mapped.

**Table 1-1 : Summary of Gaps**

| #  | Summary of Gap                                                                                                                          | Reference            |
|----|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 1. | Establishing baseline conditions and evaluating potential E&S impacts from laying of transmission line and modification of access roads | <b>Section 4 5.2</b> |
| 2. | Potential impacts from the land acquisition or temporary land take along the alignment of the transmission lines and the access roads   | <b>Section 5.1</b>   |
| 3. | E&S categorization after inclusion of the transmission lines, towers, and access roads                                                  | <b>Section 3.2.3</b> |



| #   | Summary of Gap                                                                                                                                                                                                                                                                                                                    | Reference                         |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| 4.  | Confirmation that the subproject was screened against the GGEF Exclusion List                                                                                                                                                                                                                                                     | <b>Section 3.2.2</b>              |
| 5.  | Gap assessment of the applicable standards set for IFC/WBG General and sector specific EHS Guidelines                                                                                                                                                                                                                             | <b>Section 3.1</b>                |
| 6.  | Comparison of the applicable national/local laws and regulations with international safeguard requirements                                                                                                                                                                                                                        | <b>Section 3.1</b>                |
| 7.  | Baseline noise levels and baseline ambient air quality                                                                                                                                                                                                                                                                            | <b>Section 4</b>                  |
| 8.  | Past and current information on the land use along the right-of-way of the transmission lines and access road                                                                                                                                                                                                                     | <b>Section 2.3</b>                |
| 9.  | Season of baseline survey days (within migration season or not)                                                                                                                                                                                                                                                                   | <b>Section 4.2</b>                |
| 10. | Information of organizations or institutes, who may have been consulted during the ESIA exercise                                                                                                                                                                                                                                  | <b>Section 4</b>                  |
| 11. | Need for any specialized studies such as critical habitat assessment                                                                                                                                                                                                                                                              | <b>Section 4.2.2</b>              |
| 12. | Inclusion of scope of transmission line and access road in the ESIA and ESMP                                                                                                                                                                                                                                                      | <b>Section 5.2 &amp; Annex 12</b> |
| 13. | Information on the alternatives considered for the transmission line alignment and the alignment/improvements for the access road                                                                                                                                                                                                 | <b>Section 5.1</b>                |
| 14. | Water source for the estimated water requirement during construction & operation phase                                                                                                                                                                                                                                            | <b>Section 5.5</b>                |
| 15. | Information on involvement in sexual exploitation, abuse, and harassment (SEAH)                                                                                                                                                                                                                                                   | <b>Section 5.4.2</b>              |
| 16. | Information on labour risks in the supply chain of solar photovoltaic (PV) panels in ESIA & relevant measures in the ESMP                                                                                                                                                                                                         | <b>Section 5.4.3</b>              |
| 17. | Potential environmental and social impacts from the <ul style="list-style-type: none"> <li>1. Transmission line</li> <li>2. Access Road</li> <li>3. Water abstraction in drought-prone areas</li> <li>4. SEAH risks</li> <li>5. Labour risks</li> </ul>                                                                           | <b>Section 5</b>                  |
| 18. | Information on <ul style="list-style-type: none"> <li>1. Mechanism used to address expectations and key concerns from the stakeholders</li> <li>2. Time, location, sex-disaggregated information of the public consultation participants</li> <li>3. Information shared with the participants including questionnaires</li> </ul> | <b>Section 4.3</b>                |
| 19. | Information about <ul style="list-style-type: none"> <li>1. Internal &amp; external grievance redress mechanism</li> <li>2. Grievance redress mechanism log that will be included in the annual reporting</li> </ul>                                                                                                              | <b>Section 6.3</b>                |
| 20. | Commensurate mitigation measures from the potential E&S risk that were not covered                                                                                                                                                                                                                                                | <b>Section 5</b>                  |
| 21. | Organizational structure during construction and operation phase including information on capacity and planned capacity building activities                                                                                                                                                                                       | <b>Section 6.1</b>                |
| 22. | Monitoring and reporting procedures consistent with the GGEF ESGMS                                                                                                                                                                                                                                                                | <b>Section 6.4</b>                |
| 23. | Schedule and cost of ESMP implementation                                                                                                                                                                                                                                                                                          | <b>Section 6.5</b>                |
| 24. | Radiance's labour management, including HR policies and its alignment with applicable national and local labour laws and the requirements of ILO core labour standards                                                                                                                                                            | <b>Section 5.4.1</b>              |

| #   | Summary of Gap                                                                                                                                                                                                                                                                                                                                  | Reference                            |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| 25. | Inclusion of community health & safety in emergency preparedness and response                                                                                                                                                                                                                                                                   | <b>Section 5.2.2 &amp; Annex 1</b>   |
| 26. | Information on <ol style="list-style-type: none"> <li>1. Alignment of the land acquisition process and lease agreements with international good practices and applicable laws and regulations, and GGEF ESGMS;</li> <li>2. Involvement in pending disputes or court cases in relation to the land acquired for the solar power plant</li> </ol> | <b>Section 2.4 &amp; Section 3.2</b> |

## 1.4 Scope of Work

The scope of work was to update the existing ESIA and the ESMP after closing the gaps identified in the ESIA report of the project.

### 1.4.1 Reference framework

The ESIA gap closure was conducted in conformance to the following reference framework:

- Applicable local and national environmental and social regulations (including that of the state nodal agency for Renewable energy development)
- IFC Performance Standards on Environmental and Social Sustainability (2012)
- IFC/World Bank EHS General Guidelines
- IFC/World Bank EHS Guidelines for Power Transmission and Distribution (2007)
- GGEF/Radiance ESGMS

## 1.5 Approach & Methodology

The approach and methodology adopted for conducting the Gap Closure of ESIA study is outlined below.

### 1.5.1 Information Review

The ESIA report dated 05.01.2023 with comments on gaps was reviewed. An information request list was prepared to request project details that would enable planning of the next steps in the gap closure exercise. The IRL included details on current status, transmission line, land ownership, resource requirement, biodiversity incidents, standard SOPs & legal documents.

Besides review of project details, secondary literature review was conducted on biodiversity in the study area (10 km buffer around the project site) including the transmission line.

### 1.5.2 Mapping of Sensitive Receptors

The environmental and social (E&S) receptors sensitive to solar energy development were identified and mapped for the project influence area along the TL and access road through review of secondary data. These receptors were spatially represented by creating data layers using Google Earth Pro and ArcGIS. Secondary data for the mapping activity was sourced from recognized, publicly available databases.

The sensitive receptors reviewed and mapped in the study area include:

1. Habitations/ Settlements

2. Important Bird Areas as per database created by Bombay Natural History Society and Birdlife International
3. Water bodies (rivers, streams, ponds, lakes, reservoirs, check dams, canals)
4. Cultural heritage and archaeological important places (world heritage sites, excavations, state protected monuments, museums)
5. Forests (Wildlife Sanctuaries, National Parks, Reserved Forest, Protected Forest, Open Jungle) based on data provided in the Survey of India (SOI) Open Series Toposheets and website of Forest Department
6. Rail network, road network (national/state highways, district roads) and airports
7. Scheduled Areas and Tribal Areas

The outputs of the mapping exercise were used as input for planning and execution of the baseline primary survey.

### **1.5.3 Baseline Primary Survey**

A site visit was conducted to the project area between 03 – 06 September 2023 for undertaking the following activities:

- Understanding of project area and transmission line (TL) route
- Verification of receptors that were identified during desk-based review.
- Baseline Environmental Quality Monitoring (Ambient Air, Ambient Noise, Soil, and Ground Water)
- Biodiversity survey – visit to various habitats identified during desk-based review
- Stakeholder Consultation - social profiling of the settlements in the study area through a semi-structured approach
- Consultation with land aggregator and landowners for social profiling and to identify whether land leasing for the project resulted in marginalization of any farmers/landowners. (A” Marginal Farmer” can be defined as a farmer cultivating (as owner or tenant or share cropper) agricultural land up to 1 hectare (2.5 acres).

### **1.5.4 Impact Assessment**

Impact Assessment was conducted for the transmission line across all phases of the project life cycle. Impact assessment was also strengthened for areas that were identified as gaps in the ESIA Report dated 05.01.2023 such as:

- Physical environment – air, water, land
- Biodiversity (flora and fauna)
- Physical climate risks
- Landowners & those economically dependent on it
- Neighboring community (other than landowners)

The project influence area was also be screened through IBAT (Integrated Biodiversity Assessment Tool) for biodiversity risks (if any).

### 1.5.5 Environmental and Social Management Plan (ESMP)

An Environmental and Social Management Plan (ESMP) is presented in this ESIA Gap Closure Report for impacts of components that were identified as gaps in the ESIA Report dated 05.01.2023. The E&S Management System and underlying procedures of Radiance Renewables that are deployed at site and the ESMP presented in the ESIA Report were taken into consideration while preparing the ESMP in this Gap Closure report.

The reference framework was taken into account for recommending management measures. The general hierarchy for planning management measures i.e., elimination, substitution, engineering control, administrative control and personal protective equipment has been adopted.

## 1.6 Organization of the Report

The ESIA Gap Closure report is an addendum to the ESIA report dated 05/01/2023 and is to be read in conjunction. The Gap closure report has been organized across 6 chapters as follows:

- **Chapter 1** provides a background to the project while specifying the need to undertake the gap closure study along with summary of gaps identified in ESIA report. The purpose and approach taken to conduct the study is described in this Chapter.
- **Chapter 2** provides overview of project specifics, encompassing project location and the transmission line. (*Addendum to Chapter 2*)
- **Chapter 3** presents screening of project against GGEF exclusion list & defines the ESS categorization of project as per IFC requirements (*Addendum to Chapter 4*)
- **Chapter 4** describes analysis of baseline environmental & social conditions present at site (*Addendum to Chapter 5*)
- **Chapter 5** presents assessment of impacts on environmental & social aspects along with analysis of alternative for transmission line & access road (*Addendum to Chapter 7*)
- **Chapter 6** outlines management plan for E&S aspects and the schedule & cost of implementation. (*Addendum to Chapter 8*)

## 2 Project Description

### 2.1 Salient Features of Project

The key project components of the 50 MW Solar Power Project include solar panels, switchyard, inverters, transformers, main control room, and pooling substation. The associated facilities include transmission line and towers, and access roads. The solar power project is based on monocrystalline solar photo voltaic technology.

The entire project (including all key and associated components) is being developed over land measuring 207 acres. The entire land is leased for a period of 29 years & 11 months. Land for the Project is recognized as “agricultural land”. However, the identified land is not suitable for agricultural purposes due to low fertility.

Power from the Project will be evacuated via 110 KV transmission line to Karnataka Power Transmission Corporation Limited’s 110/11 KV substation located in Gugal village, Devdurga Taluka, Raichur District, at an approximate distance of 3 km northeast from the solar project’s pooling substation (PSS).

The site is accessible via an unpaved village road (admeasuring approx. 1 km) that connects with the paved village road between Hirerayakumpi Village and Masihal village. A No Objection Certificate was sought from the Gram Panchayat and use of the road (post levelling and widening) for project purpose was leased from the landowners adjoining the access road.

There are no National Parks or Wildlife Sanctuaries located within a 10 km radius of the Project site. The nearest protected area as well as important bird area (IBA), Amrabad Tiger Reserve, Telangana, is situated about 98 km away from the site in the east direction. A Great Indian Bustard (GIB) Rollapadu Wildlife Sanctuary, Andhra Pradesh is present about 150 km away from the site in north- west direction.

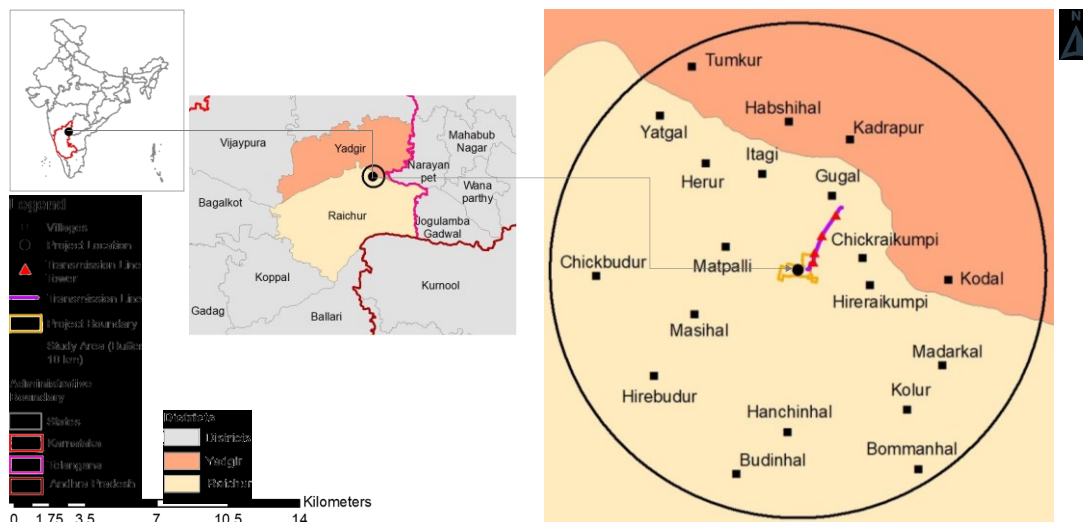
As per the review of google earth imagery and site visit, it is established that there are no structures bearing cultural, historical, religious or spiritual significance located within the project influence area.

### 2.2 Project Location

The Gap Closure ESIA study has been carried out for solar energy project of 50 MW capacity. The project located near Hirerayakumpi Village, Devdurga Tehsil of Raichur District, in state of Karnataka (India). The location coordinates of the project site are 16°26'17.39"N;77° 7'47.72"E. The administrative boundaries shown in **Figure 2-1** boundaries have been obtained from Census of India 2011<sup>1</sup>.

---

<sup>1</sup> <https://censusindia.gov.in/census.website/data/atlas> [Last published data by Census of India]



**Figure 2-1 : Project Location and Administrative Boundaries**

## 2.3 Transmission Line Details

The power generated from the plant will be evacuated via 110 KV transmission line to Karnataka Power Transmission Corporation Limited's 110/11 KV substation which is situated in Gugal village in Devdurga Tehsil of Raichur District. The substation is located at an approximate distance of 3 km in the north-east direction from the pooling substation (PSS) of the Project.

An EPC contractor is appointed for developing the infrastructure necessary for power evacuation from PSS to KPTCL substation. As reported, the conductor wires used for transmission line in this project are Aluminum-Conductor Steel-reinforced (ACSR) type. The conductors used to carry the power from generation point to delivery point are of three phases and single circuit. The transmission line being established for this project is 3.2 km long. The capacity of these conductors is 110 KV.

## 2.4 Project Land Requirement & Procurement Process

### 2.4.1 Land Requirement

Refer **Table 2-1** for a summary of project component wise land requirement.

**Table 2-1 : Land Requirement Details**

| Project Component | Land Requirement (Acres) | Mode of Procurement | Type of Land         |
|-------------------|--------------------------|---------------------|----------------------|
| PV Area           | 202.0                    | Lease               | Private Agricultural |
| TL Tower          | 0.075                    | Lease               | Private Agricultural |
| Access Road       | 5.0                      | Lease               | Private Agricultural |
| <b>Total</b>      | <b>207.075 acres</b>     |                     |                      |

### Solar Farm

The total land required for setting up the PV area is 202 acres. The land has been leased for a period of 29 years & 11 months on willing basis by landowners. The project area is drought prone, dependent on rainfall for agriculture and is also facing a shortage of agricultural labour. Hence, farmers have willingly leased their land for the project as it enables stable income on an annual basis (except one-time lumpsum paid for the TL ROW). As part of the assessment, the process of land transfer was understood through consultations with the Radiance Renewables Corporate land team, project team,

land aggregator and landowners. A social profiling of landowners was also conducted to identify if any farmers have been marginalized or lost their means of livelihood in the process.

### **Access Road**

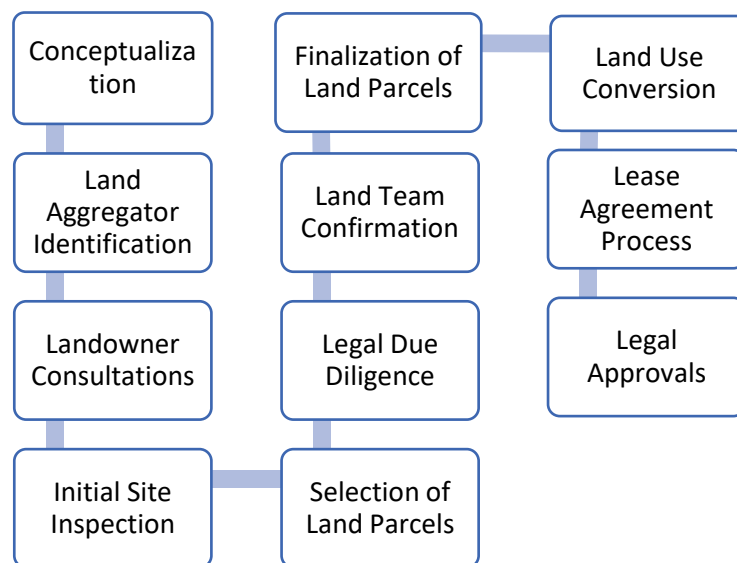
The access road to the site connecting to the Hirerayakumpi - Masihal village road is being specifically developed for the project along the boundaries of agricultural fields. The land required for this road is 5 acres which is taken on lease for a period of 29 years & 11 months. A lumpsum one-time amount has been paid to landowners. During the site visit, it was observed that the access road is a non-bituminous unpaved road which is also being used by villagers now to access their agricultural fields surrounding the road. The access road has agricultural farmlands to towards its east and west. The solar PV project is located towards north of the access road and the Hirerayakumpi -Masihal village road is located to the south.

### **Transmission Line**

The project transmission line (TL) being established is 3.2 km long. The TL involves 13 number of towers, out of which 4 are located within the project boundary and remaining 9 towers are located outside the project boundary. As reported by land aggregator land required for TL towers is 0.075 acres which is taken on lease for project life period (29 years & 11 months). However, the construction corridor (20 m) for stringing the TL between the towers are leased for period limited to construction activities for TL. The landowners were paid one-time compensation for lease of the construction corridor.

### **2.4.2 Land Procurement Process**

After understanding the land procurement process from land aggregator & landowners it was confirmed that land lease process and lease agreements were compliant with international good practices and applicable laws and regulations and the entitlement matrix in the GGEF ESGMS *Appendix O*. Also, it was confirmed that there are no pending disputes or court cases in relation to the land procured for the solar energy project. Refer **Figure 2-2** & **Table 2-2** for land procurement process for project land, TL & access road.



**Figure 2-2 : Land Procurement Process**

**Table 2-2 : Land Procurement Process**

| Process                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Project Land</b>            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Land Conceptualization         | <ul style="list-style-type: none"> <li>Potential locations for identification of land parcels suitable for proposed project were identified.</li> <li>Identified land parcels were confirmed by conducting internal discussion with business development team</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Land Aggregator Identification | <ul style="list-style-type: none"> <li>Based on finalized site location and confirmation on availability of land parcels, local land aggregator are identified.</li> <li>One local land aggregator was selected by the commercial committee of Radiance based on selection criteria.</li> <li>The criteria for selection included qualification, financials, credentials, feedback from previous developers on timeliness, cost, quality, feedback from local community.</li> <li>The scope of land aggregator includes Part 1 – Preliminary Due Diligence, Detailed Due Diligence, Land Acquisition, Registration, Mutation and Conversion, Permits and Approvals</li> <li>The type of land parcels to be avoided is communicated to the land aggregators. The land details required for undertaking the title due diligence is also provided by Radiance. The ethical practices to be followed by aggregators in the land lease process is clearly communicated by Radiance.</li> </ul> |
| Landowner Consultations        | <ul style="list-style-type: none"> <li>Land aggregator identifies suitable land parcels for proposed project.</li> <li>Discussions are conducted by land aggregator with potential landowners and their family members (spouse, children, parents) about the project details, legal aspects, lease rate &amp; period.</li> <li>Lease rates are finalized based on state (government) rules, competitor's rates &amp; local situation.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Initial Site Inspection        | <ul style="list-style-type: none"> <li>ESG team conducts preliminary desktop study of site with the help of checklist using secondary information and gives preliminary approval.</li> <li>Radiance Renewables land team members along with land aggregator physically visit the potential land parcels to check the suitability of land for project as per standard ESG checklist.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Selection of Land Parcels      | <ul style="list-style-type: none"> <li>The ESG team does a desk-based review (google earth, GIS, etc.) and provides feedback on key aspects for the land team to evaluate - e.g., informal land users, displacement, cultivation, religious sites, common property areas, etc.</li> <li>The land parcels that have received preliminary confirmation from ESG team and suitable as per the criteria defined in</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |



| Process                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | <p>Preliminary Land Due Diligence Checklist attached as Annex 4 are then finalized for further legal clearance.</p> <ul style="list-style-type: none"> <li>The land parcels selected for the project did not have any informal land users.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Legal Due Diligence          | <ul style="list-style-type: none"> <li>Required land documents such as title &amp; land revenue records as per preliminary land due diligence checklist are collected from landowners.</li> <li>Documents mentioned in the list are collected by land aggregator from potential landowners to verify the legal status of land (to identify any legal issue) for the past 30 years.</li> <li>Refer <b>Annex 4</b> for Preliminary Land Due Diligence checklist.</li> <li>After legal due diligence, socio-economic profiling of landowners is conducted to confirm whether the landowner has additional parcel of land apart from the leased land.</li> <li>Refer <b>Annex 5</b> for socio-economic profiling format conducted for project.</li> </ul> |
| Land Team Confirmation       | <ul style="list-style-type: none"> <li>List of landowners who have complied with all the initial legal verification is shared with Radiance Renewables land team by land aggregator.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Finalization of Land Parcels | <ul style="list-style-type: none"> <li>Land team finalize and informs to land aggregator the land parcels suitable as per legal and project requirements.</li> <li>After confirmation, further legal process is carried out by land aggregator to complete Pre-Agreement to Lease (ATL) to confirm involvement of the leased land parcel in the proposed solar energy project.</li> </ul>                                                                                                                                                                                                                                                                                                                                                             |
| Land Use Conversion          | <ul style="list-style-type: none"> <li>Documents of potential land for the past 30 years are verified.</li> <li>Application for land use conversion is made through an online portal to District Tehsildar. Hard copy of application is submitted to Tehsildar office for verification.</li> <li>This copy is submitted to the District Collector (DC) office. Challan is released by DC office after approval. Challan is paid by Radiance Renewables through online mode.</li> <li>After payment of challan NA order is released, which confirms land use change from agricultural to non-agricultural.</li> </ul>                                                                                                                                  |
| Lease Agreement Process      | <ul style="list-style-type: none"> <li>Three years advance is paid to landowner directly by Radiance via bank transfer.</li> <li>ATL along with the relevant documents are registered for the land parcel. Post which the lease agreement process is considered to be completed.</li> <li>As reported land lease process was completed on 30-11-2023</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                       |

| Process                       | Description                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Legal Consents/Approvals      | <ul style="list-style-type: none"> <li>All applicable certificates, agreements or consents required in relation to land for the solar power plant and its associated facilities are complied.</li> <li>ATL documents are submitted to the Gram Panchayat.</li> <li>Then internal committee of gram panchayat verifies and issues NOC. Refer <b>Annexure 13</b>.</li> </ul>                                     |
| Land lease Rates              | <ul style="list-style-type: none"> <li>The first lease compensation is paid to landowners in the form of DD. Remaining amount its transferred directly to the bank account of landowners.</li> </ul>                                                                                                                                                                                                           |
| <b>Transmission Line Land</b> |                                                                                                                                                                                                                                                                                                                                                                                                                |
| Site Inspection               | <ul style="list-style-type: none"> <li>For TL land a physical survey is conducted along the route from GSS to PSS to identify any disturbance to environment such as water bodies as per Preliminary Land Due Diligence checklist</li> <li>Land with minimum land cultivation and dry area are selected for TL route.</li> <li>If any disturbance is identified, then that land parcel is rejected.</li> </ul> |
| Lease Rate                    | <ul style="list-style-type: none"> <li>After reviewing the TL route discussions are conducted with TL landowners and local district collector.</li> <li>In some cases, District Collector/other DISCOMS fixes lease compensation for TL land.</li> </ul>                                                                                                                                                       |
| <b>Access Road</b>            |                                                                                                                                                                                                                                                                                                                                                                                                                |
| Site Inspection               | <ul style="list-style-type: none"> <li>Inspection process similar to the TL land site inspection is adopted.</li> </ul>                                                                                                                                                                                                                                                                                        |
| Land Procurement              | <ul style="list-style-type: none"> <li>The land for the access road has been taken on lease.</li> </ul>                                                                                                                                                                                                                                                                                                        |

### 2.4.3 Land Procurement Rates

The rates at which land was procured for setting up the solar energy project, TL and access road is presented below.

**Table 2-3: Land Procurement rates**

| Type of Land                          | Lease Rate                                                                                                                                                                                                                                                                    |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Project land                          | <ul style="list-style-type: none"> <li>For project land INR 30,000/year/acre is being paid to landowners for leasing period of 29 years &amp; 11 months.</li> <li>There will be increment in this lease rate every year after 3 years which is INR 1000/year/acre.</li> </ul> |
| TL tower Land & construction corridor | <ul style="list-style-type: none"> <li>For TL tower land and construction corridor lease rate of INR 60,000 to INR 70,000 per/acre was paid to landowners as a one-time payment.</li> </ul>                                                                                   |

| Type of Land     | Lease Rate                                                                                                                                                                                                                                                                                       |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Access road land | <ul style="list-style-type: none"> <li>For land parcels admeasuring more than 0.5 acres in area, lease rate of INR 30,000 per acre was paid to landowners as a one-time payment.</li> <li>For land parcels admeasuring less than 0.5 acres, a lump sum amount was paid to landowners.</li> </ul> |

#### 2.4.4 Project Landowner Consultation

Details of landowners whose land has been leased for the project were received from Radiance Renewables team. The availability of landowners was discussed with land aggregator. Landowners for consultation were shortlisted based on their availability.

The objectives of the landowner consultation were:

- To verify the process followed by Radiance Renewables for land procurement
- To confirm that the landowner has not been rendered landless, has not lost their primary means of livelihood, and payment received for the land procured

Out of the total of 41 solar PV project landowners and 13 landowners associated with TL, consultations were carried out with 12 and 3 landowners respectively, based on their availability.

The landowner consultation process was as follows:

- Almost 25 % of the total landowners involved in land lease process for solar power plant were available for consultation.
- The landowner's consultations were conducted in the presence of Radiance Renewables' team & the land aggregator.
- A questionnaire was prepared for consultation with landowners to understand the land lease process & to verify the transparency of the process. Thus, before consultation, the entire process of leasing was understood from land aggregator and Radiance Renewables team. During the survey questions from questionnaire were discussed with local landowners & their responses were recorded. Refer **Annex 5 & 6** for landowner's socio-economic profiling format & questionnaire for landowners' consultation respectively.

Details of the public consultation, time, location, sex-disaggregated information were also recorded.

#### **Summary of Landowner's Consultation**

The initial screening process of landowners conducted by Radiance Renewables was reviewed and the entire process was validated through tri-partite discussions held with Radiance Renewables team, land aggregator and the landowners. It was established that no landowner was marginalized in the process and hence there was no need to conduct a detailed socio-economic survey of landowners. Instead, a structured consultation with individual landowner was conducted. Also, it was noted that no informal settlers or structures that may need relocation were involved in the project as the company follows 'Resettlement Policy Framework' established by GGEF. Following are the summary of discussion points with landowners (**Table 2-4**):

**Table 2-4 : Summary of Landowner Consultation**

| Aspects                                                                                                                                      | Result of Discussions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of landowners involved in Project Land (PL) & Transmission Line (TL)                                                                  | <ul style="list-style-type: none"> <li>41(PL)</li> <li>13 (TL)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Number of landowners consulted                                                                                                               | <ul style="list-style-type: none"> <li>12 (PL)</li> <li>3 (TL)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Leasing Period                                                                                                                               | <ul style="list-style-type: none"> <li>29 years and 11 months</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Compensation charges for leased land                                                                                                         | <ul style="list-style-type: none"> <li>INR 30,000/year/acre and increment of Rs. 1000/year/acre for project land</li> <li>INR 60,000 to INR 70,000 per acre as a one-time payment for transmission line</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Approach for purchasing the land                                                                                                             | <ul style="list-style-type: none"> <li>With the help of the local land aggregator, Radiance Renewables team had conducted group meetings and explained all the project related details with potential landowners.</li> <li>The discussion was focused on points related to project details, lease period &amp; compensation for lease.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Process                                                                                                                                      | <ul style="list-style-type: none"> <li>Identification of potential lands for proposed project.</li> <li>Discussion of land aggregator with potential landowners.</li> <li>Explaining project and compensation details to landowners.</li> <li>Conducting socio-economic profiling of potential landowners to ensure that none of the farmers involved comes under marginalized section.</li> <li>Collection of documents like AADHAR card as ID proof, Account details for payment of compensatory fees &amp; 7/12 as land documents were collected for land lease process.</li> <li>Validation of documents and completion of lease process.</li> </ul>                                                                                                                                                |
| Reason to lease out the land                                                                                                                 | <ul style="list-style-type: none"> <li>Farmers agreed to lease their potential farm on willing buyer – willing seller basis as it was infertile; water scarcity and dependency on rainfall; and due to lack of agricultural labor.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Satisfied with the amount received for the land                                                                                              | <ul style="list-style-type: none"> <li>It was found that most of the farmers were aware of the entire process of payment cycle and were satisfied with lease rate.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Paid fairly                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Sources of income                                                                                                                            | <ul style="list-style-type: none"> <li>Most of the landowners were involved in agricultural activity and few were employed in companies in urban areas.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Does land parcel that was leased contribute to your household income? Do you have any other parcels of land? What is your total landholding? | <ul style="list-style-type: none"> <li>The socio – economic profiling of landowners was conducted by Radiance Renewables prior to finalization of land parcels. It was considered as one of the requirements before finalizing to avoid land transaction with any marginalized farmer.</li> <li>This socio – economic profiling template includes parameters such as names of family members and their relation with principal land owner, gender, age, education, primary &amp; secondary occupation, avg yearly income (INR), housing details (kuccha/pakka), facilities available in house (drinking water, electricity, toilet), caste &amp; religion, landowner from BPL/EBC class, procured land by the radiance/ SPV, balance land after land sale, indigenous population, SC/ST, any</li> </ul> |

| Aspects | Result of Discussions                                                                                                                                                                                                                                                                                                                                                          |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | <p>business activity on procured land, any type of construction on procured land, any religious structure on the procured land, any tenancy right, animal fodder and remarks.</p> <ul style="list-style-type: none"> <li>The same was reconfirmed during the consultation with landowners and was found to be complied with the requirement of Radiance Renewables.</li> </ul> |

**Based on the details presented in this section, it is confirmed that the land acquisition process and lease agreements were compliant with international good practices and applicable laws and regulations, and the entitlement matrix in the GGEF ESGMS Appendix O; and that there are no pending disputes or court cases in relation to the land acquired for the solar power plant.**

## 2.5 Temporary Workers' Camp

No temporary workers camp will be established in the project area. The contractor appointed for the project is responsible for temporary accommodation of workers, if any. The contractor will establish a worker's camp following the guidelines provided by Radiance Renewables.

## 2.6 Water for the Project

Water for construction and O&M phases of the project will be supplied through water tankers. The project will have 1,05,000 solar modules. The O&M phase of the solar project will involve periodical cleaning of solar modules for better efficiency. Two types of module cleaning methods, dry & wet will be employed in the project. During the O&M phase dry module cleaning will be performed after every two days. Dry robotic cleaning of modules requires 20 robots. While wet module cleaning will be carried out on a quarterly basis throughout the year. Wet module cleaning requires a period of 20-30 days to cover the entire solar plant. This activity requires 2,000-6,000 liters of water per day. A maximum of 54 KL of water will be consumed on an annual basis.

## 3 Applicability of Reference Framework

### 3.1 Addendum to Applicability of International Standards

IFC applies the Performance Standards to manage social and environmental risks and impacts and to enhance development opportunities in its private sector financing in its member countries eligible for financing. These performance standards and guidelines provide ways and means to identify impacts and affected stakeholders and lay down processes for management and mitigation of adverse impacts. Refer **Table 3-1** for applicability of IFC PS to the project.

The aspects included across the IFC PS are covered under various Indian regulations. The same are listed in the table.

**Table 3-1 : IFC Performance Standards, their Applicability & Comparison with Indian Regulations**

| IFC PS                                                                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Objectives and Applicability to the Project                                                                                                                                                                                                                                                                                                               | Comparable Indian Regulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IFC PS 1: Assessment and Management of Environmental and Social Risks and Impacts | This PS aims to assess the existing social and environmental management systems and to identify the gaps with respect to their functioning, existence and implementation of an environmental and social management plan (ESMP), a defined EHS Policy, organization chart with defined roles and responsibilities, risk identification and management procedures as well as processes like stakeholder engagement and grievance management.                                                            | <b>Applicable</b><br>The Radiance ESG-MS that has been developed in alignment to the IFC PS 1 is being deployed in the project.                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• The Environment (Protection) Act 1986</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| IFC PS 2: Labour and Working Conditions                                           | This PS is guided by a number of international conventions and instruments on labour and workers' rights. It recognizes that the pursuit of economic growth through employment creation and income generation should be accompanied by protection of fundamental rights of workers. The PS covers following themes: human resource policy and management, workers' organization, non-discrimination and equal opportunity, retrenchment, protecting the workforce and occupational health and safety. | <b>Applicable</b><br>The Project activities will engage approximately 200-300 skilled, semi-skilled and unskilled labourers and staff during the construction and operation phase. The Project will have to comply with the labour laws, ensure non-discrimination and equal opportunity, protection of the workforce and occupational health and safety. | <ul style="list-style-type: none"> <li>• The Child Labour (Prohibition &amp; Regulation) Act, 1986</li> <li>• Minimum Wages Act, 1948</li> <li>• The Equal Remuneration Act, 1976</li> <li>• Employees' State Insurance Act (ESI), 1948</li> <li>• The Employees' Provident Funds (EPF) and Miscellaneous Provisions Act, 1952 amended up to 1996</li> <li>• Employee Compensation Act 1923</li> <li>• The Payment of Bonus Act, 1965</li> <li>• The Contract Labour (Regulation and Abolition) Act, 1970</li> <li>• The Maternity Benefits Act, 1961</li> <li>• The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013</li> <li>• Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996</li> <li>• Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010 / The Indian Electricity Rules, 1956</li> </ul> |
| IFC PS 3: Resource                                                                | PS-3 covers the use resources and materials as inputs and wastes that                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Applicable</b><br>The Project construction                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• Construction and Demolition Waste Management Rules, 2016</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| IFC PS                                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Objectives and Applicability to the Project                                                                                                                                                                                                                                                                                                                                                                                                                                  | Comparable Indian Regulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Efficiency and Pollution Prevention                     | could affect human health. The objectives of PS-3 are: to avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities; to promote more sustainable use of resources, including energy and water, and to reduce project related GHG emissions. Key themes covered under PS-3 are: pollution prevention, resource conservation and energy efficiency, wastes, hazardous materials, emergency preparedness and response, greenhouse emissions, pesticide use and management. This PS will assess how Radiance intends to minimize pollution related impacts, what management plans and systems are in place, and what measures it plans to take to conserve and use resources more efficiently. | activities will lead to increased fugitive dust emissions, especially in the area it is being developed due site clearance and excavation related activities. The Project activities will also lead to increase in ambient noise level during the construction phase, which may impact the nearest villages. Furthermore, the Project activities will involve generation of waste and will involve abstraction of groundwater. Therefore, PS 3 is applicable to the Project. | <ul style="list-style-type: none"> <li>• The Water (Prevention and Control of Pollution) Act 1974</li> <li>• The Air (Prevention and Control of Pollution) 1981</li> <li>• The Noise Pollution (Regulation and Control) Rules, 2000</li> <li>• The Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2016</li> <li>• E-Waste (Management) Rules, 2022</li> <li>• Plastic Waste Management Rules, 2016 &amp; amendment of 2022</li> <li>• Solid Waste Management Rules, 2016</li> <li>• Battery Waste Management Rules, 2022</li> <li>• Ozone Depleting Substances (Regulation &amp; Control) Rules, 2000</li> </ul> |
| IFC PS4: Community Health, Safety and Security          | This PS-4 requires due diligence to anticipate and avoid adverse impacts on the health and safety of the affected community during the project life from both routine and non-routine circumstances. It also requires to ensure that the safeguarding of personnel and property is carried out in accordance with relevant human rights principles and in a manner that avoids or minimizes risks to the affected Communities. Key areas of compliance screened under PS- 4 includes: infrastructure/equipment safety, hazardous material safety, natural resource issues, exposure to disease, emergency preparedness and response, and security personnel requirements.                                                                                          | <p><b>Applicable</b></p> <p>The project would affect the health and safety of the communities adjacent to it during construction phase. Transportation of equipment and increased traffic in the area may lead to accidents and other threats on community health and safety, therefore PS 4 is applicable to the Project.</p>                                                                                                                                               | <ul style="list-style-type: none"> <li>• Central Motor Vehicles Act 1988</li> <li>• Private Security Agencies (Regulation) Act, 2005</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| IFC PS 5: Land Acquisition and Involuntary Resettlement | PS-5 requires project proponents to anticipate and avoid, or where avoidance is not possible, minimize adverse social and economic impacts from land acquisition or restrictions on land use. The key themes covered under this are: compensation and benefits for displaced persons, consultation and grievance mechanism, resettlement planning and implementation, physical displacement, economic displacement. The PS-5 also prescribes private sector responsibility to supplement government actions and bridge the gap between government's assigned entitlements, procedures, and the                                                                                                                                                                     | <p><b>Not applicable</b></p> <p>As per the information provided by the client, a total of 207 acres of land is required for the Project. The entire project is located on a private land and is taken on lease. This is being leased in directly through landowners and there's no use of eminent domain. Further, the land lease will not result in any physical or economic displacement, since the land is private fallow land and was</p>                                | <ul style="list-style-type: none"> <li>• The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



| IFC PS                                                                                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Objectives and Applicability to the Project                                                                                                                                                                                                                              | Comparable Indian Regulation                                                                                                                     |
|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                            | requirements of PS-5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | not used for agricultural purposes or any other purpose.                                                                                                                                                                                                                 |                                                                                                                                                  |
| IFC PS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources | The objectives of PS 6 are: to protect and conserve biodiversity, to maintain the benefits from ecosystem services and to promote the sustainable management of living natural resources through the adoption of practices that integrates conservation needs and development priorities.                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Applicable</b><br>As the solar project, pose some amount of threat to avifauna. There is a possibility of resident and migratory avifauna getting affected; thus, the PS-6 is applicable here.                                                                        | <ul style="list-style-type: none"> <li>• The Wildlife (Protection) Act, 1972</li> <li>• The Wildlife (Protection) Amendment Act, 2022</li> </ul> |
| IFC PS 7: Indigenous Peoples                                                               | This Performance Standard applies to communities or groups of Indigenous Peoples who maintain a collective attachment, i.e., whose identity as a group or community is linked, to distinct habitats or ancestral territories and the natural resources therein. PS-7 endeavor to ensure that the development process fosters full respect for the human rights, dignity, aspirations, culture, and natural resource-based livelihoods of Indigenous People. Key themes covered under PS-7 are: avoidance of adverse impacts, consultation and informed participation, impacts on traditional or customary land under use, relocation of IPs from traditional or customary lands, and cultural resources. | <b>Not applicable</b><br>As confirmed during community consultations and consultation with the land team, that no indigenous peoples (IPS) are affected by the project activities and no IP land is leased/ purchased. Therefore, PS 7 is not applicable to the project. | <ul style="list-style-type: none"> <li>• 5th Schedule of Indian Constitution</li> </ul>                                                          |
| IFC PS 8: Cultural Heritage                                                                | For the purposes of PS-8, cultural heritage refers to (i) tangible forms of cultural heritage; (ii) unique natural features or tangible objects that embody cultural values; and (iii) certain instances of intangible forms of culture that are proposed to be used for commercial purposes. The requirements of PS-8 apply to cultural heritage regardless of whether or not it has been legally protected or previously disturbed.                                                                                                                                                                                                                                                                    | <b>Not applicable</b><br>As confirmed during the site visit, no cultural heritage will be affected by the project activities. Therefore, PS 8 is not applicable to the project.                                                                                          | <ul style="list-style-type: none"> <li>• Ancient Monuments and Archaeological Sites and Remains Act 1958</li> </ul>                              |

The IFC-PS 2 & 3 refer to the World Bank Group's Environment, Health & Safety Guidelines developed to address general and sector specific EHS and community safety risks and impacts.

- The World Bank Group's General EHS Guidelines, 2007 present standards on ambient air quality, noise quality, wastewater discharge. Comparable Indian Standards include:
  - National Ambient Air Quality Standards (NAAQS)
  - Ground water quality standard by IS 10500:2012
  - Water Quality Criteria by CPCB
  - Ambient Noise Standards in Noise Pollution (Regulation and Control) Rules, 2000



- The guidelines have been compared with the monitoring results observed in the study area for analysis. Refer section 4.1 for the same.
- The World Bank Group's EHS Guidelines for Power Transmission and Distribution, 2007 presents potential EHS and community risks and impacts from transmission line projects. Comparable Indian Standards include:
  - Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010
  - The Indian Electricity Rules, 1956

## 3.2 Radiance & GGEF ESGMS

Radiance has developed Environmental Social & Governance Management System (ESGMS) aligned with GGEF requirements. Radiance's ethical framework comprises a commitment to deepen ESG, anti-corruption, anti-bribery, code of conduct and ethics, whistleblower mechanism and grievance redressal, reinforcing its respect as a credible corporate citizen. The GGEF ESGMS is attached as **Annexure 3**.

### 3.2.1 Application of ESGMS

As per the requirement of ESGMS, Radiance conducts ESIA studies, due diligence, environmental monitoring as a part of ESG risk and impact assessment and management. The ESIA is undertaken to outline the existing and potential risks and impacts associated with one or more project sites from planning to the decommissioning phase and plan mitigation measures.

### 3.2.2 GGEF Exclusion List

GGEF has adopted the IFC Project Exclusion List to identify a list of activities that the Fund will not finance. The results of GGEF exclusion list screening for the project is provided below.

The Project does not trigger any of the GGEF Exclusion List items.

| #  | Activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Project Status |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 1. | Production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements subject to international phase outs or bans, such as: <ul style="list-style-type: none"> <li>• Polychlorinated biphenyls, pharmaceuticals, pesticides, herbicides and wastes;</li> <li>• Ozone depleting substances;</li> <li>• Wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora</li> <li>• Unsustainable fishing methods</li> <li>• Transboundary trade in waste or waste products</li> </ul> | No             |
| 2. | Production of or trade in arms (i.e., weapons, ammunitions or nuclear products, primarily designated for military purposes, including paramilitary material)                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No             |
| 3. | Commercial logging operations or the purchase of logging equipment for use in primary tropical moist forest or old-growth forests                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No             |

| #   | Activities                                                                                                                                                                                                                                                                                                    | Project Status |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 4.  | Production or trade in wood or other forestry products other than from sustainably managed forests                                                                                                                                                                                                            | No             |
| 5.  | Destruction of High Conservation Value areas                                                                                                                                                                                                                                                                  | No             |
| 6.  | Production or activities involving harmful or exploitative forms of forced labour and child labour                                                                                                                                                                                                            | No             |
| 7.  | Production of, use of, or trade in, unbounded asbestos fibers                                                                                                                                                                                                                                                 | No             |
| 8.  | Production of or trade in alcoholic beverages (excluding beer and wine)                                                                                                                                                                                                                                       | No             |
| 9.  | Production of or trade in radioactive materials                                                                                                                                                                                                                                                               | No             |
| 10. | Racist and/or anti-democratic media                                                                                                                                                                                                                                                                           | No             |
| 11. | Any businesses, if any of the following activities represents a substantial portion of such business: <ul style="list-style-type: none"> <li>• Gambling, gaming casinos and equivalent enterprises</li> <li>• Production of or trade in Tobacco or tobacco related products</li> <li>• Pornography</li> </ul> | No             |

### 3.2.3 Project Categorization

The Project has been categorized in accordance with the E&S categories developed by IFC. The categories are:

- **Category A:** Business activities with potential significant adverse environmental or social risks and/or impacts that are diverse, irreversible, or unprecedented.
- **Category B:** Business activities with potential limited adverse environmental or social risks and/or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures.
- **Category C:** Business activities with minimal or no adverse environmental or social risks and/or impacts.

The Project is classified as **Category B** in accordance with IFC Performance Standards for the following reasons:

- The project E&S impacts during construction phase and O&M phase are expected to be few in number, generally site-specific, largely reversible, and can be readily addressed through adoption of adequate mitigation and monitoring measures.
- Based on the project activities and its location, the project is not expected to result in any irreversible or unprecedented impacts.
- No permanent and/or temporary land acquisition has been involved for the project land, transmission line towers and access roads.
- The total land required for the solar project including transmission line and access road is 207 acres. All the land parcels required for the project is leased from private landowners for a period of 29 years and 11 months. This avoids rendering the farmers landless in the long term.

- Direct lease from landowners has been undertaken at fair market price for ensuring that the lease of the land is in lieu of any monetary benefits they may have gained from cultivation on these land parcels during the short & medium term.
- The profiling of landowners involved in the project indicates that no land has been taken on lease from marginalized section of society.<sup>2</sup> Further the land leasing for the project has also not resulted in the landowners getting converted to a marginal farmer.
- There are no Indigenous People as per Schedule V in the project influence area.
- There are no internationally recognized biodiversity areas (such as important bird areas, UNESCO world heritage sites, AZE sites); and legally protected areas (such as Wildlife Sanctuaries and National Parks) in the project influence area.

---

<sup>2</sup> A "Marginal Farmer" can be defined as a farmer cultivating (as owner or tenant or share cropper) agricultural land up to 1 hectare (2.5 acres)

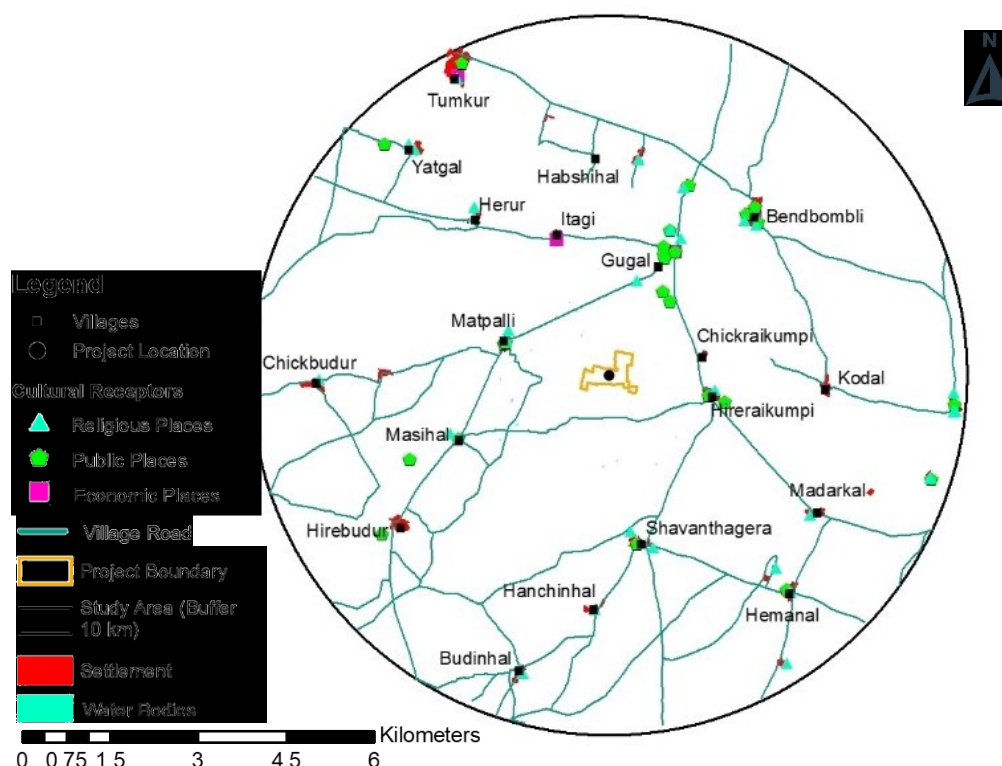
## 4 Baseline Environmental and Social Status

**Note:** Study area for the project has been defined in the ESIA dated 05.01.2023. This section has been developed as an addendum to close the gap on baseline environmental monitoring, biodiversity profile & stakeholder consultation.

### 4.1 Baseline Environmental Monitoring

For undertaking the baseline monitoring, the E&S receptors present in the study area were reviewed to identify monitoring locations. The receptors identified in 10 km buffer (**Figure 4-1**) include:

- Human Settlements
- Water bodies (*Krishna River* & seasonal water streams and lakes)
- Cultural and social places (temples, schools, hospitals etc.)
- Transportation network (roads, bus stop etc.)



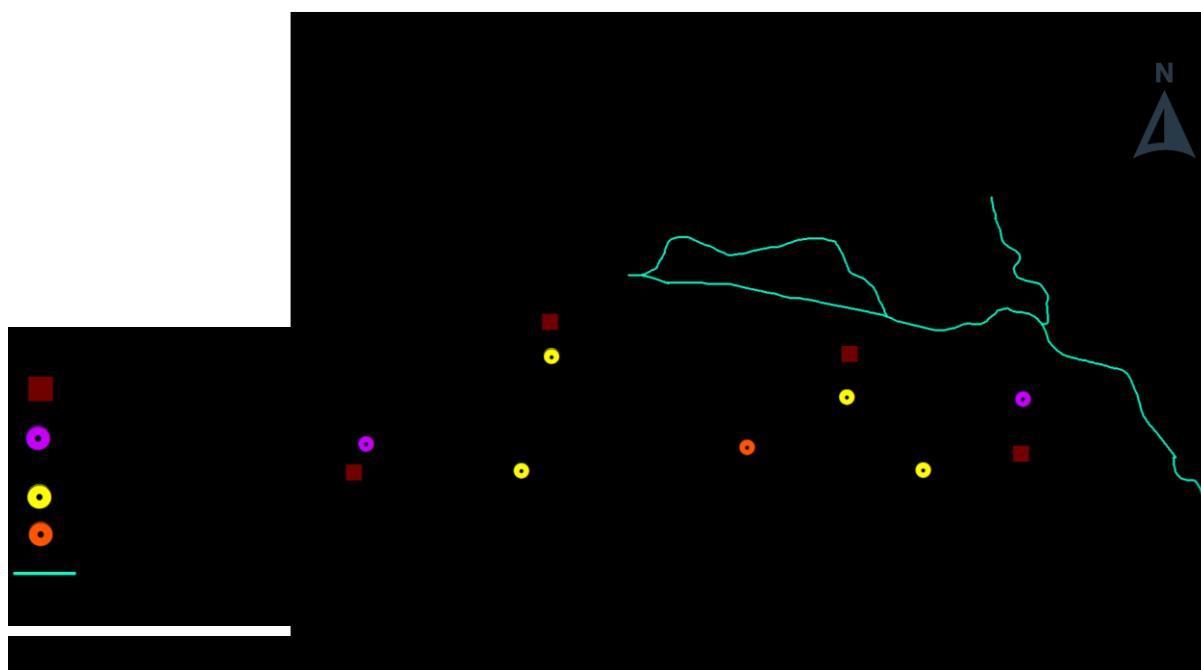
**Figure 4-1 : Identified E&S Sensitive Receptor in Study Area (buffer 10 km)**

Clean Enviro Labs Pvt Ltd; a NABL<sup>3</sup> accredited laboratory was engaged for collection of baseline information on ambient air quality, groundwater quality, soil quality and ambient noise quality. Brief details on baseline monitoring are presented in **Table 4-1**. Refer **Figure 4-2** for locations of ambient air, noise monitoring & soil monitoring which were located within the project site area and **Figure 4-3** for ground water monitoring locations which were located within study area.

<sup>3</sup> National Accreditation Board for Testing and Calibration Laboratories (NABL) is an accreditation body by Government of India that grants accreditation to Testing and Calibration laboratories as a part of quality control in the country. NABL accredits laboratories for specific activities. The laboratory appointed for environmental monitoring for this project is also NABL accredited for air, water and soil as noise is not accredited under the scheme.

**Table 4-1 : Primary Environmental Monitoring Baseline Data Collection**

| # | Environmental Attribute | No. of Locations | Frequency                                  | Remarks                                                                                                 |
|---|-------------------------|------------------|--------------------------------------------|---------------------------------------------------------------------------------------------------------|
| 1 | Ambient Noise Quality   | 4                | Hourly noise values over a 24-hour period  | Ambient noise monitored within project site area surrounded by agricultural fields.                     |
| 2 | Ambient Air Quality     | 2                | Once for 24 hours during monitoring period | Ambient air quality monitored within residential structures and institutions located within study area. |
| 3 | Ground Water Quality    | 2                | Once during monitoring period              | Water was collected from bore wells for ground water quality from villages located within study area.   |
| 5 | Soil Analysis           | 1                | Once during monitoring period              | Soil sample was collected from project site.                                                            |



**Figure 4-2 : Air, Noise & Soil Monitoring Locations**

The baseline monitoring results received from the monitoring agency is presented in **Annexure 8**.

#### **4.1.1 Ambient Air Quality**

The Ambient Air Quality (AAQ) of study area was assessed by conducting baseline ambient air quality monitoring at two locations within study area. The siting of the air quality monitoring stations was carried out based on the prevalent wind direction and presence of sensitive receptors. The criteria for selection of each of the monitoring station is presented below. Refer **Figure 4-2** for locations of the monitoring stations.

##### Criteria for selection of air monitoring stations

| Monitoring Locations                                                                          | Criteria for selection                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AAQ 1</b> – Project Site: Invertor (1) Block -1.3 Area<br>[16° 26' 15.7"N; 77° 7' 46.97"E] | The monitoring location (AAQ 1) was located within the project site at Invertor (1) Block -1.3 Area. The location is downstream of the pre-dominant wind direction i.e., East |
| <b>AAQ 2</b> – Project Site:<br>Invertor (2) Block-1.1 Area<br>[16°26'15.48" N; 77° 7' 26" E] | The monitoring location (AAQ 2) was located within the project site at Invertor (2) Block -1.1 Area. The location is upstream of the pre-dominant wind direction i.e., West   |



### Summary of Monitoring Results

Results for ambient air quality monitoring were analyzed on the basis of comparison with standards defined by CPCB & general EHS guidelines as mentioned in **section 3.3** for air quality parameters.

**Table 4-2 : Ambient Air Quality Monitoring Results**

| Parameters              | CPCB Standard (µg/m <sup>3</sup> ) (24 hours) | General EHS Guidelines 2007 (µg/m <sup>3</sup> ) (24 hours) | Monitoring Result (µg/m <sup>3</sup> ) |        |
|-------------------------|-----------------------------------------------|-------------------------------------------------------------|----------------------------------------|--------|
|                         |                                               |                                                             | (AAQ 1)                                | (AAQ2) |
| <b>PM<sub>10</sub></b>  | 100                                           | 50                                                          | 56                                     | 54     |
| <b>PM<sub>2.5</sub></b> | 60                                            | 25                                                          | <b>62</b>                              | 30     |
| <b>SO<sub>2</sub></b>   | 80                                            | 20                                                          | 22                                     | 20     |
| <b>NO<sub>x</sub></b>   | 80                                            | -                                                           | 18                                     | 16     |

### Analysis of Monitoring Results

The pollutant concentrations in the ambient air in the study area were compared with National Ambient Air Quality Standards (NAAQS) of Central Pollution Control Board (CPCB). Refer **Table 4-2**.

The 24-hour average concentration of PM<sub>10</sub>, NO<sub>x</sub> and SO<sub>2</sub> monitoring in the study area were observed to be well within National Ambient Air Quality Standards (NAAQS) except PM<sub>2.5</sub> at AAQ1. However, PM<sub>2.5</sub> concentration for AAQ1 was found to exceed NAAQS standard by a small margin although AAQ2 concentration was found well within the limit.

This minor deviation at AAQ1 was attributed to its location, which was surrounded by anthropogenically disturbed land within the project site and lack of vegetation. Conversely, the



upstream station, AAQ2, reported a concentration that was only half of that observed at the downstream station, as it was surrounded by agricultural land.

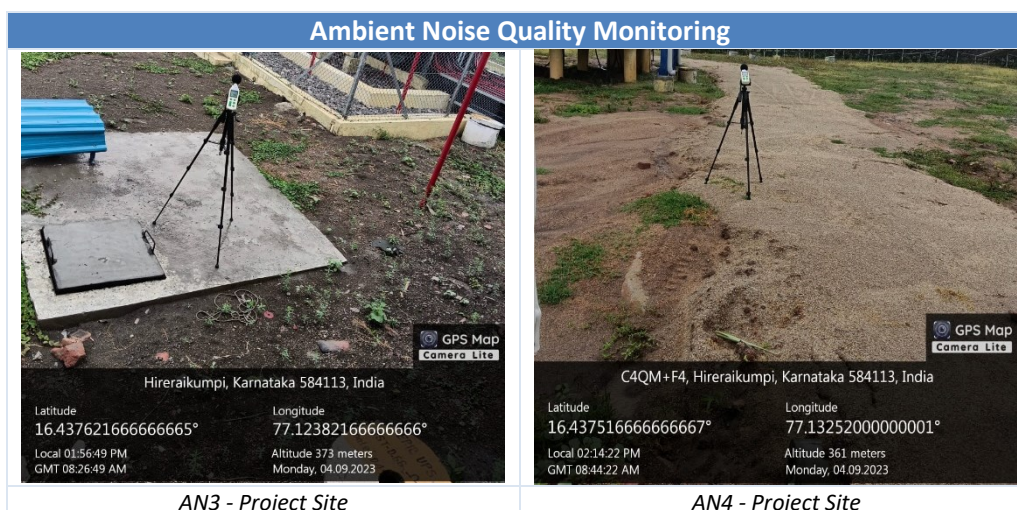
The results for ambient air quality parameters were also compared with World Bank Group's EHS Guidelines. The 24-hour average concentration of PM<sub>10</sub>, PM<sub>2.5</sub> and SO<sub>2</sub> at both the locations exceeded General EHS guideline standards .

#### 4.1.2 Ambient Noise Level

The baseline ambient noise (N) Levels were monitored at four locations for 24 hours. Siting was carried out based on source of noise generation around the project site. All monitoring stations for ambient noise monitoring were placed within project boundary. Noise attenuates rapidly with distance and its influence becomes minimal beyond 500 meters. Since there were no sensitive receptors within a 500-meter radius, monitoring stations for noise were established both upstream and downstream from the noise sources in the project. The criteria for selection of monitoring station are presented below. Refer **Figure 4-2** for locations of noise monitoring stations.

| Monitoring Locations                                                      | Criteria for selection                                                                                                                                                                               |
|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>N1</b> – Invertor (1) Block -1.3 Area<br>[16°26'15.06"N 77°7'57.07"E]  | The monitoring location (N1) chosen was within 1 km of project site towards East direction. It was located at Invertor (1) Block -1.3 Area. The location was present downstream of source of noise.  |
| <b>N2</b> – Invertor (2) Block -1.1 Area<br>[16°26'15.44"N; 77°7'25.76"E] | The monitoring location (N2) chosen was within 1 km of project site towards West direction. It was located at Invertor (2) Block -1.1 Area. The location was present upstream of source of noise.    |
| <b>N3</b> - Invertor (2) Block -2.2 Area<br>[16°26'15.8"N; 77°7'47.18"E]  | The monitoring location (N3) chosen was within 1 km of project site towards South direction. It was located at Invertor (2) Block -2.2 Area. The location was present downstream of source of noise. |
| <b>N4</b> - Invertor (1) Block -3 Area<br>[16°26'33.19"N; 77°8'2.89"E]    | The monitoring location (N4) chosen was within 1 km of project site towards North direction. It was located at Invertor (1) Block -3 Area. The location was present upstream of source of noise.     |





### Summary of Monitoring Results

Results for ambient noise quality monitoring were analyzed on the basis of comparison with CPCB & general EHS guidelines for noise quality standards.

**Table 4-3 : Noise Level Monitoring Results**

| Receptor         | Parameters              | CPCB Standards | General EHS Guidelines 2007 | Monitoring Result |      |      |      |
|------------------|-------------------------|----------------|-----------------------------|-------------------|------|------|------|
|                  |                         |                |                             | N1                | N2   | N3   | N4   |
| Residential Area | Noise Level Day dB(A)   | 55             | 55                          | 60.2              | 61.8 | 59.2 | 62.6 |
|                  | Noise Level Night dB(A) | 45             | 45                          | 50.2              | 51.6 | 48.4 | 49.2 |

### Analysis of Monitoring Results

The ambient noise levels monitored at site were compared with CPCB standards for ambient noise (for residential zones) and World Bank Group's EHS Guidelines (Refer **Table 4-3**). The average ambient noise levels obtained for all the four locations were observed to exceed the permissible limits for both day & nighttime.

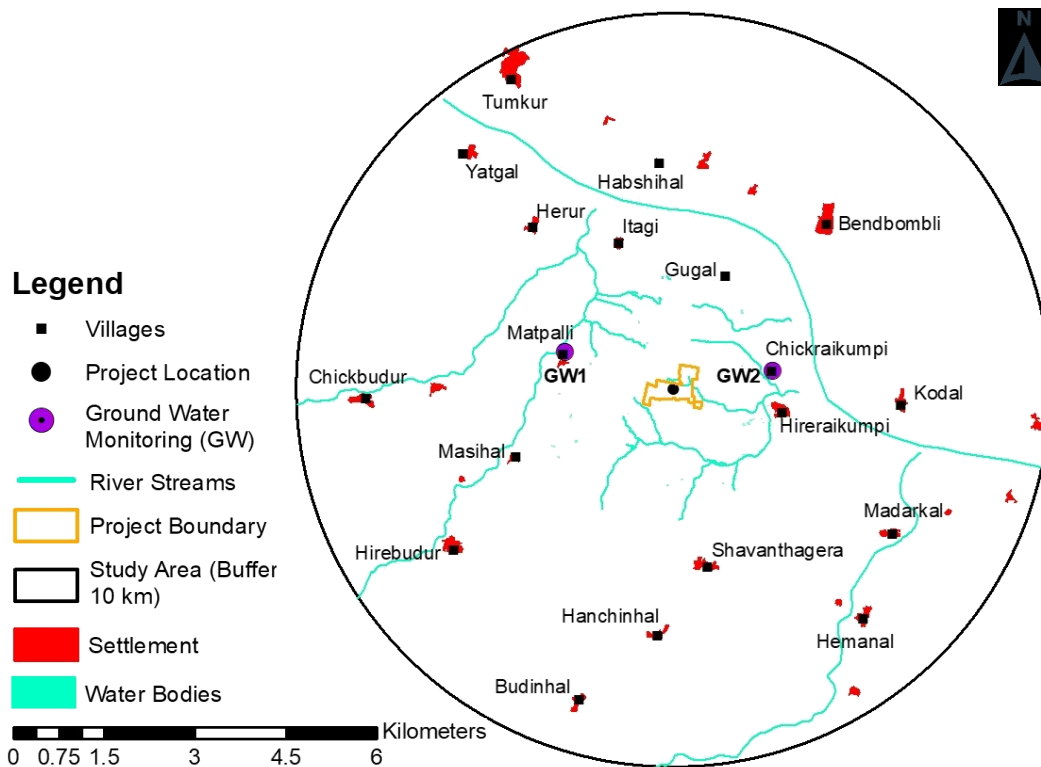
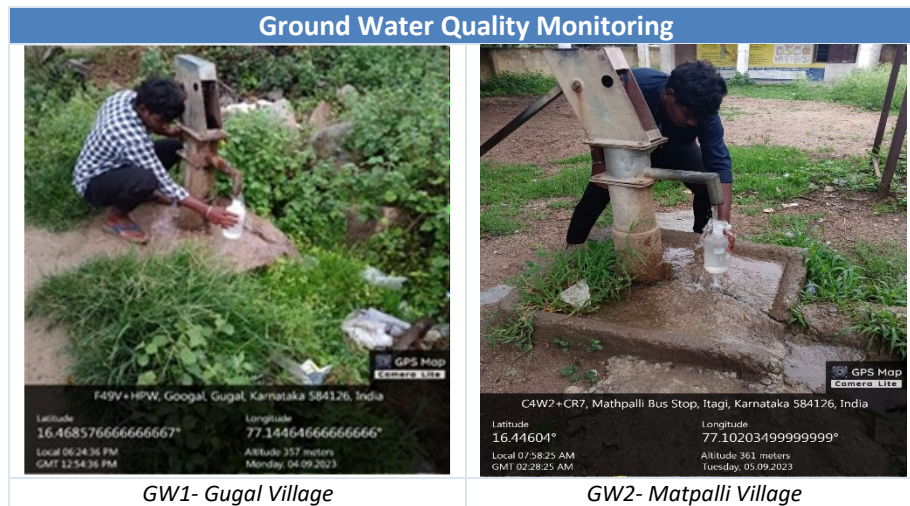
The exceedance of noise recorded was not because of any source present at the project site but due to the cyclone & rainy conditions during noise monitoring.

### 4.1.3 Ground Water Quality

Following were the criteria for selection of monitoring locations (**Figure 4-3**)

| Monitoring Locations                                                             | Criteria for selection                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GW 1</b> – Handpump water of Gugal Village<br>[16°28'6.84"N; 16°28'6.84"E]    | The location chosen was in Gugal village. It was located at a distance of 2.45 km towards north direction of project site. A handpump water was selected for sampling and was being commonly used by most of the villagers in the surrounding settlement. |
| <b>GW 2</b> – Handpump water of Matpalli Village<br>[16°26'45.74"N; 77°6'7.32"E] | The location chosen was Matpalli village. It was located at a distance of 2.26 km towards west direction of project site. A handpump water was selected for sampling and was being commonly used by most of the villagers in the surrounding settlement.  |





**Figure 4-3 : Ground Water Quality Monitoring Locations**

#### Summary of Monitoring Results

Results for ground water quality monitoring were analyzed on the basis of comparison with standards defined in IS 10500:2012 & World Bank Group's General EHS Guidelines for water quality parameters.

**Table 4-4 : Ground Water Quality Monitoring Result**

| Parameter                                                          | IS 10500:2012    |                   | General EHS Guidelines 2007 | Result             |                       |
|--------------------------------------------------------------------|------------------|-------------------|-----------------------------|--------------------|-----------------------|
|                                                                    | Acceptable Limit | Permissible Limit |                             | GW 1 Gugal village | GW 2 Matpalli village |
| 1. Color (Hazen)                                                   | 5                | 15                | -                           | 1.0                | 1.0                   |
| 2. Odor                                                            | Agreeable        | Agreeable         | -                           | Agreeable          | Agreeable             |
| 3. Electrical Conductivity (µs/cm)                                 | -                | -                 | -                           | 1948               | 2530                  |
| 4. Total Alkalinity (as CaCO <sub>3</sub> )                        | 200              | 600               | -                           | <b>552</b>         | <b>624</b>            |
| 5. pH at 25 °C                                                     | 6.5-8.5          | No relaxation     | 6-9                         | <b>8.69</b>        | <b>8.73</b>           |
| 6. Total Hardness (as CaCO <sub>3</sub> )                          | 200              | 600               | -                           | 316                | 436                   |
| 7. Total dissolved solids (mg/L)                                   | 500              | 2000              | -                           | 1130               | 1460                  |
| 8. Biochemical Oxygen Demand (3 days 27°C)                         | 30               | 30                | 30                          | < 5.0              | < 5.0                 |
| 9. Chemical Oxygen Demand                                          | 250              | 250               | 125                         | < 10               | < 10                  |
| 10. Ammoniacal Nitrogen                                            | -                | -                 | -                           | < 1.0              | < 1.0                 |
| 11. Iron                                                           | 0.3              | No relaxation     | -                           | 0.27               | 0.24                  |
| 12. Calcium (mg/L)                                                 | 75               | 200               | -                           | 72.14              | 56.11                 |
| 13. Magnesium (mg/L)                                               | 30               | 100               | -                           | 33.04              | 71.92                 |
| 14. Chloride as Cl <sup>-</sup> (mg/L)                             | 250              | 1000              | -                           | 264                | 386                   |
| 15. Sodium (mg/L)                                                  | -                | -                 | -                           | 298                | 374                   |
| 16. Sulphate as SO <sub>4</sub> (mg/L)                             | 200              | 400               | -                           | 109                | 165                   |
| 17. Nitrate (as NO <sub>3</sub> )                                  | 45               | No relaxation     | -                           | 40.6               | 43.6                  |
| 18. Potassium (as K)                                               | -                | -                 | -                           | 8.0                | 12                    |
| 19. Fluoride as F (mg/L)                                           | 0.1              | 1.5               | -                           | 0.98               | 0.98                  |
| 20. Silica                                                         | -                | -                 | -                           | 2.16               | 2.68                  |
| BLQ – below limit of quantification, LOQ – limit of quantification |                  |                   |                             |                    |                       |

#### Analysis of Monitoring Results

The ground water sample was compared with IS 10500:2012 drinking water standards and World Bank Group's EHS Guidelines. Refer **Table 4-4**. After analyzing it was observed that the ground water is alkaline and hard in nature. The results for parameters like alkalinity, hardness, total dissolved solids, pH, magnesium, and chloride exceeded the acceptable limits specified in IS 10500:2012. However,

they remained within the permissible limits, except for alkalinity and pH. All the remaining water quality parameters for ground water were found to be within acceptable and permissible limits. It was observed that the pH parameter exceeded the general EHS guideline standard. The pH has been reported at the range of 8.9 to 7.65 (pH as of 2016 - 8.24) for the village of Devadurga as per the baseline water quality mentioned in the ESIA Report. This suggests that the area has a high pH value in general.

#### 4.1.4 Soil Quality

The project site is characterized by black cotton soils. The soil monitoring was conducted at project location (**Figure 4-2**).

##### Criteria for Selection

| Monitoring Locations                                                 | Criteria for selection                                                                  |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| <b>S1 – Block-3 Project Site Area</b><br>[16°26'33.23"N, 77°8'1.4"E] | The location chosen was project site and represents the current project site condition. |



##### Summary Table of Monitoring Results

Results for soil quality parameters were compared with standard method reference as mentioned in **Table 4-5** for analysis.

**Table 4-5 : Soil Quality Monitoring Results**

| Parameter                   | Method Reference                         | Unit     | Result      |
|-----------------------------|------------------------------------------|----------|-------------|
|                             |                                          |          | On-site (S) |
| 1. pH (1+5) Suspension      | FAO 1976, Sec.IU,1, Page No.65           | -        | <b>8.35</b> |
| 2. Electrical Conductivity  | IBM Manual Page. No. 264 WL-II-Pa9e No.9 | ms/cm    | 0.106       |
| 3. Moisture Content         | IS 2720 (Part II): 1973, M 2002, Ed. 3.1 | %        | 9.68        |
| 4. Cation Exchange Capacity | FAO Sec. III .7-2, Page No. 104          | meq/100g | 56          |

| Parameter                     | Method Reference                                                                                                                 | Unit      | Result      |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------|-------------|
|                               |                                                                                                                                  |           | On-site (S) |
| 5. Water holding capacity     | IBM Manual Page 264                                                                                                              | %         | 62          |
| 6. Organic Carbon             | Manual of Soil Testing, Department of Agriculture & Cooperation, Ministry of Agriculture, Govt. India, Sec.4-17, Page No 83.     | %         | 0.96        |
| 7. Available Nitrogen         | Manual of Soil Testing, Department of Agriculture & Cooperation, Ministry of Agriculture, Govt. India, Sec.4-17, Page No 89      | mg/kg     | 58          |
| 8. Available Copper           | Manual of Soil Testing, Department of Agriculture & Cooperation, Ministry of Agriculture, Govt. India, Sec.4-17, Page No 105     | mg/kg     | 22          |
| 9. Available Boron as B       | Manual of Soil Testing, Department of Agriculture & Cooperation, Ministry of Agriculture, Govt. India, Sec.4-17, Page No 115     | mg/kg     | 48          |
| 10. Total Cadmium             | USEPA/SW 846 Method 30508, Rev.2: Dec.1996 and 70008, Rev.2, Feb 2007                                                            | mg/kg     | 14.8        |
| 11. Available Iron            | Manual of Soil Testing, Department of Agriculture & Cooperation, Ministry of Agriculture, Govt. India, Sec.4 -17, Page No 105    | mg/kg     | 0.38        |
| 12. Available Manganese       | Manual of Soil Testing, Department of Agriculture & Cooperation, Ministry of Agriculture, Govt. India, Sec.4 -17, Page No 105    | mg/kg     | 7.26        |
| 13. Total Lead                | USEPA/SW 846 Method 30508, Rev.2: Dec.1996 and 70008, Rev.2, Feb 2007                                                            | mg/kg     | 0.28        |
| 14. Total Nickel              | USEPA/SW 846 Method 30508, Rev.2: Dec.1996 and 70008, Rev.2, Feb 2007                                                            | mg/kg     | 0.66        |
| 15. Available Calcium         | FAO Sec.IU.8-1, Page No. 115                                                                                                     | meq/100qm | 24          |
| 16. Available Magnesium       | FAO Sec.IU.8-1, Page No. 115                                                                                                     | meq/100qm | 52.4        |
| 17. Available Potassium       | FAO Sec.IU.8-1, Page No. 115                                                                                                     | meq/100qm | 104         |
| 18. Available Sodium          | FAO Sec.IU.8-1, Page No. 115                                                                                                     | meq/100qm | 86          |
| 19. Grain Size (Texture) Sand | Manual of Soil Testing Department of Agriculture & Cooperation, Ministry of Agriculture Govt. India, Sec 4.-L7 Page No 68 & 105. | %         | 18          |
| 20. Grain Size (Texture) Silt |                                                                                                                                  | %         | 26          |
| 21. Grain Size (Texture) Clay |                                                                                                                                  | %         | 56          |
| 22. Grain Size (Texture)      |                                                                                                                                  | -         | Sand Clay   |
| 23. Available Phosphorous     | FAO Sec. III .12-1, Page No. 157                                                                                                 | mg/kg     | 28.6        |
| 24. Mercury                   | USEPA/SW 846 Method 30508, Rev.2: Dec.1996 and 74718, Rev.2, Feb 2007                                                            | mg/kg     | 0.18        |

## Analysis of Monitoring Results

The soil analysis (**Table 4-5**) has been carried out as per the different set method reference. It is observed that the project site has a high pH value (8.35) and potassium was found to be present in soil at 104 mg/kg.

## 4.2 Biodiversity Profile of Study Area

The biodiversity was studied for a buffer of 10 km around the project site boundary that included the transmission line alignment.

Different types of habitats were identified during the desktop review that were verified during the site visit. These included agricultural fields, ponds/ lakes, wetlands, woodland, riverbank, rural areas and peri rural areas.

The biodiversity in the study area was reviewed at site using line transect and spot surveys for floral and faunal biodiversity. Wetlands in the 10 Km buffer were reviewed using spot surveys. Random sampling plots were also reviewed during the survey for Avi-faunal species.

During the site survey it was found that the region is rich in species diversity and a home to species such as Small Clawed otters, Steppe Eagle, Cat Snake, Marsh crocodile, and various birds. Refer **Annexure 7** for observed species during survey.

### 4.2.1 Flora Profile

The floral diversity of the study area was recorded through visual observation during the site visit and prior identifications as per various research papers and reports. All the information that dealt with the floristic diversity in the region was collated and considered in the survey. A total of 43 floral species belonging to 22 families were observed from the 5 km buffer of the project site. Refer **Table 4-6** for the floral profile. Fabaceae was the most dominating family in the area with 12 species. None of the species identified in the region are rare, endangered or threatened. There were also no religious/sacred trees in the study area.

**Table 4-6 : Floral Profile of Study Area**

| #  | Scientific Name                                | Family        | Life Form |
|----|------------------------------------------------|---------------|-----------|
| 1  | <i>Abutilon indicum</i> (L.) Sweet             | Malvaceae     | Herb      |
| 2  | <i>Acacia nilotica</i> (L.) Delile             | Fabaceae      | Tree      |
| 3  | <i>Acacia senegal</i> (L.) Willd.              | Fabaceae      | Tree      |
| 4  | <i>Aegle marmelos</i> (L.) Corrêa              | Rutaceae      | Tree      |
| 5  | <i>Aerva lanata</i> (L.) Juss. ex Schult.      | Amaranthaceae | Herb      |
| 6  | <i>Agave americana</i> L.                      | Agavaceae     | Herb      |
| 7  | <i>Ailanthus excelsa</i> Roxb.                 | Simaroubaceae | Tree      |
| 8  | <i>Albizia procera</i> (Roxb.) Benth.          | Fabaceae      | Tree      |
| 9  | <i>Argemone mexicana</i> L.                    | Papaveraceae  | Herb      |
| 10 | <i>Azadirachta indica</i> A.Juss.              | Meliaceae     | Tree      |
| 11 | <i>Bauhinia purpurea</i> L.                    | Fabaceae      | Tree      |
| 12 | <i>Calotropis gigantea</i> (L.) Dryand.        | Apocynaceae   | Tree      |
| 13 | <i>Calotropis procera</i> (Aiton) Dryand.      | Apocynaceae   | Shrub     |
| 14 | <i>Cassia fistula</i> L.                       | Fabaceae      | Tree      |
| 15 | <i>Celosia argentea</i> L.                     | Amaranthaceae | Herb      |
| 16 | <i>Chloris barbata</i> Sw.                     | Poaceae       | Grass     |
| 17 | <i>Commelina benghalensis</i> L.               | Commelinaceae | Herb      |
| 18 | <i>Croton bonplandianus</i> Baill.             | Euphorbiaceae | Herb      |
| 19 | <i>Cryptostegia grandiflora</i> Roxb. ex R.Br. | Apocynaceae   | Climber   |
| 20 | <i>Cyperus compressus</i> L.                   | Cyperaceae    | Herb      |
| 21 | <i>Dactyloctenium aegyptium</i> (L.) Willd.    | Poaceae       | Grass     |

| #  | Scientific Name                              | Family        | Life Form |
|----|----------------------------------------------|---------------|-----------|
| 22 | <i>Datura innoxia</i> Mill.                  | Solanaceae    | Herb      |
| 23 | <i>Datura metel</i> L.                       | Solanaceae    | Herb      |
| 24 | <i>Euphorbia hirta</i> L.                    | Euphorbiaceae | Herb      |
| 25 | <i>Ficus benghalensis</i> L.                 | Moraceae      | Tree      |
| 26 | <i>Ficus religiosa</i> L.                    | Moraceae      | Tree      |
| 27 | <i>Ficus virens</i> Aiton                    | Moraceae      | Tree      |
| 28 | <i>Lantana camara</i> L.                     | Verbenaceae   | Shrub     |
| 29 | <i>Mangifera indica</i> L.                   | Anacardiaceae | Tree      |
| 30 | <i>Moringa oleifera</i> Lam.                 | Moringaceae   | Tree      |
| 31 | <i>Parthenium hysterophorus</i> L.           | Asteraceae    | Herb      |
| 32 | <i>Peltophorum pterocarpum</i> (DC.) K.Heyne | Fabaceae      | Tree      |
| 33 | <i>Pithecellobium dulce</i> (Roxb.) Benth.   | Fabaceae      | Tree      |
| 34 | <i>Pongamia pinnata</i> (L.) Pierre          | Fabaceae      | Tree      |
| 35 | <i>Prosopis cineraria</i> (L.) Druce         | Fabaceae      | Tree      |
| 36 | <i>Prosopis juliflora</i> (Sw.) DC.          | Fabaceae      | Tree      |
| 37 | <i>Senna auriculata</i> (L.) Roxb.           | Fabaceae      | Shrub     |
| 38 | <i>Tamarindus indica</i> L.                  | Fabaceae      | Tree      |
| 39 | <i>Tectona grandis</i> L.f.                  | Lamiaceae     | Tree      |
| 40 | <i>Tridax procumbens</i> (L.) L.             | Asteraceae    | Herb      |
| 41 | <i>Typha domingensis</i> Pers.               | Typhaceae     | Herb      |
| 42 | <i>Xanthium strumarium</i> L.                | Asteraceae    | Herb      |
| 43 | <i>Ziziphus mauritiana</i> Lamk.             | Rhamnaceae    | Tree      |

#### 4.2.2 Fauna Profile

Faunal species from the study area were recorded based on direct sightings, indirect evidence such as dung, droppings, scats, pugmarks, scratch signs, burrows, calls, nests etc. Refer **Table 4-7** for the same. Consultations with local communities were carried out by displaying pictorial representations of species anticipated in the area to confirm whether there have been any recent sightings. Refer **Annexure 7** for detailed list of faunal species present in study area identified based on primary & secondary assessment.

##### • **Avifauna**

The avifaunal survey method focused on key habitat features, preferred time of day to ensure maximum bird activity. The birds were surveyed around ponds during the coolest parts of the day (morning and evening); along motorable roads and in high-density vegetation areas during the hottest parts of the day. Nikon DSLR with 70-300 lens and standard field guides were used for avifaunal identification. Apps like Merlin and e-bird were used to identify and count species.

During the site survey Aves from 69 different species, totaling to 383 Individuals were spotted. Additionally, 63 species of birds were also reported in the region as per various sources such as E-bird, EIA/ ESIA of projects in neighbouring areas. Three Schedule 1 species (as per Wildlife Protection Act 1972) were spotted in the project influence area.

- *Aquila nipalensis* commonly known as Steppe Eagle (IUCN- EN) was spotted near the project site. The species has a wide home range and can be spotted across the Indian Subcontinent. As per the State of Indians Birds 2023, the species has a stable annual trend and large distribution range. The primary habitat of the species is in the Northern Part of India along the Himalayas. The presence of the same would not have any adverse impact on the project site due to its large home and primary habitat.
- *Pavo Cristatus* commonly known as Indian Peafowl (IUCN-LC) was spotted about 4 km away from the project location. As per the State of Indians Birds 2023, the Indian Peafowl species



are rapidly increasing, have a very large distribution range and are endemic to the Indian Sub-Continent.

- *Sterna aurantia*, commonly known as River Tern (IUCN- VU) was spotted as a fly-by about 4 km away from the project location near Krishna River. As per the State of Indians Birds 2023, River Terns annual trend is inconclusive, have a very large distribution range, are found in wetland habitats, is resident and local migratory to India and is not an endangered species. The project team had not spotted any River Terns near the project area. Hence the project is not expected to impact the species.

- **Reptiles**

Reptile presence was determined by targeting rocks and logs located around water bodies or recently dried streams, hedges and along the trunks of higher vegetation. Muggers (*Crocodylus palustris* (IUCN-VU)) or fresh water crocodiles are known to occur in the ponds and water bodies as understood in consultation with the communities. They are commonly seen in Indian rivers. The nearest such waterbody is about 3 kilometers downhill from the site. The access roads are not smooth and hence would not be favorable for the movement of Muggers. As the project site is fenced with security guards continuously patrolling the area the presence of the species would not have any adverse impact on the project site due to its primary habitat being on the riverbeds and not near agricultural fields.

Snake species were also spotted by the project staff near the site. Photographic evidence was used to identify the species. The project team had spotted *Boiga forsteni* commonly known as Reddish Peninsular Cat Snake. It is a mildly venomous rear fanged snake. From secondary sources it was reported that the following species were also reported in the study area: common krait snake – *Bungarus caeruleus* (highly venomous), Trinket snake – *Coelognathus helenae* (non-venomous) & Daudin's bronzeback – *Dendrelaphis tristis* snake (non-venomous). As per the H&S Policy of Radiance the staff needs to wear appropriate PPEs for self-protection and to prevent snake bites.

**It is recommended that local hospital in the project area should be made aware of the Herpetofauna and Arachnida species present in the area and store anti-venom injections to treat snake bite victims. It is also recommended that a separate format should be established for snakes identified on site with details of species and photographs which can be displayed at the site office, so as to raise awareness. Training on safety measures to be taken when there is a near miss with reptilian species should also be conducted on a half yearly basis.**

- **Mammals**

Mammal surveys were conducted along motorable roads, near ponds and rivers, agricultural lands and in open scrubs. Individuals were identified through direct (visual sighting) and indirect (pellets, tracks, paw marks and scat) methods. In regard to mammals, *Macaca radiata*, commonly known as a Bonnet Macaque (IUCN-VU), and *Aonyx cinereus* (IUCN-VU) commonly known as Asian Small Clawed Otter were spotted near the banks of the Krishna River that is 4 km downhill from the project site. The presence of Otters has no impact on the project site as they prefer riverine and wetland habitats and are rarely found in the agricultural fields. Similarly, the presence of Macaques also has no impact as they prefer dwelling in peri-urban areas rather than rural agricultural fields.



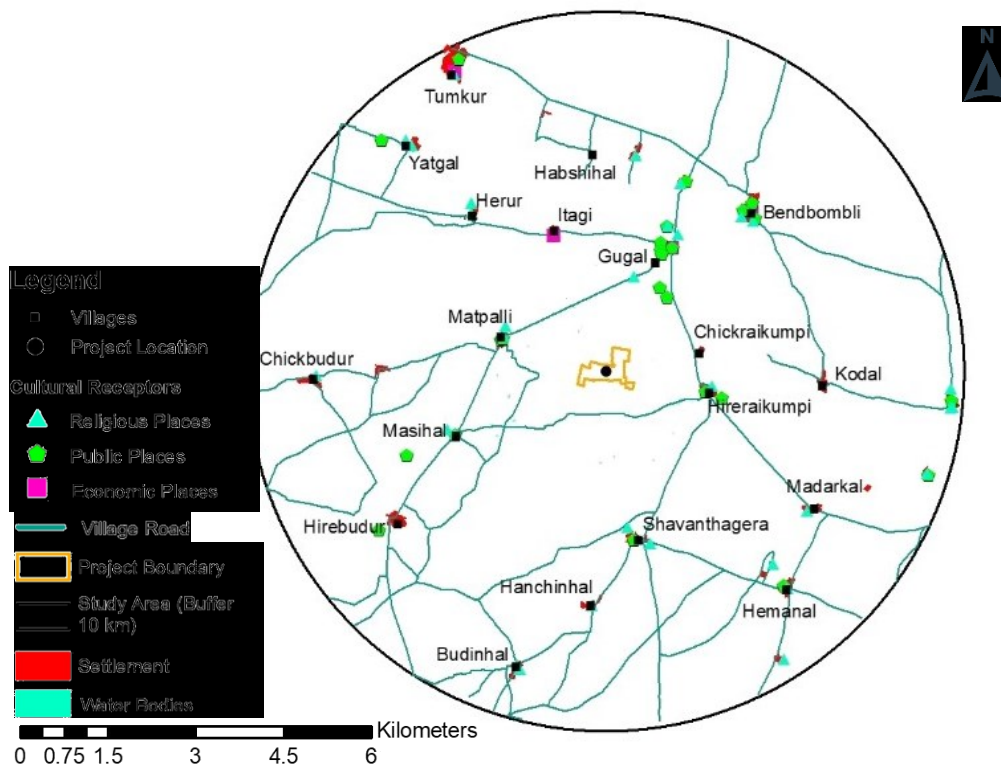
*Table 4-7 : Observed Species during Biodiversity Survey*

|                                                                                     |                                                                                      |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|    |    |
| <p><i>Ashy Drongo</i></p>                                                           | <p><i>Ashy Prinia</i></p>                                                            |
|   |   |
| <p><i>Grey Heron</i></p>                                                            | <p><i>Baya Weaver</i></p>                                                            |
|  |  |
| <p><i>Little Cormorant</i></p>                                                      | <p><i>Little Egret</i></p>                                                           |



### 4.3 Stakeholder Consultation

To study the social, economic, biodiversity and educational profile of study area consultations were conducted with relevant stakeholders. A questionnaire for different stakeholders was developed. The mode of consultation varied from key person interview to group discussions. An excerpt of discussions with various stakeholders and conclusions are presented in the subsequent sub-sections. Refer **Figure 4-4** for a map of Social & Culturally Sensitive Receptors in Study Area.



*Figure 4-4 : Social & Culturally Sensitive Receptors in Study Area*

#### 4.3.1 Summary of Stakeholder Consultation

##### Summary of Consultation with Villagers

A stakeholder consultation was conducted with villagers in the Gugal, Chickraikumpi, Hireraikumpi, Matpalli and Masihal villages within the study area. The objective was to understand the existing local social needs, social structure, local sensitive receptors and availability of amenities. The input received from the discussion were used for assessing potential impacts of the project.

During the stakeholder consultation related to social needs e.g., infrastructure facilities (transportation, electricity, drinking water supply etc.), basic amenities provided (Bus stops, post office, training centers) social status (tribal areas, SC/ST population in villages, safety) economic activities (primary occupation, land transformation) etc. were discussed. Refer **Table 4-8** for a summary of stakeholder consultation conducted during site visit.

As reported by corporate team the project site has a separate 'Stakeholder Engagement Plan' (SEP) which specifies objective and scope of SEP, principles of stakeholder engagement, stakeholder identification & categorization, approach and analysis. In case of any concerns raised they will be addressed by the project as per established SEP. Refer **Annexure 2** for the same.

**Table 4-8 : Summary of Socio-Economic Profile of Study Area**

| Topic                            | Result of Discussions                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Infrastructure facilities</b> |                                                                                                                                                                                                                                                                                                                                                                                                                               |
| • Electricity                    | – The power was being supplied by Karnataka State Electricity Board. Power cut issues were not reported in any of the villages. No alternative sources like, invertors, diesel generator sets in case of power failure were found.                                                                                                                                                                                            |
| • Drinking water supply          | – Government water supply was the main source of water in all five villages.<br>– Krishna river was the major source of surface water in the study area.<br>– Handpump & borewells were secondary water sources of water supply.                                                                                                                                                                                              |
| • Healthcare facilities          | – While interacting with villagers, it was found that medical facility such as, Primary Healthcare Centre (PHC) was available only in Gugal village.<br>– No medical facilities were present in Chickraikumpi, Hireraikumpi, Matpalli and Masihal villages. Villagers had to travel to Gugal for medical facilities. (2-5 km distance)                                                                                        |
| • Educational facilities         | – Primary school (1 <sup>st</sup> to 7 <sup>th</sup> standard) was found to be present in every village<br>– Only three (Gugal, Hireraikumpi & Matpalli) out of five villages were facilitated with Anganwadi.<br>– Higher secondary school (8 <sup>th</sup> to 10 <sup>th</sup> standard) was found to be present only in Hireraikumpi village.                                                                              |
| • Transportation facilities      | – The study area was connected with internal village roads. No railway station was present within the study area. The nearest railway station was located at <i>Krishna</i> , at a distance of 11.16 km from the study area.<br>– Temporary bus stops were present in every village. The majority of villagers did not own any private vehicle. Villagers were found to travel by bicycle for accessing the nearest bus stop. |
| • Sanitation facilities          | – Private toilets were found to be available in all five villages.<br>– There was a dearth of public toilets                                                                                                                                                                                                                                                                                                                  |
| • Waste disposal                 | – Two out of five villages (Hireraikumpi & Chickraikumpi) did not have any waste collection and disposal mechanism. The waste generated by each household, or a group of households was found to be collected and dumped in the outskirts of the villages.                                                                                                                                                                    |

| Topic                                        | Result of Discussions                                                                                                                                                                                                                                                                   |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              | <ul style="list-style-type: none"> <li>In the remaining three villages (Gugal, Matpalli &amp; Masihal) it was reported that government owned vehicles collect the waste from each household for further treatment.</li> </ul>                                                           |
| Public Amenities                             | <ul style="list-style-type: none"> <li>Public amenities like school, PHC, banks etc. were present in study area however no police station were found to be available within study area.</li> </ul>                                                                                      |
| Social Status                                | <ul style="list-style-type: none"> <li>ST/SC population was absent in the study area. Majority of households were headed by a male member, and the women were not actively engaged in decision-making.</li> <li>No major issues of vehicle accidents or crimes were reported</li> </ul> |
| Economic Status                              | <ul style="list-style-type: none"> <li>The primary occupation was farming and the majority of respondents in group discussion were engaged in farming activities.</li> <li>Some villagers were reported to be working in urban areas.</li> </ul>                                        |
| Photograph and location map of social survey | Refer <b>Figure 4-5</b> for photographs and <b>Figure 4-6</b> for social survey locations.                                                                                                                                                                                              |

**Table 4-9 : Details of Stakeholder Consultation**

| # | Date       | Time     | Profession           | Age | Location      | Gender |
|---|------------|----------|----------------------|-----|---------------|--------|
| 1 | 05-09-2023 | 11:10 am | Priest- Local Temple | 23  | Gugal         | Male   |
| 2 | 05-09-2023 | 03:50 pm | School Principal     | 68  | Chickraikumpi | Male   |
| 3 | 05-09-2023 | 11:48 am | Farmer               | 27  | Hireraikumpi  | Male   |
| 4 | 05-09-2023 | 01:20 pm | Anganwadi Worker     | 40  | Hireraikumpi  | Female |
| 5 | 05-09-2023 | 4:49 pm  | Farmer               | 70  | Matpalli      | Male   |
| 6 | 05-09-2023 | 04:30 pm | Farmer               | 26  | Masihal       | Male   |

Refer **Table 4-9** for stakeholder consultations conducted with villagers of the Gugal, Chickraikumpi, Hireraikumpi, Matpalli & Masihal villages present in the study area with the objective to understand the existing concerns in the village related to the solar energy project. The input received from the discussion were used for assessing potential community impacts of the project. Refer **Table 4-10** for summary of consultation with villagers in study area and **Annexure 9** for questionnaires used during the consultation.

**Table 4-10 : Summary of Community Concerns on the Project**

| Result of Discussions                                                              | Resolution by Radiance Renewables                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Expectation of local employment was seen as a positive affirmation of the project. | According to the site manager, the recruitment of workers for both the construction and O&M phases will primarily favor local residents. Only roles within the project that require specialized training or technical expertise will be hired from outside the local region. |



Farmers residing in the close proximity of the project site in Hirerayakumpi expressed their concerns regarding the use of herbicides for managing and controlling unwanted vegetation along the project's perimeter.

As reported by site manager surrounding villagers were made aware that herbicides that will be used at project site and that these are organic in nature and do not contain any harmful chemicals that will affect their agricultural fields or yield in and around the project site.

### **Summary of Consultation with Institutional Expert**

An *Anganwadi*<sup>4</sup> worker from the Hirerayakumpi Anganwadi reported that 25 children attend the *Anganwadi* daily. Children up to 6 years old attended it for education. *Anganwadi* was open daily from 9:30 in morning to 4:00 in afternoon. Breakfast and lunch were also served for students in *Anganwadi*. It was also reported that the women in study area were involved in a small group called 'Shree Shakti Mahila Sangh'. Under this group women were engaged in tailoring business and had small finance savings scheme for women empowerment. Moreover, farmers in the study area were benefiting from the Pradhan Mantri Krishi Yojna, which provided them with low-cost fertilizers. However, it was also reported that the overall social and physical infrastructure development for women and children needed more focus so as to bring about an inclusive development.



*Social Survey with Gugal villager*



*Social Survey with Hirerayakumpi villagers*



*Social Survey with Matpalli villagers*



*Social Survey with Chickraikumpi villagers*

<sup>4</sup> Rural child care center

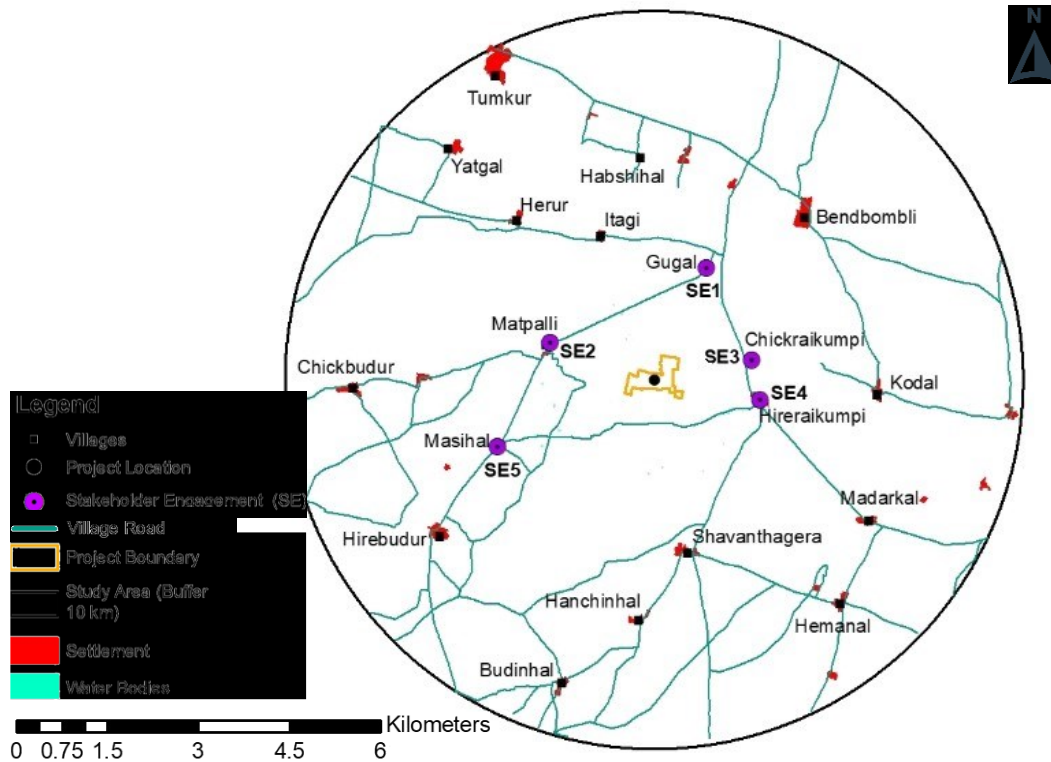


Social Survey with Anganwadi Worker



Social Survey with Landowners

**Figure 4-5 : Photographs of Stakeholder & Landowners Consultation**



**Figure 4-6 : Stakeholder Consultation Locations**

## 5 E&S Impact Assessment

### 5.1 Analysis of Alternatives

The ESIA Report dated 05/01/2023 presents analysis of alternatives for the project as a whole considering the following scenarios:

- Project v/s No Project Scenario
- Alternate source for power generation
- Alternate location for project site

These are summarized below:

- No Project Scenario: It is well established that a power project is required to meet the energy demand. A survey conducted by the World Energy Council states that as the population increases and as the growing rate of electrification places huge requirements on energy supplies, the total primary energy demand of India is expected to increase by almost 150% by 2035.
- Alternative Power Source Scenario: A solar power project is in alignment with the national targets of achieving 50% cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030. The greenhouse gas emissions from a coal-based power plant are significantly higher than a solar power project. The GHG emission sources for a solar power project are limited to the emissions from fossil sources used in the production and manufacturing of equipment, transportation of equipment to site, construction & installation activities, etc.
- Alternative Location: As published by National Renewable Energy Laboratory (NREL) in March 2016, the project site selected is a high solar power potential site with irradiation of 5.5 - 6.0 kWh/m<sup>2</sup>/day and availability of 250-300 sunny days in a year. The project influence area does not have any sensitive receptors such as protected areas, and archaeologically important areas. The project area is also free of structural obstacles around the site, such as tall buildings, that could lead to near shading.

#### 5.1.1 Analysis of Alternatives for Transmission Line

The alternatives assessed for transmission lines are based on location and technology.

##### A. Alternate Transmission Line Conductors

Selecting the appropriate conductor is one of the most important components of overhead transmission lines. A good conductor should have the following properties:

- high electrical conductivity
- high tensile strength to withstand mechanical stresses
- relatively lower cost for given design requirements
- lower weight per unit volume

Copper was the preferred material for overhead conductors in earlier days, but, aluminum has replaced copper because of the much lower cost and lighter weight of the aluminum conductor compared with a copper conductor of the same resistance.



The types of conductors used in transmission lines are:

- AAC: All Aluminum Conductor
- AAAC: All Aluminum Alloy Conductor
- ACSR: Aluminum Conductor, Steel Reinforced
- ACAR: Aluminum Conductor, Alloy Reinforced

The project has adopted ACSR conductors for the transmission lines. ACSR conductors consist of a solid or stranded steel core with one or more layers of high purity aluminum (aluminum 1350) wires wrapped in spiral. The core wires may have a thin coating of zinc (galvanized) steel or aluminum (aluminized) steel to protect from corrosion. The central steel core provides additional mechanical strength and, hence, sag is significantly less than all other aluminum conductors. ACSR conductors are available in a wide range of steel content - from 6% to 40%. ACSR with higher steel content is selected where higher mechanical strength is required, such as river crossing. ACSR conductors are very widely used for all transmission and distribution purposes, especially for long spans and high voltage transmission. The project has thus adopted the best available conductor while fulfilling project design and budget requirements.

#### **B. Alternate Transmission Tower Design**

A transmission tower is a tall steel lattice tower used to support an overhead power line. In electrical grids, they are used to carry high voltage transmission lines that transport bulk electric power from generating stations to electrical substations.

The design of transmission tower needs to consider the following criteria:

- The minimum ground clearance of the lowest conductor points above the ground level.
- The length of the insulator string.
- The minimum clearance to be maintained between conductors and between conductor and tower.
- The location of a ground wire with respect to outermost conductors.

The midspan clearance required from considerations of the dynamic behavior of the conductor and lightning protection of the power line. The higher the voltage of the transmission line, the higher the ground clearance and vertical spacing between the top and bottom conductors.

The transmission line traverses as per available corridors. Due to the unavailability of the shortest distance straight corridor transmission line has to deviate in case of an obstruction. In the total length of a long transmission line, there may be several deviation points. According to the angle of deviation, there are four types of transmission towers

- A – type tower – angle of deviation 0° to 2°.
- B – type tower – angle of deviation 2° to 15°.
- C – type tower – angle of deviation 15° to 30°.
- D – type tower – angle of deviation 30° to 60°.

Based on the force applied by the conductor on the cross arms, the transmission towers are categorized as:

- Tangent suspension tower and it is generally A – type tower.

- Angle tower or tension tower. All B, C and D types of transmission towers come under this category.

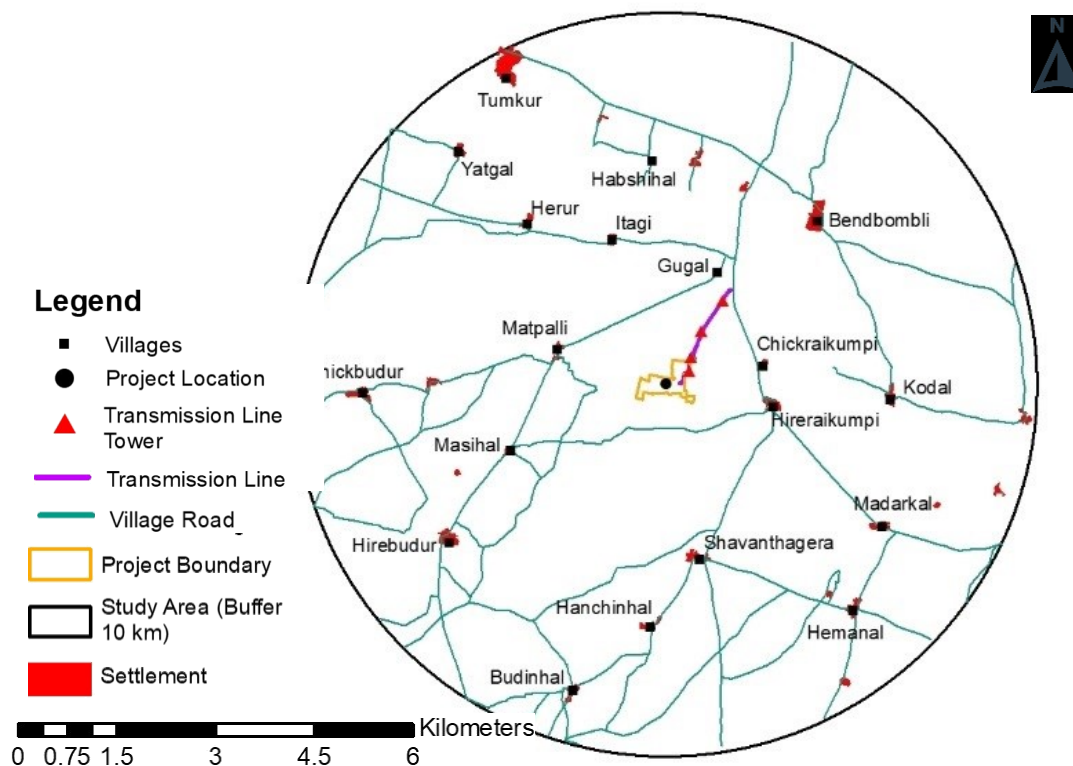
The project will deploy B, C, and D types of transmission towers. Thus, the project has adopted the most suitable transmission tower technology based on the available corridor and design criteria for transmission of 110 KV.

### C. Alternate TL Location Scenario

A total of 13 transmission towers are required for the project between the pooling sub-station and grid sub-station in Gugal. Four transmission towers will be present within the project site area & remaining nine towers would be situated in cultivated agricultural fields of cotton and paddy crops. There are no structures (permanent or temporary) within the setback distance of the transmission towers and transmission line.

The TL route has the following location advantages:

- No ecological sensitive receptor such as National Parks, Wildlife Sanctuary, within 10 km radius;
- No reserve or protected forest within 5 km radius;
- No cultural heritage property of archaeological importance within 5 km radius; and
- There is no vehicular movement along access roads (paved or unpaved) situated between the setback distance of the transmission towers.



**Figure 5-1 : Location of Transmission Line and the Project Site**

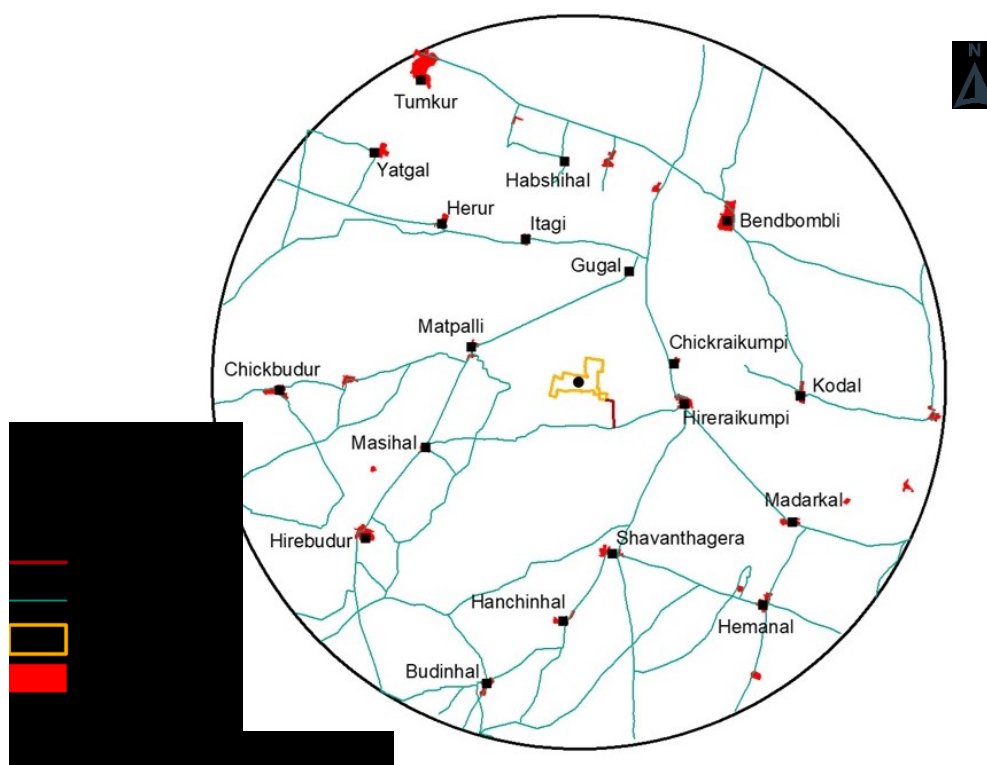
### 5.1.2 Analysis of Alternatives - Access Road

The access road to the site (of approx. 1 km) connecting to the Hirerayakumpi - Masihal village road is being specifically developed for the project. This new access road traverses along the boundaries of

agricultural fields and is the shortest route to the project site. The road alignment thus results in least amount of disturbance and land procurement.

The access road does not result in splitting of agricultural land parcels, does not enable access to undisturbed areas or forests and does not result in severances to any of the neighbouring communities or to the landowners. Movement of project team along this road will not result in nuisance for any habitations as it has agricultural farmlands to towards its east and west, the solar PV project towards the north and the Hirerayakumpi - Masihal village road to the south with no habitations nearby.

To prevent pollution from bituminous material, the access road is being developed using material from the project site, compacted, levelled with a layer of stone aggregate without a black top. The layer of aggregate will prevent the generation of fugitive dust during vehicle movement on the access road.



**Figure 5-2 : Location of Access Road**

## 5.2 Impact Assessment - Transmission Line

For assessment of the E&S impacts, the process presented in the ESIA Report dated 05.01.2023 has been followed to maintain consistency.

Different phases of the project involve various activities associated with transmission line & access road. Refer **Figure 5-1** & **Figure 5-2**.

**Table 5-1 : Project Phase and Associated TL & Access Road Activities**

| Project Phase     | Project Activity                                                          |
|-------------------|---------------------------------------------------------------------------|
| Pre- Construction | Identification of land parcels suitable for TL alignment and access roads |
|                   | Survey of TL and access road route alignment                              |

| Project Phase           | Project Activity                                                       |
|-------------------------|------------------------------------------------------------------------|
| Construction            | Obtaining necessary approvals/clearances                               |
|                         | Completion of land procurement                                         |
|                         | Land preparation including clearance of existing vegetation            |
|                         | Operation of heavy vehicles/machinery                                  |
|                         | Transportation of raw material and construction spoil                  |
|                         | Excavation for foundation for TL                                       |
|                         | Erection of TL                                                         |
| Operation & Maintenance | Stringing of TL                                                        |
|                         | Movement of construction equipment along access roads                  |
| Decommissioning         | Inspection & maintenance of TL                                         |
|                         | Inspection & maintenance of internal pathways & access road            |
|                         | Removal of all components of TL including foundations & internal roads |
|                         | Restoration of TL & access road alignment to pre-construction state    |

### 5.2.1 Impact Assessment Criteria

The interaction of project activities for transmission line and access roads with receptors present in the project influence area that are likely to lead to potentially significant impacts are presented below.

| Resource/<br>Receptor | Potentially Significant Impacts                                                                                                                          |                                                                                                                                                                                                                                                                            |                                                                                                                     |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
|                       | Planning Phase                                                                                                                                           | Construction Phase                                                                                                                                                                                                                                                         | O&M Phase                                                                                                           |
| Land use              | <ul style="list-style-type: none"> <li>Permanent change in land use due to development of access road and installation of transmission towers</li> </ul> | <ul style="list-style-type: none"> <li>Temporary change in land use due to construction corridor for stringing of transmission line</li> </ul>                                                                                                                             | <ul style="list-style-type: none"> <li>None</li> </ul>                                                              |
| Topography & Drainage | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                                   | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>None</li> </ul>                                                              |
| Soil environment      | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                                   | <ul style="list-style-type: none"> <li>Soil erosion during monsoon season and windy periods</li> <li>Sedimentation into nearby water bodies due to soil erosion and run-off</li> <li>Soil contamination from poor management of hazardous waste and solid waste</li> </ul> |                                                                                                                     |
| Ambient Air Quality   | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                                   | <ul style="list-style-type: none"> <li>Fugitive dust emissions from movement of machinery &amp; vehicles</li> <li>Air emissions due to operations of diesel generator sets and construction equipment</li> </ul>                                                           | <ul style="list-style-type: none"> <li>Fugitive dust emissions from movement of machinery &amp; vehicles</li> </ul> |
| Water environment     | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                                   | <ul style="list-style-type: none"> <li>Use of ground water/ tanker water for construction activities and cleaning of PV modules</li> </ul>                                                                                                                                 |                                                                                                                     |

| Resource/<br>Receptor        | Potentially Significant Impacts                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                            |
|------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | Planning Phase                                         | Construction Phase                                                                                                                                                                                                                                                                                                                                                                                                                                             | O&M Phase                                                                                                                                                                                                                                                                                                  |
|                              |                                                        | <ul style="list-style-type: none"> <li>Surface and ground water pollution due to improper disposal of sewage generated at site and spillage of hazardous waste and hazardous materials (lubricants, oils)</li> </ul>                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                            |
| Ambient Noise Quality        | <ul style="list-style-type: none"> <li>None</li> </ul> | <ul style="list-style-type: none"> <li>Noise generation due to movement of vehicles, machinery, and operation of DG set</li> </ul>                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Noise generation due to movement of vehicles</li> </ul>                                                                                                                                                                                                             |
| Biodiversity                 | <ul style="list-style-type: none"> <li>None</li> </ul> | <ul style="list-style-type: none"> <li>Clearance of vegetation along construction corridor and transmission tower base</li> </ul>                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Avifauna and terrestrial fauna electrocution/deaths</li> </ul>                                                                                                                                                                                                      |
| Occupational Health & Safety | <ul style="list-style-type: none"> <li>None</li> </ul> | <ul style="list-style-type: none"> <li>OHS hazards from exposure to dust &amp; noise</li> <li>Safety risk due to wrong handling of machinery, work at height, poor housekeeping</li> </ul>                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>Worker exposure to electromagnetic field while working in proximity to charged electric lines</li> <li>Exposure to live lines during O&amp;M activities, work at height</li> <li>Exposure to chemicals (PCBs in transformers &amp; electrical equipment)</li> </ul> |
| Community Health & Safety    | <ul style="list-style-type: none"> <li>None</li> </ul> | <ul style="list-style-type: none"> <li>Conflicts with construction labour, safety and privacy issues of the women in the surrounding villages, spread of various communicable diseases, nuisance from improper sanitation facilities</li> <li>Increase in traffic and resultant hazards due to transportation of construction material</li> <li>Misbehavior by project security personnel</li> <li>Health hazards from exposure to dust &amp; noise</li> </ul> | <ul style="list-style-type: none"> <li>Misbehavior by project security personnel</li> <li>Exposure to EMF for communities located/working in close proximity to TL</li> <li>Structural failure of transmission tower</li> </ul>                                                                            |
| Viewscape                    | <ul style="list-style-type: none"> <li>None</li> </ul> | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>None</li> </ul>                                                                                                                                                                                                                                                     |

The assessment criteria for sensitivity (low, medium, high) and magnitude (negligible, small, medium, large) will remain the same as presented in the ESIA Report dated 05/01/2023.

### 5.2.2 Construction Phase Impacts

The construction phase impacts for setting up the solar PV project are similar to those experienced for transmission lines and access roads. Hence the assessment of construction phase impacts presented in Section 7.3 of the ESIA Report dated 05/01/2023 fulfils the impact assessment requirement for TL and access roads as well.

### 5.2.3 O&M Phase: Occupational Health & Safety Impacts - TL

#### 1. Context

The power generated from the project would be evacuated via 110/11KV Gugal substation (KPTCL) through a 110 KV transmission line of 3.2 km length. Refer **Figure 5-1** for transmission route alignment. Transmission lines carry high-voltage electricity, posing a risk of electric shock or electrocution to workers. Maintenance activities of transmission lines involves working at height posing a risk of falling from height.

#### 2. Embedded/In-Built Control

Radiance Corporate OHS Procedures and SOPs will be deployed in the project that included safety measures for working on live wires, preventive maintenance schedules for solar project and transmission line, incident management, use of PPE, protection from EMF

#### 3. Impact Significance

Considering the adequate measures taken on site and the scale of the plant (50 MW capacity) with a 3.2 km transmission line the impact on workers will be '**Negligible**'.

#### 4. Additional Mitigation Measures

Considering adequate measures are being taken on site no additional measures are required.

#### 5. Residual Impact Significance

The residual impact significance due to the transmission line infrastructure has been retained as **Negligible** after consideration of in-built mitigation measures.

| Impact                        | Occupational Health & Safety                           |            |           |        |               |       |
|-------------------------------|--------------------------------------------------------|------------|-----------|--------|---------------|-------|
| Impact Nature                 | Negative                                               |            | Positive  |        | Neutral       |       |
| Impact Type                   | Direct                                                 |            | Indirect  |        | Induced       |       |
| Impact Duration               | Temporary                                              | Short-term | Long-term |        | Permanent     |       |
| Impact Extent                 | Local                                                  |            | Regional  |        | International |       |
| Impact Scale                  | Project area and vicinity                              |            |           |        |               |       |
| Impact Magnitude              | Positive                                               | Negligible | Small     | Medium |               | Large |
| Resource/Receptor Sensitivity | Low                                                    |            | Medium    |        | High          |       |
|                               | Negligible                                             | Minor      | Moderate  |        | Major         |       |
| Impact Significance           | Significance of impact is considered <b>Negligible</b> |            |           |        |               |       |
| Residual Impact Magnitude     | Positive                                               | Negligible | Small     | Medium |               | Large |
| Residual Impact Significance  | Negligible                                             | Minor      | Moderate  |        | Major         |       |
|                               | Significance of impact is considered <b>Negligible</b> |            |           |        |               |       |

### 5.2.4 O&M Phase: Community Health & Safety Impacts - TL

#### 1. Context

The risks from the 50 MW solar project on community health & safety include structural failure of transmission towers, unauthorized public access and resulting exposure to electrocution hazards, engagement of project personnel (including security guards) with the local community, and movement of vehicles along access road and TL.

#### 2. Embedded/In-Built control



The following control measures are embedded/in-built in the project:

- a) The solar energy project is enclosed by a boundary wall, and access in and out of the site is restricted.
- b) Unarmed security guards will be stationed at the entrance of the project, appointed from local community. The security guards will be instructed on appropriate behaviors with the local community.
- c) Prior intimation will be given to the neighbouring community in case of conduct of any project activity that might impact their activities
- d) A grievance register will be made available with the security guards to record external grievances
- e) An 'Emergency Response Plan (ERP) inclusive of details of emergency response team aligned with Appendix H of GGEF ESGMS has been developed and will be communicated to local community.
- f) The transmission towers and line will be built as per the guidelines set by Ministry of Power<sup>5</sup>.
- g) As part of the CSR program, training of local youth for skills required in the project will be explored on a case-to-case basis. Neighboring village heads would be informed about job opportunities at the solar project, as and when required.
- h) In case of any emerging trend, H&S training modules incorporate the same. The information is disseminated through the App based Learning Management system as well as on site trainings.

### 3. **Impact Significance**

The impact on community health and safety during the operation phase is evaluated to be **Negligible** as the nearest village from the transmission line is Gugal, that is more than 500 m away from the alignment. The Corporate ESMS will be deployed in the project that has procedures to ensure adequate safety measures are adopted by the project team.

### 4. **Additional Mitigation Measures**

Considering that adequate measures will be taken on site no additional measures are required.

### 5. **Residual Impact Significance:**

After the implementation of the above mitigation measures, the residual impact significance is anticipated to remain **Negligible**.

|                               |                                                        |            |           |          |               |  |
|-------------------------------|--------------------------------------------------------|------------|-----------|----------|---------------|--|
| Impact                        | Community Health and Safety                            |            |           |          |               |  |
| Impact Nature                 | Negative                                               |            | Positive  |          | Neutral       |  |
| Impact Type                   | Direct                                                 |            | Indirect  |          | Induced       |  |
| Impact Duration               | Temporary                                              | Short-term | Long-term |          | Permanent     |  |
| Impact Extent                 | Local                                                  |            | Regional  |          | International |  |
| Impact Scale                  | Project area and vicinity                              |            |           |          |               |  |
| Impact Magnitude              | Positive                                               | Negligible | Small     | Medium   | Large         |  |
| Resource/Receptor Sensitivity | Low                                                    |            | Medium    |          | High          |  |
| Impact Significance           | Negligible                                             |            | Minor     | Moderate | Major         |  |
|                               | Significance of impact is considered <b>Negligible</b> |            |           |          |               |  |
| Residual Impact               | Positive                                               | Negligible | Small     | Medium   | Large         |  |

<sup>5</sup> [https://powermin.gov.in/sites/default/files/uploads/RoW\\_Guidelines\\_15102015.pdf](https://powermin.gov.in/sites/default/files/uploads/RoW_Guidelines_15102015.pdf)

|                              |                                                        |       |          |       |
|------------------------------|--------------------------------------------------------|-------|----------|-------|
| Magnitude                    |                                                        |       |          |       |
| Residual Impact Significance | Negligible                                             | Minor | Moderate | Major |
|                              | Significance of impact is considered <b>Negligible</b> |       |          |       |

## 5.3 Impact Assessment: Biodiversity

### 1. Context

For the assessment of impacts on biodiversity, 'Integrated Biodiversity Assessment Tool' (IBAT) was run on 28.07.2023 for the project influence area in a 10 KM buffer and the results were taken into consideration. It includes a detailed list of species found in the region along with the protected areas and key biodiversity areas. IBAT uses datasets from various sources such as the Red List of Threatened Species by the International Union for Conservation of Nature (IUCN), the World Database on Protected Areas by Protected Planet, and the World Database on Key Biodiversity Areas.

Within the buffer of 10 m, there were no Protected Areas or Key Biodiversity Areas. As per the report, 31 species fall under the threatened category in a buffer of 50 Km from the project site. These comprise of 7 Critically Endangered (CR) species (1 Reptile species, 5 Aves species, 1 Actinopterygii sp.), 6 Endangered species (EN) (2 Mammal species, 3 Aves species, 1 Actinopterygii species), and 18 Vulnerable species (EN) (7 Mammal species, 2 Reptile species, 4 Aves species, 4 Actinopterygii species, and 1 Liliopsida species). The IBAT report has been presented in **Annexure 7**.

Refer **Section 4.2** for a detailed profile of flora and fauna observed during the site visit. The project is not expected to impact any of the Schedule 1 species (as per Wildlife Protection Act 1972) that were spotted in the project influence area due to their large distribution, stable annual trends and attraction to particular habitats that were located more than 4 km from the project site.

### 2. Embedded/In-Built Control

The following measures will be implemented in the project:

- The crossing over of transmission wire conductor at the poles is insulated
- The distance between transmission wires is wider than the wingspan of the heaviest flying birds found in the region such as (Peafowl and Painted Storks – i.e., 1.6 Meters)
- The project site will maintain a carcass register to record any bird carcasses.
- Anti-venom kit will be maintained at the project site to address snake bite incidents.
- A near miss register will be maintained at the project site.
- A format will be maintained at site to capture information about snakes identified on site with details of species and photographs which can be displayed at the site office, so as to raise awareness.

### 3. Impact Significance

The project is not expected to impact any of the Schedule 1 species (as per Wildlife Protection Act 1972) that were spotted in the project influence area due to their large distribution, stable annual trends and attraction to particular habitats that were located more than 4 km from the project site.

The avifauna tend to get injured from transmission lines. Based on design improvements implemented in the transmission lines, the impact is assessed to be **Minor**.

### 4. Additional Mitigation Measures:

The following mitigation measures will further reduce the impact significance on species:

- a) Local Hospital in the area should know about the existence of the venomous Herpetofaunal (Snakes) and Arachnida (Scorpions) species present in the project area.
- b) Photo identification chart and danger/ Safety chart to be put up on the site, to raise awareness.
- c) Training on safety measures to be taken when there is a near miss with Herpetofauna species

#### 5. **Residual Impact Significance:**

The residual impact significance due to the transmission line infrastructure has been assessed as **Minor** after consideration of applied & additional mitigation measures

|                               |                                                   |            |           |        |               |
|-------------------------------|---------------------------------------------------|------------|-----------|--------|---------------|
| Impact                        | Impact on Biodiversity                            |            |           |        |               |
| Impact Nature                 | Negative                                          |            | Positive  |        | Neutral       |
| Impact Type                   | Direct                                            |            | Indirect  |        | Induced       |
| Impact Duration               | Temporary                                         | Short-term | Long-term |        | Permanent     |
| Impact Extent                 | Local                                             |            | Regional  |        | International |
| Impact Scale                  | Project influence area                            |            |           |        |               |
| Impact Magnitude              | Positive                                          | Negligible | Small     | Medium | Large         |
| Resource/Receptor Sensitivity | Low                                               |            | Medium    |        | High          |
| Impact Significance           | Negligible                                        | Minor      | Moderate  | Major  |               |
|                               | Significance of impact is considered <b>Minor</b> |            |           |        |               |
| Residual Impact Magnitude     | Positive                                          | Negligible | Small     | Medium | Large         |
| Residual Impact Significance  | Negligible                                        | Minor      | Moderate  | Major  |               |
|                               | Significance of impact is considered <b>Minor</b> |            |           |        |               |

## 5.4 Impact on Labour & Working Conditions

### 5.4.1 Impact Assessment - Human Resource Management

#### 1. **Context**

The construction and O&M phase of the solar project requires hiring of skilled and semi-skilled workers. This necessitates the establishment of a work culture that is both safe and positive.

Radiance Renewables has implemented HR policies that are in accordance with relevant national and local labor laws. Following is the list of HR policies:

1. Anti-Money Laundering Policy
2. Code-Prevention for Prevention of Insider Trading
3. Declaration of Fidelity and Secrecy
4. Employee “Fair Play” And “Equal Opportunities” Code
5. Care and Dignity Policy
6. Whistleblowing Policy
7. Framework for Managing Conflicts of Interest
8. Anti-Corruption Policy
9. Human Capital Management (People Policy Handbook)
10. Grievance Redressal Mechanism (GRM)
11. Code of Conduct for Prevention of Insider Trading
12. ESG Policy Statement

13. Quality, Health, Safety & Environment Policy
14. Social Responsibility Policy

## 2. Embedded/In-Built control

Radiance Renewables has designed and implemented measures to ensure the organization's strict adherence to all pertinent labor laws, regulations and standards, thereby proactively averting any potential legal disputes or penalties associated with labor practices.

- a) The company maintains project-specific labor compliance checklists and conducts labor audits. Refer **Annexure 11** for the labor compliance checklist & HR Policies.
- b) Radiance Renewables has implemented HR policies that are in accordance with relevant national and local labor laws. These policies also meet the standards set forth by investors of Radiance renewables including adhering to the core labor standards of the International Labour Organization (ILO).
- c) Contractor agreements include a clause on compliance to labour law.
- d) Age of workers is checked for legal working age before hiring the workers
- e) Employment contracts are fair & transparent aligned with national labour laws & regulations

## 3. Impact Significance

Considering the measures taken by Radiance Renewables the impact of labour management & HR policies is **Minor**.

## 4. Additional Mitigation Measures:

The following mitigation measures will further reduce the impact significance:

- a) Establish a separate contract labour management plan and ensure cascading down to the contractors.
- b) Contract workers should be made aware of their rights under labour law.

## 5. Residual Impact Significance:

After the implementation of the above mitigation measures, the residual impact significance is anticipated to lower down to **Negligible**.

|                               |                                                                                   |            |           |        |               |  |
|-------------------------------|-----------------------------------------------------------------------------------|------------|-----------|--------|---------------|--|
| Impact                        | Human Resource Management                                                         |            |           |        |               |  |
| Impact Nature                 | Negative                                                                          |            | Positive  |        | Neutral       |  |
| Impact Type                   | Direct                                                                            |            | Indirect  |        | Induced       |  |
| Impact Duration               | Temporary                                                                         | Short-term | Long-term |        | Permanent     |  |
| Impact Extent                 | Local                                                                             |            | Regional  |        | International |  |
| Impact Scale                  | The site involves hiring of skilled & semi-skilled labours for project activities |            |           |        |               |  |
| Impact Magnitude              | Positive                                                                          | Negligible | Small     | Medium | Large         |  |
| Resource/Receptor Sensitivity | Low                                                                               |            | Medium    |        | High          |  |
| Impact Significance           | Negligible                                                                        | Minor      | Moderate  |        | Major         |  |
|                               | Significance of impact is considered <b>Minor</b>                                 |            |           |        |               |  |
| Residual Impact Magnitude     | Positive                                                                          | Negligible | Small     | Medium | Large         |  |
| Residual Impact Significance  | Negligible                                                                        | Minor      | Moderate  |        | Major         |  |
|                               | Significance of impact is considered <b>Negligible</b>                            |            |           |        |               |  |

## 5.4.2 Impact Assessment - Sexual Exploitation, Abuse & Harassment (SEAH)

### 1. Context

The construction and O&M phase of the solar project requires hiring of skilled and semi-skilled workers. The presence of female workforce may give rise to potential risks related to Sexual Exploitation, Abuse, and Harassment (SEAH).

### 2. Embedded/In-Built control

Following measures are implemented by Radiance Renewables at project site:

- a) Radiance Renewables has a separate 'Care & Dignity Policy' to promote a gender-sensitive safe work environment applicable to the entire business operations of the Company. This specific policy combats discrimination / sexual harassment of men and women in the workplace. Policy has been framed in accordance with the provisions of "The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013".
- b) The policy defines sexual harassment, grievance redress mechanism and internal complaints committee (ICC) composition. An ICC has been constituted under the POSH Act 2013 inclusive of external members. A separate email-id for the Internal Complaints Committee is made available.
- c) The policy has laid down the procedure to report any sexual harassment incident to the ICC which will be resolved within ninety (90) days from the date on which the inquiry commenced. The policy was adopted in November 2020 by Radiance Renewables.
- d) The project manager is responsible for the effective implementation of the policy and consistently reports and communicates site concerns and incidents to the corporate office on a daily basis.

### 3. Impact Significance

Considering the measures in-built in the company operations, the impact significance is assessed as **Minor**.

### 4. Additional Mitigation Measures

The following mitigation measures will further reduce the impact significance:

- a) Make the reporting & external grievance mechanism more accessible
- b) Provide specific training for supervisors and managers on preventing and addressing sexual harassment.
- c) Conduct regular site inspection to assess the work environment and identify potential issues related to harassment.
- d) Collaborate with local community organizations and authorities to address issues related to harassment and promote awareness within the community
- e) Regularly review and assess the effectiveness of anti-harassment measures and make necessary adjustments based on feedback and incident reports.

### 5. Residual Impact Significance:

After the implementation of the above mitigation measures, the residual impact significance is anticipated to lower down to **Negligible**

| Impact        | Sexual Exploitation, Abuse & Harassment |          |         |
|---------------|-----------------------------------------|----------|---------|
| Impact Nature | Negative                                | Positive | Neutral |
| Impact Type   | Direct                                  | Indirect | Induced |

|                               |                                                        |            |           |        |               |
|-------------------------------|--------------------------------------------------------|------------|-----------|--------|---------------|
| Impact Duration               | Temporary                                              | Short-term | Long-term |        | Permanent     |
| Impact Extent                 | Local                                                  |            | Regional  |        | International |
| Impact Scale                  | Female laborers will not be hired                      |            |           |        |               |
| Impact Magnitude              | Positive                                               | Negligible | Small     | Medium | Large         |
| Resource/Receptor Sensitivity | Low                                                    |            | Medium    |        | High          |
| Impact Significance           | Negligible                                             | Minor      | Moderate  |        | Major         |
|                               | Significance of impact is considered <b>Minor</b>      |            |           |        |               |
| Residual Impact Magnitude     | Positive                                               | Negligible | Small     | Medium | Large         |
| Residual Impact Significance  | Negligible                                             | Minor      | Moderate  |        | Major         |
|                               | Significance of impact is considered <b>Negligible</b> |            |           |        |               |

### 5.4.3 Impact Assessment of Labour Risks

#### 1. Context

Radiance as part of its sustainability focus and associated transparency and disclosure requirements has taken an informed business decision to procure solar modules from manufacturers in southeast Asia (Vietnam) and USA. Radiance plans to transition its entire supply chain to India by end of FY 2025. This strategic move underscores the company's commitment to ethical sourcing and sustainable practices

#### 2. Embedded/In-Built Control

Radiance Renewables has implemented several measures to demonstrate **strong commitment to address forced risks** within the solar panel industry and is actively exploring alternatives to minimize the impact.

The in-built control measures are as mentioned below:

- Radiance has evaluated module suppliers in southeast Asia and USA in terms of their adherence to applicable local labour laws, occupational health and industrial welfare benefits provided to the work force engaged in the manufacture of solar panels.
- Radiance Renewables, in alignment with GGEF ESGMS, commits to uphold human rights standards throughout its operations, ensuring the prevention of child and forced labor concerns.
- As reported all the vendors are screened during onboarding and the critical vendors are required to give an undertaking as per **Radiance's supplier 'Code of Conduct'**.
- For the onboarding of suppliers and contractors, Radiance utilizes a comprehensive Self-Assessment Questionnaire focused on Health, Safety, and Environmental (HSE) as well as Environmental, Social, and Governance (ESG) criteria. This questionnaire covers key aspects such as company details, employee data, legal compliance, labor practices, contractor HSE protocols, and performance data related to injury and illness.
- Radiance also requires suppliers and contractors to complete a vendor prequalification form as part of the onboarding process. This form assesses key aspects such as the company & its financial background, manufacturing and technical capabilities, and includes a list of projects and clients to facilitate a thorough background check prior to onboarding. The Company does not adopt forced labour or penalty labour practices (such as retaining original certifications, retaining caution money from employees, signing bonds) in its operations. The same is communicated to the contractors engaged in the projects.



### 3. Impact Significance

Radiance has implemented a series of proactive measures during the vendor onboarding process itself. These include a Self-Assessment Questionnaire, a vendor prequalification form, and a mandatory submission of an undertaking aligned with the supplier's code of conduct. Additionally, Radiance uses a supplier scorecard based on specific evaluation criteria to assess and manage suppliers, ensuring higher standards of transparency and accountability. Considering all these in-built measures the impact significance has been identified as **Negligible**.

### 4. Additional Mitigation Measures

As the Company is indirectly associated with labour risks, this is a residual impact. The Company will adopt the following measures to minimize this impact.

- a) Procurement team of Radiance may track internationally recognized institutions tracing and disclosing solar companies associated with labor issues..
- b) Procurement team of Radiance may identify solar module suppliers sourcing solar components ethically and necessitating an exclusion process for solar module suppliers that are publicly recognized for their association with supply chains with potential labor risks.

### 5. Residual Impact Significance:

Significance of residual impact is retained as **Negligible** considering the steps being taken by company to minimize the impact.

| Impact                        | Labour Risk                                                                                                                                   |            |            |           |               |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|-----------|---------------|
| Impact Nature                 | Negative                                                                                                                                      |            | Positive   |           | Neutral       |
| Impact Type                   | Direct                                                                                                                                        |            | Indirect   |           | Induced       |
| Impact Duration               | Temporary                                                                                                                                     |            | Short Term | Long Term | Permanent     |
| Impact Extent                 | Local                                                                                                                                         |            | Regional   |           | International |
| Impact Scale                  | The company in line with its sustainability and transparency commitments is now procuring Solar panels from Southeast Asia (Vietnam) and USA. |            |            |           |               |
| Impact Magnitude              | Positive                                                                                                                                      | Negligible | Small      | Medium    | Large         |
| Resource/Receptor Sensitivity | Low                                                                                                                                           |            | Medium     |           | High          |
| Impact Significance           | Negligible                                                                                                                                    |            | Minor      | Moderate  | Major         |
|                               | Significance of impact is considered <b>Negligible</b> .                                                                                      |            |            |           |               |
| Residual Impact Magnitude     | Positive                                                                                                                                      | Negligible | Small      | Medium    | Large         |
| Residual Impact Significance  | Negligible                                                                                                                                    |            | Minor      | Moderate  | Major         |
|                               | Significance of impact is considered <b>Negligible</b> .                                                                                      |            |            |           |               |

## 5.5 Impact Assessment on Water Resources

### 1. Context

The solar project will require 1,05,000 solar modules. During construction, water will be required for civil works related to foundation of the solar panel installations and the transmission tower. The O&M phase of the solar project would involve periodical cleaning of solar modules for better efficiency. Across the project lifecycle, water will also be required for domestic purposes such as drinking and sanitation, more so during construction phase when number of workers is generally higher than O&M phase.

As reported by the project manager water for both construction and operational phases will be sourced from a third-party supplier through water tanker.

There is one major perennial river (Krishna River) & minor waterbodies (lakes & ponds) present within the study area. The study area experiences a semi-arid climate<sup>6</sup>. Dryness and hot weather prevail during the major part of the year. It receives medium rainfall. The monsoon season spreads from June to September. The highest levels of precipitation are experienced in the month of September (87 mm). As per drought vulnerability assessment in Karnataka<sup>7</sup> conducted by Karnataka State Natural Disaster Monitoring Centre, the study area falls in drought vulnerable area.

The ground water development in Devdurga Tehsil in which the project is located is assessed as 'Safe' by Central Ground Water Authority through its publication Dynamic Ground Water Assessment 2022.

Considering the importance of water resource efficiency, the plant employs both the module cleaning methods dry and wet.

## 2. Embedded/in-built control

As reported the following embedded/in-built control measures have been implemented at project site by Radiance Renewables to ensure efficient water consumption.

- Two types of module cleaning methods, dry & wet are employed in the project.
- During the O&M phase dry module cleaning would be performed after every two days. Dry robotic cleaning of modules requires 20 robots.
- While wet module cleaning would be occurring on a quarterly basis throughout the year. Wet module cleaning requires a period of 20-30 days for the entire solar plant. This activity requires 2,000-6,000 liters of water per day. A maximum of 54 KL of water is consumed on an annual basis.

## 3. Impact Significance

Considering baseline status of the project influence area and the water requirement during construction and O&M phase, the impact has been categorized as '**Moderate**'.

## 4. Additional Mitigation Measures

The following mitigation measures will further reduce the impact significance:

- Optimal utilization of water to be ensured throughout the lifecycle of the project.
- Leaks and losses to be checked frequently to enhance utilization.

## 5. Residual Impact Significance:

Significance of residual impact is reduced to '**Minor**' considering above mentioned mitigation measures

| Impact          | Source of Water                                              |            |           |  |               |
|-----------------|--------------------------------------------------------------|------------|-----------|--|---------------|
| Impact Nature   | Negative                                                     |            | Positive  |  | Neutral       |
| Impact Type     | Direct                                                       |            | Indirect  |  | Induced       |
| Impact Duration | Temporary                                                    | Short-term | Long-term |  | Permanent     |
| Impact Extent   | Local                                                        |            | Regional  |  | International |
| Impact Scale    | The company uses dry & wet cleaning module cleaning methods. |            |           |  |               |

<sup>6</sup> <http://cgwb.gov.in/cgwbpm/publication-detail/610>

<sup>7</sup> 183-Article-561-1-10-20210407%20(4).pdf

|                               |                                                      |            |          |        |       |
|-------------------------------|------------------------------------------------------|------------|----------|--------|-------|
| Impact Magnitude              | Positive                                             | Negligible | Small    | Medium | Large |
| Resource/Receptor Sensitivity | Low                                                  |            | Medium   |        | High  |
| Impact Significance           | Negligible                                           | Minor      | Moderate |        | Major |
|                               | Significance of impact is considered <b>Moderate</b> |            |          |        |       |
| Residual Impact Magnitude     | Positive                                             | Negligible | Small    | Medium | Large |
| Residual Impact Significance  | Negligible                                           | Minor      | Moderate |        | Major |
|                               | Significance of impact is considered <b>Moderate</b> |            |          |        |       |

## 6 E&S Management Plan

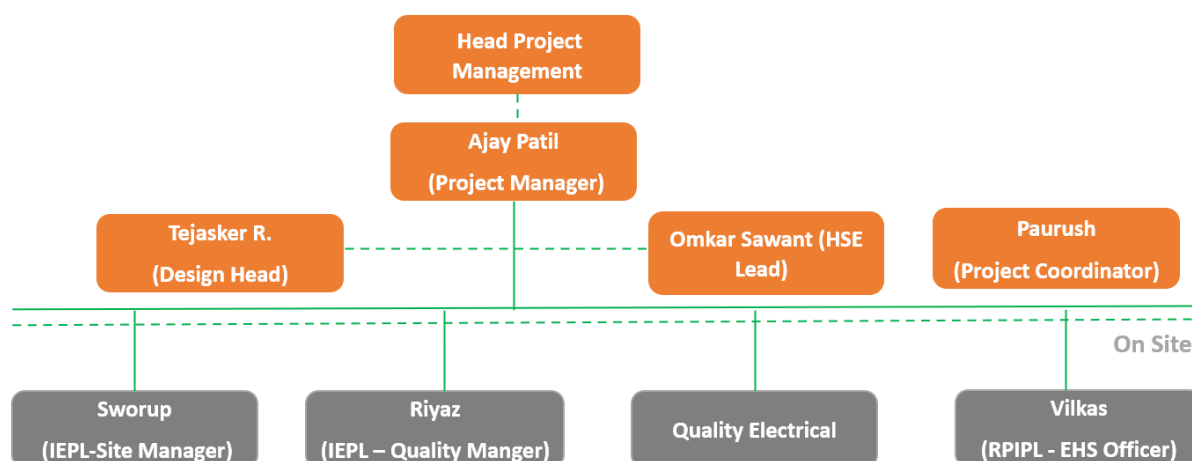
### 6.1 Capabilities and Performance

#### Construction Phase

It is reported that the manpower requirement during the construction phase would include approximately 80 skilled, semi-skilled and unskilled labourers. The labourers will be hired by the local contractor. A 3<sup>rd</sup> Party vendor would be hired for labour related compliance. The vendor would be sending in reports on a monthly basis to the compliance officer with Radiance Renewables. A safety supervisor (Owner's Engineer) would be appointed by a 3<sup>rd</sup> party contractor for the project during construction phase.

Project management team would be reporting on a monthly basis and conducting regular visits during the construction of the plant. The Project Management team would be reporting the developments to the Operation's Head of Radiance Renewables. The dedicated Project Manager would be responsible for the complete ownership of the project. The project Manager would be responsible for the following:

- Would have the overall responsibility to manage and administer all aspects of the EPC contract and assist with negotiations of the EPC contract as well as preparation of technical exhibits.
- Would drive execution of the project, keeping it on schedule and on budget, while maintaining relationships with clients, stakeholders, and vendors.
- Would maintain responsibility for the project budget, risk management, safety, and quality.
- Would be responsible for managing cost and schedule goals of assigned projects through project closeout.
- Would ensure the design review process for the EPC basic design is performed and actioned at the right time before the execution of the contract or the activity.
- Would be responsible for obtaining, monitoring and expediting all statutory permits & approvals required under Open Access as well as solar park development.
- Would coordinate with site team members to establish project schedules for the execution and management of the Work. Effective coordination and follow-ups for land acquisition, solar park development and evacuation infra-activities by EPC partners.

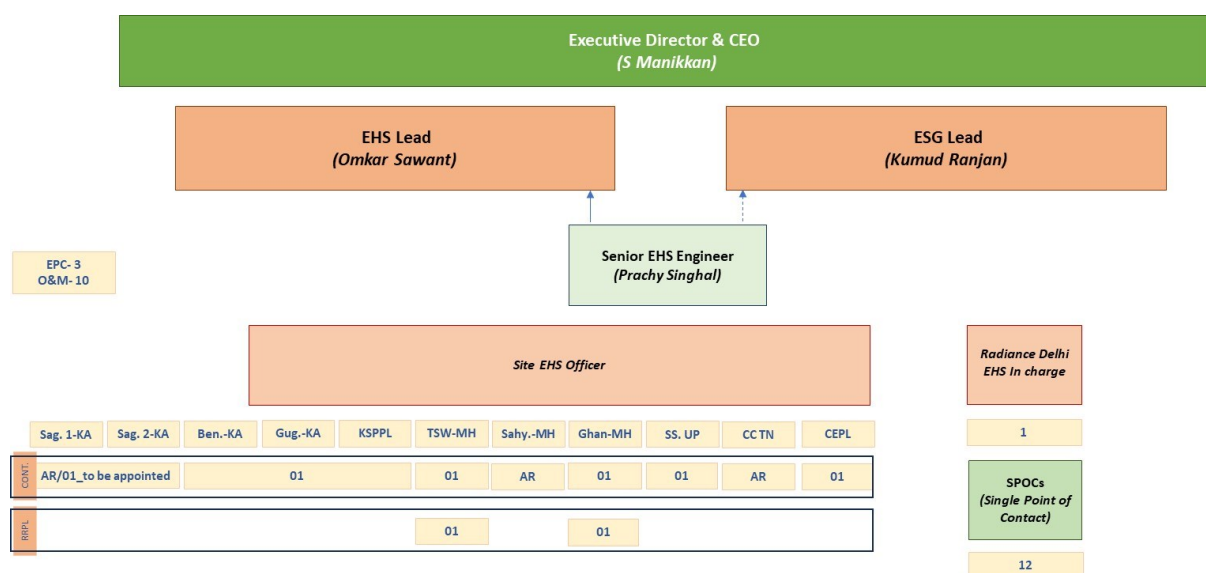


*Figure 6-1 : Organisation Structure for the Construction Phase*

## O&M Phase

It has been reported that approximately 35 technicians will be deployed at site by Radiance Renewables. Refer **Figure 6-1 & Figure 6-2** for organization structure during construction & operation phase respectively. As reported by the corporate team, EHS head of Radiance Renewables will ensure that EHS induction training and job specific trainings are being identified and provided to the concerned personnel for operation of the solar plant. It was also mentioned that a safety supervisor would be appointed by the contractor for the project during operation phase.

Additionally, the site team will be actively encouraged to adopt environmentally responsible practices through the promotion of overall environmental awareness and compliance requirements of the project activities. This would help in minimizing adverse environmental impacts, compliance with the applicable regulations and standards and achieving performance beyond compliance.



**Figure 6-2: Organisation Structure for the O&M Phase**

## 6.2 Radiance Renewables ESG-MS

The holding company (Radiance Renewables) is committed to ensuring that the projects are managed in a manner reflecting sound environmental, social and governance management practices. The Environmental, Social and Governance Management System (ESGMS) has been developed to formalize GGEF's commitment to environmental and social management. The ESGMS includes an ESG policy, risk and impact identification process and the tools, practices and procedures to implement the ESG commitments across the fund and portfolio.

The ESGMS implemented at Radiance Renewables is a dynamic document that will be periodically evaluated based on stakeholder feedback and to align with international E&S trends on an annual basis or otherwise, as agreed with key stakeholders. Based on the feedback provided and changes in global trends, the ESGMS will be updated from time to time. The project will implement the ESGMS and procedures developed under the holding company (Radiance Renewables). The ESGMS and underlying procedures were developed in conformance to World Bank Group's EHS Guidelines (General & Sector-specific).

## 6.3 Grievance Redress Mechanism

Radiance Renewables has a separate grievance redressal mechanism for internal & external grievances aligned with *Appendix L* of GGEF ESGMS. Refer **Annexure 10** for the GRM by Radiance Renewables. This GRM (Grievance Redressal Mechanism) is followed at the level of the subsidiaries/SPVs of Radiance Renewables and the project site.

## 6.4 Monitoring & Reporting Procedures

### 6.4.1 Monitoring Procedure

Radiance Renewables follows a monitoring procedure aligned with GGEF ESGMS *Appendix G & J*. It defines an indicative minimum monitoring criterion which has been provided in the table below. In the case of any accidents or incidents, the minimum monitoring frequency will be increased in commensuration on a case-to-case basis:

| Project Categorization | Monitoring Frequency (minimum)                                                                                |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Category A             | At least one visit during the construction phase of the project<br>Quarterly visits to the operational assets |
| Category B             | At least one visit during the construction phase of the project<br>Annual visits to operational assets        |
| Category C             | Desk-based review of the project on an annual basis                                                           |

### 6.4.2 Reporting Frequency

Radiance Renewables has monitoring & reporting procedures in place aligned with GGEF ESGMS. The company submits reports as per following time intervals:

- Monthly Reporting
- Quarterly Reporting
- Annual Reporting
- Events based Reporting.

### 6.4.3 Reporting Parameters

#### a) **Monthly Reporting:**

An indicative list of matrices and indicators considered in monthly reporting includes:

- Greenhouse gas (GHG) emissions avoidance.
- Operational parameters – renewable energy generated, total waste processed, total water saved and total e-miles powered;
- Leading HSE indicators including near misses, unsafe conditions, commendations, toolbox talks, health and safety meetings, workplace audits and internal/external trainings; and
- Lagging HSE indicators including fatalities, loss time injuries, medical treatment, vehicle accidents, property damage and environmental incidents.

#### b) **Quarterly Reporting:**

Radiance Renewables report on ESG & HSE (Unsafe acts, unsafe conditions, near misses and significant injury or fatality (SIF) initiatives undertaken in the quarter, gender-disaggregated data for the workforce (permanent + contractual) and ESAP closure progress.

#### c) **Annual Reporting:**

The annual reports encompass information about the greenhouse gas emissions associated with the portfolio companies, their progress in meeting the UN Sustainable Development Goals (UN-SDGs)



relevant to Eversource's priorities, and their adherence to the IFC Performance Standards, accidents/incidents that have occurred in the quarter and corporate social responsibility expenditure.

**d) Event-based Reporting:**

Radiance Renewables reports within 48 hours of being made aware of any serious incident. The definition of serious incident has been provided below:

- An incident resulting in death or permanent injury to any person(s).
- An incident that has a material negative impact on the environment including without limitation any spill, explosion or environmental contamination.
- An incident that has a material negative impact on the health, safety and security including without limitation any explosion, hazardous material spill or workplace accident resulting in death or multiple injuries.
- An incident of social nature impact without limitation violent labour unrest, significant dispute with local communities or serious accident/incident to local community/person due to company activities which can result in material negative effect on the social and cultural context.

#### 6.4.4 Oversight of Corporate on Project Site

The Site Manager is responsible for reporting the project related aspects to corporate office daily.

1. Solar Project Components
  - PV Blocks: Module Cleaning & Area of vegetation cut
  - Structure: Missing/Damaged modules & Loose & Damaged cables
  - Transformer: Any abnormalities, seepage/leakage, winding & oil temperature, oil level, silica gel, oil in cup
  - Inverter: Ventilation fans, inverter doors & temperature, smooth running of all units
  - Panel structure: Working of lights & panel lamps. Check for water ingress in room
  - Power/Aux Transformer: Any abnormalities, seepage/leakage, winding & oil temperature, oil level, silica gel, oil in cup
  - CTR Panel & Breaker Gas level
2. Other Concerns
  - Grievances/Incidents
  - Trainings Conducted

**ESG Committee:** Radiance Renewables has established an ESG committee that meets on a quarterly basis to apprise the Board of ESG performance and improvement. The committee is observed by the ESG team of the Eversource Fund. The ESG team of the fund then appraises the senior management of the Fund on a monthly basis.

Events occurring at the Fund and Radiance Renewables are reported to the investors within 72 hours of occurrence. The root cause analysis report identified the root cause and corrective/preventive actions are submitted within 14 days of the incident.

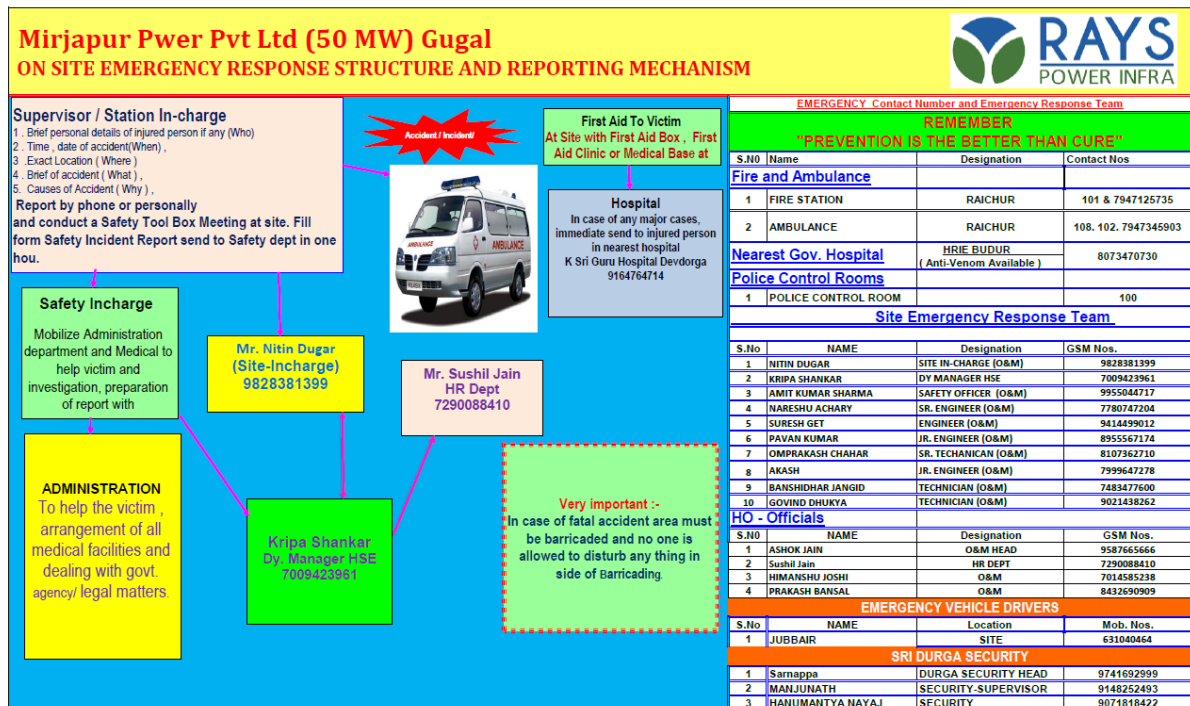
## 6.5 Schedule and Cost of ESMP

Refer to **Annex 12** for updated ESMP and associated cost after conduction gap closure assessment for Gugal solar project.

## Annexures

## Annexure 1: Emergency Response & Preparedness Plan

### A1.1 Emergency Response Plan



## A1.2 Snake Bite SOP



FY  
2022-23  
Date  
09-09-22

Document Name  
Document No.:  
Version  
Date

APPENDIX L: FAUNAL CARCASS REGISTER  
RAD/ESGMS/APPENDIX L/FORM-L1/FCR  
1  
19-Jul-21

| S/N | Common name of Bird/Animal | Species (if you can identify) | Number of carcass | Photograph | Date Carcass was spotted | Photograph | Root Cause of Death | Mitigating measures |
|-----|----------------------------|-------------------------------|-------------------|------------|--------------------------|------------|---------------------|---------------------|
| 1   |                            |                               |                   |            |                          |            |                     |                     |
| 2   |                            |                               |                   |            |                          |            |                     |                     |
| 3   |                            |                               |                   |            |                          |            |                     |                     |
| 4   |                            |                               |                   |            |                          |            |                     |                     |
| 5   |                            |                               |                   |            |                          |            |                     |                     |
| 6   |                            |                               |                   |            |                          |            |                     |                     |

### A1.3 Carcass Register Format



|                                                                                  |                 |                                                    |
|----------------------------------------------------------------------------------|-----------------|----------------------------------------------------|
|  | Document Name.: | Guidelines on Prevention & Treatment of Snake Bite |
|                                                                                  | Document No.:   |                                                    |
|                                                                                  | Revision No.:   |                                                    |
|                                                                                  | Effective Date: |                                                    |



# GUIDELINES ON PREVENTION & TREATMENT OF SNAKE BITE

|                                    |                                                   |                        |
|------------------------------------|---------------------------------------------------|------------------------|
| <b>Prepared By:</b> Prachy Singhal | <b>Reviewed By:</b> Omkar Sawant,<br>Kumud Ranjan | <b>Approved By:</b>    |
| <b>Version No.:</b> 00             | <b>Document No:</b>                               | <b>Effective Date:</b> |

|                                                                                  |                 |                                                             |
|----------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------|
|  | Document Name.: | <b>Standard on Prevention &amp; Treatment of Snake Bite</b> |
|                                                                                  | Document No.:   |                                                             |
|                                                                                  | Revision No.:   |                                                             |
|                                                                                  | Effective Date: |                                                             |

## Table of Contents

|          |                                                                  |           |
|----------|------------------------------------------------------------------|-----------|
| <b>1</b> | <b>INTRODUCTION.....</b>                                         | <b>3</b>  |
| <b>2</b> | <b>SCOPE &amp; APPLICABILITY.....</b>                            | <b>3</b>  |
| <b>3</b> | <b>PREVENTION.....</b>                                           | <b>3</b>  |
| 3.1      | Awareness:.....                                                  | 3         |
| 3.2      | Habitat Management:.....                                         | 3         |
| 3.3      | Personal Protective Measures: .....                              | 3         |
| <b>4</b> | <b>IDENTIFICATION OF SNAKES .....</b>                            | <b>4</b>  |
| 4.1      | General.....                                                     | 4         |
| 4.2      | Venomous Snake Identification: .....                             | 4         |
| 4.3      | Non-Venomous Snake Identification:.....                          | 4         |
| <b>5</b> | <b>TREATMENT .....</b>                                           | <b>5</b>  |
| 5.1      | Immediate Action .....                                           | 5         |
| 5.2      | First Aid .....                                                  | 5         |
| 5.3      | Medical Intervention .....                                       | 5         |
| <b>6</b> | <b>REPORTING AND FOLLOW-UP:.....</b>                             | <b>5</b>  |
| <b>7</b> | <b>TRAINING AND AWARENESS: .....</b>                             | <b>5</b>  |
| <b>8</b> | <b>DOCUMENTATION: .....</b>                                      | <b>5</b>  |
| <b>9</b> | <b>DO'S &amp; DON'TS .....</b>                                   | <b>6</b>  |
|          | <b>ANNEXURE 1: IDENTIFICATION OF SNAKES .....</b>                | <b>7</b>  |
|          | <b>ANNEXURE 2: IDENTIFICATION OF SNAKES FROM BITE MARKS.....</b> | <b>8</b>  |
|          | <b>ANNEXURE 3: TYPES OF SNAKES FOUND IN INDIA.....</b>           | <b>9</b>  |
|          | <b>ANNEXURE 3: DO'S AND DON'TS.....</b>                          | <b>14</b> |

|                                                                                   |                 |                                                             |
|-----------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------|
|  | Document Name.: | <b>Standard on Prevention &amp; Treatment of Snake Bite</b> |
|                                                                                   | Document No.:   |                                                             |
|                                                                                   | Revision No.:   |                                                             |
|                                                                                   | Effective Date: |                                                             |

## 1 Introduction

The objective of this Standard Operating Procedure (SOP) is to provide guidelines for preventing, identifying, and treating snake bites caused by both venomous and non-venomous snakes in India. This SOP aims to ensure the safety and prompt medical attention required for individuals in snake-prone areas.

## 2 Scope & Applicability

This SOP applies to all individuals working or residing in snake-prone areas in India, including employees, contractors, and residents. It outlines preventive measures, identification techniques for venomous and non-venomous snakes, and appropriate actions to be taken in case of a snake bite.

## 3 Prevention

### 3.1 Awareness:

- a. Conduct regular awareness sessions on snake bite prevention, including information on identifying common snake species found in the region.
- b. Educate individuals on the importance of understanding snake habitats, behaviours, and precautions to be taken while working or walking in snake-prone areas.

### 3.2 Habitat Management:

- a. Maintain a clean and clutter-free environment to minimize hiding places for snakes.
- b. Regularly inspect and clear debris, including woodpiles, rock piles, and tall grasses, from the vicinity.
- c. Ensure the workplace is sufficiently illuminated. Avoid working at night.
- d. Check if there are any visible snake/rat holes. If such holes are observed, inform the emergency response team for suitable action.
- e. If the work team is working at remote/isolated locations, the work must be started with prior intimation to const. manager and keep in regular supervision.

### 3.3 Personal Protective Measures:

- a. Encourage the use of snake-proof boots, gloves, and leg gaiters when working in areas with a high risk of snake encounters.
- b. Emphasize the importance of wearing long pants and closed-toe shoes to minimize exposure to snake bites.

|                                                                                                                                                           |                 |                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------|
|  <b>RADIANCE<br/>RENEWABLES</b><br><small>Energised by Innovation</small> | Document Name.: | <b>Standard on Prevention &amp; Treatment of Snake Bite</b> |
|                                                                                                                                                           | Document No.:   |                                                             |
|                                                                                                                                                           | Revision No.:   |                                                             |
|                                                                                                                                                           | Effective Date: |                                                             |

|                                                                                    |                                                                                    |                                                                                     |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|   |   |  |
| Use Snake Boots                                                                    | Use Boots + Gaiters- Wear gaiters above your boots                                 | Use Gumboots + Gaiters - Wear gaiters above your gum boots                          |
|  |  |  |
| Anti-bite safety gloves                                                            | Use sticks to move bushes or tall grass while walking.                             | Use Snake tongs for catching and relocating snakes                                  |

## 4 Identification of Snakes

### 4.1 General

- Train individuals to identify common snake species in India, focusing on both venomous and non-venomous species.
- Highlight the differences in physical characteristics, behaviour, and habitat preferences between venomous and non-venomous snakes.

### 4.2 Venomous Snake Identification:

- Educate individuals about venomous snake species commonly found in India, such as the Indian cobra, Russell's viper, and saw-scaled viper.
- Emphasize identifying features, including triangular-shaped heads, elliptical pupils, and the presence of fangs in venomous snakes.
- Bite mark- Fang Mark

### 4.3 Non-Venomous Snake Identification:

- Teach individuals to recognize common non-venomous snake species found in India, such as the rat snake, common kukri snake, and Indian python.
- Highlight distinguishing characteristics, such as round pupils, absence of fangs, and less aggressive behaviour in non-venomous snakes.
- Bite mark- Row of small teeth

|                                                                                   |                 |                                                             |
|-----------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------|
|  | Document Name.: | <b>Standard on Prevention &amp; Treatment of Snake Bite</b> |
|                                                                                   | Document No.:   |                                                             |
|                                                                                   | Revision No.:   |                                                             |
|                                                                                   | Effective Date: |                                                             |

## 5 Treatment

### 5.1 Immediate Action

- a. In the event of a snake bite, advise the victim to remain calm and still to slow down the spread of venom (if applicable).
- b. Quickly move the victim to a safe location away from the snake to prevent further bites or attacks.

### 5.2 First Aid

- a. Call for emergency medical assistance immediately.
- b. Keep the bitten limb below heart level, if possible, to slow down venom circulation (if applicable).
- c. Do not attempt to suck out the venom or apply a tourniquet.

### 5.3 Medical Intervention

- a. Transport the victim to the nearest medical facility equipped to handle snake bites.
- b. Provide medical professionals with accurate information about the snake species, if known, to assist in appropriate treatment.

## 6 Reporting and Follow-up:

- a. Ensure that all snake bite incidents are reported promptly to the relevant authority or supervisor.
- b. Conduct a post-incident review to identify areas for improvement in snake bite prevention and response.

## 7 Training and Awareness:

- a. Regularly conduct training sessions on snake bite prevention, identification, and first aid procedures specific to India, covering both venomous and non-venomous snakes.
- b. Display posters or visual aids depicting common snake species and first aid instructions in prominent areas to reinforce key information.

## 8 Documentation:

- a. Maintain records of training sessions conducted, incidents reported, and any updates to the SOP.
  - b. Review and update this SOP periodically to incorporate any changes in best practices or local regulations.
-

|                                                                                  |                 |                                                             |
|----------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------|
|  | Document Name.: | <b>Standard on Prevention &amp; Treatment of Snake Bite</b> |
|                                                                                  | Document No.:   |                                                             |
|                                                                                  | Revision No.:   |                                                             |
|                                                                                  | Effective Date: |                                                             |

## 9 **DO's & DON'Ts**

### **DO's**

- Reassure the victim that death is not imminent and medical care is available. Control anxiety as excitement will increase heart rate and lead to spread of venom.
- Make the victim lie flat with bitten limb below the heart level. Remove shoes, rings, watches, jewellery and tight clothing from the bitten area as they can act as a tourniquet when swelling occurs.
- Immobilize the victim's bitten limb using a splint and lightly put a bandage. Be prepared to treat the shock and provide cardiopulmonary resuscitation (CPR).
- Get the victim to the nearest secondary or tertiary care hospital where antivenom can be provided.

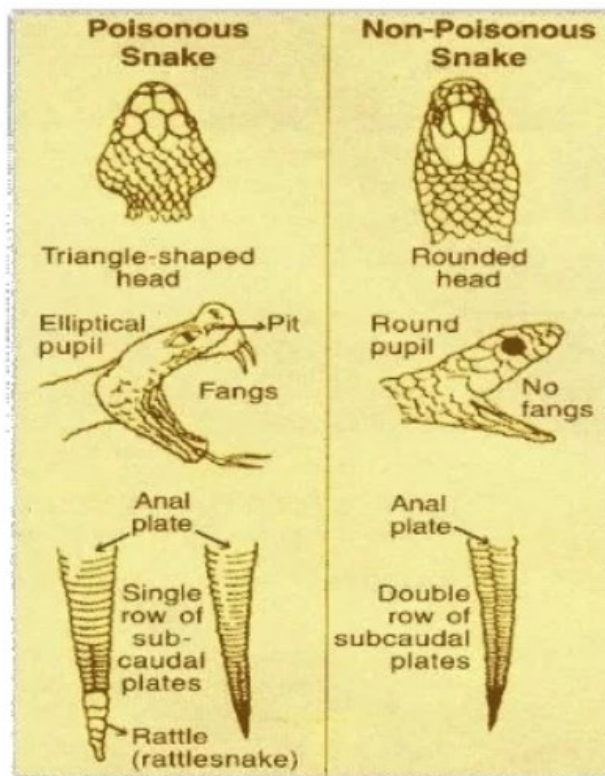
### **DON'Ts**

- Do not apply a tourniquet. Do not wash the bite site with soap or any other solution to remove the venom.
- Do not make cuts or incisions on or near the bitten area. Do not use electrical shock.
- Do not freeze or apply extreme cold to the area of bite.
- Do not apply any kind of potentially harmful herbal or folk remedy. Do not attempt to suck out venom with your mouth.
- Do not give the victim drink, alcohol or other drugs. Do not attempt to capture, handle or kill the snake and patients should not be taken to quacks.

This SOP should be implemented consistently to ensure the safety of individuals in snake-prone areas in India. Regular training, awareness, and vigilance are essential to minimize the risks associated with snake bites and to ensure timely and appropriate medical attention.

|                                                                                   |                 |                                                             |
|-----------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------|
|  | Document Name.: | <b>Standard on Prevention &amp; Treatment of Snake Bite</b> |
|                                                                                   | Document No.:   |                                                             |
|                                                                                   | Revision No.:   |                                                             |
|                                                                                   | Effective Date: |                                                             |

## Annexure 1: Identification of Snakes



### Non Poisonous Snakes

Head - Rounded  
 Fangs - Not present  
 Pupils - Rounded  
 Anal Plate - Double row  
 Bite Mark - Row of small teeth.

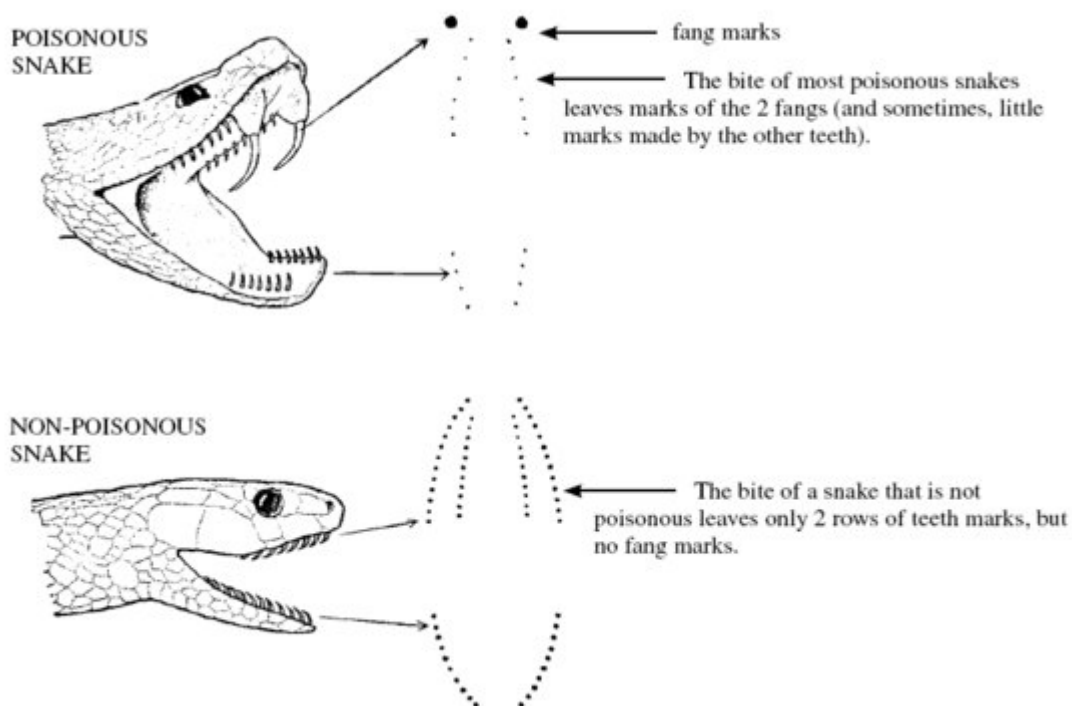
### Poisonous Snakes

Head - Triangle  
 Fangs - Present  
 Pupils - Elliptical pupil  
 Anal Plate - Single row  
 Bite Mark - Fang Mark



|                                                                                                                                                            |                 |                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------|
|  <b>RADIANCE<br/>RENEWABLES</b><br><small>Energised by Innovation</small> | Document Name.: | <b>Standard on Prevention &amp; Treatment of Snake Bite</b> |
|                                                                                                                                                            | Document No.:   |                                                             |
|                                                                                                                                                            | Revision No.:   |                                                             |
|                                                                                                                                                            | Effective Date: |                                                             |

## Annexure 2: Identification of Snakes from Bite Marks



|                                                                                   |                 |                                                             |
|-----------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------|
|  | Document Name.: | <b>Standard on Prevention &amp; Treatment of Snake Bite</b> |
|                                                                                   | Document No.:   |                                                             |
|                                                                                   | Revision No.:   |                                                             |
|                                                                                   | Effective Date: |                                                             |

### Annexure 3: Types of Snakes found in India<sup>1</sup>

Watch out for the Big Four. India is host to a number of snakes, many of them venomous, but the **Big Four** are widely distributed and quite venomous.



**The Common Cobra:** When you think of snake charmers and snakes in a basket (vs. snakes on a plane), the snake you're thinking of is the Cobra.

- They range in length from about 3 feet (0.9 m) to about 6 feet (1.8 m) in length and have a broad head. They can spread a hood behind their head, which gives them their famous, very scary appearance.
- Their body color varies based on their geographical location. Generally, cobras in southern India range in color from yellow to brown. Northern India cobras are usually dark brown or black.
- Cobras are shy—they'll threaten when provoked but would prefer to back away. If they attack, they will strike quickly—and sometimes repeatedly. Larger cobras may latch on and dig in, releasing maximum venom!
- In the event of a cobra bite, seek medical attention immediately—the common cobra is responsible for a large number of human deaths across India.
- Cobra venom contains neurotoxins. Bites, particularly from larger species, can be fatal depending on the amount of venom injected.
- Symptoms may include, nausea and vomiting, hypotension, flushing of the face, warm skin, pain around bite area, abdominal pain, increased blood pressure<sup>2</sup>.

<sup>1</sup> Image Source: [Venomous Snakes Of India - Wildlife SOS](#)

<sup>2</sup> [Indian or Common Cobra \(Naja naja naja\) \(ucsd.edu\)](#)

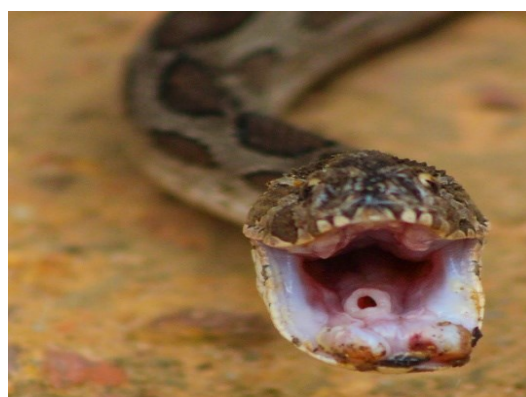
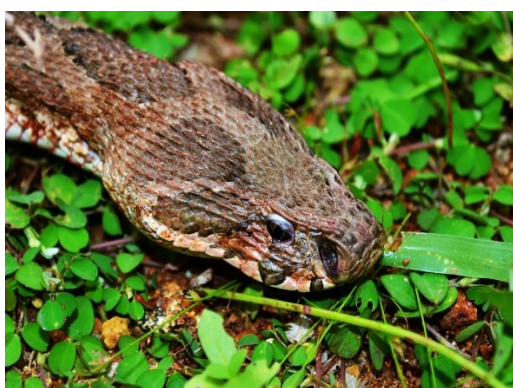




**Common krait:** The krait ranges in length from about 4 feet (1.2 m) to about 6 feet (2 m). Their head is depressed, slightly broader than the neck, with a rounded snout. Its eyes are small and entirely black.

- a. The krait's body is black, with single or double milky-white bands. Its scales are hexagonal in shape, and the subcaudal scales (those beneath the tail) are undivided.
- b. The krait is nocturnal, and during the day can be found in dark, dry places. They're docile and shy during the day, but at night will attack if provoked.
- c. In the event of a cobra bite, seek medical attention immediately—the common cobra is responsible for a large number of human deaths across India.
- d. The common krait's venom consists mainly of powerful neurotoxins, which induce muscle paralysis. This venom contains presynaptic and postsynaptic neurotoxins, which generally affect the nerve endings near the synaptic cleft of the brain. As no local symptoms present, a patient should be carefully observed for signs of paralysis (the onset of ptosis) and treated urgently with antivenom.

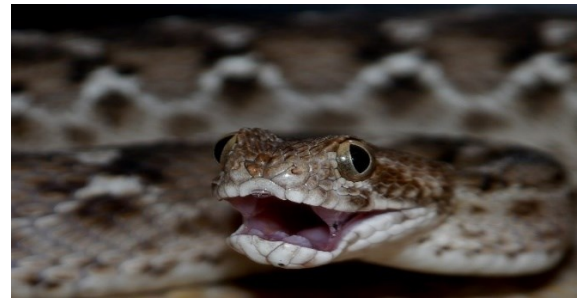
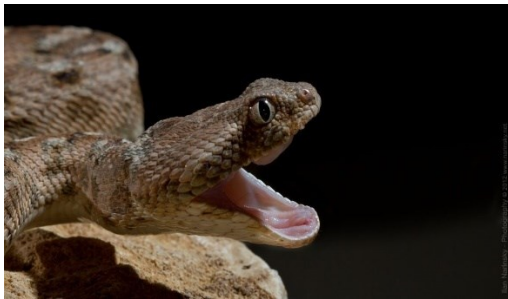
|                                                                                   |                 |                                                             |
|-----------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------|
|  | Document Name.: | <b>Standard on Prevention &amp; Treatment of Snake Bite</b> |
|                                                                                   | Document No.:   |                                                             |
|                                                                                   | Revision No.:   |                                                             |
|                                                                                   | Effective Date: |                                                             |



**Russel's Viper:** The Russel's viper is a stout snake, with a brown body mixed with reds and yellows. The body features three longitudinal rows of eye-like spots of dark brown or black, that start from the head and fade out towards the tail. The spots on either side are smaller and more rounded than the top spots.

- The head is triangular, pointed at the snout, and much broader at the neck, and features two triangular-shaped spots. Its eyes have vertical pupils, and its tongue is purplish black.
- If you provoke one (and not just step on it accidentally), it will warn with a high-pitched whistle like a pressure cooker.
- It is highly venomous. It expels venom which consists of a cocktail of toxins. It is injected into the prey's body through its needle-like fangs. In humans, the venom can cause necrosis, which means the death of tissues in the body, and this makes the victim bleed profusely.
- Seek treatment immediately. Rush to the nearest hospital.





**Saw-scaled viper:** These are the second most common vipers in India, after Russel's viper. They range in size from about 15 inches (40cm) to about 30 inches (80cm). Their body ranges from dark brown to red, gray, or a mix of those colors. Light colored spots of light yellow or very light brown, with dark-colored lines woven through.

- a. The saw-scaled viper is very aggressive when provoked and makes a saw-like sound by rubbing its side dorsal scales together. Don't stick around if you hear that sound—the saw-scaled viper is one of the fastest-striking species in the world!
- b. The saw scaled viper is a highly venomous snake. The venom released by the viper is highly toxic since it can impede the process of blood clotting (haemotoxic) and also damage body cells and tissues (cytotoxic). Its venom has a maximum yield of 70 mg of venom in a single bite, and the average person only needs 5 mg to be fatally wounded.
- c. If bit, get medical attention immediately. Rush to the nearest medical facility. It may dry-bite on occasion, but only a medical expert can say for sure.

|                                                                                   |                 |                                                             |
|-----------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------|
|  | Document Name.: | <b>Standard on Prevention &amp; Treatment of Snake Bite</b> |
|                                                                                   | Document No.:   |                                                             |
|                                                                                   | Revision No.:   |                                                             |
|                                                                                   | Effective Date: |                                                             |

A guide to some commonly misinterpreted snakes of India [Wildlife SOS]

### COMMON SAND BOA VS RUSSELL'S VIPER

**Common Sand Boa**  
(*Eryx conicus*)

- Non-venomous
- 1 to 2 ft long
- Relatively small head; neck indistinct
- Conical tail
- Asymmetrical pattern



**Russell's Viper**  
(*Daboia russelii*)

- Venomous
- 4 to 6 ft long
- Larger, triangular head; distinct neck
- Blunt tail
- Well defined round/oval with pointy ends



### INDIAN WOLF SNAKE VS COMMON KRAIT

**Indian Wolf Snake**  
(*Lycodon aulicus*)

- Non-venomous
- 1 to 2 ft long
- Round body, without ridge
- Wide bands; broad band on neck
- Scales similar throughout



**Common Krait**  
(*Bungarus caeruleus*)

- Venomous
- 3 to 4 ft long
- Triangular body; ridge along spine
- Narrow bands; more prominent posteriorly
- Hexagonal vertebral scales



### INDIAN RAT SNAKE VS INDIAN COBRA

**Indian Rat Snake**  
(*Ptyas mucosa*)

- Non-venomous
- 6 to 8 ft long
- Doesn't form a hood
- Lower lips with black bands
- Diurnal



**Indian Cobra**  
(*Naja naja*)

- Venomous
- 3 to 5 ft long
- Raises hood when threatened
- No black bands on lips
- Crepuscular and diurnal





|                                                                                   |                 |                                                  |
|-----------------------------------------------------------------------------------|-----------------|--------------------------------------------------|
|  | Document Name.: | Standard on Prevention & Treatment of Snake Bite |
|                                                                                   | Document No.:   |                                                  |
|                                                                                   | Revision No.:   |                                                  |
|                                                                                   | Effective Date: |                                                  |

### Annexure 3: DO's and DON'Ts

# SNAKEBITE FIRST AID

Help yourself and others by following these first-aid steps immediately in a snakebite emergency and before reaching a health facility.

## DO

**DO** stay calm and reassure the bitten person.



**DO** move slowly away from the snake.



**DO** rinse venom in the eyes with running water in case of spitting snakes.



**DO** leave the wound area (or bite mark) alone.



**DO** remove all tight items around the affected area.



**DO** lay the patient on his/her side and reduce movement of the affected area.



**DO** rush to the nearest health facility for medical treatment.



## DON'T

**DON'T** panic. Instead, calmly follow these first aid steps.



**DON'T** attack or kill the snake. If you are close enough to hurt it, it is close enough to defend itself by biting you.



**DON'T** rub the eyes. Rubbing causes irritation to the eye and spreads the venom.



**DON'T** wash, cut or suck the wound. It can lead to infections and venom spreading.



**DON'T** tie the affected area to stop blood circulation. It can lead to infections that cause loss of limbs or even death.



**DON'T** lay the patient on his/her back. Lying on the back can block the airways.



**DON'T** use traditional methods or any unsafe treatments. For venomous snakebites, blackstones and herbs don't help and will delay medical treatment.



## SNAKEBITE EMERGENCY?

In case of a snakebite emergency, go to a health facility **IMMEDIATELY!**

## 8

### SIMPLE STEPS TO AVOID SNAKEBITES

- 1 Wear closed shoes or boots and watch your step in the bush.
- 2 Use a torch outside at night.
- 3 Keep food, water and livestock outside your house. Store food and water in closed containers and livestock outside the house to prevent rats and mice entering the house.
- 4 Store firewood distant from your house. Store firewood distant from buildings to prevent snakes hiding and coming into the building.
- 5 Sleep off the ground and use mosquito nets to avoid snakebites during sleep.
- 6 Seal holes in your walls to prevent snakes entering the house.
- 7 Cut grass and clear the ground around your house. Clearing the area gets rid of hiding places for snakes.
- 8 Find out how to get to the nearest health facility with antivenom.

<sup>3</sup> Image Source: [Venomous Snakes Of India - Wildlife SOS](#)



## Annexure 2: Stakeholder Engagement Plan

|                  |                                                       |                                                                                    |
|------------------|-------------------------------------------------------|------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                    |

## STAKEHOLDER ENGAGEMENT PLAN

Radiance, incorporated in the year 2018, is a private equity owned developer of competitive renewable energy solutions for commercial, industrial and residential customers, and is a 100% subsidiary of Green Growth Equity Fund (GGEF). GGEF is an Alternate Investment Fund managed by Eversource Capital. Radiance intends to develop open access solar projects across various locations within India, with one such location in Hirerayakumpi Village, Devdurga Taluka, Raichur District of Karnataka. An ESIA has been prepared for this site and this document, is a management plan for stakeholder engagement activities.

### Objective and Scope of SEP

This document presents the Stakeholder Engagement Plan, which is applicable all activities proposed to be undertaken for the Solar project, as well as other stakeholder engagement that is conducted by the project proponent (Radiance) and other parties contracted by Radiance, that engage with the key stakeholders identified as part of this Plan.

The main objective of this document is to guide stakeholder consultations across various stages of the project, while meeting the requirements of the applicable reference framework for the Project. Overall, this SEP will enable stakeholder engagement to be undertaken in a systematic and meaningful manner, where the various stakeholder groups are able to express their individual views, opinions and concerns, while allowing the Project to appropriately respond to them.

The objective of the Stakeholder Engagement Plan are as follows:

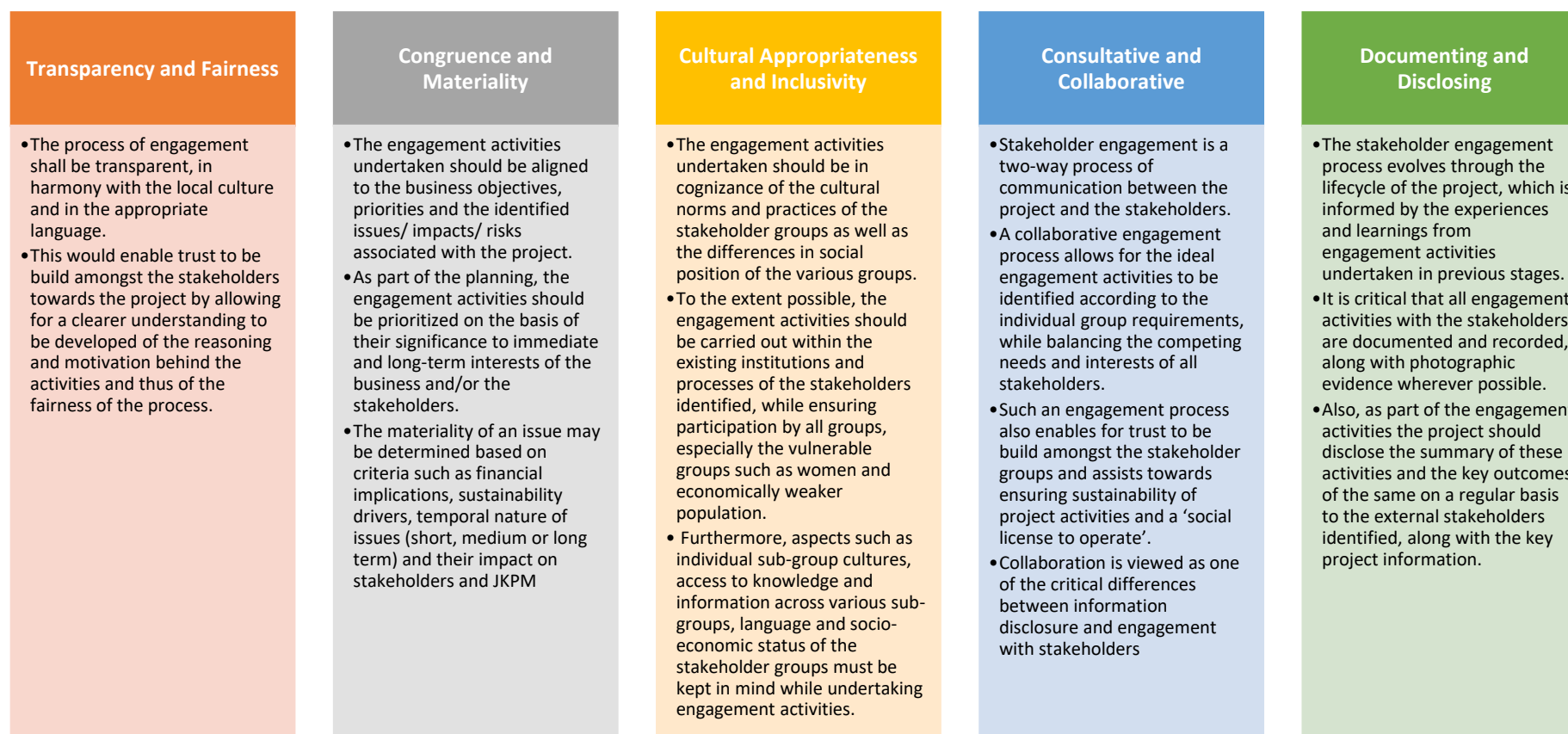
- Identification of the stakeholder groups in the project location and analysis of their profiles, interests, issues/impacts and concerns relevant to the project;
- Identification of specific measures to allow meaningful engagement with different stakeholder groups identified in a manner that is transparent and accessible and using culturally appropriate communication methods with a specific focus on the stakeholders with high influence/impact ;
- Facilitate adequate and timely dissemination of information to the stakeholder groups in a culturally appropriate manner;
- Provide systems for prior disclosure/dissemination of information and consultation including seeking inputs from affected persons, incorporation of inputs, as applicable, providing feedback to affected persons/groups on whether and how the input has been incorporated; and
- Providing a mechanism for documentation of the activities undertaken and the reporting and monitoring of the same

### Principles of Stakeholder Engagement

The process of stakeholder engagement shall be undertaken in keeping with the principles enlisted in table below.

|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

**Figure D.1 Principles of Stakeholder Engagement**



|                  |                                                       |                                                                                    |
|------------------|-------------------------------------------------------|------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                    |

## Applicable Reference Framework

This Stakeholder Engagement Plan is prepared as per the requirements of the following regulations and standards:

- Relevant environmental, land labour and other relevant policies, laws, regulations and rules of the state of Karnataka, and the Government of India;
- World Bank Environmental and Social Management Framework for Solar PV Park, February 2017;
- IFC Performance Standards, 2012

## Stakeholder Identification and Categorisation

A stakeholder is defined as “any identifiable group or individual who can affect the achievement of an organization’s objectives or who is affected by the achievement of an organization’s objectives”. Stakeholders thus vary in terms of degree of interest, influence and control they have over the project.

Stakeholders vary in terms of degree of interest, influence and control they have over the Project or the proponent. In the present study, all the stakeholders have been primarily categorized into two categories that have been identified as:

- **Primary Stakeholders:** include people, groups, institutions (both Government and private) that either have a direct influence on the Project or are directly impacted (positively or adversely) by the Project and its activities; and
- **Secondary stakeholders:** are those that have a bearing on the Project and its activities by the virtue of their being closely linked or associated with the primary stakeholders and due to the influence they have on the primary stakeholder groups.

During the ESIA process, a stakeholder identification and prioritization was conducted for identifying the key stakeholders of the project, while keeping in mind the nature of the project and its setting. Furthermore, consultations were conducted with these identified stakeholders through a participatory approach. The table below presents the key stakeholders of the project.

**Table D.1 Stakeholder Group categorisation**

| Stakeholder Groups         | Primary Stakeholders                                                                                                                          | Secondary Stakeholders                                                                          |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Community                  | <ul style="list-style-type: none"> <li>■ Local Community from Gugal; village</li> <li>■ Developers and EPC contractors of Radiance</li> </ul> | <ul style="list-style-type: none"> <li>■ Opinion makers</li> <li>■ Vulnerable Groups</li> </ul> |
| Institutional Stakeholders | <ul style="list-style-type: none"> <li>■ Gugal Gram Panchayat</li> </ul>                                                                      | <ul style="list-style-type: none"> <li>■ Civil Society/ Local NGOs</li> </ul>                   |
| Government Bodies          | <ul style="list-style-type: none"> <li>■ Regulatory Authorities</li> <li>■ District Administration</li> </ul>                                 |                                                                                                 |
| Others                     | <ul style="list-style-type: none"> <li>■ Migrant workforce</li> </ul>                                                                         |                                                                                                 |

## Approach and Methodology for Stakeholder Analysis

The significance of a stakeholder group is categorized considering the magnitude of impact (type, extent, duration, scale and frequency) or degree of influence (power and proximity) of stakeholder group and urgency/likelihood of the impact/influence associated with the particular stakeholder group in the project context. The magnitude of stakeholder impact/influence is assessed taking the power/responsibility and proximity of the stakeholder group and the group is consequently categorized as negligible, small, medium or

|                  |                                                       |                                                                                    |
|------------------|-------------------------------------------------------|------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                    |

large. The urgency or likelihood of the impact on/influence by the stakeholder is assessed on a scale of low, medium and high. The overall significance of the stakeholder group is assessed as per the matrix provided in **Table D.2**.

**Table D.2 Stakeholder Significance and Engagement Requirement**

|                                   |            | Likelihood of Influence on/ by Stakeholder |            |            |
|-----------------------------------|------------|--------------------------------------------|------------|------------|
|                                   |            | Low                                        | Medium     | High       |
| Magnitude of Influence/<br>Impact | Negligible | Negligible                                 | Negligible | Negligible |
|                                   | Small      | Negligible                                 | Minor      | Moderate   |
|                                   | Medium     | Minor                                      | Moderate   | Urgent     |
|                                   | Large      | Moderate                                   | Urgent     | Urgent     |

Source: ERM Internal Impact Assessment Standards

### Stakeholder Analysis

The table below has been used to classify the identified stakeholders (directly or indirectly impacting the project) in accordance to their levels of influence on the Project. The influence and priority have both been primarily rated as:

- **High Influence:** This implies a high degree of influence of the stakeholder on the project in terms of participation and decision making or high priority to engage with the stakeholder;
- **Medium Influence:** Which implies a moderate level of influence and participation of the stakeholder in the project as well as a priority level to engage the stakeholder which is neither highly critical nor are insignificant in terms of influence; and
- **Low Influence:** This implies a low degree of influence of the stakeholder on the project in terms of participation and decision making or low priority to engage that stakeholder.

The intermediary categories of low to medium or medium to high primarily imply that their influence and importance could vary in that particular range subject to context specific conditions or also based on the responses of the project towards the community.

The coverage of stakeholders as stated above includes any person, group, institution or organization that is likely to be impacted (directly or indirectly) or may have interest/influence over project. Keeping this wide scope of inclusion in stakeholder category and the long life of project, it is difficult to identify all potential stakeholders and gauge their level of influence over project at the outset of the project. Therefore the Project proponent is advised to consider this stakeholder mapping as a live document which should be revised in a timely manner so as to make it comprehensive for any given period of time.

|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

**Table D.3 Stakeholder Analysis**

| Stakeholder Category | Relevant Stakeholders | Profile/ Status                                                                                                                                         | Impact/Influence of the project on this Stakeholder Group                                                                                                                                                                                                                                                                                                                   | Impact/Influence of the Stakeholder Group on the project                                                                                                                                                  | Expectations, Opinions Key Concerns of Stakeholders                                                                                                                                           | Overall Rating of Stakeholder Influence |
|----------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Primary Stakeholder  | Land Lessors          | <ul style="list-style-type: none"> <li>Land lessor are from Hirerayakumpi Village. None of the landowners are leasing out their entire land.</li> </ul> | <ul style="list-style-type: none"> <li>Constituting the most critical stakeholder group, landowners who are leasing out land for the project were observed to be aware of land procurement process as few solar parks have been set up in the area for over 10 years. However, none of the landowners consulted have sold their land to other developers nearby.</li> </ul> | <ul style="list-style-type: none"> <li>The stakeholder groups' influence on the project pertains to the smooth functioning of the project and the timely completion of the project activities.</li> </ul> | <ul style="list-style-type: none"> <li>The major concern of the stakeholder group till now is related to availability of employment opportunities that the project will generate.</li> </ul>  | High                                    |
|                      | Local community       | <ul style="list-style-type: none"> <li>The stakeholder group comprising of local communities around a radius of 1 kms inhabit the Villages.</li> </ul>  | <ul style="list-style-type: none"> <li>The project can play a critical role in the development of the community through economic opportunities and CSR projects.</li> </ul>                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Although, there were no reports regarding disruption of any projects due to the local community in</li> </ul>                                                      | <p>The local community, where ERM had undertaken revealed the following expectations:</p> <ul style="list-style-type: none"> <li>- Receiving benefits from the project in terms of</li> </ul> | Low                                     |



|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

| Stakeholder Category | Relevant Stakeholders          | Profile/ Status                                                                                                                                                                                                                                                                                                                                                       | Impact/Influence of the project on this Stakeholder Group                                                                             | Impact/Influence of the Stakeholder Group on the project                                                                                                                                         | Expectations, Opinions Key Concerns of Stakeholders                                                                                                                                                                                                                                                                  | Overall Rating of Stakeholder Influence |
|----------------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
|                      |                                | <ul style="list-style-type: none"> <li>■ The study area comprises of: <ul style="list-style-type: none"> <li>- General Castes: Brahmins, Lingayats, Marathis and Reddy's.</li> <li>- SC: Adi Karnataka, Holeya, Mala.</li> <li>- ST: Chamars, Balais, Malis, Lambani, Nayak and Valmiki etc.; and</li> <li>- Minorities: Muslims, mostly Sunni</li> </ul> </li> </ul> |                                                                                                                                       | the nearby areas, the local community's support of the project and its activities is extremely crucial to ensure smooth functioning of the project and meeting of the timelines for the project. | <ul style="list-style-type: none"> <li>- employment and development of infrastructure and the community</li> <li>- Preference to the local community in contractor and employment opportunities from the project</li> <li>- Regular updates on the project activities and the opportunities from the same</li> </ul> |                                         |
|                      | Developers and EPC Contractors | <ul style="list-style-type: none"> <li>■ Developer and EPC Contractors of Radiance will be responsible for construction, operation and</li> </ul>                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>■ Smooth operation of the construction activity and to complete the work within the</li> </ul> | <ul style="list-style-type: none"> <li>■ Non-compliance to the legal requirements.</li> <li>■ Not meeting the community</li> </ul>                                                               | <ul style="list-style-type: none"> <li>■ The contractors and sub-contractors play an important role during the project construction phase for timely</li> </ul>                                                                                                                                                      | Medium                                  |

|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

| Stakeholder Category | Relevant Stakeholders | Profile/ Status                                                                                                                                                                                                                                                                                                                                                                     | Impact/Influence of the project on this Stakeholder Group                                                                             | Impact/Influence of the Stakeholder Group on the project                                                                                                                                                                                                                   | Expectations, Opinions Key Concerns of Stakeholders                                                                                                                                                                                                                                                                                                                                                                   | Overall Rating of Stakeholder Influence |
|----------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
|                      |                       | maintenance of the project.                                                                                                                                                                                                                                                                                                                                                         | scheduled time and cost.                                                                                                              | expectations; and                                                                                                                                                                                                                                                          | commissioning of the project with quality construction and within the stipulated budgetary provisions.                                                                                                                                                                                                                                                                                                                |                                         |
|                      | Local Labourers       | <ul style="list-style-type: none"> <li>■ A considerable section of the working population of the local area are agriculture labourers.</li> <li>■ Due to the lack of industries in the region, the availability of employment in the unskilled category is limited; and</li> <li>■ However, during the harvesting season, availability of unskilled labour is a concern.</li> </ul> | <ul style="list-style-type: none"> <li>■ The local wage earners might have high expectations for employment in the project</li> </ul> | <ul style="list-style-type: none"> <li>■ Any labour unrest and protests may cause delays in construction schedule and create a non-congenial social atmosphere; consequently, delay in construction activities will have financial implications on the project.</li> </ul> | <ul style="list-style-type: none"> <li>■ The major concerns of this stakeholder group may include: <ul style="list-style-type: none"> <li>- Regular payment of wages for the work rendered.</li> <li>- Continued employment even beyond the completion of construction work</li> <li>- Health and Safety issues at work; and</li> <li>- Holidays and leaves as per labour laws applicable etc.</li> </ul> </li> </ul> | Medium                                  |

|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

| Stakeholder Category | Relevant Stakeholders | Profile/ Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Impact/Influence of the project on this Stakeholder Group                                                                                                                                                                                                                                                                                                                                                                                             | Impact/Influence of the Stakeholder Group on the project                                                                                                                                                                                                                                                                  | Expectations, Opinions Key Concerns of Stakeholders | Overall Rating of Stakeholder Influence |
|----------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------|
|                      | Gram Panchayats (GPs) | <ul style="list-style-type: none"> <li>■ Constituting the lowest strata of Decentralized Local Governance in the Country, a typical Panchayat consists of one or more revenue villages. This body of local governance was created through the 73rd Amendment to the Constitution of India; and</li> <li>■ Sarpanch and other members of the Gram Panchayat need to be actively involved in various activities relating to the economic development and social justice of their Panchayat. The smooth and hassle-free functioning of the</li> </ul> | <ul style="list-style-type: none"> <li>■ The Gram panchayat might expect positive impact from the project in the following manner: <ul style="list-style-type: none"> <li>- Generation of employment opportunities at the local level</li> <li>- Adequacy of the community development initiatives to be undertaken by the project</li> <li>- Timely and adequate disclosure of information throughout the life of the project</li> </ul> </li> </ul> | Most of the rural development schemes and funds for central schemes are channelled through this body of governance. Also, it is the Panchayats who are bestowed with the decision-making authority for economic development and social justice. They also play a key role in the opinion formulation towards the project. |                                                     | Medium                                  |

|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

| Stakeholder Category | Relevant Stakeholders  | Profile/ Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Impact/Influence of the project on this Stakeholder Group                                                                                                                                                                                                                                                                                                                   | Impact/Influence of the Stakeholder Group on the project                                                                                            | Expectations, Opinions Key Concerns of Stakeholders                                                                                              | Overall Rating of Stakeholder Influence |
|----------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
|                      |                        | project is also the onus of the Panchayats.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                     |                                                                                                                                                  |                                         |
|                      | Regulatory Authorities | <p>This stakeholder group comprise of the central, state and district level regulatory authorities. These authorities influence the project in terms of establishing policy, granting permits and approvals for the project, monitoring and enforcing compliance with the applicable rules and regulations.</p> <ul style="list-style-type: none"> <li>The primary authorities are: <ul style="list-style-type: none"> <li>The office of District Industries Commissioner (DIC) regulates Industrialization at the District Level; and</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>The influence of the project on this stakeholder group pertains to the role the project will play in the development of the project.</li> <li>The project should comply with applicable regulatory framework comprising of the guidelines and policies of the State Government such as Renewable Energy Policy 2014-2020.</li> </ul> | The failure of the project to comply with the various rules and regulations applicable is instrumental for the timely implementation of the project | The sole expectation of the Regulatory Authorities from the project Proponents will be abidance to all applicable guidelines, policies and laws. | Low                                     |

|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

| Stakeholder Category | Relevant Stakeholders | Profile/ Status                                                                                                                 | Impact/Influence of the project on this Stakeholder Group                                                                                                                                                                                                                                                                                                                                                                | Impact/Influence of the Stakeholder Group on the project                                                                                                                                                                                                                                                               | Expectations, Opinions Key Concerns of Stakeholders                                                                                                   | Overall Rating of Stakeholder Influence |
|----------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
|                      |                       | - Karnataka Transmission Corporation Limited for power evacuation/grid connectivity etc.                                        |                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                       |                                         |
|                      | Employees             | This stakeholder group comprises of the regular employees of Radiance who will be involved in the various stages of the project | <p>The expectations of this stakeholder group in regard to the project pertain to the following:</p> <ul style="list-style-type: none"> <li>■ Job security</li> <li>■ Safe working conditions</li> <li>■ Provision of rewards and recognitions for good performances and safe behaviour</li> <li>■ Proper work-life balance</li> <li>■ Ethical and professional conduct</li> <li>■ Employee engagement within</li> </ul> | <ul style="list-style-type: none"> <li>■ The influence of these stakeholders pertains to the roles played by them in the overall smooth functioning of the project operations as well as the brand value.</li> <li>■ They will also serve an extremely important role in the maintenance and improvement of</li> </ul> | The primary concern of the stakeholder group will pertain to the role of the project in ensuring continued economic opportunities and work generation | High                                    |

|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

| Stakeholder Category | Relevant Stakeholders | Profile/ Status                                                                                                                                                                                                                                                                                             | Impact/Influence of the project on this Stakeholder Group                                                                                                                                                                                                    | Impact/Influence of the Stakeholder Group on the project                                                                                                                                                                                         | Expectations, Opinions Key Concerns of Stakeholders                                                                                                                                                                                           | Overall Rating of Stakeholder Influence |
|----------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
|                      |                       |                                                                                                                                                                                                                                                                                                             | & after working hours <ul style="list-style-type: none"> <li>Regular updating of rules and regulations</li> <li>Facilitation and maintenance of everyday convenience in regard to facilities such as transport, seating, food, accommodation etc.</li> </ul> | services and facilities                                                                                                                                                                                                                          |                                                                                                                                                                                                                                               |                                         |
|                      | Contractual Labourers | <ul style="list-style-type: none"> <li>This stakeholder group comprises of those workers who are to be engaged in the project on a contractual basis through the different phases of project life.</li> <li>These labourers will be primarily semi-skilled and unskilled workers. As reported by</li> </ul> | These stakeholder group's influence on the project pertains to their role in the smooth functioning of the project and the opinion formation towards the project.                                                                                            | The primary concern of the stakeholder group pertaining to the project will be as following: <ul style="list-style-type: none"> <li>the role of the project in continued economic opportunity, work generation and a source of income</li> </ul> | The main expectations from the project will be: <ul style="list-style-type: none"> <li>timely settlement of dues and payments in keeping with the legal requirements</li> <li>continued work opportunities</li> <li>safety at work</li> </ul> | Medium                                  |



|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

| Stakeholder Category | Relevant Stakeholders          | Profile/ Status                                                                                                                                                                                                                                                                                                                                                                                                                                   | Impact/Influence of the project on this Stakeholder Group                                                                                                                                                                                | Impact/Influence of the Stakeholder Group on the project                                                                                                                                                                             | Expectations, Opinions Key Concerns of Stakeholders                                                                                                                                                                                                                                                                                                                                                                                           | Overall Rating of Stakeholder Influence |
|----------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
|                      |                                | Radiance, team will be sourced from the local community                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |
|                      | District/Tehsil Administration | <ul style="list-style-type: none"> <li>The project area is administered at three levels by different Government Bodies: at the district level, at the block/tehsil level and at the Panchayat level in each village/or cluster of villages.</li> <li>In this context, local administration refers to the district level and block level administration comprising of the offices of the Tehsildar, District Magistrate Collectors, and</li> </ul> | <p>The primary concern of the stakeholder group can be:</p> <ul style="list-style-type: none"> <li>project's compliance towards the regulatory requirement</li> <li>role played by the project in the development of the area</li> </ul> | These authorities not only serve as important points of contact for villagers or other party wanting to liaise with higher authorities but are also critical in obtaining permissions and support for the various project activities | <ul style="list-style-type: none"> <li>The main expectations of the stakeholders from the project might be:</li> <li>Compliance with the regulatory requirements and legal provisions specific to the project</li> <li>Timely disclosure of information pertaining to the project activities</li> <li>Involvement in the formulation and implementation of the community development activities throughout the life of the project</li> </ul> | Low                                     |

|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

| Stakeholder Category   | Relevant Stakeholders                                                          | Profile/ Status                                                                                                                                                                                                                                                                                                             | Impact/Influence of the project on this Stakeholder Group                                                                                                    | Impact/Influence of the Stakeholder Group on the project                                                                                                                                                                                                                                                                            | Expectations, Opinions Key Concerns of Stakeholders                                                                                                                                                                                                                                                                                                                                                                                                                           | Overall Rating of Stakeholder Influence |
|------------------------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
|                        |                                                                                | Revenue officer etc.                                                                                                                                                                                                                                                                                                        |                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |
| Secondary stakeholders | Vulnerable Groups such as women headed households, BPL and Landless households | <ul style="list-style-type: none"> <li>This stakeholder group includes women headed household, BPL household and landless. These subdivisions are on the basis of the understanding of the possibility of differentiated impacts on the community on the basis of the economic and social status in the society.</li> </ul> | In view of the poor social and economic conditions of the Vulnerable Communities, the project Proponent may have to provide engagement avenues for the group | The influence of this stakeholder group in regard to the project pertains to the smooth functioning of the project and the opinion formation of the same. While due to the position of this group in the community, the level of influence towards the project is limited, the project can disproportionately influence this group. | <ul style="list-style-type: none"> <li>The primary expectations of this stakeholder group from the project pertain to the following: <ul style="list-style-type: none"> <li>- Appropriate community development activities in keeping with the needs of the community.</li> <li>- However, it cannot be ascertained if any land has been purchased from any women headed household and BPL families).</li> <li>- Involvement in the formulation of the</li> </ul> </li> </ul> | Low                                     |

|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

| Stakeholder Category | Relevant Stakeholders    | Profile/ Status                                                                                                                                                                                                                                                                                                                           | Impact/Influence of the project on this Stakeholder Group                                                                                                                                                                                                                                                            | Impact/Influence of the Stakeholder Group on the project                                                                                                                                                                                                                               | Expectations, Opinions Key Concerns of Stakeholders                                                                                                                                                                                                                                                                                               | Overall Rating of Stakeholder Influence |
|----------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
|                      |                          |                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                        | <p>community development activities and their implementation</p> <ul style="list-style-type: none"> <li>- Timely disclosure of information through the life of the project</li> </ul>                                                                                                                                                             |                                         |
|                      | Civil Society/Local NGOs | <ul style="list-style-type: none"> <li>■ There are many NGOs in the Raichur district such as Dharmasthala working on the livelihoods of rural communities along with their related socio-cultural facets; and</li> <li>■ These NGOs mainly work with women group by forming self-help groups and conducting training for women</li> </ul> | <ul style="list-style-type: none"> <li>■ With respect to contributing towards the cause of local development, the project proponent can either participate in the ongoing developmental activities of the Government or might take up interventions on its own or through partnerships with NGOs and CBOs</li> </ul> | <ul style="list-style-type: none"> <li>■ The opinion of the NGOs and Civil Society Groups towards a project is determined largely by whether the impacts of setting up of the development venture is being viewed/ perceived in positive light by the local population with</li> </ul> | <ul style="list-style-type: none"> <li>■ The NGOs and Civil Society Groups often play a critical role in bringing to the limelight the issues of vulnerable communities in the society; and</li> <li>■ They can also play a major role in community mobilization, building trust and even participate in implementing CSR initiatives.</li> </ul> | Low                                     |

|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

| Stakeholder Category | Relevant Stakeholders | Profile/ Status                                                                        | Impact/Influence of the project on this Stakeholder Group  | Impact/Influence of the Stakeholder Group on the project                                                                                                                                                                                                                                                 | Expectations, Opinions Key Concerns of Stakeholders | Overall Rating of Stakeholder Influence |
|----------------------|-----------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------|
|                      |                       | group. No report regarding NGO's filing complaints against projects have been reported | after obtaining prior approval from competent authorities. | <p>special reference to the vulnerable communities or not.</p> <ul style="list-style-type: none"> <li>■ The key concerns of this stakeholder group centres around justice and equal opportunities in matters of economic and social development being provided to the Vulnerable Communities.</li> </ul> |                                                     |                                         |

|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

### Detailed Stakeholder Engagement Plan

Some of the most common tools of engagement are discussions, consultations and meetings. These modes of engagement can be undertaken in the forms of groups or at individual levels. These serve the purpose of allowing the project proponents to gain an understanding of the viewpoint of the other stakeholders involved in regard to the functioning of the Unit/project, the implementation of various provisions in the Project.

Based on the stakeholder identification and analysis undertaken, a detailed plan is prepared that guides the engagement process with each stakeholder group, as identified in table below. The Social and Community Supervisor shall be responsible for maintenance of the records of along with the members that engage with stakeholders during construction and operations phase, along with addition of addition of any new categories identified.

**Table D.4 Methods of Consultations and Engagement with Stakeholders**

| Stakeholders | Objective of Engagement                                       | Methods of Consultation and Engagement                                                                                                                                                                                                         | Frequency of Consultation & engagement                                                                     | Documentation to be kept/Remarks                                                                                                                                                                 |
|--------------|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Land Sellers | To Seek support if required                                   | <ul style="list-style-type: none"> <li>■ Attendance in unit functions/occasions or seek their support as and when required.</li> </ul>                                                                                                         | <ul style="list-style-type: none"> <li>■ Meeting and invitation in events</li> </ul>                       | <ul style="list-style-type: none"> <li>■ MOM of meeting (including feedback received)</li> <li>■ Attendance Sheet</li> <li>■ Photographs</li> <li>■ Report in monthly HSE/ESG report.</li> </ul> |
| Contractors  | To appraise about labour working condition and compliance EHS | <ul style="list-style-type: none"> <li>■ Monthly Meetings (for the purpose of information dissemination, including information regarding labour laws, local employment opportunities, safety measures and discussion on grievances)</li> </ul> | <ul style="list-style-type: none"> <li>■ Meetings and monthly reporting in the operations phase</li> </ul> | <ul style="list-style-type: none"> <li>■ MOM of meeting (including feedback received)</li> <li>■ Attendance Sheet</li> <li>■ Photographs</li> <li>■ Report in monthly HSE/ESG report.</li> </ul> |
|              |                                                               | <ul style="list-style-type: none"> <li>■ Information dissemination regarding welfare provisions for labourers, employment opportunities, grievances, EHS and CSR</li> </ul>                                                                    | Regularly                                                                                                  | Disseminate welfare provisions through Notice Board at Radiance Sites.                                                                                                                           |

|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

| Stakeholders          | Objective of Engagement                                                                                                                      | Methods of Consultation and Engagement                                                                                             | Frequency of Consultation & engagement                                                         | Documentation to be kept/Remarks                                                                                             |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
|                       |                                                                                                                                              | activities through notice board and display of key messages on billboard <sup>1</sup>                                              |                                                                                                |                                                                                                                              |
| Contractual Labourers | To appraise about labour working condition                                                                                                   | ■ Information dissemination regarding welfare provisions for labourers                                                             | Regularly                                                                                      | Disseminate welfare provisions through Notice Board at Radiance Sites.                                                       |
|                       |                                                                                                                                              | Create awareness about Grievances Redressal Mechanism (GRM) and EHS through notice board and display of key messages on billboard. | ■ Regularly                                                                                    | Disseminate welfare provisions through Notice Board at Radiance Sites.                                                       |
|                       |                                                                                                                                              | ■ Open interactions as and when required                                                                                           | ■ Open discussion as per the requirement but at least once quarterly.<br>■ Daily toolbox talks | ■ MOM of meeting (including feedback received)<br>■ Attendance Sheet<br>■ Photographs<br>■ Report in monthly HSE/ESG report. |
| Gram Panchayats       | For necessary information disclosure of SEP. As part of GRM ensure involvement in CSR activities and local procurement if required. Helps in | ■ Consultations, meetings (FGD and individual interview) and Discussions;                                                          | ■ At least on an annual basis                                                                  | ■ MOM of meeting (including feedback received)<br>■ Attendance Sheet<br>■ Photographs                                        |
|                       |                                                                                                                                              | ■ Sharing of documents                                                                                                             | ■ As and when required                                                                         | Report in SEP/monthly HSE/ESG report.                                                                                        |
|                       |                                                                                                                                              | ■ Grievances Redressal Mechanism (GRM)                                                                                             | ■ Regularly                                                                                    | ■ Keep records in community plaint register kept with security guard at the Site entrance.                                   |

(1) The information to be posted on the bulletin boards is to include information pertaining to the project activities and the time schedule for the same, safety norms and precautions mandatory in the project, CSR activities to be undertaken, local employment opportunities and any other announcements/information relevant to the sub-contractors and labourers.



|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

| Stakeholders                | Objective of Engagement                                                        | Methods of Consultation and Engagement                                                                                                          | Frequency of Consultation & engagement                                                                       | Documentation to be kept/Remarks                                                                                                                                                                                                                                                                                     |
|-----------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | getting constructive feedback.                                                 |                                                                                                                                                 |                                                                                                              | <ul style="list-style-type: none"> <li>All completed grievance forms shall be scanned and emailed to <a href="mailto:complaints@radiancerenewables.com">complaints@radiancerenewables.com</a> on a fortnightly basis.</li> <li>APPENDIX-I-ANNEX-A_RAD-ESGMS_FOR</li> <li>APPENDIX-J-ANNEX-B_RAD-ESGMS_FOR</li> </ul> |
|                             |                                                                                | <ul style="list-style-type: none"> <li>Attendance at Panchayat meetings and participation in CSR activities.</li> </ul>                         | <ul style="list-style-type: none"> <li>Regulatory requirements</li> </ul>                                    | <ul style="list-style-type: none"> <li>MOM of meeting (including feedback received)</li> <li>Photographs</li> </ul>                                                                                                                                                                                                  |
| Regulatory Authorities      | Compliance to regulatory requirements                                          | <ul style="list-style-type: none"> <li>Meetings and Discussions</li> </ul>                                                                      | <ul style="list-style-type: none"> <li>As per the regulatory requirements or as and when required</li> </ul> | <ul style="list-style-type: none"> <li>MOM of meeting (including feedback received).</li> <li>Photographs</li> </ul>                                                                                                                                                                                                 |
| District Administration     | Regular engagement Participation in CSR Activities                             | <ul style="list-style-type: none"> <li>Regular meetings and participation in CSR events</li> </ul>                                              | <ul style="list-style-type: none"> <li>As and when required</li> </ul>                                       | <ul style="list-style-type: none"> <li>MOM of meeting (including feedback received)</li> <li>Photographs</li> </ul>                                                                                                                                                                                                  |
| Local Community             | Information disclosure, Managing and ensuring participation in CSR activities. | <ul style="list-style-type: none"> <li>Half Yearly Open Meetings at Site, or</li> <li>Interactions with community at Gram Panchayat.</li> </ul> | <ul style="list-style-type: none"> <li>Half Yearly</li> </ul>                                                | <ul style="list-style-type: none"> <li>MOM of meeting (including feedback received)</li> <li>Attendance Sheet</li> <li>Photographs</li> </ul>                                                                                                                                                                        |
|                             |                                                                                | <ul style="list-style-type: none"> <li>Involvement in CSR activities</li> </ul>                                                                 | <ul style="list-style-type: none"> <li>As and when required</li> </ul>                                       | <ul style="list-style-type: none"> <li>As per expectation mapping and within CSR budget.</li> <li>CSR Report</li> </ul>                                                                                                                                                                                              |
| Vulnerable Community (ST/ST | Managing and ensuring                                                          | <ul style="list-style-type: none"> <li>Discussions, FGD, Open meetings and consultations with each category,</li> </ul>                         | <ul style="list-style-type: none"> <li>At least Half Yearly</li> </ul>                                       | <ul style="list-style-type: none"> <li>MOM of meeting (including feedback received)</li> <li>Attendance Sheet</li> </ul>                                                                                                                                                                                             |

|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

| Stakeholders                                                                  | Objective of Engagement                                                 | Methods of Consultation and Engagement               | Frequency of Consultation & engagement | Documentation to be kept/Remarks                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| community, BPL and Landless households) (If applicable)                       | participation in CSR activities<br>As part of GRM                       | ■ Grievances Redressal Mechanism (GRM)               | ■ Regularly                            | <ul style="list-style-type: none"> <li>■ Photographs</li> <li>■ Keep records in community plaint register kept with security guard at the Site entrance.</li> <li>■ All completed grievance forms shall be scanned and emailed to <a href="mailto:es@its@radiancerenewables.com">es@its@radiancerenewables.com</a> on a fortnightly basis.</li> </ul> <p>APPENDIX-I ANNEX-A_RAD_ESGMS_FOR</p> <p>APPENDIX-J ANNEX-B_RAD_ESGMS_FOR</p> |
|                                                                               |                                                                         | ■ Involvement in CSR activities                      | ■ As and when required                 | Give preference to Vulnerable Community members in CSR activities.                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                               |                                                                         | ■ Discussions, FGD, Open meetings and consultations. | ■ At least Half Yearly                 | <ul style="list-style-type: none"> <li>■ MOM of meeting (including feedback received)</li> <li>■ Attendance Sheet</li> <li>■ Photographs</li> </ul>                                                                                                                                                                                                                                                                                   |
| Vulnerable Women in the community/Women headed households/Women humanitarians | Managing and ensuring participation in CSR activities<br>As part of GRM | ■ Grievances Redressal Mechanism (GRM)               | ■ Regularly                            | <ul style="list-style-type: none"> <li>■ Keep records in community plaint register kept with security guard at the Site entrance.</li> <li>■ All completed grievance forms shall be scanned and emailed to <a href="mailto:es@its@radiancerenewables.com">es@its@radiancerenewables.com</a> on a fortnightly basis.</li> </ul> <p>APPENDIX-J ANNEX-A_RAD_ESGMS_FOR</p>                                                                |
|                                                                               |                                                                         |                                                      |                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|                  |                                                       |                                                                                     |
|------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| NAME OF PROJECT  | 75 MW SOLAR PROJECT, HIRERAYA KUMPI, GUGAL, KARNATAKA |  |
| NAME OF DOCUMENT | STAKEHOLDER ENGAGEMENT PLAN                           |                                                                                     |

| Stakeholders                                          | Objective of Engagement                                | Methods of Consultation and Engagement                                                                                                                                                  | Frequency of Consultation & engagement                                                      | Documentation to be kept/Remarks                                                                                                              |
|-------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
|                                                       |                                                        |                                                                                                                                                                                         |                                                                                             | APPENDIX-J_ANNEX-B_RAD_ESGMS_FORI                                                                                                             |
|                                                       |                                                        | <ul style="list-style-type: none"> <li>Involvement in CSR activities</li> </ul>                                                                                                         | <ul style="list-style-type: none"> <li>As and when required</li> </ul>                      | Give preference to Vulnerable Community members in CSR activities.                                                                            |
| Village Institutions (Panchayats, Schools, PHC, etc.) | Managing and ensuring participation in CSR activities  | <ul style="list-style-type: none"> <li>Discussions, Consultations and Open Meeting and discussions, FGDS</li> </ul>                                                                     | <ul style="list-style-type: none"> <li>At least annually or as and when required</li> </ul> | <ul style="list-style-type: none"> <li>MOM of meeting (including feedback received)</li> <li>Attendance Sheet</li> <li>Photographs</li> </ul> |
|                                                       |                                                        | <ul style="list-style-type: none"> <li>Involvement in planning and implementation of CSR activities</li> </ul>                                                                          | <ul style="list-style-type: none"> <li>As and when required</li> </ul>                      | <ul style="list-style-type: none"> <li>As per expectation mapping and within CSR budget.</li> <li>CSR Report</li> </ul>                       |
| Community Based Organisations (CBOs)                  | Managing and ensuring participation in CSR activities. | <ul style="list-style-type: none"> <li>Involvement in CSR activities which include training programmes</li> </ul>                                                                       | <ul style="list-style-type: none"> <li>At least annually</li> </ul>                         | <ul style="list-style-type: none"> <li>As per expectation mapping and within CSR budget.</li> <li>CSR Report</li> </ul>                       |
| Political Parties                                     | Regular engagement                                     | <ul style="list-style-type: none"> <li>Meetings with the local representatives as and when required</li> </ul>                                                                          | <ul style="list-style-type: none"> <li>As and when required</li> </ul>                      | <ul style="list-style-type: none"> <li>MOM of meeting (including feedback received)</li> <li>Attendance Sheet</li> <li>Photographs</li> </ul> |
| Media                                                 | Regular engagement                                     | <ul style="list-style-type: none"> <li>Disclosure of information and meetings (as and when required)</li> </ul>                                                                         | <ul style="list-style-type: none"> <li>As and when required</li> </ul>                      | To be carried out at Radiance HO                                                                                                              |
| Investors                                             | Project Lifecycle                                      | <ul style="list-style-type: none"> <li>Inform investors about the growth and direction of the company through Annual General Meetings or Progress Reports/ Financial Results</li> </ul> | <ul style="list-style-type: none"> <li>Annually and as required</li> </ul>                  | To be carried out at Radiance HO                                                                                                              |

## Annexure 3: GGEF ESGMS

The Green Growth Equity Fund (GGEF), Environmental Social governance Management System (ESGMS) has been attached as a PDF file separately.

## Annexure 4: Primary Land Due Diligence Checklist

The Primary land due diligence check list has been mentioned below:

### Preliminary Land Due Diligence Checklist

Please refer to the following indicative list of documents required for conducting the title due diligence in respect of the project land.

| S.No. | Particulars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.    | Land Aggregator to provide land schedule containing details, description and extent of the target lands (including properties comprised thereupon), in accordance with the revenue records issued by the relevant revenue authorities.                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2.    | To obtain the certified copies of title documents (including title deed, sale deed, lease deed, gift deed, settlement deed, wills, court orders, partition deeds, assignments) in relation to land parcels for the last 30 (thirty) years. Wherever the documents above have been executed by the attorney of the owner/lessor of the lands, to get the copies of the power of attorney/POAs.                                                                                                                                                                                                                                                               |
| 3.    | To obtain latest certified copy of current revenue records (Record of Rights such as property card, village forms 7/12 (old and new), form 8A, form 6, mutation entries etc.), orders, mutation entries, etc. issued by the competent authority pertaining to the target lands to ascertain that the name of the current owner has been properly mutated in the revenue records.                                                                                                                                                                                                                                                                            |
| 4.    | In the event that any of the lands have been allotted by/acquired from the central/state government or any other government authority/body, To obtain the: <ul style="list-style-type: none"> <li>(a) public notifications issued for the acquisition of the lands;</li> <li>(b) allotment/grant letters for the allotment of the land;</li> <li>(c) copies of the acquisitions orders under the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 or the Land Acquisition Act 1894; and</li> <li>(d) copies of any lease or sub-lease deeds in connection with the grant of the lands.</li> </ul> |
| 5.    | Wherever the flow of title depends upon intestate succession, to obtain copies of relevant death certificates and legal heirship certificates (issued by the jurisdictional Tehsildar). In case of property which has been inherited by the vendor, to obtain the copies of registered partition deed. to the extent that such property which is ancestral in nature.                                                                                                                                                                                                                                                                                       |
| 6.    | Wherever sale of a minor's/lunatic's lands is done through a guardian, to obtain the copy of court orders in this regard.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 7.    | Conversion orders issued in respect of the lands, for change in the land use pattern, as applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 8.    | Where the previous owner of the lands was a corporate body or a trust or a society or a partnership firm, to obtain copy of the constitutional documents of such entities and                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     | documents (such as board resolutions, etc.) evidencing relevant authorisations to transfer land owned by such entities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 9.  | Village map in respect of the land parcel.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 10. | To confirm whether there are any outstanding dues or taxes, including development charges, property tax/urban development, and water, electricity and other utility charges in relation to the target lands or developments thereupon and to obtain the copy of the receipts evidencing payment of the same for the last three years.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 11. | Possession certificate, if any, issued in respect of the lands.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 12. | Encumbrance certificates in respect of the lands for the last 30 (thirty) years.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 13. | Any agreements affecting title and marketability of the lands, such as lease deeds, charge creation documents, etc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 14. | Proof of discharge of all mortgages upon the lands.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 15. | Details of all litigations, court cases, departmental proceedings, etc., pending in respect of the lands or which have been concluded within the last three (3) years.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 16. | To confirm whether there are any land ceiling proceedings pending or threatened in respect of the lands or an explanation as to why the landholding is not subject to applicable ceiling laws, if the land in excess of the ceiling limit (as prescribed under the Maharashtra Agricultural Land (Ceiling on Holding) Act, 1961) is held by a single entity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 17. | Whether the properties are subject to any acquisition or requisition proceedings; and if so, copies of notifications/correspondences in respect of such acquisition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 18. | Whether there are any waterbodies, common ways, public religious institutions, burial grounds, or other common areas, located within the lands proposed to be conveyed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 19. | Right of way agreements and approvals for access to the lands.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 20. | Hissa, Gut, Tippani and Sketch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 21  | <p>Following confirmations to procure –</p> <ul style="list-style-type: none"> <li>(a) Whether the target lands pertaining to the proposed transaction have been part of any reserved lands, public utility lands and/or gauchar lands and if any permissions, consents or approvals have been obtained in respect thereof.</li> <li>(b) No High-Tension Power Line (HTL) passing the proposed land parcels.</li> <li>(c) The target land not falling under retention area (water logging)</li> <li>(d) The target land does not form part of any eco-sensitive zone, national conservations zone, forest area, protected area, buffer zone etc.;</li> <li>(e) To confirm if there are any water bodies, common ways, public religious institutions, burial grounds, or other common areas, located within the target lands proposed to be conveyed;</li> <li>(f) if the land or any structure thereupon has ever been notified as a protected monument in the official gazette by the concerned authorities under the provisions of Ancient Monuments and Archaeological Sites and Remains Act, 1958. Also, to confirm if any part of the target land has been notified as a heritage site as per applicable law;</li> </ul> |

|  |                                                                                                                                                                  |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>(g) There is no samadhi on the target land; and</p> <p>(h) There are no protected or reserved categories of trees or shrubs present over the target lands</p> |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------|



## Annexure 5: Socio Economic Primary Profile Sheet Template



|                            |  |                         |  |  |  |
|----------------------------|--|-------------------------|--|--|--|
| Name of Project            |  | Name of Applicant       |  |  |  |
| Total Capacity             |  | Name of Verifier        |  |  |  |
| Total Area/Percent of Land |  | Name of Land Aggregator |  |  |  |

| Sr. No | Village | Cat.No. | Area (In Hect/Decares) | Type of Land | Name of Principal Land Owner and Address Landowners in the Revenue Records | Relation With Principal Land Owner | Name of Host Members in Family | Relation With Principal Land Owner | Gender | Age | Education | Occupation |                           | Avg. Yearly Income (Rs) | Housing Structure (Ranch/Pkha) | Facilities Available in House |             |        | Caste & Religion | Landowner from BPL/SC/Other | Acquired Land by the Beneficiary Jan | Balance Land after Land acquisition | Indigenous Population | SC/ST | Any Business activity in Acquired | Any type of Construction on acquired land | Any Religious Structure on the acquired land | Any Tenancy right | Interest Holder | Remarks |
|--------|---------|---------|------------------------|--------------|----------------------------------------------------------------------------|------------------------------------|--------------------------------|------------------------------------|--------|-----|-----------|------------|---------------------------|-------------------------|--------------------------------|-------------------------------|-------------|--------|------------------|-----------------------------|--------------------------------------|-------------------------------------|-----------------------|-------|-----------------------------------|-------------------------------------------|----------------------------------------------|-------------------|-----------------|---------|
|        |         |         |                        |              |                                                                            |                                    |                                |                                    |        |     |           | Main Occup | Secondary Occup. (If any) |                         |                                | Drinking Water                | Electricity | Toilet |                  |                             |                                      |                                     |                       |       |                                   |                                           |                                              |                   |                 |         |

## Annexure 6: Questionnaire for Landowners

The Questionnaire for landowners is presented below.

### Stakeholder Consultation with Land Owners

**Task:** To get feedback from land owners.

**Objective:** Questions to be asked.

| #   | Questions                                                                             | Feedback |
|-----|---------------------------------------------------------------------------------------|----------|
| 1.  | Did you know about the project at the time of selling/ leasing the land?              |          |
| 2.  | Who approached you for purchasing/ renting the land?                                  |          |
| 3.  | What was the process?                                                                 |          |
| 4.  | How did you go about taking the decision to sell// leasing the land?                  |          |
| 5.  | Are you satisfied with the amount received for the land?                              |          |
| 6.  | Do you feel that you were paid fairly?                                                |          |
| 7.  | What are your and your family's sources of income?                                    |          |
| 8.  | How much did the land parcel that was sold contribute to your household income?       |          |
| 9.  | Do you have any other parcels of land?<br>What is your total landholding?             |          |
| 10. | Check with the site manager whether land has been purchased from any SC or ST family. |          |

Signature

## Annexure 7: IBAT list and Biodiversity Reports

### A7.1 IBAT Report

# Integrated Biodiversity Assessment Tool

## PROXIMITY REPORT

### RADIANCE GUGGAL

**Country:** India

**Location:** [ 16.4, 77.1 ]

**Date of analysis:** 28 August 2023 (GMT)

**Size of site:** 1 km<sup>2</sup>

**Buffers applied:** 1 km | 4 km | 10 km

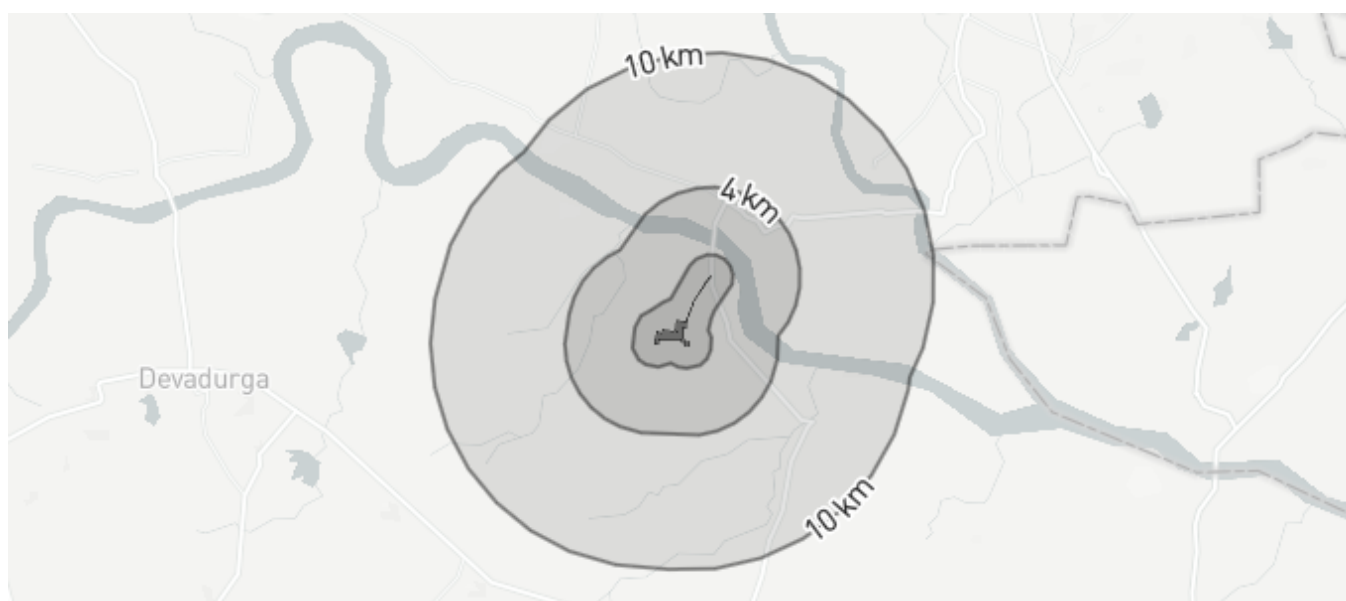
**IUCN Red List Biomes:** Terrestrial, Marine, Freshwater

**Generated by:** Varun Dutta Gupta

**Organisation:** Envint Global

#### Overlaps with:

|                        |    |
|------------------------|----|
| Protected Areas        | 0  |
| Key Biodiversity Areas | 0  |
| IUCN Red List          | 31 |



Displaying project location and buffers: 1 km, 4 km, 10 km

## About this report

This report presents the results of [37327-48069] proximity analysis to identify the biodiversity features and species which are located within the following buffers: 1 km, 4 km, 10 km.

This report is one part of a package generated by IBAT on 28 August 2023 (GMT) that includes full list of all species, protected areas, Key Biodiversity Areas in CSV format, maps showing the area of interest in relation to these features, and a 'How to read IBAT reports' document.

WARNING: IBAT aims to provide the most up-to-date and accurate information available at the time of analysis. There is however a possibility of incomplete, incorrect or out-of-date information. All findings in this report must be supported by further desktop review, consultation with experts and/or on-the-ground field assessment. Please consult IBAT for any additional disclaimers or recommendations applicable to the information used to generate this report.

Please note, sensitive species data are currently not included in IBAT reports in line with the [Sensitive Data Access Restrictions Policy for the IUCN Red List](#). This relates to sensitive Threatened species and KBAs triggered by sensitive species.

## Data used to generate this report

- UNEP-WCMC and IUCN, 2023. Protected Planet: The World Database on Protected Areas (WDPA)[On-line], Cambridge, UK: UNEP-WCMC and IUCN. Available at: [www.protectedplanet.net](http://www.protectedplanet.net) - August 2023.
- BirdLife International (on behalf of the KBA Partnership), 2023. Key Biodiversity Areas - April 2023.
- IUCN, 2022. IUCN Red List of Threatened Species - December 2022.
- IUCN. The IUCN Red List of Threatened Species. Version 2019-3. (2019). <https://www.iucnredlist.org>
- IUCN. Threats Classification Scheme (Version 3.2). (2019)
- Strassburg, B.B.N., Iribarrem, A., Beyer, H.L. et al. Global priority areas for ecosystem restoration. Nature 586, 724–729 (2020). <https://doi.org/10.1038/s41586-020-2784-9>

## Protected Areas

The following protected areas are found within 1 km, 4 km, 10 km of the area of interest.  
For further details please refer to the associated csv file in the report folder.

No protected areas within buffer distance

## Key Biodiversity Areas

The following key biodiversity areas are found within 1 km, 4 km, 10 km of the area of interest.  
For further details please refer to the associated csv file in the report folder.

No KBAs within buffer distance

## IUCN Red List of Threatened Species

The following threatened species are potentially found within 50km of the area of interest.

For the full IUCN Red List please refer to the associated csv in the report folder.

| Species Name           | Common Name              | Taxonomic Group | IUCN Category | Population Trend | Biome                   |
|------------------------|--------------------------|-----------------|---------------|------------------|-------------------------|
| Nilssonia leithii      | Leith's Softshell Turtle | REPTILIA        | CR            | Decreasing       | Terrestrial, Freshwater |
| Hypselobarbus thomassi | Red Canarese Barb        | ACTINOPTERYGII  | CR            | Unknown          | Freshwater              |
| Ardeotis nigriceps     | Great Indian Bustard     | AVES            | CR            | Decreasing       | Terrestrial             |
| Sypheotides indicus    | Lesser Florican          | AVES            | CR            | Decreasing       | Terrestrial             |
| Gyps bengalensis       | White-rumped Vulture     | AVES            | CR            | Decreasing       | Terrestrial             |
| Sarcogyps calvus       | Red-headed Vulture       | AVES            | CR            | Decreasing       | Terrestrial             |
| Gyps indicus           | Indian Vulture           | AVES            | CR            | Decreasing       | Terrestrial             |



| Species Name                | Common Name                 | Taxonomic Group | IUCN Category | Population Trend | Biome                           |
|-----------------------------|-----------------------------|-----------------|---------------|------------------|---------------------------------|
| Manis crassicaudata         | Indian Pangolin             | MAMMALIA        | EN            | Decreasing       | Terrestrial                     |
| Panthera tigris             | Tiger                       | MAMMALIA        | EN            | Decreasing       | Terrestrial                     |
| Schismatorhynchus nukta     | Nukta                       | ACTINOPTERYGII  | EN            | Decreasing       | Freshwater                      |
| Sterna acuticauda           | Black-bellied Tern          | AVES            | EN            | Decreasing       | Terrestrial, Freshwater         |
| Neophron percnopterus       | Egyptian Vulture            | AVES            | EN            | Decreasing       | Terrestrial, Freshwater         |
| Aquila nipalensis           | Steppe Eagle                | AVES            | EN            | Decreasing       | Terrestrial                     |
| Acinonyx jubatus            | Cheetah                     | MAMMALIA        | VU            | Decreasing       | Terrestrial                     |
| Crocodylus palustris        | Mugger                      | REPTILIA        | VU            | Stable           | Terrestrial, Freshwater         |
| Macaca radiata              | Bonnet Macaque              | MAMMALIA        | VU            | Decreasing       | Terrestrial                     |
| Panthera pardus             | Leopard                     | MAMMALIA        | VU            | Decreasing       | Terrestrial                     |
| Tetracerus quadricornis     | Four-horned Antelope        | MAMMALIA        | VU            | Decreasing       | Terrestrial                     |
| Macaca radiata ssp. radiata | Dark-bellied Bonnet Macaque | MAMMALIA        | VU            | Decreasing       | Terrestrial                     |
| Rusa unicolor               | Sambar                      | MAMMALIA        | VU            | Decreasing       | Terrestrial                     |
| Aonyx cinereus              | Asian Small-clawed Otter    | MAMMALIA        | VU            | Decreasing       | Terrestrial, Marine, Freshwater |

| Species Name              | Common Name             | Taxonomic Group | IUCN Category | Population Trend | Biome                           |
|---------------------------|-------------------------|-----------------|---------------|------------------|---------------------------------|
| Wallago attu              |                         | ACTINOPTERYGII  | VU            | Decreasing       | Freshwater                      |
| Hypselobarbus kolus       | Kolus Barb              | ACTINOPTERYGII  | VU            | Decreasing       | Freshwater                      |
| Sterna aurantia           | River Tern              | AVES            | VU            | Decreasing       | Terrestrial, Marine, Freshwater |
| Aquila rapax              | Tawny Eagle             | AVES            | VU            | Decreasing       | Terrestrial, Freshwater         |
| Pycnonotus xantholaemus   | Yellow-throated Bulbul  | AVES            | VU            | Decreasing       | Terrestrial                     |
| Clanga hastata            | Indian Spotted Eagle    | AVES            | VU            | Decreasing       | Terrestrial                     |
| Oryza malampuzhaensis     |                         | LILIOPSIDA      | VU            | Decreasing       | Terrestrial                     |
| Lissemys punctata         | Indian Flapshell Turtle | REPTILIA        | VU            | Decreasing       | Terrestrial, Freshwater         |
| Schizothorax plagiostomus | Snow Trout              | ACTINOPTERYGII  | VU            | Decreasing       | Freshwater                      |
| Bagarius bagarius         |                         | ACTINOPTERYGII  | VU            | Decreasing       | Freshwater                      |

## Recommended citation

IBAT Proximity Report. Generated under licence 37327-48069 from the Integrated Biodiversity Assessment Tool on 28 August 2023 (GMT). [www.ibat-alliance.org](http://www.ibat-alliance.org)

## How to use this report

This report provides an indication of the potential biodiversity-related features - protected areas, key biodiversity areas and species - close to the specified location. It provides an early indication of potential biodiversity concerns, and can provide valuable guidance in making decisions. For example, this information can be helpful when assessing the potential environmental risk and impact of a site, categorising investments/projects, preparing the terms of reference for an impact assessment, focusing attention on key species of conservation concern and sites of known conservation value, and reviewing the results of an impact assessment.

The report does not provide details of potential indirect, downstream or cumulative impacts. Furthermore, the report should be regarded as a “first-step”, providing a set of conservation values sourced from global data sets, and is not a substitute for further investigation and due diligence, especially concerning national and/or local conservation priorities.

## A7.2 IBAT List of species & Faunal Species Reported List

| Class          | Binomial                    | Common Name              | Category    | Movementpattern     | ESIA-Envint | ESIA | EBIRD | Count |
|----------------|-----------------------------|--------------------------|-------------|---------------------|-------------|------|-------|-------|
| ACTINOPTERYGII | Hypselobarbus thomassi      | Red Canarese Barb        | CR          | Full Migrant        |             |      |       |       |
| ACTINOPTERYGII | Schismatorhynchus nukta     | Nukta                    | EN          |                     |             |      |       |       |
| ACTINOPTERYGII | Wallago attu                |                          | VU          | Full Migrant        |             |      |       |       |
| ACTINOPTERYGII | Hypselobarbus kolus         | Kolus Barb               | VU          | Full Migrant        |             |      |       |       |
| ACTINOPTERYGII | Schizothorax plagiostomus   | Snow Trout               | VU          | Altitudinal Migrant |             |      |       |       |
| ACTINOPTERYGII | Bagarius bagarius           |                          | VU          | Unknown             |             |      |       |       |
| ACTINOPTERYGII | Ompok bimaculatus           |                          | NT OR LR/NT | Full Migrant        |             |      |       |       |
| ACTINOPTERYGII | Anguilla bicolor            | Shortfin Eel             | NT OR LR/NT | Full Migrant        |             |      |       |       |
| ACTINOPTERYGII | Anguilla bengalensis        | Indian Mottled Eel       | NT OR LR/NT | Full Migrant        |             |      |       |       |
| ACTINOPTERYGII | Channa gachua               | Dwarf Snakehead          | LC OR LR/LC | Full Migrant        |             |      |       |       |
| ACTINOPTERYGII | Cirrhinus mrigala           | Mrigal                   | LC OR LR/LC |                     |             |      |       |       |
| ACTINOPTERYGII | Monopterus albus            | Rice Swampeel            | LC OR LR/LC | Not a Migrant       |             |      |       |       |
| ACTINOPTERYGII | Anguilla marmorata          | Marbled Eel              | LC OR LR/LC | Full Migrant        |             |      |       |       |
| ACTINOPTERYGII | Lepidocephalichthys guntea  |                          | LC OR LR/LC | Unknown             |             |      |       |       |
| ACTINOPTERYGII | Labeo catla                 | Catla                    | LC OR LR/LC |                     |             |      |       |       |
| ACTINOPTERYGII | Nandus nandus               |                          | LC OR LR/LC |                     |             |      |       |       |
| ACTINOPTERYGII | Notopterus notopterus       |                          | LC OR LR/LC | Nomadic             |             |      |       |       |
| ACTINOPTERYGII | Aplocheilichthys lineatus   | Striped panchax          | LC OR LR/LC |                     |             |      |       |       |
| ACTINOPTERYGII | Channa punctata             | Spotted Snakehead        | LC OR LR/LC | Unknown             |             |      |       |       |
| ACTINOPTERYGII | Rasbora daniconius          | Slender Barb             | LC OR LR/LC | Full Migrant        |             |      |       |       |
| ACTINOPTERYGII | Gymnostomus ariza           | Ariza Labeo              | LC OR LR/LC |                     |             |      |       |       |
| ACTINOPTERYGII | Salmostoma boopis           | Boopis Razorbelly Minnow | LC OR LR/LC |                     |             |      |       |       |
| ACTINOPTERYGII | Anabas testudineus          | Climbing Perch           | LC OR LR/LC | Full Migrant        |             |      |       |       |
| ACTINOPTERYGII | Channa striata              | Snakehead Murrel         | LC OR LR/LC | Unknown             |             |      |       |       |
| ACTINOPTERYGII | Sperata aor                 | Long-whiskered Catfish   | LC OR LR/LC | Full Migrant        |             |      |       |       |
| ACTINOPTERYGII | Labeo bata                  | Minor Carp               | LC OR LR/LC | Full Migrant        |             |      |       |       |
| ACTINOPTERYGII | Parachanna obscura          | Torrent Catfish          | LC OR LR/LC |                     |             |      |       |       |
| ACTINOPTERYGII | Pachypterus atherinoides    | Indian Potasi            | LC OR LR/LC |                     |             |      |       |       |
| ACTINOPTERYGII | Oreochromis mossambicus     |                          | LC OR LR/LC |                     |             |      |       |       |
| ACTINOPTERYGII | Pseudapocryptes elongatus   |                          | LC OR LR/LC | Full Migrant        |             |      |       |       |
| ACTINOPTERYGII | Tor khudree                 | Black Mahseer            | LC OR LR/LC | Altitudinal Migrant |             |      |       |       |
| ACTINOPTERYGII | Amblypharyngodon microlepis | Indian Carplet           | LC OR LR/LC |                     |             |      |       |       |
| ACTINOPTERYGII | Osteobrama vigorsii         | Godavari Osteobrama      | LC OR LR/LC |                     |             |      |       |       |
| ACTINOPTERYGII | Proeutropiichthys taakree   | Indian Taakree           | LC OR LR/LC |                     |             |      |       |       |
| ACTINOPTERYGII | Channa marulius             |                          | LC OR LR/LC |                     |             |      |       |       |

|                |                               |                         |             |                     |  |  |  |  |
|----------------|-------------------------------|-------------------------|-------------|---------------------|--|--|--|--|
| ACTINOPTERYGII | Lepidocephalichthys thermalis |                         | LC OR LR/LC | Unknown             |  |  |  |  |
| ACTINOPTERYGII | Hemibagrus maydelli           | Krishna Mystus          | LC OR LR/LC |                     |  |  |  |  |
| ACTINOPTERYGII | Nemacheilus denisoni          |                         | LC OR LR/LC |                     |  |  |  |  |
| ACTINOPTERYGII | Rohtee ogilbii                | Vatani rohtee           | LC OR LR/LC |                     |  |  |  |  |
| ACTINOPTERYGII | Rita gogra                    | Gogra Rita              | LC OR LR/LC |                     |  |  |  |  |
| ACTINOPTERYGII | Puntius dorsalis              |                         | LC OR LR/LC | Unknown             |  |  |  |  |
| ACTINOPTERYGII | Oryzias carnaticus            | Spotted Ricefish        | LC OR LR/LC | Unknown             |  |  |  |  |
| ACTINOPTERYGII | Labeo boggut                  | Boggut labeo            | LC OR LR/LC |                     |  |  |  |  |
| ACTINOPTERYGII | Rita kuturnee                 | Deccan rita             | LC OR LR/LC |                     |  |  |  |  |
| ACTINOPTERYGII | Salmostoma balookee           | Bloch Razorbelly Minnow | LC OR LR/LC |                     |  |  |  |  |
| ACTINOPTERYGII | Cirrhinus fulungee            | Deccan White Carp       | LC OR LR/LC |                     |  |  |  |  |
| ACTINOPTERYGII | Pseudetroplus maculatus       | Orange Chromide         | LC OR LR/LC | Unknown             |  |  |  |  |
| ACTINOPTERYGII | Puntius vittatus              |                         | LC OR LR/LC | Unknown             |  |  |  |  |
| ACTINOPTERYGII | Parambassis ranga             | Indian Glassy Fish      | LC OR LR/LC | Unknown             |  |  |  |  |
| ACTINOPTERYGII | Esomus danrica                | Flying barb             | LC OR LR/LC |                     |  |  |  |  |
| ACTINOPTERYGII | Mystus seengtee               |                         | LC OR LR/LC |                     |  |  |  |  |
| ACTINOPTERYGII | Morone saxatilis              | Striped Bass            | LC OR LR/LC | Full Migrant        |  |  |  |  |
| ACTINOPTERYGII | Rasbora dandia                |                         | LC OR LR/LC | Altitudinal Migrant |  |  |  |  |
| ACTINOPTERYGII | Rasbora microcephalus         |                         | LC OR LR/LC | Unknown             |  |  |  |  |
| ACTINOPTERYGII | Aplocheilus parvus            | Dwarf panchax           | LC OR LR/LC | Unknown             |  |  |  |  |
| ACTINOPTERYGII | Monopterus javanensis         | Oriental Swamp Eel      | LC OR LR/LC |                     |  |  |  |  |
| ACTINOPTERYGII | Zenarchopterus ectuntio       |                         | LC OR LR/LC | Unknown             |  |  |  |  |
| ACTINOPTERYGII | Mystus gulio                  |                         | LC OR LR/LC | Altitudinal Migrant |  |  |  |  |
| ACTINOPTERYGII | Pachypterus khavalchor        | Khavalchor Catfish      | DD          |                     |  |  |  |  |
| AMPHIBIA       | Duttaphrynus melanostictus    | Black-spectacled Toad   | LC OR LR/LC |                     |  |  |  |  |
| AMPHIBIA       | Duttaphrynus scaber           |                         | LC OR LR/LC |                     |  |  |  |  |
| AMPHIBIA       | Duttaphrynus stomaticus       | Marbled toad            | LC OR LR/LC |                     |  |  |  |  |
| AMPHIBIA       | Uperodon taprobanicus         | Sri Lankan Bullfrog     | LC OR LR/LC |                     |  |  |  |  |
| AMPHIBIA       | Microhyla ornata              | Ant Frog                | LC OR LR/LC |                     |  |  |  |  |
| AMPHIBIA       | Uperodon variegatus           | Eluru Dot Frog          | LC OR LR/LC |                     |  |  |  |  |
| AMPHIBIA       | Uperodon globulosus           | Indian Globular Frog    | LC OR LR/LC |                     |  |  |  |  |
| AMPHIBIA       | Uperodon systoma              | Marbled Globular Frog   | LC OR LR/LC |                     |  |  |  |  |
| AMPHIBIA       | Euphlyctis cyanophlyctis      |                         | LC OR LR/LC |                     |  |  |  |  |
| AMPHIBIA       | Euphlyctis hexadactylus       | Indian Green Frog       | LC OR LR/LC |                     |  |  |  |  |
| AMPHIBIA       | Fejervarya limnocharis        | Asian Grass Frog        | LC OR LR/LC |                     |  |  |  |  |
| AMPHIBIA       | Hoplobatrachus crassus        | Jerdon's Bullfrog       | LC OR LR/LC | Not a Migrant       |  |  |  |  |

|           |                             |                           |             |               |          |  |  |  |
|-----------|-----------------------------|---------------------------|-------------|---------------|----------|--|--|--|
| AMPHIBIA  | Hoplobatrachus tigerinus    | Indian Bullfrog           | LC OR LR/LC |               |          |  |  |  |
| AMPHIBIA  | Sphaerotherca breviceps     |                           | LC OR LR/LC |               |          |  |  |  |
| AMPHIBIA  | Polypedates maculatus       | Himalayan Tree Frog       | LC OR LR/LC |               |          |  |  |  |
| AMPHIBIA  | Microhyla rubra             | Guangdong Rice Frog       | LC OR LR/LC | Not a Migrant |          |  |  |  |
| ARACHNIDA | Nephila pilipes             | Giant Golden Orb Weaver   | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES      | Sarkidiornis melanotos      | African Comb Duck         | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES      | Tachymarpis melba           | Alpine Swift              | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES      | Falco amurensis             | Amur Falcon               | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES      | Dicrurus leucophaeus        | Ashy Drongo               | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES      | Pericrocotus divaricatus    | Ashy Minivet              | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES      | Prinia socialis             | Ashy Prinia               | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES      | Artamus fuscus              | Ashy Woodswallow          | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES      | Eremopterix griseus         | Ashy-crowned Sparrow-lark | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES      | Synoicus chinensis          | Asian Blue Quail          | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES      | Muscicapa dauurica          | Asian Brown Flycatcher    | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES      | Merops orientalis           | Asian Green Bee-eater     | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES      | Anastomus oscitans          | Asian Openbill            | LC OR LR/LC | Not a Migrant | NOT SEEN |  |  |  |
| AVES      | Cypsiurus balasiensis       | Asian Palm-swift          | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES      | Ciconia episcopus           | Asian Woollyneck          | NT OR LR/NT | Not a Migrant |          |  |  |  |
| AVES      | Cacomantis sonneratii       | Banded Bay Cuckoo         | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES      | Anser indicus               | Bar-headed Goose          | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES      | Hirundo rustica             | Barn Swallow              | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES      | Turnix suscitator           | Barred Buttonquail        | LC OR LR/LC | Not a Migrant | NOT SEEN |  |  |  |
| AVES      | Ploceus philippinus         | Baya Weaver               | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES      | Lanius vittatus             | Bay-backed Shrike         | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES      | Dicrurus macrocercus        | Black Drongo              | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES      | Milvus migrans              | Black Kite                | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES      | Phoenicurus ochruros        | Black Redstart            | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES      | Sterna acuticauda           | Black-bellied Tern        | EN          | Not a Migrant | NOT SEEN |  |  |  |
| AVES      | Nycticorax nycticorax       | Black-crowned Night-heron | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES      | Lalage melanoptera          | Black-headed Cuckooshrike | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES      | Threskiornis melanocephalus | Black-headed Ibis         | NT OR LR/NT | Full Migrant  |          |  |  |  |
| AVES      | Oriolus xanthornus          | Black-hooded Oriole       | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES      | Ephippiorhynchus asiaticus  | Black-necked Stork        | NT OR LR/NT | Not a Migrant |          |  |  |  |
| AVES      | Dinopium benghalense        | Black-rumped Flameback    | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES      | Limosa limosa               | Black-tailed Godwit       | NT OR LR/NT | Full Migrant  |          |  |  |  |



|      |                              |                             |             |               |          |  |  |  |
|------|------------------------------|-----------------------------|-------------|---------------|----------|--|--|--|
| AVES | Elanus caeruleus             | Black-winged Kite           | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Himantopus himantopus        | Black-winged Stilt          | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Monticola solitarius         | Blue Rock-thrush            | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Monticola cinclorhyncha      | Blue-capped Rock-thrush     | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Phaenicophaeus viridirostris | Blue-faced Malkoha          | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Merops philippinus           | Blue-tailed Bee-eater       | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Luscinia svecica             | Bluethroat                  | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Anthus godlewskii            | Blyth's Pipit               | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Acrocephalus dumetorum       | Blyth's Reed-warbler        | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Aquila fasciata              | Bonelli's Eagle             | LC OR LR/LC | Not a Migrant | NOT SEEN |  |  |  |
| AVES | Hieraaetus pennatus          | Booted Eagle                | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Iduna caligata               | Booted Warbler              | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Haliastur indus              | Brahminy Kite               | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Sturnia pagodarum            | Brahminy Starling           | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Zapornia akool               | Brown Crane                 | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Ketupa zeylonensis           | Brown Fish-owl              | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Lanius cristatus             | Brown Shrike                | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Psilopogon zeylanicus        | Brown-headed Barbet         | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Bubulcus ibis                | Cattle Egret                | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Nisaetus cirrhatus           | Changeable Hawk-eagle       | LC OR LR/LC | Not a Migrant | NOT SEEN |  |  |  |
| AVES | Pterocles exustus            | Chestnut-bellied Sandgrouse | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Gymnoris xanthocollis        | Chestnut-shouldered Bush-sp | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Sturnia malabarica           | Chestnut-tailed Starling    | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Clamator coromandus          | Chestnut-winged Cuckoo      | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Motacilla citreola           | Citrine Wagtail             | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Acrocephalus stentoreus      | Clamorous Reed-warbler      | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Argya caudata                | Common Babbler              | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Tyto alba                    | Common Barn-owl             | LC OR LR/LC | Not a Migrant | NOT SEEN |  |  |  |
| AVES | Turnix sylvaticus            | Common Buttonquail          | LC OR LR/LC | Not a Migrant | NOT SEEN |  |  |  |
| AVES | Fulica atra                  | Common Coot                 | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Tringa nebularia             | Common Greenshank           | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Hierococcyx varius           | Common Hawk-cuckoo          | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Upupa epops                  | Common Hoopoe               | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Aegithina tiphia             | Common Iora                 | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Falco tinnunculus            | Common Kestrel              | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Alcedo atthis                | Common Kingfisher           | LC OR LR/LC | Full Migrant  |          |  |  |  |

|      |                            |                              |             |               |  |  |  |  |
|------|----------------------------|------------------------------|-------------|---------------|--|--|--|--|
| AVES | Gallinula chloropus        | Common Moorhen               | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Acridotheres tristis       | Common Myna                  | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Coturnix coturnix          | Common Quail                 | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Tringa totanus             | Common Redshank              | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Carpodacus erythrinus      | Common Rosefinch             | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Actitis hypoleucos         | Common Sandpiper             | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Gallinago gallinago        | Common Snipe                 | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Saxicola torquatus         | Common Stonechat             | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Orthotomus sutorius        | Common Tailorbird            | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Anas crecca                | Common Teal                  | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Tephrodornis pondicerianus | Common Woodshrike            | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Psilopogon haemacephalus   | Coppersmith Barbet           | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Nettapus coromandelianus   | Cotton Pygmy-goose           | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Spilornis cheela           | Crested Serpent-eagle        | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Anthropoides virgo         | Demoiselle Crane             | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Ptyonoprogne concolor      | Dusky Crag Martin            | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Neophron percnopterus      | Egyptian Vulture             | EN          | Full Migrant  |  |  |  |  |
| AVES | Botaurus stellaris         | Eurasian Bittern             | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Streptopelia decaocto      | Eurasian Collared-dove       | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Platalea leucorodia        | Eurasian Spoonbill           | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Mareca penelope            | Eurasian Wigeon              | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Scolopax rusticola         | Eurasian Woodcock            | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Jynx torquilla             | Eurasian Wryneck             | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Dendrocygna bicolor        | Fulvous Whistling-duck       | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Spatula querquedula        | Garganey                     | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Plegadis falcinellus       | Glossy Ibis                  | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Phalacrocorax carbo        | Great Cormorant              | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Lanius excubitor           | Great Grey Shrike            | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Ardeotis nigriceps         | Great Indian Bustard         | CR          | Not a Migrant |  |  |  |  |
| AVES | Esacus recurvirostris      | Great Thick-knee             | NT OR LR/NT | Not a Migrant |  |  |  |  |
| AVES | Parus major                | Great Tit                    | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Ardea alba                 | Great White Egret            | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Centropus sinensis         | Greater Coucal               | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Phoenicopterus roseus      | Greater Flamingo             | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Dicrurus paradiseus        | Greater Racquet-tailed Drong | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Tringa ochropus            | Green Sandpiper              | LC OR LR/LC | Full Migrant  |  |  |  |  |

|      |                          |                            |             |                     |  |  |  |  |
|------|--------------------------|----------------------------|-------------|---------------------|--|--|--|--|
| AVES | Phylloscopus nitidus     | Green Warbler              | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Butorides striata        | Green-backed Heron         | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Ortygornis pondicerianus | Grey Francolin             | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Ardea cinerea            | Grey Heron                 | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Gallus sonneratii        | Grey Junglefowl            | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Motacilla cinerea        | Grey Wagtail               | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Cacomantis passerinus    | Grey-bellied Cuckoo        | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Prinia hodgsonii         | Grey-breasted Prinia       | LC OR LR/LC | Altitudinal Migrant |  |  |  |  |
| AVES | Emberiza buchanani       | Grey-necked Bunting        | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Mirafra javanica         | Horsfield's Bushlark       | LC OR LR/LC | Nomadic             |  |  |  |  |
| AVES | Corvus splendens         | House Crow                 | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Passer domesticus        | House Sparrow              | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Phylloscopus humei       | Hume's Leaf-warbler        | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Larvivora brunnea        | Indian Blue Robin          | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Mirafra erythroptera     | Indian Bushlark            | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Cursorius coromandelicus | Indian Courser             | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Coracina macei           | Indian Cuckooshrike        | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Oriolus kundoo           | Indian Golden Oriole       | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Ocyrcos birostris        | Indian Grey Hornbill       | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Caprimulgus asiaticus    | Indian Nightjar            | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Terpsiphone paradisi     | Indian Paradise-flycatcher | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Pavo cristatus           | Indian Peafowl             | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Gracupica contra         | Indian Pied Starling       | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Pitta brachyura          | Indian Pitta               | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Ardeola grayii           | Indian Pond-heron          | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Picoides nanus           | Indian Pygmy Woodpecker    | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Copsychus fulicatus      | Indian Robin               | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Coracias benghalensis    | Indian Roller              | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Otus bakkamoena          | Indian Scops-owl           | LC OR LR/LC | Altitudinal Migrant |  |  |  |  |
| AVES | Euodice malabarica       | Indian Silverbill          | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Anas poecilorhyncha      | Indian Spot-billed Duck    | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Clanga hastata           | Indian Spotted Eagle       | VU          | Not a Migrant       |  |  |  |  |
| AVES | Burhinus indicus         | Indian Thick-knee          | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Gyps indicus             | Indian Vulture             | CR          | Not a Migrant       |  |  |  |  |
| AVES | Zosterops palpebrosus    | Indian White-eye           | LC OR LR/LC |                     |  |  |  |  |
| AVES | Ardea intermedia         | Intermediate Egret         | LC OR LR/LC | Full Migrant        |  |  |  |  |

|      |                         |                           |             |               |  |  |  |  |
|------|-------------------------|---------------------------|-------------|---------------|--|--|--|--|
| AVES | Clamator jacobinus      | Jacobin Cuckoo            | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Mirafra affinis         | Jerdon's Bushlark         | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Chloropsis jerdoni      | Jerdon's Leafbird         | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Argya striata           | Jungle Babbler            | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Perdica asiatica        | Jungle Bush-quail         | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Glaucidium radiatum     | Jungle Owlet              | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Prinia sylvatica        | Jungle Prinia             | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Falco jugger            | Laggar Falcon             | NT OR LR/NT | Not a Migrant |  |  |  |  |
| AVES | Argya malcolmi          | Large Grey Babbler        | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Corvus macrorhynchos    | Large-billed Crow         | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Spilopelia senegalensis | Laughing Dove             | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Cuculus poliocephalus   | Lesser Cuckoo             | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Sypheotides indicus     | Lesser Florican           | CR          | Full Migrant  |  |  |  |  |
| AVES | Dendrocygna javanica    | Lesser Whistling-duck     | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Curruca curruca         | Lesser Whitethroat        | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Microcarbo niger        | Little Cormorant          | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Egretta garzetta        | Little Egret              | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Tachybaptus ruficollis  | Little Grebe              | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Glareola lactea         | Little Pratincole         | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Charadrius dubius       | Little Ringed Plover      | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Apus affinis            | Little Swift              | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Lanius schach           | Long-tailed Shrike        | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Anas platyrhynchos      | Mallard                   | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Tringa stagnatilis      | Marsh Sandpiper           | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Calandrella dukhunensis | Mongolian Short-toed Lark | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Strix ocellata          | Mottled Wood-owl          | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Anas acuta              | Northern Pintail          | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Spatula clypeata        | Northern Shoveler         | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Anthus hodgsoni         | Olive-backed Pipit        | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Geokichla citrina       | Orange-headed Thrush      | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Anhinga melanogaster    | Oriental Darter           | NT OR LR/NT | Not a Migrant |  |  |  |  |
| AVES | Pernis ptilorhynchus    | Oriental Honey-buzzard    | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Copsychus saularis      | Oriental Magpie-robin     | LC OR LR/LC | Not a Migrant |  |  |  |  |
| AVES | Glareola maldivarum     | Oriental Pratincole       | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Alauda gulula           | Oriental Skylark          | LC OR LR/LC | Full Migrant  |  |  |  |  |
| AVES | Streptopelia orientalis | Oriental Turtle-dove      | LC OR LR/LC | Full Migrant  |  |  |  |  |

|      |                             |                          |             |                     |  |  |  |  |
|------|-----------------------------|--------------------------|-------------|---------------------|--|--|--|--|
| AVES | Pandion haliaetus           | Osprey                   | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Anthus rufulus              | Paddyfield Pipit         | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Francolinus pictus          | Painted Francolin        | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Pterocles indicus           | Painted Sandgrouse       | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Galloperdix lunulata        | Painted Spurfowl         | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Mycteria leucocephala       | Painted Stork            | NT OR LR/NT | Not a Migrant       |  |  |  |  |
| AVES | Dicaeum erythrorhynchos     | Pale-billed Flowerpecker | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Circus macrourus            | Pallid Harrier           | NT OR LR/NT | Full Migrant        |  |  |  |  |
| AVES | Falco peregrinus            | Peregrine Falcon         | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Hydrophasianus chirurgus    | Pheasant-tailed Jacana   | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Saxicola caprata            | Pied Bushchat            | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Circus melanoleucos         | Pied Harrier             | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Ceryle rudis                | Pied Kingfisher          | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Gallinago stenura           | Pintail Snipe            | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Prinia inornata             | Plain Prinia             | LC OR LR/LC | Altitudinal Migrant |  |  |  |  |
| AVES | Himalayapsitta cyanocephala | Plum-headed Parakeet     | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Ardea purpurea              | Purple Heron             | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Cinnyris asiaticus          | Purple Sunbird           | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Porphyrio porphyrio         | Purple Swampphen         | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Leptocoma zeylonica         | Purple-rumped Sunbird    | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Coturnix coromandelica      | Rain Quail               | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Galloperdix spadicea        | Red Spurfowl             | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Streptopelia tranquebarica  | Red Turtle-dove          | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Emberiza bruniceps          | Red-headed Bunting       | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Falco chicquera             | Red-headed Falcon        | NT OR LR/NT | Not a Migrant       |  |  |  |  |
| AVES | Sarcogyps calvus            | Red-headed Vulture       | CR          | Not a Migrant       |  |  |  |  |
| AVES | Pseudibis papillosa         | Red-naped Ibis           | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Cecropis daurica            | Red-rumped Swallow       | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Ficedula albicilla          | Red-throated Flycatcher  | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Pycnonotus cafer            | Red-vented Bulbul        | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Vanellus indicus            | Red-wattled Lapwing      | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Pycnonotus jocosus          | Red-whiskered Bulbul     | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Anthus richardi             | Richard's Pipit          | LC OR LR/LC | Full Migrant        |  |  |  |  |
| AVES | Sterna aurantia             | River Tern               | VU          | Not a Migrant       |  |  |  |  |
| AVES | Perdica argoondah           | Rock Bush-quail          | LC OR LR/LC | Not a Migrant       |  |  |  |  |
| AVES | Columba livia               | Rock Dove                | LC OR LR/LC | Not a Migrant       |  |  |  |  |

|      |                          |                           |             |               |          |  |  |  |
|------|--------------------------|---------------------------|-------------|---------------|----------|--|--|--|
| AVES | Bubo bengalensis         | Rock Eagle-owl            | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Alexandrinus krameri     | Rose-ringed Parakeet      | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Pastor roseus            | Rosy Starling             | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Tadorna ferruginea       | Ruddy Shelduck            | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Dendrocitta vagabunda    | Rufous Treepie            | LC OR LR/LC | Not a Migrant | NOT SEEN |  |  |  |
| AVES | Ammomanes phoenicura     | Rufous-tailed Lark        | LC OR LR/LC | Not a Migrant | NOT SEEN |  |  |  |
| AVES | Caprimulgus affinis      | Savanna Nightjar          | LC OR LR/LC | Not a Migrant | NOT SEEN |  |  |  |
| AVES | Accipiter badius         | Shikra                    | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Asio flammeus            | Short-eared Owl           | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Circaetus gallicus       | Short-toed Snake-eagle    | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Taccocua leschenaultii   | Sirkeer Malkoha           | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Pericrocotus cinnamomeus | Small Minivet             | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Athene brama             | Spotted Owlet             | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Tringa erythropus        | Spotted Redshank          | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Aquila nipalensis        | Steppe Eagle              | EN          | Full Migrant  |          |  |  |  |
| AVES | Ploceus manyar           | Streaked Weaver           | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Petrochelidon fluvicola  | Streak-throated Swallow   | LC OR LR/LC | Full Migrant  |          |  |  |  |
| AVES | Phylloscopus griseolus   | Sulphur-bellied Warbler   | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Galerida deva            | Sykes's Lark              | LC OR LR/LC | Not a Migrant | NOT SEEN |  |  |  |
| AVES | Iduna rama               | Sykes's Warbler           | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Aquila rapax             | Tawny Eagle               | VU          | Nomadic       | NOT SEEN |  |  |  |
| AVES | Dumetia hypertyra        | Tawny-bellied Babbler     | LC OR LR/LC | Not a Migrant | NOT SEEN |  |  |  |
| AVES | Calidris temminckii      | Temminck's Stint          | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Dicaeum agile            | Thick-billed Flowerpecker | LC OR LR/LC | Not a Migrant | NOT SEEN |  |  |  |
| AVES | Arundinax aedon          | Thick-billed Warbler      | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Cyornis tickelliae       | Tickell's Blue-flycatcher | LC OR LR/LC | Not a Migrant |          |  |  |  |
| AVES | Phylloscopus affinis     | Tickell's Leaf-warbler    | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Anthus trivialis         | Tree Pipit                | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Aythya fuligula          | Tufted Duck               | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Phylloscopus tytleri     | Tytler's Leaf-warbler     | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Ficedula supercilialis   | Ultramarine Flycatcher    | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Gallicrex cinerea        | Watercock                 | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Eudynamys scolopaceus    | Western Koel              | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Circus aeruginosus       | Western Marsh-harrier     | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Spilopelia suratensis    | Western Spotted Dove      | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |
| AVES | Motacilla flava          | Western Yellow Wagtail    | LC OR LR/LC | Full Migrant  | NOT SEEN |  |  |  |

|            |                           |                            |             |                     |          |  |  |  |
|------------|---------------------------|----------------------------|-------------|---------------------|----------|--|--|--|
| AVES       | Chlidonias hybrida        | Whiskered Tern             | LC OR LR/LC | Full Migrant        | NOT SEEN |  |  |  |
| AVES       | Motacilla alba            | White Wagtail              | LC OR LR/LC | Full Migrant        | NOT SEEN |  |  |  |
| AVES       | Dicrurus caeruleus        | White-bellied Drongo       | LC OR LR/LC | Not a Migrant       |          |  |  |  |
| AVES       | Halcyon smyrnensis        | White-breasted Kingfisher  | LC OR LR/LC | Not a Migrant       |          |  |  |  |
| AVES       | Amaurornis phoenicurus    | White-breasted Waterhen    | LC OR LR/LC | Full Migrant        | NOT SEEN |  |  |  |
| AVES       | Pycnonotus luteolus       | White-browed Bulbul        | LC OR LR/LC | Not a Migrant       |          |  |  |  |
| AVES       | Rhipidura aureola         | White-browed Fantail       | LC OR LR/LC | Not a Migrant       | NOT SEEN |  |  |  |
| AVES       | Motacilla maderaspatensis | White-browed Wagtail       | LC OR LR/LC | Not a Migrant       |          |  |  |  |
| AVES       | Butastur teesa            | White-eyed Buzzard         | LC OR LR/LC | Not a Migrant       | NOT SEEN |  |  |  |
| AVES       | Gyps bengalensis          | White-rumped Vulture       | CR          | Nomadic             | NOT SEEN |  |  |  |
| AVES       | Rhipidura albogularis     | White-spotted Fantail      | LC OR LR/LC | Altitudinal Migrant | NOT SEEN |  |  |  |
| AVES       | Hirundo smithii           | Wire-tailed Swallow        | LC OR LR/LC | Full Migrant        |          |  |  |  |
| AVES       | Tringa glareola           | Wood Sandpiper             | LC OR LR/LC | Full Migrant        | NOT SEEN |  |  |  |
| AVES       | Argya affinis             | Yellow-billed Babbler      | LC OR LR/LC | Not a Migrant       |          |  |  |  |
| AVES       | Leiopicus mahrattensis    | Yellow-crowned Woodpecker  | LC OR LR/LC | Not a Migrant       | NOT SEEN |  |  |  |
| AVES       | Chrysomma sinense         | Yellow-eyed Babbler        | LC OR LR/LC | Not a Migrant       |          |  |  |  |
| AVES       | Treron phoenicopterus     | Yellow-footed Green-pigeon | LC OR LR/LC | Not a Migrant       | NOT SEEN |  |  |  |
| AVES       | Turnix tanki              | Yellow-legged Buttonquail  | LC OR LR/LC | Full Migrant        | NOT SEEN |  |  |  |
| AVES       | Pycnonotus xantholaemus   | Yellow-throated Bulbul     | VU          | Not a Migrant       | NOT SEEN |  |  |  |
| AVES       | Vanellus malabaricus      | Yellow-wattled Lapwing     | LC OR LR/LC | Not a Migrant       | NOT SEEN |  |  |  |
| AVES       | Cisticola juncidis        | Zitting Cisticola          | LC OR LR/LC | Not a Migrant       |          |  |  |  |
| BIVALVIA   | Corbicula striatella      |                            | LC OR LR/LC |                     |          |  |  |  |
| BIVALVIA   | Lamellidens corrianus     |                            | LC OR LR/LC |                     |          |  |  |  |
| BIVALVIA   | Parreysia corrugata       |                            | LC OR LR/LC | Nomadic             |          |  |  |  |
| BIVALVIA   | Parreysia favidens        |                            | LC OR LR/LC |                     |          |  |  |  |
| BIVALVIA   | Parreysia bonneaudi       |                            | LC OR LR/LC |                     |          |  |  |  |
| BIVALVIA   | Odhneripisidium prasongi  |                            | LC OR LR/LC |                     |          |  |  |  |
| BIVALVIA   | Corbicula regularis       |                            | LC OR LR/LC |                     |          |  |  |  |
| BIVALVIA   | Polymesoda expansa        | Marsh Clam                 | LC OR LR/LC |                     |          |  |  |  |
| GASTROPODA | Melanoides tuberculata    |                            | LC OR LR/LC |                     |          |  |  |  |
| GASTROPODA | Indoplanorbis exustus     |                            | LC OR LR/LC |                     |          |  |  |  |
| GASTROPODA | Tarebia granifera         |                            | LC OR LR/LC |                     |          |  |  |  |
| GASTROPODA | Intha umbilicalis         |                            | LC OR LR/LC |                     |          |  |  |  |
| GASTROPODA | Sermyla riqueti           |                            | LC OR LR/LC | Not a Migrant       |          |  |  |  |
| GASTROPODA | Gyraulus convexiusculus   |                            | LC OR LR/LC |                     |          |  |  |  |
| GASTROPODA | Lymnaea luteola           |                            | LC OR LR/LC |                     |          |  |  |  |



|            |                                    |                        |             |               |  |  |  |  |
|------------|------------------------------------|------------------------|-------------|---------------|--|--|--|--|
| GASTROPODA | <i>Lymnaea acuminata</i>           |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Sulcospira huegeli</i>          |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Neritina violacea</i>           | Red-mouth Nerite Snail | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Bithynia cerameopoma</i>        |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Bellamya bengalensis</i>        |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Paludomus tanschuaricus</i>     |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Pettancylus verruca</i>         |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Lymnaea persica</i>             |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Stenothyra blanfordiana</i>     |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Gabbia orcula</i>               |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Bithynia pulchella</i>          |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Mekongia crassa</i>             |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Segmentina trochoidea</i>       |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Gabbia stenothyroides</i>       |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Thiara rudis</i>                |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Pila virens</i>                 |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Clenchiella microscopica</i>    |                        | LC OR LR/LC | Not a Migrant |  |  |  |  |
| GASTROPODA | <i>Cerithium corallium</i>         | Coral Cerith           | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Ellobium aurisjudae</i>         | Judas Ear Cassidula    | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Pomacea lineata</i>             |                        | LC OR LR/LC |               |  |  |  |  |
| GASTROPODA | <i>Lymnaea biacuminata</i>         |                        | DD          |               |  |  |  |  |
| GASTROPODA | <i>Stagnicola tungabhadraensis</i> |                        | DD          |               |  |  |  |  |
| GASTROPODA | <i>Paludomus inflatus</i>          |                        | DD          |               |  |  |  |  |
| INSECTA    | <i>Anax ephippiger</i>             | Vagrant Emperor        | LC OR LR/LC | Full Migrant  |  |  |  |  |
| INSECTA    | <i>Ischnura senegalensis</i>       | Tropical Bluetail      | LC OR LR/LC | Nomadic       |  |  |  |  |
| INSECTA    | <i>Pantala flavescens</i>          | Wandering Glider       | LC OR LR/LC | Full Migrant  |  |  |  |  |
| INSECTA    | <i>Tholymis tillarga</i>           | Old World Twister      | LC OR LR/LC | Full Migrant  |  |  |  |  |
| INSECTA    | <i>Tramea basilaris</i>            | Keyhole Glider         | LC OR LR/LC | Full Migrant  |  |  |  |  |
| INSECTA    | <i>Tramea limbata</i>              | Ferruginous Glider     | LC OR LR/LC | Full Migrant  |  |  |  |  |
| INSECTA    | <i>Trithemis kirbyi</i>            | Orange-winged Dropwing | LC OR LR/LC | Nomadic       |  |  |  |  |
| INSECTA    | <i>Zygonyx torridus</i>            | Ringed Cascader        | LC OR LR/LC | Nomadic       |  |  |  |  |
| INSECTA    | <i>Lestes concinnus</i>            | Dusky Spreadwing       | LC OR LR/LC |               |  |  |  |  |
| INSECTA    | <i>Graphium sarpedon</i>           | Blue Triangle          | LC OR LR/LC |               |  |  |  |  |
| INSECTA    | <i>Rhodothemis rufa</i>            |                        | LC OR LR/LC |               |  |  |  |  |
| INSECTA    | <i>Heliocypha biforata</i>         |                        | LC OR LR/LC |               |  |  |  |  |
| INSECTA    | <i>Tetrathemis platyptera</i>      |                        | LC OR LR/LC |               |  |  |  |  |

|         |                            |                        |             |              |  |  |  |  |
|---------|----------------------------|------------------------|-------------|--------------|--|--|--|--|
| INSECTA | Vestalis gracilis          |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Ceriagrion coromandelianum |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Cratilla metallica         |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Neurobasis chinensis       |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Aciagrion hisopa           |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Coeliccia didyma           |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Urothemis signata          |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Macromia flavocolorata     |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Rhyothemis variegata       |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Ceriagrion olivaceum       |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Anaciaeschna jaspidea      |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Nannophya pygmaea          |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Zyxomma petiolatum         | Long-tailed Duskdarter | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Amphiallagma parvum        |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Aciagrion occidentale      |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Aethriamanta brevipennis   |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Bradynopyga geminata       |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Agriocnemis pygmaea        | Wandering Midget       | LC OR LR/LC | Nomadic      |  |  |  |  |
| INSECTA | Indothemis limbata         |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Epophthalmia vittata       |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Orthetrum luzonicum        |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Lestes dorothea            |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Copera marginipes          |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Anax guttatus              | Lesser Green Emperor   | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Brachythemis contaminata   |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Trithemis pallidinervis    | Dancing Dropwing       | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Diplacodes trivialis       |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Ischnura aurora            | Gossamer Damselfly     | LC OR LR/LC | Full Migrant |  |  |  |  |
| INSECTA | Pseudagrion rubriceps      |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Copera vittata             |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Trithemis aurora           |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Orthetrum chrysis          |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Ceriagrion cerinorubellum  |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Macrodiplax cora           | Cora's Pennant         | LC OR LR/LC | Nomadic      |  |  |  |  |
| INSECTA | Lyriothemis cleis          |                        | LC OR LR/LC |              |  |  |  |  |
| INSECTA | Anax indicus               |                        | LC OR LR/LC |              |  |  |  |  |

|            |                                              |                              |             |               |  |  |  |  |
|------------|----------------------------------------------|------------------------------|-------------|---------------|--|--|--|--|
| INSECTA    | Vanessa cardui                               | Painted Lady                 | LC OR LR/LC | Full Migrant  |  |  |  |  |
| INSECTA    | Pseudagrion microcephalum ssp. microcephalum |                              | LC OR LR/LC |               |  |  |  |  |
| INSECTA    | Lathrecista asiatica ssp. asiatica           |                              | LC OR LR/LC |               |  |  |  |  |
| INSECTA    | Hierodula tenuidentata                       | Giant Asian Mantis           | LC OR LR/LC | Not a Migrant |  |  |  |  |
| INSECTA    | Pachliopta aristolochiae                     | Common Rose                  | LC OR LR/LC |               |  |  |  |  |
| INSECTA    | Pachliopta hector                            | Crimson Rose                 | LC OR LR/LC |               |  |  |  |  |
| INSECTA    | Ischnura rubilio                             |                              | LC OR LR/LC |               |  |  |  |  |
| INSECTA    | Lestes umbrinus                              |                              | DD          |               |  |  |  |  |
| LILIOPSIDA | Oryza malampuzhaensis                        |                              | VU          |               |  |  |  |  |
| LILIOPSIDA | Eriocaulon barbeyanum                        |                              | NT OR LR/NT |               |  |  |  |  |
| LILIOPSIDA | Potamogeton pusillus                         | Lesser Pondweed              | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Fimbristylis bisumbellata                    | Fimbristylis Å Deux Ombelles | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Fuirena pubescens                            | Hairy Sedge                  | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Juncus bufonius                              | Toad Rush                    | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Cyperus esculentus                           | Yellow Nutsedge              | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Lemna gibba                                  | Fat Duckweed                 | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Vallisneria spiralis                         | Tapegrass                    | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Alisma plantago-aquatica                     | Common Water-plantain        | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Zannichellia palustris                       | Horned Pondweed              | LC OR LR/LC | Not a Migrant |  |  |  |  |
| LILIOPSIDA | Cyperus polystachyos                         | Bunchy Flat Sedge            | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Typha angustifolia                           | Lesser Bulrush               | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Typha domingensis                            | Southern Cat-tail            | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Eleocharis geniculata                        | Spike Rush                   | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Juncus effusus                               | Soft Rush                    | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Potamogeton nodosus                          | Loddon Pondweed              | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Spirodela polyrhiza                          | Greater Duckweed             | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Bolboschoenus maritimus                      | Sea Club-Rush                | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Cyperus longus                               | Sweet Cyperus                | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Najas graminea                               | Ricefield Waternymph         | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Najas marina                                 | Holly-leaved Naiad           | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Cyperus michelianus                          | Souchet de Michel            | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Ottelia alismoides                           | Duck-Lettuce                 | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Cyperus digitatus                            | Finger Flatsedge             | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Monochoria korsakowii                        |                              | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Hydrilla verticillata                        | Hydrilla                     | LC OR LR/LC |               |  |  |  |  |
| LILIOPSIDA | Isachne globosa                              | Swamp Millet                 | LC OR LR/LC |               |  |  |  |  |

|            |                            |                       |             |  |  |  |  |  |
|------------|----------------------------|-----------------------|-------------|--|--|--|--|--|
| LILIOPSIDA | Lemna perpusilla           |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Vallisneria natans         |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Potamogeton wrightii       |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Potamogeton octandrus      |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Blyxa japonica             |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Monochoria hastata         | Leaf Pondweed         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cryptocoryne retrospiralis |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Monochoria vaginalis       | Pickereel Weed        | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cryptocoryne ciliata       | Water Trumpet         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Limnophyton obtusifolium   | Arrow Head            | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Stuckenia pectinata        | Fennel Pondweed       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Blyxa aubertii             | Round Fruit Blyxa     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Crinum viviparum           | River Crinum Lily     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Juncus prismatocarpus      |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Landoltia punctata         | Dotted Duckweed       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Lasia spinosa              |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Hydrocharis dubia          |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Blyxa octandra             |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Nechamandra alternifolia   |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cyanotis axillaris         |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Colocasia esculenta        | Wild Taro             | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cyperus nutans             |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Fimbristylis nutans        |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Kyllinga melanosperma      |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Oryza rufipogon            | Red Rice              | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cyperus alulatus           |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Queenslandiella hyalina    | Queensland Sedge      | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cyperus clarkei            |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cyperus diffusus           | Dwarf Umbrella Grass  | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Fimbristylis ovata         |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Ischaemum molle            |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Fuirena tuwensis           |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Fimbristylis dipsacea      | Harper's Fimbristylis | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Eriocaulon fluviatile      |                       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Eriocaulon stellulatum     | Starry Pipewort       | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Isachne elegans            |                       | LC OR LR/LC |  |  |  |  |  |

|            |                             |                     |             |  |  |  |  |  |
|------------|-----------------------------|---------------------|-------------|--|--|--|--|--|
| LILIOPSIDA | Fimbristylis littoralis     | Lesser Fimbristylis | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Isachne pulchella           |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Fuirena uncinata            |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Eragrostis japonica         | Pond Lovegrass      | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Eleocharis spiralis         |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Coelachne perpusilla        |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Fimbristylis complanata     |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Eriocaulon minutum          |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Fimbristylis alboviridis    |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Lipocarpa gracilis          |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Echinochloa frumentacea     |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cyanotis arcotensis         |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Fuirena cuspidata           |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Fuirena umbellata           | Yefen               | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cyperus distans             | Slender Cyperus     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Bothriochloa pseudischaemum |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cyperus dubius              |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Eriocaulon lanceolatum      |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Eriocaulon breviscapum      |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Fimbristylis ferruginea     | West Indian Fimbry  | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cyperus tuberosus           | Nut Grass           | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Fimbristylis schoenoides    | Ditch Fimbry        | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Pycreus puncticulatus       |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Commelina caroliniana       |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cyperus pilosus             |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Oryza officinalis           |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Fuirena trilobites          |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cyperus arenarius           | Dwarf Sedge         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cyperus compactus           |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Eriocaulon brownianum       |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Cyperus castaneus           |                     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Elytrophorus spicatus       | Spike Grass         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Kyllinga nemoralis          | White Water Sedge   | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Eriocaulon truncatum        | Short Pipe-Wort     | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Hemarthria compressa        | Whip Grass          | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA | Polytrias indica            | Batiki Bluegrass    | LC OR LR/LC |  |  |  |  |  |

|               |                             |                         |             |  |  |  |  |  |
|---------------|-----------------------------|-------------------------|-------------|--|--|--|--|--|
| LILIOPSIDA    | Lipocarpha chinensis        |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Carex filicina              |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Alocasia fornicata          |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Eriochloa procera           | Spring Grass            | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Cyperus tenuispica          |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Eriocaulon minimum          |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Cyperus cyperoides          |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Isachne albens              |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Eriocaulon parviflorum      |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Cyperus meeboldii           |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Cyperus amabilis            |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Brachiaria ramosa           | Browntop Millet         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Fimbristylis microcarya     |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Fimbristylis polytrichoides |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Fimbristylis acuminata      |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Wolffia globosa             |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Carex baccans               | Crimson Seeded Sedge    | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Eriocaulon margaretae       |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Fimbristylis tetragona      |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Fimbristylis cinnamometorum |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Juncus wallichianus         |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Sparganium fallax           |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Burmannia pusilla           |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Burmannia coelestis         |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Xyris indica                |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Typhonium flagelliforme     |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Oryza meyeriana             |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Oryza nivara                |                         | LC OR LR/LC |  |  |  |  |  |
| LILIOPSIDA    | Ranalisma rostrata          |                         | DD          |  |  |  |  |  |
| LILIOPSIDA    | Oryza coarctata             |                         | DD          |  |  |  |  |  |
| MAGNOLIOPSIDA | Grangea maderaspatana       |                         | LC OR LR/LC |  |  |  |  |  |
| MAGNOLIOPSIDA | Eclipta prostrata           | False daisy             | LC OR LR/LC |  |  |  |  |  |
| MAGNOLIOPSIDA | Phyla nodiflora             | Turkey Tangle Frogfruit | LC OR LR/LC |  |  |  |  |  |
| MAGNOLIOPSIDA | Trapa natans                | Water Caltrop           | LC OR LR/LC |  |  |  |  |  |
| MAGNOLIOPSIDA | Bacopa monnieri             | Water Hyssop            | LC OR LR/LC |  |  |  |  |  |
| MAGNOLIOPSIDA | Alternanthera sessilis      | Sessile Joyweed         | LC OR LR/LC |  |  |  |  |  |

|               |                           |                            |             |               |  |  |  |  |
|---------------|---------------------------|----------------------------|-------------|---------------|--|--|--|--|
| MAGNOLIOPSIDA | Nymphaea tetragona        |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Bonnaya antipoda          |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Trapa incisa              |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Centella asiatica         | Centella                   | LC OR LR/LC | Not a Migrant |  |  |  |  |
| MAGNOLIOPSIDA | Wedelia chinensis         | Chinese Wedelia            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Oenanthe javanica         | Water Dropwort             | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Sesbania javanica         |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Hygrophila salicifolia    |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Acanthus ilicifolius      | Holy Mangrove              | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Nymphoides parvifolia     |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Myriophyllum tuberculatum |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Nymphaea pubescens        | Hairy Water Lily           | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Hygrophila pinnatifida    | Miramar Weed               | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Myriophyllum indicum      |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Limnophila rugosa         |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Nymphaea nouchali         | Blue Lotus                 | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Hoppea dichotoma          |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Hydrolea zeylanica        |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Aeschynomene aspera       | Sola Pith Plant            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Limnophila heterophylla   |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Caesulia axillaris        | Pink Node Flower           | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Dopatrium junceum         | Rushlike Dopatrium         | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Hygrophila polysperma     | Dwarf Hygrophila           | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Enydra fluctuans          | Buffalo Spinach            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Nymphaea rubra            |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Limnophila indica         | Indian Marshweed           | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Drosera burmanni          |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Nymphoides aurantiaca     |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Hydrobryum griffithii     |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Medicago sativa           | Alfalfa                    | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Crotalaria quinquefolia   |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Sesbania bispinosa        | Sesbania Pea               | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Homonoia riparia          | Willow-Leaved Water Croton | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Bacopa hamiltoniana       |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Justicia quinqueangularis |                            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Polypleurum dichotomum    |                            | LC OR LR/LC |               |  |  |  |  |



|               |                              |                      |             |               |  |  |  |  |
|---------------|------------------------------|----------------------|-------------|---------------|--|--|--|--|
| MAGNOLIOPSIDA | Aniseia martinicensis        | Whitejacket          | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Hydrocotyle javanica         |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Ludwigia perennis            |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Hygrophila balsamica         |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Hygrophila quadrivalvis      |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Yamazakia viscosa            |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Dopatrium nudicaule          |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Hydrobryopsis sessilis       |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Ludwigia hyssopifolia        | Seed Box             | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Hydrocotyle sibthorpioides   |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Bonnaya oppositifolia        |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Ipomoea coptica              | Alamovine            | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Hygrophila difformis         |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Limnophila polystachya       |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Cladopus hookeriana          |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Cynometra iripa              |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Acmella paniculata           | Panicled Spot Flower | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Myriophyllum oliganthum      |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Nymphoides hydrophylla       |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Curanga amara                |                      | LC OR LR/LC |               |  |  |  |  |
| MAGNOLIOPSIDA | Lavandula bipinnata          |                      | LC OR LR/LC | Not a Migrant |  |  |  |  |
| MAGNOLIOPSIDA | Prunus bifrons               |                      | DD          |               |  |  |  |  |
| MALACOSTRACA  | Lamella lamellifrons         |                      | LC OR LR/LC |               |  |  |  |  |
| MALACOSTRACA  | Travancoriana schirnerae     |                      | LC OR LR/LC |               |  |  |  |  |
| MALACOSTRACA  | Barythelphusa guerini        |                      | LC OR LR/LC |               |  |  |  |  |
| MALACOSTRACA  | Barythelphusa cunicularis    |                      | LC OR LR/LC |               |  |  |  |  |
| MALACOSTRACA  | Macrobrachium scabriculum    |                      | LC OR LR/LC | Full Migrant  |  |  |  |  |
| MALACOSTRACA  | Macrobrachium rude           |                      | LC OR LR/LC | Full Migrant  |  |  |  |  |
| MALACOSTRACA  | Macrobrachium hendersonianum |                      | LC OR LR/LC | Not a Migrant |  |  |  |  |
| MALACOSTRACA  | Macrobrachium rosenbergii    | Giant River Prawn    | LC OR LR/LC | Full Migrant  |  |  |  |  |
| MALACOSTRACA  | Macrobrachium lamarrei       |                      | LC OR LR/LC | Unknown       |  |  |  |  |
| MALACOSTRACA  | Macrobrachium dayanum        |                      | LC OR LR/LC | Unknown       |  |  |  |  |
| MALACOSTRACA  | Macrobrachium tiwarii        |                      | LC OR LR/LC | Not a Migrant |  |  |  |  |
| MALACOSTRACA  | Macrobrachium kistnense      |                      | LC OR LR/LC | Not a Migrant |  |  |  |  |
| MALACOSTRACA  | Macrobrachium malcolmsonii   |                      | LC OR LR/LC | Unknown       |  |  |  |  |
| MAMMALIA      | Manis crassicaudata          | Indian Pangolin      | EN          | Not a Migrant |  |  |  |  |

|          |                                    |                               |             |               |  |  |  |  |
|----------|------------------------------------|-------------------------------|-------------|---------------|--|--|--|--|
| MAMMALIA | <i>Panthera tigris</i>             | Tiger                         | EN          | Not a Migrant |  |  |  |  |
| MAMMALIA | <i>Acinonyx jubatus</i>            | Cheetah                       | VU          |               |  |  |  |  |
| MAMMALIA | <i>Macaca radiata</i>              | Bonnet Macaque                | VU          | Not a Migrant |  |  |  |  |
| MAMMALIA | <i>Panthera pardus</i>             | Leopard                       | VU          |               |  |  |  |  |
| MAMMALIA | <i>Tetracerus quadricornis</i>     | Four-horned Antelope          | VU          |               |  |  |  |  |
| MAMMALIA | <i>Macaca radiata ssp. radiata</i> | Dark-bellied Bonnet Macaque   | VU          | Not a Migrant |  |  |  |  |
| MAMMALIA | <i>Rusa unicolor</i>               | Sambar                        | VU          |               |  |  |  |  |
| MAMMALIA | <i>Aonyx cinereus</i>              | Asian Small-clawed Otter      | VU          | Not a Migrant |  |  |  |  |
| MAMMALIA | <i>Hyaena hyaena</i>               | Striped Hyaena                | NT OR LR/NT | Not a Migrant |  |  |  |  |
| MAMMALIA | <i>Prionailurus rubiginosus</i>    | Rusty-spotted Cat             | NT OR LR/NT | Not a Migrant |  |  |  |  |
| MAMMALIA | <i>Rousettus leschenaultii</i>     | Leschenault's Rousette        | NT OR LR/NT |               |  |  |  |  |
| MAMMALIA | <i>Antelope cervicapra</i>         | Blackbuck                     | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Bandicota bengalensis</i>       | Lesser Bandicoot Rat          | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Bandicota indica</i>            | Greater Bandicoot Rat         | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Boselaphus tragocamelus</i>     | Nilgai                        | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Canis lupus</i>                 | Grey Wolf                     | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Madromys blanfordi</i>          | White-tailed Wood Rat         | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Cremnomys cutchicus</i>         | Cutch Rock-rat                | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Cynopterus brachyotis</i>       | Lesser Dog-faced Fruit Bat    | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Cynopterus sphinx</i>           | Greater Shortnosed Fruit Bat  | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Felis chaus</i>                 | Jungle Cat                    | LC OR LR/LC | Not a Migrant |  |  |  |  |
| MAMMALIA | <i>Funambulus palmarum</i>         | Common Palm Squirrel          | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Funambulus pennantii</i>        | Five-striped Palm Squirrel    | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Gazella bennettii</i>           | Chinkara                      | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Golunda ellioti</i>             | Indian Bush-rat               | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Hipposideros fulvus</i>         | Fulvus Leaf-nosed Bat         | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Hipposideros galeritus</i>      | Cantor's Leaf-nosed Bat       | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Hipposideros lankadiva</i>      | Indian Leaf-nosed Bat         | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Hipposideros speoris</i>        | Schneider's Leaf-nosed Bat    | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Hystrix indica</i>              | Indian Crested Porcupine      | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Lyroderma lyra</i>              | Greater False Vampire         | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Millardia meltada</i>           | Soft-furred Metad             | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Mus booduga</i>                 | Little Indian Field Mouse     | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Mus musculus</i>                | House Mouse                   | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Mus phillipsi</i>               | Wroughton's Small Spiny Mouse | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA | <i>Mus saxicola</i>                | Brown Spiny Mouse             | LC OR LR/LC |               |  |  |  |  |

|                |                                    |                                |             |               |  |  |  |  |
|----------------|------------------------------------|--------------------------------|-------------|---------------|--|--|--|--|
| MAMMALIA       | Mus terricolor                     | Earth-colored Mouse            | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Pipistrellus ceylonicus            | Kelaart's Pipistrelle          | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Pipistrellus coromandra            | Coromandel Pipistrelle         | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Pteropus giganteus                 | Indian Flying Fox              | LC OR LR/LC | Unknown       |  |  |  |  |
| MAMMALIA       | Rattus rattus                      | House Rat                      | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Rhinolophus lepidus                | Blyth's Horseshoe Bat          | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Scotophilus heathii                | Greater Asiatic Yellow House   | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Taphozous longimanus               | Long-winged Tomb Bat           | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Taphozous melanopogon              | Black-bearded Tomb Bat         | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Tatera indica                      | Indian Gerbil                  | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Tylonycteris pachypus              | Lesser Bamboo Bat              | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Vandeleuria oleracea               | Asiatic Long-tailed Climbing M | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Vulpes bengalensis                 | Bengal Fox                     | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Anathana ellioti                   | Madras Treeshrew               | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Lepus nigricollis                  | Indian Hare                    | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Suncus murinus                     | House Shrew                    | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Herpestes edwardsii                | Indian Grey Mongoose           | LC OR LR/LC | Not a Migrant |  |  |  |  |
| MAMMALIA       | Herpestes smithii                  | Ruddy Mongoose                 | LC OR LR/LC | Not a Migrant |  |  |  |  |
| MAMMALIA       | Mellivora capensis                 | Honey Badger                   | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Paradoxurus hermaphroditus         | Common Palm Civet              | LC OR LR/LC | Not a Migrant |  |  |  |  |
| MAMMALIA       | Viverricula indica                 | Small Indian Civet             | LC OR LR/LC | Not a Migrant |  |  |  |  |
| MAMMALIA       | Sus scrofa                         | Wild Boar                      | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Axis axis                          | Chital                         | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Semnopithecus hypoleucos ssp. acha | Plains Langur                  | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Muntiacus vaginalis                | Northern Red Muntjac           | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Moschiola indica                   | Indian Chevrotain              | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Rhinopoma hardwickii               | Lesser Mouse-tailed Bat        | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Canis aureus                       | Golden Jackal                  | LC OR LR/LC |               |  |  |  |  |
| MAMMALIA       | Semnopithecus hypoleucos           | Black-footed Gray Langur       | LC OR LR/LC |               |  |  |  |  |
| POLYPODIOPSIDA | Marsilea quadrifolia               | Water Shamrock                 | LC OR LR/LC |               |  |  |  |  |
| POLYPODIOPSIDA | Salvinia natans                    | Floating Fern                  | LC OR LR/LC |               |  |  |  |  |
| POLYPODIOPSIDA | Marsilea minuta                    | Dwarf Water Clover             | LC OR LR/LC |               |  |  |  |  |
| POLYPODIOPSIDA | Bolbitis subcrenata                |                                | LC OR LR/LC |               |  |  |  |  |
| POLYPODIOPSIDA | Bolbitis semicordata               |                                | LC OR LR/LC |               |  |  |  |  |
| POLYPODIOPSIDA | Bolbitis appendiculata             |                                | LC OR LR/LC |               |  |  |  |  |
| POLYPODIOPSIDA | Alsophila nilgirensis              |                                | LC OR LR/LC |               |  |  |  |  |

|                |                           |                                 |             |  |  |  |  |  |
|----------------|---------------------------|---------------------------------|-------------|--|--|--|--|--|
| POLYPODIOPSIDA | Diplazium esculentum      |                                 | LC OR LR/LC |  |  |  |  |  |
| POLYPODIOPSIDA | Ophioglossum lusitanicum  | Least Adder's-tongue            | LC OR LR/LC |  |  |  |  |  |
| POLYPODIOPSIDA | Thelypteris xylodes       |                                 | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Nilssonina leithii        | Leith's Softshell Turtle        | CR          |  |  |  |  |  |
| REPTILIA       | Crocodylus palustris      | Mugger                          | VU          |  |  |  |  |  |
| REPTILIA       | Lissemys punctata         | Indian Flapshell Turtle         | VU          |  |  |  |  |  |
| REPTILIA       | Varanus bengalensis       | Bengal Monitor Lizard           | NT OR LR/NT |  |  |  |  |  |
| REPTILIA       | Eryx johnii               | Red Sand Boa                    | NT OR LR/NT |  |  |  |  |  |
| REPTILIA       | Eryx conicus              | Rough-tailed Sand Boa           | NT OR LR/NT |  |  |  |  |  |
| REPTILIA       | Python molurus            | Indian Rock Python              | NT OR LR/NT |  |  |  |  |  |
| REPTILIA       | Melanochelys trijuga      | Indian Black Turtle             | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Naja naja                 | Indian Cobra                    | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Ptyas mucosa              | Oriental Ratsnake               | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Lycodon striatus          | Barred Wolf Snake               | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Hemidactylus flaviviridis | Yellow-bellied House Gecko      | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Boiga trigonata           | Indian Gamma Snake              | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Calotes versicolor        | Changeable Lizard               | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Echis carinatus           | Sindh Saw-scaled Viper          | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Oligodon taeniolatus      | Streaked Kukri Snake            | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Psammophilus dorsalis     | South Indian Rock Agama         | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Psammophis leithii        | Leith's Sand Snake              | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Sibynophis subpunctatus   | Dumeril's Black-headed Snake    | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Lepidodactylus lugubris   | Mourning Gecko                  | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Liopeltis calamaria       | Calamaria Reed Snake            | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Grypotyphlops acutus      | Beaked Worm Snake               | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Dendrelaphis tristis      | Daudin's Bronzeback             | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Chrysopelea ornata        | Ornate Flying Snake             | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Indotyphlops porrectus    | Stoliczka's Slender Blind Snake | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Lygosoma guentheri        | Günther's Writling Snake        | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Rhabdophis plumbicolor    | Green Keelback                  | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Lycodon travancoricus     | Travancore Wolf Snake           | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Fowlea piscator           | Chequered Keelback              | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Oligodon arnensis         | Common Kukri Snake              | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Argyrogena fasciolata     | Banded Racer                    | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Chamaeleo zeylanicus      | Asian Chameleon                 | LC OR LR/LC |  |  |  |  |  |
| REPTILIA       | Lygosoma lineata          | Lined Supple Skink              | LC OR LR/LC |  |  |  |  |  |

|          |                            |                              |             |  |  |  |  |  |
|----------|----------------------------|------------------------------|-------------|--|--|--|--|--|
| REPTILIA | Eutropis macularia         | Bronze Mabuya                | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Amphiesma stolatum         | Buff Striped Keelback        | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Coelognathus helenae       | Trinket Snake                | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Lygosoma punctata          | Common Dotted Garden Skink   | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Hemidactylus leschenaultii | Leschenault's Gecko          | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Ophisops leschenaultii     | Leschenault's Snake Eye      | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Calliophis melanurus       | Slender Coral Snake          | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Hemidactylus giganteus     | Giant Gecko                  | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Bungarus caeruleus         | Common Krait                 | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Hemidactylus brookii       | Brooke's House Gecko         | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Indotyphlops braminus      | Brahminy Blind Snake         | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Lycodon aulicus            | Common Wolf Snake            | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Ahaetulla nasuta           | Long-nosed Tree Snake        | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Daboia russelii            | Western Russell's Viper      | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Hemidactylus reticulatus   | Reticulate Leaf-toed Gecko   | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Atretium schistosum        | Olive Keelback Water Snake   | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Boiga forsteni             | Reddish Peninsular Cat Snake | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Trimeresurus gramineus     | Common Bamboo Viper          | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Ophisops jerdonii          | Punjab-snake-eyed Lacerta    | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Eutropis carinata          | Keeled Indian Mabuya         | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Hemidactylus treutleri     |                              | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Eutropis allapallensis     | Schmidt's Mabuya             | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Eutropis trivittata        | Three-banded Mabuya          | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Psammophis condanarus      | Sand Snake                   | LC OR LR/LC |  |  |  |  |  |
| REPTILIA | Lycodon gracilis           | Scarce Bridal Snake          | DD          |  |  |  |  |  |

| Species Name              | Migratory/ Resident | ESIA- Radiance | EIA- Hutti Gold Mines Ltd. | Count | DATE      | Observer (Ebird) | ESIA Envint | Count |
|---------------------------|---------------------|----------------|----------------------------|-------|-----------|------------------|-------------|-------|
| African Comb Duck         |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Alpine Swift              |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Amur Falcon               |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Ashy Drongo               |                     |                |                            |       |           |                  | SEEN        | 1     |
| Ashy Minivet              |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Ashy Prinia               | R                   | O              |                            | 1     | 25-Jun-19 | O                | SEEN        | 3     |
| Ashy Woodswallow          |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Ashy-crowned Sparrow-Lark | R                   | O              |                            | 10    | 08-Mar-20 | O                | SEEN        | 1     |
| Asian Blue Quail          |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Asian Brown Flycatcher    |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Asian Koel                | R                   | O              |                            | 1     | 25-Jun-19 | O                | SEEN        | 2     |
| Asian Openbill            |                     |                | O                          | 11    | 08-Mar-20 | O                | REPORTED    |       |
| Asian Palm Swift          |                     |                |                            | 5     | 08-Mar-20 | O                | REPORTED    |       |
| Asian Woolly-necked Stork | R                   | R              |                            | 2     | 08-Mar-20 | O                | REPORTED    |       |
| Banded Bay Cuckoo         |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Bar headed Goose          | M                   | R              | O                          |       |           |                  | REPORTED    |       |
| Barn Swallow              |                     |                |                            | 6     | 08-Mar-20 | O                | SEEN        | 10    |
| Barred Buttonquail        |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Baya Weaver               | R                   | O              |                            | 3     | 21-Jan-23 | O                | SEEN        | 5     |
| Bay-backed Shrike         | R                   | O              |                            | 1     | 21-Jan-23 | O                | SEEN        | 5     |
| Black bellier tern        | R                   | R              |                            |       |           |                  | REPORTED    |       |
| Black Drongo              | R                   | O              |                            | 1     | 21-Jan-23 | O                | SEEN        | 5     |
| Black Kite                | R                   | O              |                            |       |           |                  | SEEN        | 3     |
| Black Redstart            |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Black rumped Flameback    | R                   | R              |                            |       |           |                  | REPORTED    |       |
| Black-bellied Tern        |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Black-crowned Night-heron |                     |                |                            |       |           |                  | SEEN        | 3     |
| Black-headed Cuckooshrike |                     |                | O                          |       |           |                  | REPORTED    |       |
| Black-headed Ibis         | R                   | O              |                            | 35    | 21-Jan-23 | O                | SEEN        | 1     |
| Black-hooded Oriole       |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Black-necked Stork        |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Black-tailed Godwit       | M                   | R              |                            |       |           |                  | REPORTED    |       |
| Black-winged Kite         | R                   | O              |                            | 2     | 21-Jan-23 | O                | REPORTED    |       |
| Black-winged Stilt        | R                   | O              |                            | 5     | 08-Mar-20 | O                | REPORTED    |       |
| Blue-capped Rock-thrush   |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Blue-faced Malkoha        |                     |                |                            | 1     | 08-Mar-20 | O                | REPORTED    |       |
| Blue-tailed Bee-eater     |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Bluethroat                |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Blyth's Pipit             |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Blyth's Reed-warbler      |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Bonelli's Eagle           | R                   | R              |                            |       |           |                  | REPORTED    |       |
| Booted Eagle              | M                   | R              |                            |       |           |                  | REPORTED    |       |
| Booted Warbler            |                     |                |                            |       |           |                  | NOT SEEN    |       |
| Brahminy Kite             | R                   | R              |                            | 1     | 08-Mar-20 | O                | SEEN        | 1     |
| Brahminy Starling         | R                   | O              |                            | 1     | 21-Jan-23 | O                | REPORTED    |       |













|                        |   |   |  |   |           |   |          |    |
|------------------------|---|---|--|---|-----------|---|----------|----|
| Yellow-wattled Lapwing |   |   |  |   |           |   | NOT SEEN |    |
| Zitting Cisticola      | R | R |  | 2 | 25-Jun-19 | O | SEEN     | 10 |

| Class    | Binomial                  | Common Name                   | Category   | ESIA-envint                     | ESIA Envint Count | EIA- Hutti Gold | EBIRD | Count |
|----------|---------------------------|-------------------------------|------------|---------------------------------|-------------------|-----------------|-------|-------|
| REPTILIA | Nilssonia leithii         | Leith's Softshell Turtle      | CR         | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Crocodylus palustris      | Mugger                        | VU         | REPORTED(Photographic evidence) |                   |                 |       |       |
| REPTILIA | Lissemys punctata         | Indian Flapshell Turtle       | VU         | REPORTED                        |                   | 0               |       |       |
| REPTILIA | Varanus bengalensis       | Bengal Monitor Lizard         | NT OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Eryx johnii               | Red Sand Boa                  | NT OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Eryx conicus              | Rough-tailed Sand Boa         | NT OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Python molurus            | Indian Rock Python            | NT OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Melanochelys trijuga      | Indian Black Turtle           | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Naja naja                 | Indian Cobra                  | LC OR LR/L | REPORTED                        |                   | 0               |       |       |
| REPTILIA | Ptyas mucosa              | Oriental Ratsnake             | LC OR LR/L | REPORTED                        |                   | 0               |       |       |
| REPTILIA | Lycodon striatus          | Barred Wolf Snake             | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Hemidactylus flaviviridis | Yellow-bellied House Gecko    | LC OR LR/L | SEEN                            | 15                | 0               |       |       |
| REPTILIA | Boiga trigonata           | Indian Gamma Snake            | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Calotes versicolor        | Changeable Lizard             | LC OR LR/L | SEEN                            | 4                 | 0               |       |       |
| REPTILIA | Echis carinatus           | Sindh Saw-scaled Viper        | LC OR LR/L | REPORTED                        |                   | 0               |       |       |
| REPTILIA | Oligodon taeniolatus      | Streaked Kukri Snake          | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Psammophilus dorsalis     | South Indian Rock Agama       | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Psammophis leithii        | Leith's Sand Snake            | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Sibynophis subpunctatus   | Dumeril's Black-headed Snake  | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Lepidodactylus lugubris   | Mourning Gecko                | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Liopeltis calamaria       | Calamaria Reed Snake          | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Grypotyphlops acutus      | Beaked Worm Snake             | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Dendrelaphis tristis      | Daudin's Bronzeback           | LC OR LR/L | REPORTED                        |                   | 0               |       |       |
| REPTILIA | Chrysopelea ornata        | Ornate Flying Snake           | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Indotyphlops porrectus    | Slender Blind Snake           | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Lygosoma guentheri        | Günther's Writhing Snake      | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Rhabdophis plumbicollis   | Green Keelback                | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Lycodon travancoricus     | Travancore Wolf Snake         | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Fowlea piscator           | Chequered Keelback            | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Oligodon arnensis         | Common Kukri Snake            | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Argyrogena fasciolata     | Banded Racer                  | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Chamaeleo zeylanicus      | Asian Chameleon               | LC OR LR/L | SEEN                            | 1                 |                 |       |       |
| REPTILIA | Lygosoma lineata          | Lined Supple Skink            | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Eutropis macularia        | Bronze Mabuya                 | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Amphiesma stolatum        | Buff Striped Keelback         | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Coelognathus helenae      | Trinket Snake                 | LC OR LR/L | REPORTED                        |                   | 0               |       |       |
| REPTILIA | Lygosoma punctata         | Common Dotted Garden Skink    | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Hemidactylus leschenaulti | Leschenault's leaf-toed gecko | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |
| REPTILIA | Ophisops leschenaultii    | Leschenault's Snake Eye       | LC OR LR/L | NOT SEEN                        |                   |                 |       |       |

|          |                          |                              |            |                                 |  |   |  |  |
|----------|--------------------------|------------------------------|------------|---------------------------------|--|---|--|--|
| REPTILIA | Calliophis melanurus     | Slender Coral Snake          | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Hemidactylus giganteus   | Giant Gecko                  | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Bungarus caeruleus       | Common Krait                 | LC OR LR/L | REPORTED                        |  | 0 |  |  |
| REPTILIA | Hemidactylus brookii     | Brooke's House Gecko         | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Indotyphlops braminus    | Brahminy Blind Snake         | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Lycodon aulicus          | Common Wolf Snake            | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Ahaetulla nasuta         | Long-nosed Tree Snake        | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Daboia russelii          | Western Russel's Viper       | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Hemidactylus reticulatus | Reticulate Leaf-toed Gecko   | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Atretium schistosum      | Olive Keelback Water Snake   | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Boiga forsteni           | Reddish Peninsular Cat Snake | LC OR LR/L | REPORTED(Photographic evidence) |  |   |  |  |
| REPTILIA | Trimeresurus gramineus   | Common Bamboo Viper          | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Ophisops jerdonii        | Punjab-snake-eyed Lacerta    | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Eutropis carinata        | Keeled Indian Mabuya         | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Hemidactylus treutleri   | Treutler's gecko             | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Eutropis allapallensis   | Schmidt's Mabuya             | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Eutropis trivittata      | Three-banded Mabuya          | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Psammophis condanarus    | Sand Snake                   | LC OR LR/L | NOT SEEN                        |  |   |  |  |
| REPTILIA | Lycodon gracilis         | Scarce Bridal Snake          | DD         | NOT SEEN                        |  |   |  |  |

| Class    | Binomial                   | Common Name           | Category    | ESIA-Envint | ESIA | EIA- Hutti Gold Mines Ltd. | EBIRD | Count |
|----------|----------------------------|-----------------------|-------------|-------------|------|----------------------------|-------|-------|
| AMPHIBIA | Duttaphrynus melanostictus | Black-spectacled Toad | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Duttaphrynus scaber        |                       | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Duttaphrynus stomaticus    | Marbled toad          | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Uperodon taprobanicus      | Sri Lankan Bullfrog   | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Microhyla ornata           | Ant Frog              | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Uperodon variegatus        | Eluru Dot Frog        | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Uperodon globulosus        | Indian Globular Frog  | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Uperodon systoma           | Marbled Globular Frog | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Euphlyctis cyanophlyctis   |                       | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Euphlyctis hexadactylus    | Indian Green Frog     | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Fejervarya limnocharis     | Asian Grass Frog      | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Hoplobatrachus crassus     | Jerdon's Bullfrog     | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Hoplobatrachus tigerinus   | Indian Bullfrog       | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Sphaerotheca breviceps     |                       | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Polypedates maculatus      | Himalayan Tree Frog   | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Microhyla rubra            | Guangdong Rice Frog   | LC OR LR/LC |             |      |                            |       |       |
| AMPHIBIA | Hyla hyla                  | Tree Frog             |             |             |      | Yes                        |       |       |
| AMPHIBIA | Rana tigrina               | Tiger Frog            |             |             |      | Yes                        |       |       |
| AMPHIBIA | Bufo melonostictus         | South Indian Toad     |             |             |      | Yes                        |       |       |

| Class    | Binomial                    | Common Name                        | Category    | movementpattern | ESIA-Envint              | ESIA-Envint | ESIA | EIA- Hutti Gold Mines Ltd. | EBIRD | Count |
|----------|-----------------------------|------------------------------------|-------------|-----------------|--------------------------|-------------|------|----------------------------|-------|-------|
| MAMMALIA | Manis crassicaudata         | Indian Pangolin                    | EN          | Not a Migrant   | NOT SEEN                 |             | Yes  |                            |       |       |
| MAMMALIA | Panthera tigris             | Tiger                              | EN          | Not a Migrant   | NOT FOUND IN THIS REGION |             |      |                            |       |       |
| MAMMALIA | Acinonyx jubatus            | Cheetah                            | VU          |                 | NOT FOUND IN THIS REGION |             |      |                            |       |       |
| MAMMALIA | Macaca radiata              | Bonnet Macaque                     | VU          | Not a Migrant   | SEEN                     | 10          | Yes  |                            |       |       |
| MAMMALIA | Panthera pardus             | Leopard                            | VU          |                 | NOT REPORTED             |             |      |                            |       |       |
| MAMMALIA | Tetracerus quadricornis     | Four-horned Antelope               | VU          |                 | NOT REPORTED             |             |      |                            |       |       |
| MAMMALIA | Macaca radiata ssp. radiata | Dark-bellied Bonnet Macaque        | VU          | Not a Migrant   | NOT SEEN                 |             | Yes  |                            |       |       |
| MAMMALIA | Rusa unicolor               | Sambar                             | VU          |                 | NOT SEEN                 |             |      |                            |       |       |
| MAMMALIA | Aonyx cinereus              | Asian Small-clawed Otter           | VU          | Not a Migrant   | SEEN                     | 2           | Yes  |                            |       |       |
| MAMMALIA | Hyaena hyaena               | Striped Hyaena                     | NT OR LR/NT | Not a Migrant   |                          |             |      |                            |       |       |
| MAMMALIA | Prionailurus rubiginosus    | Rusty-spotted Cat                  | NT OR LR/NT | Not a Migrant   |                          |             |      |                            |       |       |
| MAMMALIA | Rousettus leschenaultii     | Rousettus leschenaultii            | NT OR LR/NT |                 |                          |             |      |                            |       |       |
| MAMMALIA | Antelope cervicapra         | Blackbuck                          | LC OR LR/LC |                 | NOT FOUND IN THIS REGION |             | Yes  |                            |       |       |
| MAMMALIA | Bandicota bengalensis       | Lesser Bandicoot Rat               | LC OR LR/LC |                 |                          |             |      | Yes                        |       |       |
| MAMMALIA | Bandicota indica            | Greater Bandicoot Rat              | LC OR LR/LC |                 |                          |             |      | Yes                        |       |       |
| MAMMALIA | Boselaphus tragocamelus     | Nilgai                             | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Canis lupus                 | Grey Wolf                          | LC OR LR/LC |                 | NOT FOUND IN THIS REGION |             |      |                            |       |       |
| MAMMALIA | Madromys blanfordi          | White-tailed Wood Rat              | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Cremnomys cutchicus         | Cutch Rock-rat                     | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Cynopterus brachyotis       | Lesser Dog-faced Fruit Bat         | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Cynopterus sphinx           | Greater Shortnosed Fruit Bat       | LC OR LR/LC |                 |                          |             | Yes  |                            |       |       |
| MAMMALIA | Felis chaus                 | Jungle Cat                         | LC OR LR/LC | Not a Migrant   |                          |             | Yes  |                            |       |       |
| MAMMALIA | Funambulus palmarum         | Common Palm Squirrel               | LC OR LR/LC |                 |                          |             | Yes  | Yes                        |       |       |
| MAMMALIA | Funambulus pennantii        | Five-striped Palm Squirrel         | LC OR LR/LC |                 |                          |             |      | Yes                        |       |       |
| MAMMALIA | Gazella bennettii           | Chinkara                           | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Golunda ellioti             | Indian Bush-rat                    | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Hipposideros fulvus         | Fulvus Leaf-nosed Bat              | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Hipposideros galeritus      | Cantor's Leaf-nosed Bat            | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Hipposideros lankadiva      | Indian Leaf-nosed Bat              | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Hipposideros speoris        | Schneider's Leaf-nosed Bat         | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Hystrix indica              | Indian Crested Porcupine           | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Lyroderma lyra              | Greater False Vampire              | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Millardia meltada           | Soft-furred Metad                  | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Mus booduga                 | Little Indian Field Mouse          | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Mus musculus                | House Mouse                        | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Mus phillipsi               | Wroughton's Small Spiny Mouse      | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Mus saxicola                | Brown Spiny Mouse                  | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Mus terricolor              | Earth-colored Mouse                | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Pipistrellus ceylonicus     | Kelaart's Pipistrelle              | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Pipistrellus coromandra     | Coromandel Pipistrelle             | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Pteropus giganteus          | Indian Flying Fox                  | LC OR LR/LC | Unknown         |                          |             |      |                            |       |       |
| MAMMALIA | Rattus rattus               | House Rat                          | LC OR LR/LC |                 |                          |             |      | Yes                        |       |       |
| MAMMALIA | Rhinolophus lepidus         | Blyth's Horseshoe Bat              | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Scotophilus heathii         | Greater Asiatic Yellow House Bat   | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Taphozous longimanus        | Long-winged Tomb Bat               | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Taphozous melanopogon       | Black-bearded Tomb Bat             | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Tatera indica               | Indian Gerbil                      | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Tylonycteris pachypus       | Lesser Bamboo Bat                  | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Vandeleuria oleracea        | Asiatic Long-tailed Climbing Mouse | LC OR LR/LC |                 |                          |             |      |                            |       |       |
| MAMMALIA | Vulpes bengalensis          | Bengal Fox                         | LC OR LR/LC |                 |                          |             | Yes  |                            |       |       |
| MAMMALIA | Anathana ellioti            | Madras Treeshrew                   | LC OR LR/LC |                 |                          |             |      |                            |       |       |



|          |                                       |                             |             |               |  |  |     |     |  |  |
|----------|---------------------------------------|-----------------------------|-------------|---------------|--|--|-----|-----|--|--|
| MAMMALIA | Lepus nigricollis                     | Indian Hare                 | LC OR LR/LC |               |  |  | Yes |     |  |  |
| MAMMALIA | Suncus murinus                        | House Shrew                 | LC OR LR/LC |               |  |  |     |     |  |  |
| MAMMALIA | Herpestes edwardsii                   | Indian Grey Mongoose        | LC OR LR/LC | Not a Migrant |  |  | Yes | Yes |  |  |
| MAMMALIA | Herpestes smithii                     | Ruddy Mongoose              | LC OR LR/LC | Not a Migrant |  |  |     |     |  |  |
| MAMMALIA | Mellivora capensis                    | Honey Badger                | LC OR LR/LC |               |  |  |     |     |  |  |
| MAMMALIA | Paradoxurus hermaphroditus            | Common Palm Civet           | LC OR LR/LC | Not a Migrant |  |  |     |     |  |  |
| MAMMALIA | Viverricula indica                    | Small Indian Civet          | LC OR LR/LC | Not a Migrant |  |  | Yes |     |  |  |
| MAMMALIA | Sus scrofa                            | Wild Boar                   | LC OR LR/LC |               |  |  | Yes |     |  |  |
| MAMMALIA | Axis axis                             | Chital                      | LC OR LR/LC |               |  |  | Yes |     |  |  |
| MAMMALIA | Semnopithecus hypoleucos ssp. achates | Plains Langur               | LC OR LR/LC |               |  |  |     |     |  |  |
| MAMMALIA | Muntiacus vaginalis                   | Northern Red Muntjac        | LC OR LR/LC |               |  |  |     |     |  |  |
| MAMMALIA | Moschiola indica                      | Indian Chevrotain           | LC OR LR/LC |               |  |  |     |     |  |  |
| MAMMALIA | Rhinopoma hardwickii                  | Lesser Mouse-tailed Bat     | LC OR LR/LC |               |  |  |     |     |  |  |
| MAMMALIA | Canis aureus                          | Golden Jackal               | LC OR LR/LC |               |  |  | Yes | Yes |  |  |
| MAMMALIA | Semnopithecus hypoleucos              | Black-footed Gray Langur    | LC OR LR/LC |               |  |  | Yes |     |  |  |
| MAMMALIA | Hyaena hyaena                         | Striped Hyena               | NC          |               |  |  |     |     |  |  |
| MAMMALIA | Semnopithecus hypoleucas achates      | South-Western Langur        | LC          |               |  |  | Yes |     |  |  |
| MAMMALIA | Canis lupus pallipes                  | Indian Wolf                 | LC          |               |  |  |     |     |  |  |
| MAMMALIA | Hystrix indica                        | Indian Porcupine            | LC          |               |  |  |     |     |  |  |
| MAMMALIA | Lutra lutra                           | Eurasian / Common Otter     | NC          |               |  |  | Yes |     |  |  |
| MAMMALIA | Vulpes bengalensis                    | Indian fox                  |             |               |  |  |     | Yes |  |  |
| MAMMALIA | Bandicota bengalensis                 | Indian mole rat             |             |               |  |  |     | Yes |  |  |
| MAMMALIA | Mus booduga                           | Indian field mouse          |             |               |  |  |     | Yes |  |  |
| MAMMALIA | Sus scrofa                            | Indian wild bear            |             |               |  |  |     | Yes |  |  |
| MAMMALIA | Mus dunni                             | House/Rice-fieldmouse       |             |               |  |  |     | Yes |  |  |
| MAMMALIA | Lepus nigricollis                     | Indian Hare/Blacknaped Hare |             |               |  |  |     | Yes |  |  |
| MAMMALIA | Soriculus leucops                     | Indian long-tailedshrew     |             |               |  |  |     | Yes |  |  |
| MAMMALIA | Bandicota bengalensis                 | Indian mole rat             |             |               |  |  |     | Yes |  |  |
| MAMMALIA | Herpestes javanicus                   | Small Indian mongoose       |             |               |  |  |     | Yes |  |  |

## Annexure 8: Environmental Monitoring Reports



**CLEAN**  
**ENVIRO LABS**  
WATER | FOOD | ENVIRONMENT

### AMBIENT AIR QUALITY TEST REPORT

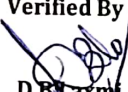
|                                                                                                                                                              |                                |                                 |                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------|-------------------------------------------------------------|
| Issued to:                                                                                                                                                   |                                | Issued Date:                    | 11.09.2023                                                  |
| <b>Name and Address of the Client:</b><br>M/s. Radiance Renewables Pvt Ltd,<br>Site: M/S.Mirzapur power Pvt Ltd,<br>Hirairakumpi (V),<br>Raichur, Karnataka. |                                | Sample Collection Date          | 05.09.2023                                                  |
|                                                                                                                                                              |                                | Sample Registration No          | 0326/09/23-001                                              |
|                                                                                                                                                              |                                | Test Report No                  | CEL /AAQ/0326/09/23-001                                     |
|                                                                                                                                                              |                                | Sample Description              | Ambient Air Location 1,2<br>Sampling Location Coordinates   |
| Subcontract Test                                                                                                                                             | NA                             | Sample Condition when received  | Found Ok. Samples Received IN Polythene Bottles and Covers. |
| Sample Collection Date                                                                                                                                       | 05.09.2023                     | Ambient Temperature °C          | 29°C                                                        |
| Sample Registration Date                                                                                                                                     | 06.09.2023                     | Weather Condition               | Clear                                                       |
| Analysis Completion Date                                                                                                                                     | 11.09.2023                     | Wind Direction                  | NW                                                          |
| Sample Drawn By                                                                                                                                              | Representative of CEL Srikanth | Sample tested as Received Basis |                                                             |

### TEST RESULT

| S. No | Test Parameters                         | Test Method    | UOM               | NAAQS Standards | Result<br>Block -1.3 Area<br>INV-1 Capacity -5Mw | Result<br>Block-1.1 Area<br>INV-2 Capacity -5Mw |
|-------|-----------------------------------------|----------------|-------------------|-----------------|--------------------------------------------------|-------------------------------------------------|
| 1     | Particulate Matter (PM <sub>10</sub> )  | IS 5182: 2006, | µg/m <sup>3</sup> | <100            | 56                                               | 54                                              |
| 2     | Particulate Matter (PM <sub>2.5</sub> ) | IS 5182: 2019  | µg/m <sup>3</sup> | <60             | 62                                               | 30                                              |
| 3     | Sulphur Dioxide (SO <sub>2</sub> )      | IS 5182: 2001, | µg/m <sup>3</sup> | <80             | 22                                               | 20                                              |
| 4     | Nitrogen Dioxide (NO <sub>2</sub> )     | IS 5182: 2006, | µg/m <sup>3</sup> | <80             | 18                                               | 16                                              |

Note: Above tested results are well within the Limits as per NAAQS (National Ambient Air Quality Standards)

|                   |                           |             |                            |
|-------------------|---------------------------|-------------|----------------------------|
| Equipment Details | Rota meter (Pm2.5& PM 10) | Make        | Shree Scientific Equipment |
| Model             | AAQM - 510MFC             | Calibration | Valid up to 29.11.2023     |

Verified By  
  
D.B. Lakshmi  
(Technical -Manager)



\*\*\*\*\*END OF THE REPORT\*\*\*\*\*





**CLEAN**  
**ENVIRO LABS**  
WATER | FOOD | ENVIRONMENT

### NOISE LEVEL MONITORING REPORT

|                                                                                                                                                       |                    |                        |                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------|-----------------------|
| Issued to:                                                                                                                                            |                    | Issued Date:           | 11.09.2023            |
| Name and Address of the Client:<br>M/S .Radiance Renewables Pvt Ltd,<br>Site: M/S.Mirzapur power Pvt Ltd,<br>Hiriraikumpi (V),<br>Raichur, Karnataka. |                    | Sample Registration No | 0326/09/23-002        |
|                                                                                                                                                       |                    | Test Report No         | CEL/N/0326/09/23-002  |
| Analysis Commenced On                                                                                                                                 | 05.09.2023         | Analysis Completed ON  | 11.09.2023            |
| Sample Location                                                                                                                                       | As Mentioned Below | Sample Drawn By        | Representative of CEL |

### TEST RESULT (Day Time)

| S. No | Test Location                                                 | Test Method      | Unit | Result | CPCB Standards |
|-------|---------------------------------------------------------------|------------------|------|--------|----------------|
| 01    | Block -1.3 Area INV-1 Capacity -5Mw<br>Location Coordinates   | IS - 9989 - 1981 | dB   | 60.2   | 75             |
| 02    | Block-1.1 Area INV-2 Capacity -5Mw<br>Location Coordinates    | IS - 9989 - 1981 | dB   | 61.8   | 75             |
| 03    | Block-2.2 Area INV-2 Capacity -3.3 Mw<br>Location Coordinates | IS - 9989 - 1981 | dB   | 59.2   | 75             |
| 04    | Block-3.2 Area INV-1 Capacity -5 Mw<br>Location Coordinates   | IS - 9989 - 1981 | dB   | 62.6   | 75             |

Note: Above tested results are well within the Limits as per CPCB Standards.

|                   |                   |             |            |
|-------------------|-------------------|-------------|------------|
| Equipment Details | Noise Level Meter | Make        | SL - 4001  |
| Model             | Lutron            | Calibration | 29.11.2023 |

### Terms & Conditions

|   |                                                                                                                                                              |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Test results are based on & related only to the particle sample(s) tested.                                                                                   |
| 2 | This report cannot be re produced, except when in full, without the written permission from Clean Enviro Labs.                                               |
| 3 | Sample(s) will be retained by us for a period of one month for non - perishable items only. Perishable items will be destroyed after completion of analysis. |
| 4 | This report, in full or in part, shall not be used to make any misleading claims or for any legal purpose.                                                   |

Verified By

  
D.S. Lakshmi  
(Technical -Manager)



-----END OF THE REPORT-----

# H.No. 8-85/F5, 2nd floor, Plot No. 10&25, Sai Nagar, Uppal Bus Depot, Beside Mangalya Shopping Mall, Medipally, Hyderabad - 500 098  
Contact : +91 8121165649 | +91 8801676472, Email ID : cleanenvirolabs@gmail.com

www.cleanenvirolabs.in



Scanned with OKEN Scanner





**CLEAN**  
**ENVIRO LABS**  
WATER | FOOD | ENVIRONMENT

### NOISE LEVEL MONITORING REPORT

|                                                                                                                                                      |                    |                        |                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------|-----------------------|
| Issued to:                                                                                                                                           |                    | Issued Date:           | 11.09.2023            |
| Name and Address of the Client:<br>M/S .Radiance Renewables Pvt Ltd,<br>Site: M/S.Mirzapur power Pvt Ltd,<br>Hirirakumpi (V),<br>Raichur, Karnataka. |                    | Sample Registration No | 0326/09/23-003        |
|                                                                                                                                                      |                    |                        |                       |
|                                                                                                                                                      |                    | Test Report No         | CEL/N/0326/09/23-003  |
| Analysis Commenced On                                                                                                                                | 05.09.2023         | Analysis Completed ON  | 11.09.2023            |
| Sample Location                                                                                                                                      | As Mentioned Below | Sample Drawn By        | Representative of CEL |

### TEST RESULT (Night Time)

| S. No | Test Location                                                 | Test Method      | Unit | Result | CPCB Standards |
|-------|---------------------------------------------------------------|------------------|------|--------|----------------|
| 01    | Block -1.3 Area INV-1 Capacity -5Mw<br>Location Coordinates   | IS - 9989 - 1981 | dB   | 50.2   | 70             |
| 02    | Block-1.1 Area INV-2 Capacity -5Mw<br>Location Coordinates    | IS - 9989 - 1981 | dB   | 51.6   | 70             |
| 03    | Block-2.2 Area INV-2 Capacity -3.3 Mw<br>Location Coordinates | IS - 9989 - 1981 | dB   | 48.4   | 70             |
| 04    | Block-3.2 Area INV-1 Capacity -5 Mw<br>Location Coordinates   | IS - 9989 - 1981 | dB   | 49.2   | 70             |

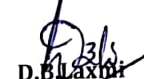
Note: Above tested results are well within the Limits as per CPCB Standards.

|                   |                   |             |            |
|-------------------|-------------------|-------------|------------|
| Equipment Details | Noise Level Meter | Make        | SL - 4001  |
| Model             | Lutron            | Calibration | 29.11.2023 |

### Terms & Conditions

|   |                                                                                                                                                              |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Test results are based on & related only to the particle sample(s) tested.                                                                                   |
| 2 | This report cannot be re produced, except when in full, without the written permission from Clean Enviro Labs.                                               |
| 3 | Sample(s) will be retained by us for a period of one month for non - perishable items only. Perishable items will be destroyed after completion of analysis. |
| 4 | This report, in full or in part, shall not be used to make any misleading claims or for any legal purpose.                                                   |

Verified By

  
D.B. Lakshmi  
(Technical -Manager)



-----END OF THE REPORT-----





**CLEAN  
ENVIRO LABS**  
WATER | FOOD | ENVIRONMENT

### TEST REPORT

|                                                                                                                                                                                                  |                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name and Address of the Client:</b><br>M/s. Radiance Renewables Pvt Ltd,<br>Site: M/S.Mirzapur power Pvt Ltd,<br>Hirairakumpi (V),<br>Raichur, Karnataka.                                     | <b>Sample Registration</b> : 0326/09/23-004<br><b>Test Report No</b> : CEL//W/0326/09/23-004<br><b>Report Issued Date:</b> : 11.09.2023<br><b>Your Reference</b> : Nil<br><b>Date of Receipt</b> : Nil                                   |
| <b>Sample Description</b> : Gugal Village Hand Pump Water<br><b>Sample Quantity</b> : 1 Liter<br><b>Sample Packing</b> : Clean & Sterile Container<br><b>Tests Required</b> : As mentioned below | <b>Date of Registration</b> : 06.09.2023<br><b>Date of Commencement of Testing</b> : 06.09.2023<br><b>Date of Completion of Testing</b> : 11.09.2023<br><b>Sample Condition of Receipt</b> : Found Ok<br>Sample Tested as Received Basic |
| <b>Sampling Details</b>                                                                                                                                                                          |                                                                                                                                                                                                                                          |
| <b>Date of Sampling</b> : 05.09.2023                                                                                                                                                             | <b>Environment Condition:</b> Temperature :25.6° C, Humidity : 47.6%                                                                                                                                                                     |
| <b>Sampling Method</b> : APHA 23 <sup>rd</sup> Edition 2017                                                                                                                                      | <b>Group:</b> water                                                                                                                                                                                                                      |
| <b>Discipline</b> : Chemical                                                                                                                                                                     | <b>Sample Collected by:</b> CEL Representative Mr. Srikanth                                                                                                                                                                              |

### TEST RESULT

| S. No | PHYSICAL AND CHEMICAL ANALYSIS                 | TEST METHOD                     | UNITS | RESULTS   | Acceptable Limits<br>(As Per IS: 10500:2012) |
|-------|------------------------------------------------|---------------------------------|-------|-----------|----------------------------------------------|
| 1.    | pH@25.0°C                                      | IS 3025-Part-11,1983 (RA-2017)  | --    | 8.69      | 6.5 - 8.5                                    |
| 2.    | Electrical Conductivity                        | APHA 2510 Method                | µs/cm | 1,948     | Not Specified                                |
| 3.    | Total Dissolved Solids                         | IS 3025 Part-16: 1984 :RA-2017  | mg/l  | 1130      | Max. 500                                     |
| 4.    | Odor                                           | IS 3025 (Part-5) :2018          | --    | Agreeable | Agreeable                                    |
| 5.    | Color                                          | IS 3025 -Part-4 :1983 :RA-2017  | Hazen | 1.0       | Max. 5.0                                     |
| 6.    | Total Alkalinity as CaCO <sub>3</sub>          | IS 3025 -Part-23,2009 :RA-2019  | mg/l  | 552       | Max. 200                                     |
| 7.    | Total Hardness as CaCO <sub>3</sub>            | IS 3025 -Part-21,2009 :RA-2019  | mg/l  | 316       | Max. 200                                     |
| 8.    | Calcium as Ca                                  | IS 3025 Part-2, 2004 : RA-2019  | mg/l  | 72.14     | Max. 75                                      |
| 9.    | Magnesium as Mg                                | IS 3025 Part-2, 2004 : RA-2019  | mg/l  | 33.04     | Max. 30                                      |
| 10.   | Chlorides as Cl                                | IS 3025 (Part-32) 1988 :RA-2019 | mg/l  | 264       | Max. 250                                     |
| 11.   | Sodium as Na                                   | APHA-3120-B                     | mg/l  | 298       | Not Specified                                |
| 12.   | Potassium as K                                 | APHA-3120-B                     | mg/l  | 8.0       | Not Specified                                |
| 13.   | Sulphates as SO <sub>4</sub>                   | IS 3025 Part-24 1986 :RA-2019   | mg/l  | 109       | Max. 200                                     |
| 14.   | Nitrates as NO <sub>3</sub>                    | APHA-4500NO <sub>3</sub> -C     | mg/l  | 40.6      | Max. 45                                      |
| 15.   | Iron as Fe                                     | IS 3025 Part-2,2004 : RA-2019   | mg/l  | 0.268     | Max. 0.05                                    |
| 16.   | Fluoride as F                                  | IS 3025 Part-60,2008: RA-2019   | mg/l  | 0.98      | Max. 0.1                                     |
| 17.   | Silica as SiO <sub>2</sub>                     | IS3025 part 35                  | mg/l  | 2.16      | Not Specified                                |
| 18.   | Chemical Oxygen Demand                         | APHA 5220 B, Method             | mg/l  | < 10      | Not Specified                                |
| 19.   | Bio Chemical Oxygen Demand<br>(3 Days at 27°C) | IS: 3025 Method                 | mg/l  | < 5.0     | Not Specified                                |
| 20.   | Residual Free Chlorine (RFC)                   | APHA 23 <sup>rd</sup> Method    | mg/l  | < 1.0     | Not Specified                                |
| 21.   | Total Suspended Solids                         | APHA 23 <sup>rd</sup> Method    | mg/l  | 1.0       | Not Specified                                |
| 22.   | Dissolved Oxygen                               | APHA 23 <sup>rd</sup> Method    | mg/l  | 2.2       | Not Specified                                |
| 23.   | Ammonical Nitrogen                             | APHA 23 <sup>rd</sup> Method    | mg/l  | < 1.0     | Not Specified                                |

APHA - American Public Health Association IS - Indian Standard.

Verified By

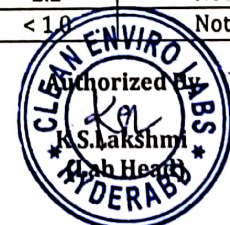
D. Bhaskar

(Technical-Manager)

\*\*\*\*\*END OF THE REPORT\*\*\*\*\*

#### Disclaimer:

- Sample(s) not drawn by us unless otherwise stated.
- Total Liability of this Laboratory is limited to the Invoice amount.
- Test Certificates in full or parts shall not be used for promotional or publicity purpose.
- If sample is not consumed during analysis, it will be stored as per required storage condition.
- The results relate to the Item tested.







**CLEAN**  
ENVIRO LABS  
WATER | FOOD | ENVIRONMENT

### TEST REPORT

**Name and Address of the Client:**  
M/s. Radiance Renewables Pvt Ltd,  
Site: M/S.Mirzapur power Pvt Ltd,  
Hirirakumpi (V),  
Raichur, Karnataka.

Sample Registration : 0326/09/23-005  
Test Report No : CEL/W/0326/09/23-005  
Report Issued Date: 11.09.2023  
Your Reference : Nil  
Date of Receipt : Nil

**Sample Description :** Mathpalli Village Hand Pump Water  
**Sample Quantity :** 1 Liter  
**Sample Packing :** Clean & Sterile Container  
**Tests Required :** As mentioned below

Date of Registration : 06.09.2023  
Date of Commencement of Testing : 06.09.2023  
Date of Completion of Testing : 11.09.2023  
Sample Condition of Receipt : Found Ok  
Sample Tested as Received Basic

### Sampling Details

**Date of Sampling :** 05.09.2023

**Environment Condition:** Temperature : 25.6° C, Humidity : 47.6%

**Sampling Method :** APHA 23<sup>rd</sup> Edition 2017

**Group:** water

**Discipline :** Chemical & Biological

**Sample Collected by:** CEL Representative Mr. Srikanth

### TEST RESULT

| S. No | PHYSICAL AND CHEMICAL ANALYSIS                 | TEST METHOD                                  | UNITS | RESULTS   | Acceptable Limits<br>(As Per IS: 10500:2012) |
|-------|------------------------------------------------|----------------------------------------------|-------|-----------|----------------------------------------------|
| 1.    | pH@25.0°C                                      | IS 3025-Part-11,1983 (RA-2017)               | --    | 8.73      | 6.5 - 8.5                                    |
| 2.    | Electrical Conductivity                        | APHA 2510 Method                             | µs/cm | 2530      | Not Specified                                |
| 3.    | Total Dissolved Solids                         | IS 3025 Part-16: 1984 :RA-2017               | mg/l  | 1460      | Max. 500                                     |
| 4.    | Odor                                           | IS 3025 (Part-5) :2018                       | --    | Agreeable | Agreeable                                    |
| 5.    | Color                                          | IS 3025 -Part-4:1983 :RA-2017                | Hazen | 1.0       | Max. 5.0                                     |
| 6.    | Total Alkalinity as CaCO <sub>3</sub>          | IS 3025 -Part-23,2009 :RA-2019               | mg/l  | 624       | Max. 200                                     |
| 7.    | Total Hardness as CaCO <sub>3</sub>            | IS 3025 -Part-21,2009 :RA-2019               | mg/l  | 436       | Max. 200                                     |
| 8.    | Calcium as Ca                                  | IS 3025 Part-2, 2004 : RA-2019               | mg/l  | 56.11     | Max. 75                                      |
| 9.    | Magnesium as Mg                                | IS 3025 Part-2, 2004 : RA-2019               | mg/l  | 71.92     | Max. 30                                      |
| 10.   | Chlorides as Cl                                | IS 3025 (Part-32) 1988 :RA-2019              | mg/l  | 386       | Max. 250                                     |
| 11.   | Sodium as Na                                   | APHA-3120-B                                  | mg/l  | 374       | Not Specified                                |
| 12.   | Potassium as K                                 | APHA-3120-B                                  | mg/l  | 12        | Not Specified                                |
| 13.   | Sulphates as SO <sub>4</sub>                   | IS 3025 Part-24 1986 :RA-2019                | mg/l  | 165       | Max. 200                                     |
| 14.   | Nitrates as NO <sub>3</sub>                    | APHA-4500NO <sub>3</sub> -C                  | mg/l  | 43.6      | Max. 45                                      |
| 15.   | Iron as Fe                                     | IS 3025 Part-2,2004 : RA-2019                | mg/l  | 0.24      | Max. 0.05                                    |
| 16.   | Fluoride as F                                  | IS 3025 Part-60,2008: RA-2019                | mg/l  | 0.98      | Max. 0.1                                     |
| 17.   | Silica as SiO <sub>2</sub>                     | IS3025 part 35                               | mg/l  | 2.68      | Not Specified                                |
| 18.   | Chemical Oxygen Demand                         | APHA 5220 B, 23 <sup>rd</sup> Edition 2017   | mg/l  | < 10      | --                                           |
| 19.   | Bio Chemical Oxygen Demand<br>(3 Days at 27°C) | IS: 3025(Part-44), 23 <sup>rd</sup> Edi 2017 | mg/l  | < 5.0     | --                                           |
| 20.   | Residual Free Chlorine (RFC)                   | APHA 23 <sup>rd</sup> Method                 | mg/l  | < 1.0     | Not Specified                                |
| 21.   | Total Suspended Solids                         | APHA 23 <sup>rd</sup> Method                 | mg/l  | 1.1       | Not Specified                                |
| 22.   | Dissolved Oxygen                               | APHA 23 <sup>rd</sup> Method                 | mg/l  | 2.3       | Not Specified                                |
| 23.   | Ammonical Nitrogen                             | APHA 23 <sup>rd</sup> Method                 | mg/l  | < 1.0     | Not Specified                                |

APHA - American Public Health Association IS - Indian Standard CFU - Colony Forming Units.

Verified By

D.B. Lakshmi

(Technical Manager)



\*\*\*\*\*END OF THE REPORT\*\*\*\*\*

### Disclaimer:

- Sample(s) not drawn by us unless otherwise stated.
- Total Liability of this Laboratory is limited to the Invoice amount.
- Test Certificates in full or parts shall not be used for promotional or publicity purpose.
- If sample is not consumed during analysis, it will be stored as per required storage condition.
- The results relate to the item tested

# H.No. 8-85/F5, 2nd floor, Plot No. 10&25, Sai Nagar, Uppal Bus Depot, Beside Mangalya Shopping Mall, Medipally, Hyderabad - 500 098  
Contact : +91 8121165649 | +91 8801676472, Email ID : cleanenvirolabs@gmail.com

www.cleanenvirolabs.in



Scanned with OKEN Scanner

### SOIL TEST REPORT

|                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name and Address of the Client:</b><br>M/s.Radiance Renewables Pvt Ltd,<br>Site: M/S.Mirzapur power Pvt Ltd,<br>Hiriraikumpi (V),<br>Raichur, Karnataka.                                                                           |                                                                                                                                                                                                                                                 | <b>Sample Registration</b> : 0326/09/23-006<br><b>Test Report No</b> : CEL/S/0326/09/23-006<br><b>Report Issued Date:</b> : 11.09.2023<br><b>Your Reference</b> : Nil<br><b>Date of Receipt</b> : Nil |
| <b>Sample Location</b> : Near Block -3 Project Site Area<br><b>Sample Quantity</b> : 2 Kgs<br><b>Sample Packing</b> : Clean & Sterile Container<br><b>Tests Required</b> : As mentioned below<br><b>Sampling Location Coordinates</b> | <b>Date of Registration</b> : 06.09.2023<br><b>Date of Commencement of Testing</b> : 06.09.2023<br><b>Date of Completion of Testing</b> : 11.09.2023<br><b>Sample Condition of Receipt</b> : Found Ok<br><b>Sample Tested as Received Basic</b> |                                                                                                                                                                                                       |
| <b>Sampling Details</b>                                                                                                                                                                                                               |                                                                                                                                                                                                                                                 |                                                                                                                                                                                                       |
| <b>Date of Sampling</b> : 05.09.2023                                                                                                                                                                                                  | <b>Environment Condition:</b> Temperature :29.8° C, Humidity : 47.9%                                                                                                                                                                            |                                                                                                                                                                                                       |
| <b>Sampling Method</b> : APHA 23 <sup>rd</sup> Edition 2017,                                                                                                                                                                          | <b>Group:</b> Pollution & Environment                                                                                                                                                                                                           |                                                                                                                                                                                                       |
| <b>Discipline</b> : Chemical                                                                                                                                                                                                          | <b>Sample Collected By:</b> CEL Representative Mr. SriKanth                                                                                                                                                                                     |                                                                                                                                                                                                       |

### TEST RESULT

| S.No | TEST PARAMETERS           | UNITS    | RESULTS   |
|------|---------------------------|----------|-----------|
| 1.   | Soil Texture              |          | Sand Clay |
|      | Sand                      | %        | 18        |
|      | Silt                      |          | 26        |
|      | Clay                      |          | 56        |
| 2.   | Electrical Conductivity   | ms/cm    | 0.106     |
| 3.   | pH                        | —        | 8.35      |
| 4.   | Moisture                  | %        | 9.68      |
| 5.   | Cation Exchange Capacity  | meq/100g | 56        |
| 6.   | Water Holding Capacity    | %        | 62        |
| 7.   | Organic Carbon            | %        | 0.96      |
| 8.   | Available Nitrogen as N   | mg/kg    | 58        |
| 9.   | Potassium as K            | mg/kg    | 104       |
| 10.  | Sodium As Na              | mg/kg    | 86        |
| 11.  | Phosphorous as P          | mg/kg    | 28.6      |
| 12.  | Magnesium as Mg           | mg/kg    | 52.4      |
| 13.  | Calcium as Ca             | mg/kg    | 24        |
| 14.  | Boron as B                | mg/kg    | 48        |
| 15.  | Available Copper As Cu    | mg/kg    | 22        |
| 16.  | Available Cadmium as Cd   | mg/kg    | 14.8      |
| 17.  | Available Manganese As Mn | mg/kg    | 7.26      |
| 18.  | Available Lead As Pb      | mg/kg    | 0.28      |
| 19.  | Available Nikil As Ni     | mg/kg    | 0.66      |
| 20.  | Mercury                   | mg/kg    | 0.18      |
| 21.  | Iron                      | mg/kg    | 0.38      |

Method of Testing: As per M.L .Jackson & FAO –Food and Agriculture Organization.

Verified By  
  
D.B. Lakshmi  
(Technical -Manager)



\*\*\*\*\*END OF THE REPORT\*\*\*\*\*



## Annexure 9: Questionnaire for Stakeholder Consultation

The questionnaire used during the time of stakeholder consultations is presented below:

---

### Questionnaire - Socio-Economic Survey & Stakeholder Consultation

---

#### A. General Details

1. Name of village: .....
2. Location: .....
3. Name of Respondent: ..... Sex: ..... Age: .....

#### B. Infrastructure:

- i. Electricity Supply
  1. Electricity: Y / N
  2. Load Shedding: Y / N (if 'Yes', no. of hours.....)
  3. Alternate source of power: .....
- ii. Water Supply
  1. Source of drinking water: .....
  2. Quality: Good / Average / Bad
  3. Alternative source: .....
  4. Depth (wells and Tubewells): .....
  5. Availability (Seasonal Changes if any): .....
  6. Rainy season: .....
  7. Water borne diseases: .....
- iii. Connectivity
  1. Transportation infrastructure
  2. Condition of roads
  3. Mode of transportation: Public Vehicle.....Private Vehicle.....
  4. Street lights: Y / N (If 'Yes', working condition:.....)
- iv. Waste Management
  1. Collection of waste: .....
  2. Segregation of waste: .....
  3. Disposal mechanism: .....
  4. OD Status: .....
  5. Public toilets: .....
  6. SBM(Swachh Bharat Mission): .....
  7. Employment generation if any: .....
- v. Health and Medical facilities:
  1. Availability of medical facilities: Y / N
  2. Type (Distance):
    - ☐ Primary Health Centre
    - ☐ Dispensaries
    - ☐ Government Hospitals
    - ☐ MMUs
    - ☐ Childcare centre

- ☐ Veterinary hospitals
  - 3. Diseases:
    - ☐ Water borne diseases
    - ☐ Air borne diseases
- vi. Education:
  - 1. Availability of Educational institutes:
  - 2. Type (Distance):
    - ☐ Pre-school
    - ☐ Primary school
    - ☐ Higher Secondary school
    - ☐ Colleges
    - ☐ Anganwadi
  - 3. If 'Yes', whether Public or Private
- vii. Physical and Cultural Heritage
  - 1. Is there any significant physical and cultural heritage present      Y   /   N
  - 2. Any natural resource (lakes, ponds, forests) presence      Y   /   N
  - 3. If 'Yes', it's condition      Good   /   Average   /   Bad
- viii. Public Amenities
  - ☐ Bus Stops
  - ☐ Railway Stations
  - ☐ Police Station
  - ☐ Post Office
  - ☐ Training Centres
  - ☐ Financial institutes (Banks, ATMs)

### C. Socio-Economic

- i. Social
  - 1. Tribal area: Y   /   N
  - 2. SC/ST proportion in Villages
- ii. Economic
  - 1. Prevalent Primary Occupation: .....
  - 2. Other prominent economic activities: .....
  - 3. Land transformation (Conversion of agricultural field into other uses): Y / N
  - 4. If 'Yes', to what: .....
  - 5. Main crops: .....
  - 6. Source of irrigation:
    - ☐ Surface water
    - ☐ Ground water
 If groundwater, at what depth: .....  
 Quality: .....
  - 7. Any other irrigation schemes: .....
- iii. Public Safety
  - 1. Are there any incidences of crimes?
  - 2. Incidences of road accidents, especially with heavy goods vehicles?
- iv. NGOs and SHGs
- v. Local Monsoon Pattern
  - 1. Pattern of rainfall
  - 2. Duration of monsoon

- 3. Problem of Waterlogging
- vi. Other Issues if any

## Annexure 10: Grievance Redressal Mechanism

### A10.1 Grievance Redressal Mechanism

|                                                                                                                       |                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <p style="text-align: center;">GRIEVANCE TRACKER</p> <p style="text-align: center;">Version 01, Date 09 July 2021</p> |  |
|                                                                                                                       | <p>Document No.: RAD/ESGMS/GRM/GRM TRACKER</p>                                      |

| Total Number of<br>Grievances/ Concerns | Number of Closed items | Number of<br>Open Items |
|-----------------------------------------|------------------------|-------------------------|
| 1                                       | 1                      | 0                       |
|                                         |                        |                         |

|   |   |   |
|---|---|---|
| 1 | 1 | 0 |
|---|---|---|

[illegible]Updated Till: 03-04-25[illegible]

|                                                               |                                                                                                                                    |
|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <p>GRIEVANCE TRACKER</p> <p>Version 01, Date 09 July 2021</p> |  <p>Document No.: RAD/ESGMS/GRM/GRM TRACKER</p> |
|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|

| Total Number of Grievances/ Concerns | Number of Closed items | Number of Open Items |
|--------------------------------------|------------------------|----------------------|
| 4                                    | 3                      | 1                    |
|                                      |                        |                      |

4                  3                  1

[illegible]Updated Till: 03-04-25[illegible]

[illegible]





# Grievance Redressal Mechanism (GRM)

Version: 02  
Date: 21 September 2021

|                                               |                                                       |                              |
|-----------------------------------------------|-------------------------------------------------------|------------------------------|
| <b>DOC NO:</b><br>RAD/ESGMS/APPENDIX<br>J/GRM | <b>Rev No:</b> 01                                     | <b>Rev Date:</b> 06 Sep 2021 |
| <b>Prepared By</b>                            | Kumud Ranjan<br>(Sr. Manager – ESG)                   | 06 June 2021                 |
| <b>Verified By</b>                            | Suneera Tandon<br>(Assistant General Manager – Legal) | 18 June 2021                 |
| <b>Reviewed by</b>                            | Amit Kumar Mittal<br>Head Operations                  | 6 July 2021                  |
| <b>Approved By</b>                            | S Manikkan<br>Executive Director & CEO                | 9 July 2021                  |
| <b>Revision Approved by</b>                   | S Manikkan<br>Executive Director & CEO                | 21 Sep 2021                  |

Contents

DOCUMENT HISTORY.....2

1. INTRODUCTION .....3

2. PURPOSE.....3

3. OBJECTIVES.....4

4. GRIEVANCE RECEIPT AND ACKNOWLEDGEMENT .....4

5. INVESTIGATING AND ADDRESSAL OF GRIEVANCES .....5

6. RECORDS.....7

ANNEXURE A GRIEVANCE REGISTRATION FORM .....9

ANNEXURE B COMMUNITY GRIEVANCE REGISTER .....12



## Grievance Redressal Mechanism (GRM)

### DOCUMENT HISTORY

| Revision no. | Details                            | Effective Date | Initiator    |
|--------------|------------------------------------|----------------|--------------|
| 00           | Initial Adoption                   | 09-July-2021   | Kumud Ranjan |
| 01           | Document no. alignment with ERSM   | 06-Sep-2021    | Kumud Ranjan |
| 01           | Addition of document history table | 06-Sep-2021    | Kumud Ranjan |
|              |                                    |                |              |
|              |                                    |                |              |
|              |                                    |                |              |

|                                                 |                                |
|-------------------------------------------------|--------------------------------|
| Prepared By: Kumud Ranjan                       | Reviewed By: Amit Kumar Mittal |
| Date and Version: 21 September 2021, Version 02 | Approved By: S Manikkan        |



## 1. INTRODUCTION

Grievance redressal mechanism ('GRM') is an integral part of stakeholder engagement process. The implementation of a project may have implications on both the environment as well as the people around the project site. People may have apprehension about the impact of the project during the construction and operational phase. **Radiance Renewables Private Limited** (herein after referred as 'Radiance') and Eversource Capital (the fund manager to GGEF (*hereinafter defined*) which owns 100% of Radiance) seek to build strong relationships with such stakeholders and manage the impact of its business activities on affected communities.

GRM allows stakeholders to reach out to **Radiance** and raise their questions or concerns in a fair environment free from fear and prejudice while helping **Radiance** in impartial and prompt redressal/ disposal of such grievances. **Radiance** aims to address all complaints, grievances, disagreements received, regardless of whether they stem from real or perceived issues. Any stakeholder who considers himself/ herself affected by activities of projects owned and operated by **Radiance** will have access to this procedure. The statutory rights of the complainant to undertake legal proceedings remain unaffected by participation in this process and the GRM shall be transparent, easily accessible, considerate of gender, social and cultural diversity and capable of encompassing the risks associated with all stages of the project that may have an impact on the people and surrounding environment. Radiance seeks to foster trust in the GRM process and its outcomes. To this end, **Radiance** will communicate its GRM procedure in an understandable manner to all concerned stakeholder groups. Confidentiality will be respected, and **Radiance** will take all reasonable steps to protect the interest of concerned parties. For the sake of brevity complaints, conflicts, issues, grievances, disagreements, feedbacks have been collectively referred as "**grievances**" in the subsequent sections.

## 2. PURPOSE

GRM establishes the process for addressing grievances raised by internal or external stakeholders in connection with activities of projects owned, developed or operated by **Radiance**. It describes the scope and procedural steps for the grievance handling and specifies roles and responsibilities of the parties involved. The purpose of this GRM is to respond to project requirements better by establishing it earlier in the project cycle as a measure to pre-empt rather than to react after escalation of an issue. This GRM also aligns the grievance management practices followed at the level of the subsidiaries/SPVs of Radiance and project site with the requirements laid down in the **APPENDIX L** of the latest version of Environmental Social Governance Management System (ESGMS) of Green Growth Equity Fund (**GGEF**).

The purpose of GRM is to also address grievances from local community regarding environmental and social impacts during planning, land acquisition, construction and operation phases of the project. GRM will also help receive and facilitate the resolution of concerns and grievances of affected people about physical and

|                                                 |                                |
|-------------------------------------------------|--------------------------------|
| Prepared By: Kumud Ranjan                       | Reviewed By: Amit Kumar Mittal |
| Date and Version: 21 September 2021, Version 02 | Approved By: S Manikkan        |

economic displacement and other project impacts, including impacts on the vulnerable groups. It will be revised and updated periodically based on experience and feedback from stakeholders.

### 3. OBJECTIVES

This procedure has the following objectives:

- Establish a prompt, consistent and transparent mechanism for receiving, investigating and responding to complaints from stakeholders.
- Ensure proper documentation of complaints and any corrective actions taken.
- Identify and manage stakeholder concerns and thus support effective risk management/ mitigation.
- Contribute to continuous improvement in performance through feedback and lessons learned.
- To have a multi-level process for addressing grievances from project-affected communities.

### 4. GRIEVANCE RECEIPT AND ACKNOWLEDGEMENT

#### Manned Sites:

- One can register a grievance/feedback/concern by filling the contact form on Radiance Website <https://www.radiancerenewables.com/contact/> by selecting 'Issues or Feedback' from dropdown under 'Subject'.
- Radiance, at the corporate level also maintains a feedback/concern mail id [complaints@radiancerenewables.com](mailto:complaints@radiancerenewables.com) on its website for registering any grievances by external stakeholders.
- In addition, project site shall maintain a complaint/suggestion box (under lock and key) for workers and visitors. Box shall be kept at a conspicuous place which is easily accessible. In addition, following text in vernacular and English language shall be displayed on the box:  
 "You can also share your grievance by emailing it to [complaints@radiancerenewables.com](mailto:complaints@radiancerenewables.com)."
- The project site shall maintain a community grievance register in the format provided in **Appendix B**.

#### Unmanned Sites:

- Grievances can be shared by emailing it to [complaints@radiancerenewables.com](mailto:complaints@radiancerenewables.com).
- One can register a grievance/feedback/concern by filling the contact form on Radiance Website <https://www.radiancerenewables.com/contact/> by selecting 'Issues or Feedback' from dropdown under 'Subject'.

|                                                 |                                |
|-------------------------------------------------|--------------------------------|
| Prepared By: Kumud Ranjan                       | Reviewed By: Amit Kumar Mittal |
| Date and Version: 21 September 2021, Version 02 | Approved By: S Manikkan        |



## Grievance Redressal Mechanism (GRM)

### **Radiance Office:**

- Internal stakeholders such as on roll and on contract employees of Radiance can reach out directly to HCM department representatives or their respective department head to register their grievances. They can also reach out by writing to respective recipients on specific issues below:

| Issues                                                 | Recipient Email IDs                                                                                    |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Discrimination, harassment or sexual harassment (POSH) | <a href="mailto:care@radiancerenewables.com">care@radiancerenewables.com</a>                           |
| Whistle Blowers                                        | <a href="mailto:designatedofficer@radiancerenewables.com">designatedofficer@radiancerenewables.com</a> |



**Note:** The suggestion box should either be completely transparent or at least should have a transparent see-through portion to allow peek from outside.

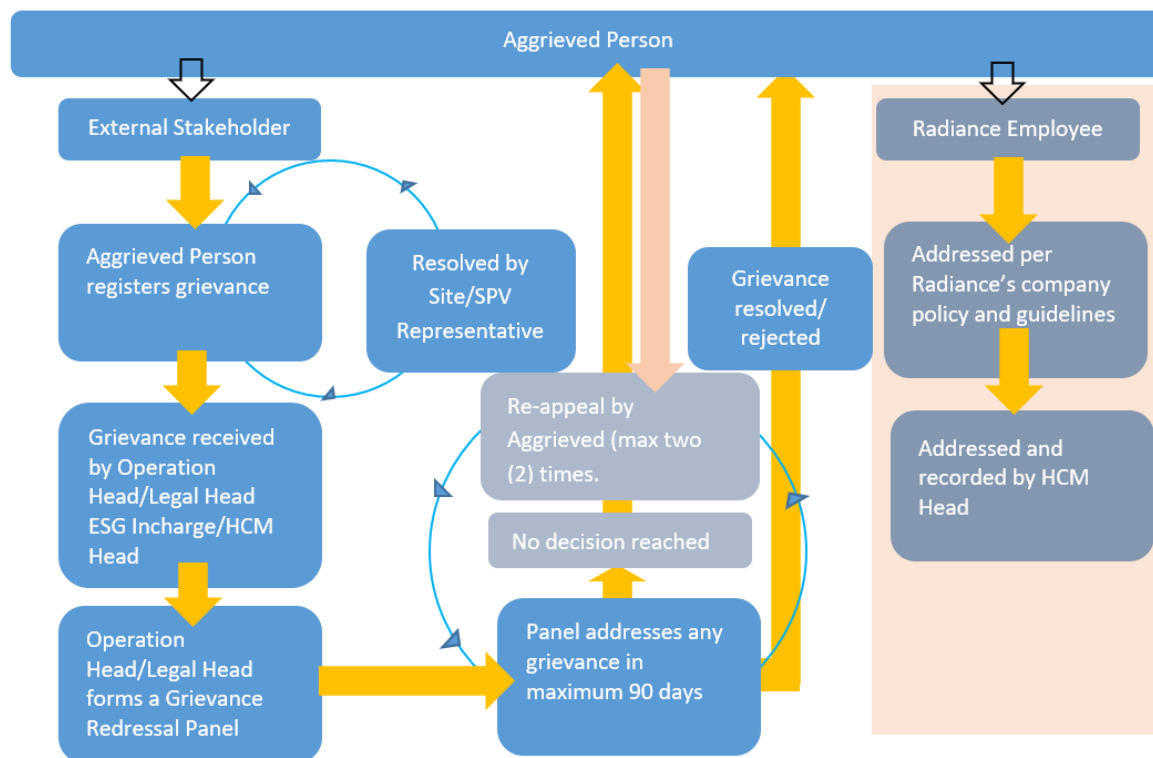
## **5. INVESTIGATING AND ADDRESSAL OF GRIEVANCES**

- Receipt of any grievance shall be acknowledged and reported to the complainant with reference number and estimated timeline for investigation. Grievances and feedbacks registered through any of the aforesaid channels shall be recorded and archived. Grievances shall be kept confidential and handled discretely.
- Grievances received in the complaint/suggestion box: At manned sites the project site/SPV designated representative shall empty complaint/suggestion box every fortnight. Project site/SPV representative attending to grievances shall assess the legitimacy of the grievance and if possible, shall resolve the grievance at hand, immediately. All grievances and grievance redressal response shall be registered in the format provided in **Appendix A**. All completed grievance forms shall be scanned and emailed to [complaints@radiancerenewables.com](mailto:complaints@radiancerenewables.com) on a fortnightly basis.

|                                                 |                                |
|-------------------------------------------------|--------------------------------|
| Prepared By: Kumud Ranjan                       | Reviewed By: Amit Kumar Mittal |
| Date and Version: 21 September 2021, Version 02 | Approved By: S Manikkan        |

- Grievances registered at site by aggrieved in-person: The project site/SPV representative registering the grievance shall assess the legitimacy of the grievance and if possible, shall resolve the grievance at hand, immediately. All grievances and grievance redressal response shall be registered in the format provided in **Appendix A**. All completed grievance forms shall be scanned and emailed to [complaints@radiancerenewables.com](mailto:complaints@radiancerenewables.com) on a fortnightly basis.
- In case it is adjudged that the grievances require escalation, the project site/SPV representative shall register grievances in the format provided in **Appendix A** and report immediately by writing an email to Legal Head, Operations Head, ESG Incharge or HCM Head with cc to [complaints@radiancerenewables.com](mailto:complaints@radiancerenewables.com). Site representative shall attach the grievance form with the email.
- In case it is adjudged that the grievance addressal requires participation of additional company representatives, the Operations Head in consultation with Legal Head will form a Grievance Redressal Panel (GRP), and a meeting of the panel members would be convened at an appropriate time with or without the participation of the aggrieved person as deemed necessary by the panel. The grievance would be mutually discussed by panel members.
- The GRP may comprise of at least four members, may have representation from following departments heads: ESG Incharge, Operations Head, Legal Head, HCM Head, EHS Incharge, ESG Incharge, Site-Manager/Site Incharge; and any independent member if relevant, among others. The panel may decide to invite Head ESG of Eversource if required on a need (s) basis.
- The panel shall resolve the grievance /complaint received before 90 days or as agreed in business agreement with authorities. In cases where additional time is required to resolve, the same may be noted in the grievance database (providing reason for delay) and practical/implementable timelines should be fixed.
- The decision taken by GRP would be forwarded to Executive Director & CEO (CEO) for further approval. Once approval from CEO is received, the decision would be communicated to the aggrieved accordingly.
- In case no decision is reached, the same shall also be communicated back to the aggrieved person. The aggrieved person/party may approach and may re-appeal with the company for a maximum of two (2) more times.
- In case the grievance is still not resolved, the aggrieved person is free to register the grievance with statutory authorities having necessary power and authority to resolve the grievance.
- In case a grievance is received at the fund level, Head of ESG (at Eversource), ESG in charge (Radiance), the Head of Operations, Head of legal and compliance shall analyse the issue and sees the legitimacy of it and accordingly assigns it to concerned person.

|                                                 |                                |
|-------------------------------------------------|--------------------------------|
| Prepared By: Kumud Ranjan                       | Reviewed By: Amit Kumar Mittal |
| Date and Version: 21 September 2021, Version 02 | Approved By: S Manikkan        |



## 6. RECORDS

- The Human Capital Management (HCM) department will have the accountability for maintaining records of all the grievances along with the reference number.
- Records of all grievances, including those resolved at project site level shall be maintained in a database having the following minimum information. The database shall be maintained at the portfolio level by the HCM Department. All grievances received, their subject and status of closure along with the reference number shall be maintained in the database. A summary of all feedback/concern/ grievance shall be maintained by ESG Incharge (at Radiance).
  - i. date of grievance
  - ii. name of aggrieved party and any affiliation/organization
  - iii. contact details of aggrieved party
  - iv. category of grievance (environmental, social, governance, others)
  - v. whether the grievance is directed at fund level or an investee (if investee, its name should be listed)
  - vi. summary of the issue
  - vii. whether the grievance is an appeal to an earlier grievance management outcome
  - viii. relevant parties to engage at Fund level and any applicable investee of GGEF
  - ix. recommended investigation of issue



- x. outcome of investigation and actions taken
- xi. date of closure and information provided to aggrieved party
- It will be the responsibility of the ESG Incharge (at Radiance) to ensure that:
  - i. Any grievance which is found to be legitimate, a response would be provided to the aggrieved party for information about next steps with a timeline or directly with the resolution.
  - ii. Discussions and effort is initiated at fund level and/or investee level to evaluate the grievance and determine if any action should be taken to rectify the root cause.
  - iii. Investigations into grievances can vary depending on the nature of the grievance, but best efforts are made to ensure that grievances are handled promptly. Most investigations should not last more than 90 days subject to promptness on the aggrieved party's response to any queries from the Fund's side.
  - iv. Aggrieved party is appropriately engaged if required either through writing, conference call and/ or meeting during investigation and any such engagement with an aggrieved party be noted in the grievance log.
  - v. Aggrieved party is informed of outcomes of the investigation and any action being taken or reasons for not acting.
  - vi. The investigation outcomes are recorded in the grievance log, including a summary of actions taken or rationale for not acting and the date of response to the aggrieved party.
  - vii. The contents of the grievance log and its management are maintained with confidentiality of the aggrieved party where relevant, and there is no unfair practice like retaliation, threat or intimidation against aggrieved parties or whistle-blowers.

|                                                 |                                |
|-------------------------------------------------|--------------------------------|
| Prepared By: Kumud Ranjan                       | Reviewed By: Amit Kumar Mittal |
| Date and Version: 21 September 2021, Version 02 | Approved By: S Manikkan        |



## Grievance Redressal Mechanism (GRM)

### ANNEXURE A GRIEVANCE REGISTRATION FORM

|                                                 |                                |
|-------------------------------------------------|--------------------------------|
| Prepared By: Kumud Ranjan                       | Reviewed By: Amit Kumar Mittal |
| Date and Version: 21 September 2021, Version 02 | Approved By: S Manikkan        |



## Grievance Redressal Mechanism (GRM)

### GRIEVANCE REGISTRATION FORM

|                                 |                 |
|---------------------------------|-----------------|
| <b>Grievance No.:</b>           | <b>Date:</b>    |
| <b>First Name:</b>              | <b>Surname:</b> |
| <b>Village/Taluka/District:</b> |                 |

|                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Phone no.</b>                                                                                                                                                                                                      |
| <b>Category of grievance:</b> <input type="checkbox"/> Major <input type="checkbox"/> Minor <input type="checkbox"/> Feedback <input type="checkbox"/> Internal Grievance <input type="checkbox"/> External Grievance |

|                                                                                |                                                             |                                                               |
|--------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------|
| Whether the grievance is an appeal to an earlier grievance management outcome? | <input type="checkbox"/> Yes<br><input type="checkbox"/> No | <b>If yes, provide grievance no. of the earlier grievance</b> |
|--------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------|

|                |
|----------------|
| <b>Summary</b> |
|----------------|

|                                                |                                 |
|------------------------------------------------|---------------------------------|
| <b>Name of person recording grievances:</b>    |                                 |
| <b>Designation of recording person:</b>        |                                 |
| <b>Proposed date of response to grievance:</b> |                                 |
|                                                |                                 |
| <b>Signature of recording person</b>           | <b>Signature of complainant</b> |

### ACKNOWLEDGEMENT RECIEPT

|                                                 |                                |
|-------------------------------------------------|--------------------------------|
| Prepared By: Kumud Ranjan                       | Reviewed By: Amit Kumar Mittal |
| Date and Version: 21 September 2021, Version 02 | Approved By: S Manikkan        |



## Grievance Redressal Mechanism (GRM)

This receipt is acknowledgement of grievance registration by \_\_\_\_\_  
\_\_\_\_\_, resident of village \_\_\_\_\_  
\_\_\_\_\_ on date \_\_\_\_\_. His case number is \_\_\_\_\_  
and the date for response is \_\_\_\_\_.

Name of the person recording grievances:

Designation of the recording person:

### GRIEVANCE REDRESSAL RESPONSE

Date of redresses:

Decision of person disposing the grievance (give full details):

Claimant accepts the outcome:

Accepted ☐

Not accepted ☐

Signature of claimant

Signature of Legal Head

Signature of HCM

Signature of Head Operations

Signature of ED

#### Note:

Please note, if at any time the grievant is unsatisfied with the resolution of the grievance, they may choose to ask for an escalation to the next level or may resort to legal redress.



## Grievance Redressal Mechanism (GRM)

### ANNEXURE B COMMUNITY GRIEVANCE REGISTER

| S. No | Date | Village | Topic of grievance | Summary of grievance | Stakeholder Group | Acknowledgement date | First response date | Follow-up (if applicable) | Unique Grievance ID | Status |
|-------|------|---------|--------------------|----------------------|-------------------|----------------------|---------------------|---------------------------|---------------------|--------|
|-------|------|---------|--------------------|----------------------|-------------------|----------------------|---------------------|---------------------------|---------------------|--------|

1.

2.

3.

|                                                 |                                |
|-------------------------------------------------|--------------------------------|
| Prepared By: Kumud Ranjan                       | Reviewed By: Amit Kumar Mittal |
| Date and Version: 21 September 2021, Version 02 | Approved By: S Manikkan        |

## Annexure 11: Labour Management & HR Policies

The HR policies have been subdivided into the following. These policies have been attached as PDF files separately.

- Anti- Money Laundering Policy
- Code-Prevention for Prevention of Insider Trading
- Declaration of Fidelity and Secrecy
- Employee “Fair Play” And “Equal Opportunities” Code
- Care and Dignity Policy
- Whistleblowing Policy
- Framework for Managing Conflicts of Interest
- Anti-Corruption Policy
- Human Capital Management (People Policy Handbook)
- Grievance Redressal Mechanism (GRM)
- Code of Conduct for Prevention of Insider Trading
- ESG Policy Statement
- Quality, Health, Safety & Environment Policy
- Social Responsibility Policy
- Checklist for Labour Compliance

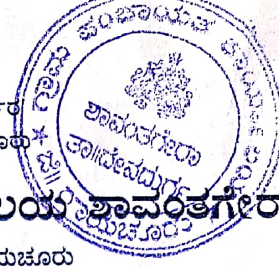
## Annexure 12: Cost & Schedule of Gugal O&M ESMP

| Gap Closure Recommendation |                                                                                                                                                                  |                          |                                               |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------------------|
| #                          | Operation                                                                                                                                                        | Timeline                 | Cost                                          |
| <b>1</b>                   | <b>Mitigation Measures for Transmission Line &amp; Access Road Impact - Construction Phase</b>                                                                   |                          |                                               |
| a)                         | All workers (regular and contracted) should be provided with training on Health and Safety management system of the EPC contractor during construction stage     | Periodic monitoring      | Part of regular activity. No additional cost. |
| b)                         | Obtain and check safety method statements from contractors                                                                                                       | Periodic monitoring      | Part of regular activity. No additional cost. |
| c)                         | Monitor health and safety performance, and have an operating audit system                                                                                        | Periodic monitoring      | Part of regular activity. No additional cost. |
| d)                         | Appropriate safety harnesses and lowering/raising tools should be used for working at heights                                                                    | Periodic monitoring      | Part of regular activity. No additional cost. |
| e)                         | All equipment should be turned off and checked when not in use                                                                                                   | Periodic monitoring      | Part of regular activity. No additional cost. |
| <b>2</b>                   | <b>Mitigation Measures for Transmission Line &amp; Access Road Impact - Operation Phase</b>                                                                      |                          |                                               |
| a)                         | Considering adequate measures are being taken on site, no additional measures are required.                                                                      | -                        | -                                             |
| <b>3</b>                   | <b>Mitigation Measures for Avifauna Collision/Electrocution Impact - Operation Phase</b>                                                                         |                          |                                               |
| a)                         | Local Hospital in the area should know about the existence of the venomous Herpetofaunal (Snakes) and Arachnida (Scorpions) species present in the project area. | Periodic monitoring      | PPEs already provided. No additional costs    |
| b)                         | Photo identification chart and danger/ Safety chart to be put up on the site, to raise awareness                                                                 | Already implemented      | No additional cost.                           |
| c)                         | Training on safety measures to be taken when there is a near miss with Herpetofauna species should also be conducted on a half-yearly basis                      | Periodic monitoring      | Part of regular activity. No additional cost. |
| <b>4</b>                   | <b>Mitigation Measures for Human Resource Management - Operation Phase</b>                                                                                       |                          |                                               |
| a)                         | Establish a separate contract labour management plan and ensure cascading down to the contractors.                                                               | Part of regular activity | No additional cost.                           |

| Gap Closure Recommendation |                                                                                                                                                           |                          |                                               |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------------------|
| #                          | Operation                                                                                                                                                 | Timeline                 | Cost                                          |
| b)                         | Contract workers should be made aware of their rights under labour law.                                                                                   | Part of regular activity | No additional cost.                           |
| <b>5</b>                   | <b>Mitigation Measures for Sexual Exploitation, Abuse &amp; Harassment (SEAH) - Operation Phase</b>                                                       |                          |                                               |
| a)                         | Make the reporting & external grievance mechanism more accessible                                                                                         | 1 month                  | No additional cost.                           |
| b)                         | Provide specific training for supervisors and managers on preventing and addressing sexual harassment.                                                    | Periodic monitoring      | Part of regular activity. No additional cost. |
| c)                         | Conduct regular site inspection to assess the work environment and identify potential issues related to harassment.                                       | Periodic monitoring      | Part of regular activity. No additional cost. |
| d)                         | Collaborate with local community organizations and authorities to address issues related to harassment and promote awareness within the community         | Periodical activity      | No additional cost.                           |
| e)                         | Regularly review and assess the effectiveness of anti-harassment measures and make necessary adjustments based on feedback and incident reports.          | Periodic monitoring      | Part of regular activity. No additional cost. |
| <b>6</b>                   | <b>Mitigation Measures for Labour Risks- Operation Phase</b>                                                                                              |                          |                                               |
| a)                         | As the Company is indirectly associated with labour risks, this is a residual impact. The mitigation measures to minimize this impact are being explored. | -                        | -                                             |
| <b>7</b>                   | <b>Mitigation Measures for Water Resource Impact - Operation Phase</b>                                                                                    |                          |                                               |
| a)                         | Optimal utilization of water to be ensured throughout the lifecycle of project                                                                            | Periodic monitoring      | Part of regular activity. No additional cost. |
| b)                         | Leaks and losses to be checked frequently to enhance utilization.                                                                                         | Periodic monitoring      | Part of regular activity. No additional cost. |



## Annexure 13: Gram Panchayat NOC



## ಗ್ರಾಮ ಪಂಚಾಯತ ಕಾರ್ಯಾಲಯ ಶಾವಂತಗೇರಾ

ತಾ:ದೇವದುರ್ಗ ಜಿ:ರಾಯಚೂರು

ಕ್ರ.ಸಂ: ಗ್ರಾ.ಪಂ.ಶಾ/202 -202

ದಿನಾಂಕ: 22-05-2022

12/22-23

### NO OBJECTION CERTIFICATE

To,  
M/s MIRZAPUR POWER PVT LTD.,  
Jaipur, Rajastan.

**Subject:** Grant of License and NOC (No Objection Certificate) for establishment and operation of 50MW solar power project at Gram Panchayath Shavantagera, village Hirerayakumpi, Devdurga Taluk, Raichur district.

**Reference:** 1. Your Office letter dated : 23-03-2021.

With reference to above subject and letter under reference No.(2) M/s. Mirzapur Power Pvt Ltd. requested for grant of license and NOC towards establishment and operation of 50MW Solar Power Project in survey No's: 229/1, 229/2, 229/3, 240/1, 240/2, 240/3, 240/4, 240/5, 240/6, 240/7, 241, 241/2, 241/4, 241/5, 241/6, 250, 250, 253/1, 253/2, 253/3, 254/, 254/00, 255/1, 255/2, 255/3, 256/1, 256/3, 256/6, 257/1, 234, 238/1, 239 and 242 of Hirerayakumpi Village, Gabbur Hobli, Devdurga taluk, Raichur, Karnataka.

According, this Gram Panchayath conducting and completed Gram Panchayath Meeting and Passed resolution that this Gram Panchayath has no objection in granting license and NOC to M/s Mirzapur Power Pvt. Ltd., establishment and operation of 50MW Solar Power Project in survey No's: 229/1, 229/2, 229/3, 240/1, 240/2, 240/3, 240/4, 240/5, 240/6, 240/7, 241, 241/2, 241/4, 241/5, 241/6, 250, 250, 253/1, 253/2, 253/3, 254/, 254/00, 255/1, 255/2, 255/3, 256/1, 256/3, 256/6, 257/1, 234, 238/1, 239 and 242 of Hirerayakumpi village Devedurga taluka, Raichur District.

In, this connection The Shavantagera Gram Panchayath granting license and no objection certificate to M/s Mirzapur Power Pvt. Ltd., establishment and

255/2,255/3,256/1,256/3,256/6,257/1,234,234,238/1,239 and 242 of Hire Rayakumpi village Devadurga Taluka,Raichur District.

S. Polte  
ಅಧ್ಯಕ್ಷ ಅಧಿಕಾರಿ  
The President  
ಹಿರೇ ರಾಯಕುಂಪಿ ಗ್ರಾಮ ಪಂಚಾಯತ್  
Hire Rayakumpi Gram Panchayath  
ತಾ|| ದೇವದುರ್ಗ ಜಿ|| ರಾಯಚೂರು

  
ಪಂಚಾಯತ್ ಅಭಿವೃದ್ಧಿ ಅಧಿಕಾರಿ  
Panchayat Development Officer  
ಹಿರೇ ರಾಯಕುಂಪಿ ಗ್ರಾಮ ಪಂಚಾಯತ್  
Hire Rayakumpi Gram Panchayath  
ದೇವದುರ್ಗ ಜಿ|| ರಾಯಚೂರು

## Disclaimer

This assessment was performed according to professionally accepted principles. Professional judgments expressed herein are based on the information currently available within the limits of the existing data, scope of work, budget and time. This report is prepared to aid the Client in identifying and addressing environmental and social risks and may not be relied upon by any other person or entity without the written authorization of Envint.

Envint has assumed where reasonable to do so, that the information provided is true and accurate. If information to the contrary subsequently is discovered, our conclusions and recommendations may not be valid.

Envint makes no other representations whatsoever, including those concerning the legal significance of its findings or as to other legal matters touched upon in this report. Except as otherwise may be requested by the Client, Envint disclaims any responsibility to update the report for events taking place after the time which we conducted our assessment. The conclusions and recommendations describe only the conditions present at the time of our assessment, in areas that were observed. The scope of this report is limited to matters expressly covered.