Environmental Monitoring Report

Project Number: 44219-014
Loan Number: 3139
Grant Number: 0398
Semestral Report (January-June 2021)
July 2022

Nepal: South Asia Subregional Economic Cooperation Power System Expansion Project (Off-Grid)

Prepared by Alternative Energy Promotion Center for the Government of Nepal and the Asian Development Bank.

CURRENCY EQUIVALENTS
(As of 30 June 2022)

Currency Unit	**–**	**Nepalese Rupee (NPR)**
NPR1	**=**	**US$0.007834**
US$1	**=**	**NPR127.652000**

Notes:

i. The fiscal year (FY) of Government of Nepal (GoN) and its agencies ends on 16 July. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY 2022 ends on 16 July 2023.

ii. In this report, "$" refers to US dollars.

Abbreviations

ADB	Asian Development Bank
AEPC	Alternative Energy Promotion Centre
BTS	Base Transceiver Station
EA	Executing Agency
EARF	Environmental Assessment and Review Framework
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPA	Environment Protection Act
EPR	Environment Protection Rules
FY	Fiscal Year
GKMHP	Giri Khola Mini Hydro Project
GoN	Government of Nepal
GRM	Grievance Redress Mechanism
IEE	Initial Environmental Examination
KKMHP	Khatyad Khola Mini Hydro Subproject
LBKMHP	Lower Bom Khola Subproject
MoEWRI	Ministry of Energy, Water Resources and Irrigation
MPKMHP	Middle Phawa Khola Mini Hydro Subproject
PCKMHP	Patarasi Chukeni Khola Mini Hydro Subproject
REA	Rapid Environmental Assessment
RM	Rural Municipality
SASEC	South Asia Sub-Regional Economic Cooperation
SKMHP	Simrutu Khola Mini Hydro Subproject
SM	Social Mobilizer
SMG	Solar Mini Grid
SPS	Safeguard Policy Statement
SUMHP	Saniveri Uttarganga Mini Hydro Subproject
PPTA	Project Preparatory Technical Assistance
UC	Users Committee

Table of Content

List of Table

Annexes

A. INTRODUCTION

I. Background

1. South Asia Sub-Regional Economic Cooperation (SASEC) Power System Expansion Project, funded by Asian Development Bank (ADB), has two components namely on-grid and off-grid power system expansion in Nepal. The implementing partner of SASEC on-grid component is Nepal Electricity Authority (NEA) and off-grid component is Alternative Energy Promotion Centre (AEPC), whereas Ministry of Energy, Water Resources and Irrigation (MoEWRI) is an Executing Agency for SASEC Project. The ADB/SASEC Project Number is 44219 wherein the Loan Number is 3139-NEP (SF) and the Grant Number is 0398-NEP (EF). The Project was implemented from January 2015 and estimated completion date is 31 December 2021. The Project has been first extended from 30 June 2022 to 30 June 2024.

2. The off-grid component provides access to electricity and facilitates Productive Energy Use (PEU) activities in rural locations without national grid connection. This will enhance income and welfare of rural communities by utilization of the renewable energy, mainly in sectors of agriculture, rural enterprise, health and education.

II. Impact and Outcome

3. The impact and outcome of SASEC off-grid project is to increase electricity access and enhance renewable energy development in off-grid areas of Nepal.

III. Output

4. The project purpose is achieved through the following outputs

Output 3: Mini-Grid Based Renewable Energy Systems in Off-Grid Areas Increased

The output includes installation of up to total 4.3 MW of mini hydro power plants and up to total 0.5 MW of mini grid based solar or solar/wind hybrid systems, in selected rural communities, through the provision of (a) a credit line of US$5 million from ADB's Special Funds to user communities for mini hydro power plants and (b) a US$11.2 million grant from the SCF administered by ADB[1]. During mission 12-22 December 2019, it has been agreed for

[1]During ADB midterm review mission carried out from 13 September to 18 October 2018, Alternative Energy Promotion Centre, Ministry of Finance and Ministry of Energy Water Resources and Irrigation agreed to provide matching subsidy amounting up to $4.5 million to meet the project's MHP Installation target of 4.3 MW.

reallocation of Grant/Loan. Mini Hydro Subproject reallocation $ 5.5 million reducing by $1.1 million and Solar/Wind Mini Grid Subproject reallocation $2.8 million reducing by $0.2 million respectively. Consulting Services has been reallocated of $ 2.9 million increasing by $1. .5 million from Mini Hydro Subproject component and $0.2million from the savings of solar/wind Mini Grid Subprojects component including as follow to allow recruitment of UNDP/RERL under single source selection procedure for providing required technical assistance to the project.

Output 4: Capacity Development Supports to AEPC

5. The physical investments will be reinforced and supplemented by capacity building support to AEPC, including project management support, preparation support for distribution system/rural electrification master plan and feasibility study of utility level wind farm, and parallel livelihood development activities in the project area.

B. COMPLIANCE STATUS WITH ENVIRONMENTAL COVENANTS

6. Each subproject complies with applicable government laws and regulations, and ADB Safeguard Policy Statement 2009. Environment Management Plan (EMP) of the subproject is prepared in the Initial Environmental Examination (IEE), which includes mitigation measures, monitoring plan, budgetary provision and roles of institution. Environmental safeguard compliance with loan and grant covenants are illustrated in **Annex I** whereas, **Annex II** provides the existing condition of environmental safeguard compliance with EARF.

C. ENVIRONMENTAL CATEOGORY OF THE SUBPROJECT

7. SASEC off-grid component is categorized as environment “Category B’’ based on ADB’s Safeguard Policy Statement (SPS, 2009). Hence, IEE is mandatory for mini hydro and solar or/and solar-wind mini grid subproject. ADB’s Rapid Environmental Assessment (REA) checklist has been used for screening of the subproject.

D. SUBPROJECT PROGRESS STATUS

8. In total 17 subprojects, 8 mini hydro subprojects (MHPs) and 9 solar, solar/wind hybrid subprojects (SMGs), have been approved under the Project. At present, 9 SMGs and 4 MHPs are in operation phase, 3 MHPs are in construction phase and 1 MHP is in under bidding process and evaluation is ongoing for selection of Contractor. Initial Environmental Examination (IEE) report has been prepared for all 8 MHPs. With respect to SMGs, Initial

Environmental Examination has been conducted for all 9 subprojects. The current status of the subprojects in the construction phase and in pipeline is presented in **Table 1**.

Table 1: Current Status of Subprojects in Construction Phase and Pipeline

S. No	Subproject	Status
Subprojects in Construction Phase		
1	Khatyad Khola MHP (500 kW), Mugu (KKMHP)	• 100% T&D installed. • Headworks, approach canal, settling basin and spillway completed • Penstock and Surge pipes installed • Construction of powerhouse, operator room and machine foundation ongoing • Installation of headrace pipe delayed due to change of alignment mentioned in DED by RM
2	Patarasi Chukeni Khola MHP (998 kW), Jumla (PCKMHP)	• Civil construction of powerhouse and installation of penstock pipe • Installation of T&D work completed • Transportation of Electromechanical Equipment • NEA has provided point of connection (PoC) at its Ghuguto powerhouse
3	Saniveri Uttarganga MHP (998 kW), East Rukum (SUMHP)	• Construction of approach canal, settling basin and Operator's building has been started • NEA has agreed to install T&D network before completion of the project
Subprojects in Under Bidding Process		
1	Aankhe Khola MHP (750kW), Dolpa (AKMHP)	• IFB has been published and received bids are under evaluation process • Required equity collection from community • Financial closure

E. SUBPROJECT IMPACTS

9. **Beneficial Impacts:** Each subproject has numerous beneficial impacts. It enhances the livelihood of beneficiaries. The essential beneficial impact of the subproject is to have electricity access to the rural communities, which in turn will intensify the economic activities promoting micro, small and medium enterprises (MSME) and will also help in local development activities. 3 MHPs in operation phase are electrifying 3,132 households (HHs) and 9 SMGs, including 1,500 solar home systems supported after the 2015 earthquake, are electrifying 2,703 HHs; total beneficiary HHs being 5,835 from 1.165 MW electricity generated till this reporting period. The remaining 4 MHPs in construction phase will be

electrifying 13,352 HHs and those in pipeline will electrify 12,437 HHs. Besides, it will generate local employment, boost in revenue and establishment of new business venture. AEPC/SASEC/RERL has supported to establish 204 enterprises in SMGs subproject areas that consume 78kW, which is 14% of the total capacity. In addition, 12 enterprises have been established in Simrutu Khola MHP that consumes 86kW, which is 43% of the total installed capacity.

10. Moreover, improvement in quality of life and reduction in indoor air pollution leading to improvement in health of women and children, availability of more time for children's education etc. are other benefits. The recently conducted End line Survey in Ramite Khola SMG, Morang validates these beneficial impacts in the community.

11. **Adverse Impacts:** There may be some adverse impacts in each subproject and these impacts vary from subproject to subproject according to their size and components. The adverse environmental impacts can be minimized through implementation of mitigation measures. Some adverse impacts and risks of the ongoing subprojects are given in **Table 2**.

Table 2: Adverse Impacts and Risks with Mitigation Plan

SN	Adverse Impacts and Risks	Mitigation Measures	Subprojects	Schedule
Adverse Impacts				
1.	Losing a small portion of land for powerhouse, canals, solar panel, wind turbine installation and mini-grid connection.	These impacts cannot be avoided, however can be minimized through proper management	AKMHP	Preparation
2.	Reduction of downstream water availability	Release minimum 10% flow during the operation of the plant and minimum 50% in protected areas	SKMHP, GKMHP, LBKMHP, MPKMHP, KKMHP, PCKMHP, SUMHP	Construction, and operation
3.	Low community strength, commitment, and lack of social integrity	Mobilize Field Coordinator/Social Mobilizer in each community with the assigned tasks	MPKMHP, KKMHP, PCKMHP, SUMHP, AKMHP	Preparation and Construction
4.	Unfavorable climate conditions during the rainy season	Avoid rainy season for goods shipment and construction activities	MPKMHP, KKMHP, PCKMHP, SUMHP, AKMHP	Preparation and Construction
5.	The removal of vegetation within the right-of-way (RoW).	Avoid transmission and distribution line alignment from forest and high vegetation Area to link a number of villages.	MPKMHP, KKMHP, PCKMHP, SUMHP,	Construction

Risks				
6.	Damages to crops during the construction period	Conditions application for the contractor/supplier and regular monitoring during the construction phase through PIU, contractor and UC.	KKMHP, PCKMHP,SUMHP	Construction
7.	Social disruption to work	Stick to Users Committee and mobilize each community through the assigned tasks to FC/SM. Monitor through Grievance Redress Committee	AKMHP	Preparation
8.	Possibility of discrimination according to caste and ethnicity	Proper implementation of GESI Action Plan	SKMHP, GKMHP, LBKMHP, MPKMHP, KKMHP, PCKMHP,SUMHP, AKMHP	Preparation, Construction, Operation
9.	Possibility to reject existing solar units at household level	Awareness and promotion	SKMHP, GKMHP, LBKMHP	Operation
10.	Effects of COVID-19 pandemic	Preparation of Emergency Preparedness and Response Plan and Standard Operating procedure	SKMHP, GKMHP, LBKMHP, MPKMHP, KKMHP, PCKMHP,SUMHP, AKMHP	Preparation, Construction and Operation

F. ENVIRONMENTAL SAFEGUARDS IMPLEMENTATION STATUS

12. Environmental assessment is the primary administrative tool to integrate environmental consideration into decision making to ensure that proposed development intervention will have minimal environmental impacts. As per Environment Protection Rule (EPR), 2020 the Government of Nepal does not require an environmental assessment for the mini hydro and solar/solar-wind mini-grid under this project (being less than 1 MW and project infrastructure do not fall in protected area) because of minor or insignificant impacts on the existing environment. However, ADB has recognized the importance of Environmental Assessment to identify the possible impacts due to the implementation of such projects and recommend site-specific mitigation and enhancement measures to make the project more sustainable along with the improved environment of the surroundings. SASEC off-grid components falls under category “B” project according to ADB Safeguard Policy Statement (2009). Therefore, Initial Environmental Examination (IEE) and Due Diligence are mandatory. During construction and operation of subprojects, environmental monitoring is an important tool to ensure the compliance of mitigation measures and implementation of environmental management plan (EMP).

I. Environmental Safeguard Compliance Status

13. Both mini hydro and solar and solar-wind mini grid subprojects have been environmentally screened and assessed. Subprojects are not located in or near sensitive or protected areas and environmental assessments according to ADB' SPS 2009 (IEE for category 'B' subproject) has been made to conclude that no significant adverse impacts are anticipated from proposed locations, designs, and construction activities. Environmental safeguard during planning and implementation stage of the ongoing subprojects are presented in **Annex III** and **Annex IV.**

II. Safeguard Implementation Arrangement Established by AEPC

14. In central level, AEPC has established an Environmental and Social Safeguard Section, which is led by Assistant Director of AEPC. AEPC/SASEC/RERL Project Officer is assigned as focal person for safeguard facilitation for the project and senior officer graduated with environmental Engineering and Officer graduated with Social Studies are the members of the section, **Table 3**.

Table 3: Members of Environmental and Social Safeguard Section

SN	Name	Position
1	Ms. Parbata Bhatta	Assistant Director, Planning and Monitoring Division
2	Er. Chaitanya Prakash Chaudhary	Senior Officer, AEPC
3	Ms. Pratima K C	Senior Officer
	Ms. Srijana Pandey	Officer
4	Dr. Anusuya Joshi	Senior Environmental Safeguard Expert, MGEAP
5	Mr. Shivahari Budathoki	Social Safeguard Expert, MGEAP
6	Ms. Sunita Khatiwoda	Environmental Safeguard Expert, MGEAP
7	Mr. Shreejan Ram Shrestha	Environmental Safeguard Expert, AEPC

15. The Grievance Redress Committee (GRC) has already been established in 7 mini hydro subprojects, namely Simrutu Khola MHP, Giri Khola MHP, Chukeni Khola MHP, Middle Phawa Khola MHP, Khatyad Khola MHP, Lower Bom Khola MHP and SaniVeri Uttarganga MHP, which are in operational and construction phase.

G. IMPLEMENTATION STATUS OF MITIGATION MEASURES

16. EMP has been incorporated into the bidding and contract documents. Cost for environmental mitigation and enhancement measures, camp site management, occupational health and safety and insurance for workers have been included in the

subproject cost. The provisional ESMP cost for the Mini hydro subprojects, which is 0.16% of the total project cost in average, is presented in **Table 4**.

Table 4: Provisional ESMP Cost for Minihydro Subprojects

S.No.	Subproject	Contract Award Date	ESMP Cost in BoQ
1	Middle Phawa Khola Mini Hydro Subproject (500 kW), Taplejung	22 December 2017	500,000.00
2	Khatyad Khola Mini Hydro Subproject (500 kW), Package 1 –Generation, Mugu	01 August 2018	369,375.00
3	Khatyad Khola Mini Hydro Subproject (500 kW), Package 2 –Transmission & Distribution Line, Mugu	10 December 2018	165,150.00
4	Patarasi Chukeni Khola Mini Hydro Subproject (998kW), Package 1 –Generation, Jumla	27 May 2019	500,000.00
5	Patarasi Chukeni Khola Mini Hydro Subproject (998kW), Package 2 – Transmission & Distribution Line, Jumla	4 November 2020	300,000.00
6	Saniveri Uttarganga Mini Hydro Subproject (998kW), East Rukum	30 September 2021	500,000.00

17. During this reporting period, construction of Patarasi Chukeni Khola MHP, Khatyad Khola MHP, and Saniveri Uttarganga MHP is ongoing. The testing and commissioning of Giri Khola MHP, Lower Bom Khola MHP and Middle Phawa Khola MHP was completed during this reporting period. The cold and wet weather disrupted the construction activities during this reporting period. Overall, environmental safeguard compliance of the subproject is found to be satisfactory. Monitoring checklist has been developed according to EMP and environmental safeguard monitoring has been done according to the checklist. Summary of the environmental compliances are discussed as follows.

I. Landscape Disturbance

18. Construction of the project involves excavation; slope cutting and grading in headworks and penstock alignment area which leads to change in local topography and disturb the slopes. Such disturbance can be minimized by applying slope protection measures and drainage

system. Re-vegetation or Bioengineering is one of the preferred methods to protect slope.

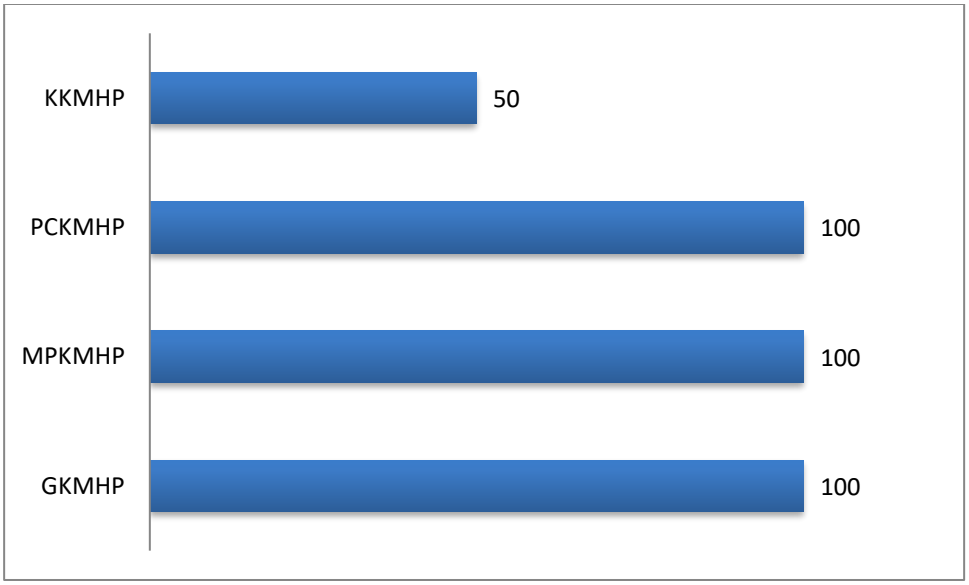

Figure 1: Status of drainage management in MHPs in construction phase

The status of drainage management in the subprojects in the construction phase is presented in **Figure 1**.

19. Excavation of land for laying penstock pipe pose hazard of falling soil and hazard of people, livestock and wildlife falling in deep excavated zone in snow falling areas (especially while cover with snow) such as in Solukhumbu, Humla, Dolpa, Jumla, Mugu. Therefore, such excavated areas should be covered at the earliest. The management of spoil from such excavated areas has been completed in MPKMHP and GKMHP, 80% completed in PCMHP whereas only 30% is completed in KKMHP due to remaining excavation work. In Giri Khola MHP, most of the spoil was used for backfilling, some used for riverbank protection. However, some spoil was washed away by river in headwork area in KKMHP. In terms of safety, the use of shoring of cotton cloth and metal rod is in practice at MHP sites while excavating canals and settling basin to prevent from the hazard of erosion after excavation.

Figure 2*: Use of shoring at SaniVeri Uttarganga MHP, East Rukum*

II. Land Degradation and Land Stability

20. Landslide is expected in excavated slopes, spoil disposal and other areas. The excavation and digging of the land area, removal of vegetation will also enhance soil erosion due to light weight, high porosity and absence of checking materials (such as vegetation root) of the soil, the water particularly the rainwater will easily erode and transfer. Minimum cutting has been done in such unstable slope. Moreover, proper drainage has been provided and canals are covered based on the necessity. In Giri Khola MHP, stone masonry and gabion wall has been built for slope stabilisation at headworks upstream of riverbank. In addition, all land used were vegetated after completion of construction work.

III. Air, Noise and Water pollution

21. Mitigation measures for air, noise and water pollution has been adopted according to EMP such as water sprinkling for suppressing dust, limit construction activities only during daytime to avoid excessive noise and prohibit discharge of wastewater in water bodies. However, air, sound and water quality test are not done yet at any site considering the location of the construction sites, which is remote, isolated and minimum impact due to the construction activities. Though some of the activities such as rod cutting, use of excavator and crusher produce some noise, it is not significant.

IV. Tree Loss and Compensatory Plantation

22. Compensatory plantation shall be done based on the requirement of the GON, for every tree loss. Most of the land used for the subproject were barren public land and some were private land acquired with negotiated settlement. During this reporting period, there was no requirement to cut tree, so compensatory plantation was not required.

V. Stockpiling of Construction Materials

23. The Contractor has stockpiled materials such as aggregates, sand, cement, steel and bricks near to the work sites at designated place. Cement and steel for stockpiling are kept safely in temporary storehouse made from plates of Zinc (Galvanized Corrugated Sheets) at PCKMHP, SUMHP and KKMHP. Aggregates and sand are kept in separate place safe from flooding and surface runoff in all sites. However, the stockpiling of materials needs good planning to avoid obstruction to construction works. Recommendation was made on proper planning of stockyard and piling of construction material with proper coverage to avoid surface runoffs at SUMHP.

VI. Soil Loss Management

24. Excavation of the ground is required for civil works such as construction of retaining walls, canals, penstock laying, other civil components, and installation of power poles, which will result in generation of small volume of muck. Most of the excavated material was used for backfilling purposes wherever applicable. In KKMHP an SUMHP, mock generated from excavation was used to widen and label the access road.

VII. Sites for Cultural and Religious Value

25. There is no impact observed so far on the cultural and religious sites in the ongoing construction sites. During the construction of access road in SUMHP, the contractor performed ritual on the request of the community, as per the belief of the people that there is an opening of religious cave underneath the road alignment.

VIII. Occupational Health and Safety

26. Occupational health and safety measures have been partially followed at the construction sites. Workers have been provided with safety gears such as safety jackets, helmet, goggle, facemasks, boots, ear plugs etc. However, these safety gears are not provided in adequate number for all contractors' workers at KKMHP. First aid kits with medicines were not provided at few sites. Few safety signboards were observed at PCKMHP, KKMHP and SUMHP but not adequate. The respective contractor of the subprojects was instructed to have First Aid Kit with required supply at their site and place appropriate signage. Field coordinators and Contractors were regularly oriented on the SOP for COVID-19 and

Emergency Preparedness and Response Plan and strongly advised to enforce these for the safety of workers and minimize the risk. They were also requested to record each incident/accident and response/report immediately.

IX. Employment Opportunity

27. Local men and women at construction sites were noted working as unskilled labor during monitoring in PCKMHP, MPKMHP and KKMHP, whereas, migrant workers in these sites are male only. No child workers are seen during monitoring. Contractor's initiation in engaging local people is rated good. In PCKMHP, 20 out of 30 unskilled labors were found to be locals.

X. Camp Site Management

28. For the construction of MHPs, construction takes approximately 18 months to be completed so the contractor needs to set up labor camp for construction workers. The contractor's labor camp at KKMHP and PCKMHP are found to be satisfactory with water supply and sanitary facilities (toilets). Firewood is used for cooking purpose at PCKMHP. Hence, Contractor is strongly recommended to well maintain the camp with sufficient supplies and proper sanitation including waste management. Moreover, they are required to implement Standard Operating Procedure (SOP) developed for COVID-19 pandemic and provide First Aid Kit with non-expired medical supplies.

XI. Training and Awareness Program

29. As of June 2022, 1,717 community members have received different technical training, 57% of the participants were women against the target of at least 30%. During this reporting period, 8 trainings were conducted that was attended by 337 men and 410 women. The training includes cooperative management, financial literacy, basic accounting, house wiring, masonry, exposure visits and operation and management of RE systems. AEPC/RERL/SASEC organized 8 days Entrepreneurship Development Training in Jumla from 15/04/2022 to 22/04/2022, which was participated by 37 women and 8 males. Another 15 days training on Masonry work was organized in SaniVeri Uttarganga MHP, East Rukum site starting from 20/03/2022, which was participated by 5 women and 10 males. The contractor employed all of them in the respective MHPs.

Table 5: Some of the trainings conducted during this reporting period

Name of Training/Address	Date	No. of Participants
Entrepreneurship Development Training, Jumla	15/04/2022 to 22/04/2022	45 F: 37; M: 8
Masonry work, East Rukum	20/03/2022 to 05/04/2022	15 F: 5; M: 10

30. Awareness raising training has to be organized by each subproject on health and safety of workers, electrical safety, electrocution, sexually transmitted diseases etc. before construction. An orientation was organized for Field Coordinators and Social Mobilizers on 20/05/2022.

H. MONITORING AND REPORTING ON ENVIRONMENTAL SAFEGUARD

31. Monitoring of environmental and social safeguard compliance during subproject implementation was done/will be done from central level. During construction, AEPC, contractor and cooperative/users' committee are responsible for safeguard monitoring. Construction contractor submitted/will submit monthly progress report to AEPC during construction. In addition, the field coordinators conduct internal monitoring in quarterly basis and AEPC prepares semi-annual environmental safeguard report and submit to ADB. During operation, cooperative/community users' group will be responsible for safeguard compliance monitoring, as well as AEPC is responsible for central monitoring.

32. Most of the subprojects comply with drainage management, spoil management and landslide protection requirements as suggested in the EMPs of the respective subprojects by the end of the construction. Moreover, the subprojects in construction phase comply with air and noise pollution guidelines, as the subprojects are in isolated area. **Annex V** presents the environmental safeguard compliance monitoring of the subprojects in the construction phase during this reporting period, with an overall scoring of 88 in average. The scoring for SUMHP is not provided in this reporting period as the work has just initiated.

I. PUBLIC CONSULTATION

33. The main objective of this process is to recognize the opinion of the public and relevant stakeholders regarding the subproject and respond to their concerns and suggestions. Integration of environmental concerns in the decision-making process can avoid or minimize the conflict during implementation process.

34. Consultations with relevant stakeholders such as local people, women's group, Rural Municipality/Municipality representatives and key persons was carried out during each subproject designing stage to provide prior information on the subproject activities such as potential beneficial and adverse environmental impacts and mitigation measures, land acquisition, etc. so that not any conflict/issues arise during implementation.

35. During this reporting period, consultations were conducted with different stakeholders at Patarasi Chukeni MHP- Jumla, Giri Khola MHP- Jumla, Lower Bom Khola MHP- Solukhumbu, Saniveri Uttarganga MHP- East Rukum, Khatyad Khola MHP- Mugu, subproject sites. Most of the consultations were with beneficiaries' households, representatives of local and/or state government and relevant stakeholders for supporting the subproject for its sustainability. Discussion was focused on environmental impacts due to construction, grievances, labor camp management, involvement of locals in productive energy use for sustainability and equal participation of men, women and disadvantage group in subproject related activities.

36. During this reporting period, a meeting was conducted on 2022/06/07 (2079/02/24) at Khatyad Khola MHP in the presence of Former Chairperson of the RM, representatives of local government, Committee members of Cooperative, AEPC/SASEC/RERL and contractor to discuss on the allocation of shares of cooperative to people whose land is being used for the construction activities. The meeting allocated NPR. 4,594,000.00 for 2297 m^2 land at the rate of NPR. 2000.00 per square meter for 25 plots.

37. A meeting conducted at Saniveri Uttarganga MHP on 2022/03/22 (2078/12/8) in the presence of the Chairperson of RM, representative of local government, Committee members of Cooperative, representatives of AEPC/SASEC/RERL and Contractor discussed the effective implementation of IEE, coordination with Dhorpatan hunting Reserve and Safety at the construction site.

J. IMPLEMENTATION OF GRIEVANCE REDRESS MECHANISM

38. Grievance Redress Mechanism (GRM) has been established to receive and facilitate the resolution of affected people's concerns, complaints, and grievances on negotiated/voluntary land donation, relocation, income restoration, environmental management and other construction and operation related issues. The GRM is willing to be proactive and accessible to all donors to address their concerns grievances and issues effectively and swiftly, in accordance with ADB's SPS. Social Mobilizer (SM) will inform about the GRM to the affected

peoples during first step of community mobilization. The GRM is based on five consecutive levels of action aimed at resolving issues as soon as possible and within a set time frame.

39. During this semiannual reporting period, Grievance recorded in the previous reporting period in Giri Khola MHP is still pending, and 2 new grievances are recorded, Table 5.

Table 6: Status of Grievances

Grievance	Agreed Action	Response to Grievance	Status of Grievance
Giri Khola MHP, Jumla (200 kW) **Developer**: Giri Khola Jalapadevi Mini Hydro Cooperative Limited Land Owner of the land of powerhouse site is delaying the land transfer process.	Land Donor agreed to transfer ownership with certain condition	AEPC/RERL has coordinated with the Chairperson of Giri Khola Jalapadevi Mini Hydro Cooperative Limited and Landowner to resolve the issue at the earliest	Landowner has agreed to transfer the land (sell) in the name of Giri Khola Jalapadevi Mini Hydro Cooperative Limited once he the contract payment settles. Status: being solved.
Khatyad Khola Mini Hydro Subproject (500kW), Mugu **Developer**: Srijansil Agricultural Cooperative Limited Payment of due amount of labors and hotels by Cosmic Renu JV		The Srijansil Agricultural Cooperative Limited has issued a letter to Cosmic Renu JV on 2022/06/27 (2079/03/13) for timely payment of due amount NPR. 1,150,600.00 for 25 activities	Status: being solved
Saniveri Uttarganga Mini Hydro Subproject, Rukum East, (778 kW) **Developer**: Sahid Smriti Gramin Jala Bidhuyit Cooperative Ltd The Dhorpatan Hunting Reserve	To include the Project activity in the 5 years Management Plan of the reserve	AEPC/RERL visited the site and coordinated with the Conservation Officer of the Reserve. In addition, a meeting was conducted with the Department of National Parks and Wildlife Reserve (DNPWC) to discuss on further requirement to continue work.	The Putha Uttarganga Rural Municipality has sent a request letter to DNPWC on 2022/06/01 (2079/02/18) to include the project in 5 years' management Plan of the Reserve. AEPC also sent a request letter to DNPWC on 2022/06/03 (2079/02/20).

Grievance	Agreed Action	Response to Grievance	Status of Grievance
Office issued a letter on 2022/03/30 (2078/11/16) to halt the construction work of weir citing that the site is located within the Reserve			Status: being solved

K. INSTITUTIONAL ARRANGEMENT

40. The key institutions involved in safeguard related issues are AEPC, Rural Municipality (RM), Construction Contractor/Supplier and Cooperative/Users Committee.

Table 7: Roles and Responsibilities of Institution

SN	Institution/ Parties	Responsibilities
1.	AEPC/SASEC	• Responsible for overseeing subproject compliance with environmental and social safeguard requirement, safeguard report preparation and submit to ADB • Carry out community consultations • Effective management of GRM. • Conduct regular visual inspections of construction activities, including vegetation clearance, earthworks, worker's health and safety etc.
2.	Rural Municipality (RM)/Municipality	• Support AEPC during consultation • Assist in Grievance Redress Mechanism
3.	Cooperative/Users Committee (UC)	• Responsible to monitor the construction process to ensure quality of work • During operation it will be responsible for overall management after subproject handover
4.	Construction Contractor (CC)/Supplier	• Responsible for environmental and social management as well as worker's health and safety during construction • Prepare monthly report and submit to AEPC

L. IMPACT OF COVID-19 ON PROJECT IMPLEMENTATION

41. The impact of COVID-19 was minimal during this reporting period. However, the cases are in increasing trend in India, and this might increase the cases in Nepal as well due to open border. To minimize the risk of transmission, Occupational Health and Safety (OHS) Plan (Standard Operation Procedure) formulated considering COVID-19 will be make effective and

the Emergency Preparedness an Response Plan formulated for the individual subproject will be make active.

M. CONCLUSION

42. The rapid environment assessment checklist (REA) was used/will be used for screening all subprojects for their possible environmental impacts due to construction and operation. The findings of REA checklist classified/will classify the subproject as category B or C. All subprojects are based on voluntary or negotiated land management. Therefore, ADB's safeguard requirement-2 related to involuntary resettlement will not be triggered. The Environment Management Plan (EMP) has been prepared for the subproject and roles and responsibilities of the institution involved in the construction and operation of subproject are clearly mentioned. The EMP incorporated/will be incorporated in the bidding documents and AEPC shall ensure its implementation by continuous supervision and monitoring.

43. During this reporting period, the Contractor's/Supplier's compliance towards environmental management has been rated satisfactory. Compensatory tree plantation has been completed in Lower Bom Khola MHP in coordination with Buffer Zone Management User's Committee. The construction work that has halted and/or slowed down due to COVID-19 during the previous reporting period has been resumed with the implementation of SOP. Three subprojects have recorded grievances and two have been resolved. As the highly transmissible Omicron variant of coronavirus is also seen in Nepalese community, all concerned stakeholders shall be trained on occupational health and safety as well as community health issues to reduce adverse impacts related with the pandemic.

Annex I: Compliance Status with Loan and Grant Covenant

Schedule	Para no	Covenant	Current Status	Responsibility	Remarks
4	8	Condition for award of contract The Borrower shall ensure that no Works contract for Part 3, which involves environmental impacts, is awarded until: (a) the Ministry of Science, Technology and Environment[2] has granted the final approval of the IEE, or environmental impact assessment, as applicable, for Part 3; and (b) AEPC has incorporated the relevant provisions from the EMP into the Works contract.	Being complied	AEPC	As per GoN Environment Protection Act, 2019 and Environment Protection Rule, 2020
5	11	The Borrower shall ensure, or cause APEC, as applicable, to ensure, that the preparation, design, construction, implementation, operation and decommissioning of the Project, each Sub-project, and all Project facilities comply with (a) all applicable laws and regulations of the Borrowers relating to environment, health, and safety; (b) the Environmental Safeguards; (c) the EARF (for subprojects); and (d) all measures and requirements set forth in the respective IEE and EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Being complied	AEPC	AEPC does ensure that all subprojects meet these eligibility criteria
5	16	The Borrower shall make available, or cause AEPC to make available necessary budgetary and human resources to fully implement the EMP	Being complied	AEPC	AEPC does ensure that all subprojects meet these eligibility criteria
5	17	Safeguards – Related Provisions in Bidding Documents and Works Contracts: The Borrower shall ensure, or cause APEC to ensure, that all bidding documents and contracts for Works contain provisions that require contractors to:	Being complied	AEPC	AEPC does ensure that all subprojects meet these eligibility criteria

[2]At the time of contract signing current Ministry of Forest and Environment was Ministry of Science, Technology and Environment

Schedule	Para no	Covenant	Current Status	Responsibility	Remarks
		(a) comply with the measures and requirements relevant to the contractor set forth in the IEE, the EMP, and the IPP (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set out in a Safeguards Monitoring Report; (b) make available a budget for all such environmental and social measures; and (c) provide the Borrower with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, the IPP, (d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and (e) reinstate pathways, other local infrastructure and agricultural land at least their pre-project condition upon the completion of construction.			
5	18	Safeguards Monitoring and Reporting The Borrower shall do the following or shall cause APEC to do the following: (a) submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission; (b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, or the IPP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and (c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP, or the IPP promptly after becoming aware of the breach	Being complied	AEPC	AEPC prepares and submits semi-annual safeguard monitoring report to ADB NRM

Annex II: Compliance with Environmental Assessment and Review Framework

Description	Current status	Responsibility	Remarks
Sub-projects that will not be supported by the Project include: (i) any projects assessed as category A; (ii) subprojects directly located on/in biologically sensitive or significant habitat (e.g., on a site with endangered flora or fauna); and (iii) subprojects in legally protected areas where the proposed development is not permitted under Government legislation.	Complied	AEPC	Both mini hydro and solar mini grid subprojects are classified as category B
Environmental mitigation measures should be included in the detailed feasibility study report.	Being complied	AEPC	Mitigation measures included in EMP
Battery management process/guideline should be included in the mini-grid solar/wind package	Being complied	AEPC	Draft battery management guideline has been prepared
Sub-project selection taking into account environmental screening criteria	Complied	AEPC	All subprojects are screened using REA checklist
Sub-project environmental assessments prepared in the form of an IEE (category B sub-projects) or desktop assessment (category C sub-projects) in accordance with the requirements set out in this EARF	Complied	AEPC	Prepared IEE (category B sub-projects) for all subprojects prior to construction
Appropriate public consultations and disclosures	Being complied	AEPC	Regular consultation is being carried out by field coordinator/engineer and Social Mobilizers of AEPC
Effective management of the grievance redress mechanism	Being complied	AEPC	Subproject level grievance redress committee has been formed
EARF compliance reported in the environmental monitoring report	Being complied	AEPC	Semi-annual environmental

			compliance monitoring report has been prepared and sent to ADB

Annex III: Environmental Safeguard during Planning Status

SN	Name of Subproject	Environmental Screening is carried out? (Yes/No)	Environment category (A/B/C/FI)	EARF is prepared (if applicable) (Yes/No)	EIA/IEE/DDR with EMP is prepared (Yes/No)	ADB approved EIA/IEE with EMP (Yes/No/ Under Review/Not Yet/Due/Over Due)	Safeguard monitoring and coordination mechanism established (Yes/No)	GRC is established (Yes/No)	EMP cost in approved document is included in BOQ as an individual item (Yes/No)	Remarks
Mini Hydro Subproject										
1.	Simrutu Khola Mini Hydro Subproject (200 kW), Rukum	Yes	B	Yes	IEE at PPTA stage	Yes	Yes	Yes	Yes	
2.	Giri Khola Mini Hydro Subproject (200 kW), Jumla	Yes	B	Yes	IEE	Yes	Yes	Yes	Yes	
3.	Middle Phawa Khola Mini hydro Subproject (500 kW), Taplejung	Yes	B	Yes	IEE	Yes	Yes	Yes	Yes	
4.	Khatyad Khola Mini Hydro Subproject (500 kW), Mugu	Yes	B	Yes	IEE	Yes	Yes	Yes	Yes	
5.	Lower Bom Khola Mini Hydro Subproject (184 kW), Solukhumbu	Yes	B	No	IEE	Yes	Yes	No	Yes	
6.	Patrasi Chukeni Khola Mini Hydro Subproject (500 kW), Jumla	Yes	B	Yes	Yes	Yes	Yes	Yes	Yes	

7.	Saniveri Mini Hydro Subproject (998 kW), East Rukum	Yes	B	Yes	IEE at PPTA stage	Yes	Yes	Yes	Yes	
8.	Aankhe Khola Mini Hydro Subproject (750 kW), Dolpa	Yes	B	Yes	Yes	Yes	Yes	No	No	
Solar or Solar/Wind Hybrid Subproject										
1.	Chisapani Solar Wind Hybrid Subproject (35 kW), Sindhuli	Yes	B	Yes	IEE at PPTA stage	Yes	Yes	No	Yes	
2.	Ramitekhola Solar Mini-grid Subproject (30 kWp), Morang	Yes	B	Yes	IEE	Yes	Yes	No	Yes	
3.	Olane Solar Mini-grid Subproject (25 kWp), Panchthar	Yes	B	Yes	IEE	Yes	Yes	No	Yes	
4.	Saptami Solar Wind Hybrid Subproject (70 kW), Panchthar	Yes	B	Yes	IEE	Yes	Yes	No	Yes	
5.	Gutu Solar Mini-grid Subproject (100 kWp), Surkhet	Yes	B	Yes	IEE	Yes	Yes	No	Yes	
6.	Sugarkhal Solar Mini-grid Subproject (75 kWp), Kailali	Yes	B	Yes	IEE	Yes	Yes	No	Yes	
7.	Dandapur (Malladehi) Solar Mini-grid Subproject (30 kWp), Baitadi	Yes	B	Yes	IEE	Yes	Yes	No	Yes	
8.	Hillepani Solar Mini-grid Subproject (50 kWp), Okhaldhunga	Yes	B	Yes	IEE	Yes	Yes	No	Yes	
9.	Thabang Solar Mini-grid Subproject (150 kWp), Rolpa	Yes	B	Yes	IEE	Yes	Yes	No	Yes	

Annex IV: Environmental Safeguard during Implementation Status

S No.	Name of the Subproject	Compliance to Environmental Management Plan												Grievances			Corrective action plans are prepared and implemented(Y/N)	Environment Compliance Reporting is maintained (Y/N)	Remarks
		Physical				Biological				Socio-economic									
		Soil Management (Compliance in %)	Landslide Protection with Bio-engineering (Compliance in %)	Drainage Management (Compliance in %)	Other as per EMP (Specify)	Firewood is used for cooking and heating (Y/N)	Compensatory Plantation		Other as per EMP (Specify)	Safety Gear are sufficient and used (Y/N)	Labour are insured (Y/N)	Labour and work camps are healthy and have sanitary facilities (Y/N)	Safety sign board in construction site (Y/N)	No. of Grievances Documented	No. of Grievances Resolved	No. of Grievances Under Processing			
							Target (Nos.)	Replanted (Nos.)											
	Mini Hydro Subproject																		
1	Simrutu Khola Mini Hydro Subproject (200 kW), Rukum	100	100	100	-	N	-	-	-	Y	Y	Y	Y	-	-	-	-	Y	Construction completed
2	Giri Khola Mini Hydro Subproject(200 kW), Jumla	100	NA	100	-	N	-	-	-	Y	Y	Y	Y	1	-	1	-	Y	Construction completed
3	Middle Phawa Khola Mini Hydro Subproject (500 kW), Taplejung	100	100	50	-	Y	-	-	-	Y	Y	Y	Y	-	-	-	-	Y	Construction ongoing
4	Khatyad Khola Mini Hydro Subproject (500 kW), Mugu	40	0	50	-	Y	-	-	-	N	Y	Y	N	1	-	1	-	Y	Construction ongoing
5	Lower Bom Khola Mini Hydro Subproject (200 kW), Solukhumbu	50	NA	100	-	Y	250 (10)	250	-	N	Y	Y	Y	-	-	-	-	Y	Construction completed
6	Patrasi Chukeni Khola Mini Hydro Subproject (500 kW), Jumla	100	0	25	-	-	-	-	-	N	Y	Y	Y	-	-	-	-	Y	Construction ongoing

S No.	Name of the Subproject	Compliance to Environmental Management Plan												Grievances			Corrective action plans are prepared and implemented(Y/N)	Environment Compliance Reporting is maintained (Y/N)	Remarks
		Physical				Biological				Socio-economic									
		Soil Management (Compliance in %)	Landslide Protection with Bio-engineering (Compliance in %)	Drainage Management (Compliance in %)	Other as per EMP (Specify)	Firewood is used for cooking and heating (Y/N)	Compensatory Plantation		Other as per EMP (Specify)	Safety Gear are sufficient and used (Y/N)	Labour are insured (Y/N)	Labour and work camps are healthy and have sanitary facilities (Y/N)	Safety sign board in construction site (Y/N)	No. of Grievances Documented	No. of Grievances Resolved	No. of Grievances Under Processing			
							Target (Nos.)	Replanted (Nos.)											
7	Saniveri Uttarganga Mini Hydro Subproject (998 kW), East Rukum						-	-											
	Solar or/and Wind Mini-grid Subproject																		
7	Chisapani Solar Wind Hybrid Subproject (35 kW), Sindhuli	100	NA	-	-	-	-	-	-	Y	Y	-	-	-	-	-	-		Construction completed
8	Ramitekhola Solar Mini-grid Subproject (30 kWp), Morang	100	NA	100	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	Construction completed
9	Olane Solar Mini-grid Subproject (25 kWp), Panchthar	100	NA	100	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	Construction completed
10	Saptami Solar Wind Hybrid Subproject (70 kW), Panchthar	100	NA	100	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	Construction completed
11	Gutu Solar Mini-grid Subproject (100 kWp), Surkhet	100	NA	100	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	Construction completed
12	Sugarkhel Solar Mini-grid Subproject (75 kWp), Kailali	100	NA	100	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	Construction completed

S No.	Name of the Subproject	Compliance to Environmental Management Plan												Grievances			Corrective action plans are prepared and implemented(Y/N)	Environment Compliance Reporting is maintained (Y/N)	Remarks
		Physical				Biological				Socio-economic									
		Soil Management (Compliance in %)	Landslide Protection with Bio-engineering (Compliance in %)	Drainage Management (Compliance in %)	Other as per EMP (Specify)	Firewood is used for cooking and heating (Y/N)	Compensatory Plantation		Other as per EMP (Specify)	Safety Gear are sufficient and used (Y/N)	Labour are insured (Y/N)	Labour and work camps are healthy and have sanitary facilities (Y/N)	Safety sign board in construction site (Y/N)	No. of Grievances Documented	No. of Grievances Resolved	No. of Grievances Under Processing			
							Target (Nos.)	Replanted (Nos.)											
13	Dandapur (Malladehi) Solar Mini-grid Subproject (30 kWp)	100	NA	100	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	Construction completed
14	Hillepani Solar Mini-grid Subproject (50 kWp), Okhaldhunga	100	NA	100	-	-	-	-	-	Y	Y	-	-	-	-	-	-	-	Construction completed
15	Thabang Solar Mini-grid Subproject (150 kWp), Rolpa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Construction ongoing

Annex V: Environmental Safeguard Compliance Monitoring Checklist

SAFEGUARD PERFORMANCES MONITORING							
Environment- Implementation Performances of the Subprojects							
Category	**Description (Parameters to be changed as EMP)**	**Weightage**	**Score (GKMHP)**	**Score (MPKMHP)**	**Score (PCKMHP)**	**Score (KKMHP)**	**Average**
Drainage Management (Compliance in %)	Water Management (Drainage, Cross-drainage, Gully protection)	2.5%	100	100	100	50	88
Landslide protection with Bioengineering (Compliance in %)	Slope stabilization and Landslide Protection with Bio-engineering	2.5%	100	100	50	0	63
Spoil Management Compliance in %	Spoil Management with enough toe Wall and bio-engineering work	2.5%	N/A	NA	N/A	NA	NA
Spoil Management Compliance in %	Most of the excavated material will be used for backfilling purposes wherever required	2.5%	100	100	80	30	78
others	Distribution poles will be erected as far as possible on the road edge as well as edge of the agricultural terraces wherever applicable	2.5%	100	100	80	100	95
others	Heavy equipment, machinery and fuels shall be used in compliance with national regulations to reduce noise pollution	2.5%	100	100	100	50	88
others	Water will be sprayed in excavated area to control dust	2.5%	N/A	NA	50	10	30
others	Regular maintenance of vehicles and machine used for construction	2.5%	100	100	100	60	90
others	The contractor will monitor the activities of the construction workers to control hunting and poaching	2.5%	N/A	100	100	60	87
others	Disturbance of drinking and irrigation water	5.0%	100	NA	N/A	80	90
others	Awareness among the worker for the conservation of flora, mammalian and avian fauna shall be provided	2.5%	N/A	100	100	80	93
others	Hunting and poaching by workforce	2.5%	N/A	100	100	100	100
others	Loss of wildlife and birds habitat due to construction activities	2.5%	100	100	100	100	100
Compensatory Plantation	Tree clearance approval from cabinet	2.5%	N/A	NA	100	NA	NA
Compensatory Plantation	Cutting of trees	2.5%	N/A	NA	80	NA	NA
Compensatory Plantation	Handing over of felled trees to CFUGs/Leasehold/DFOs or Increased sale of timber and NTFP	2.5%	N/A	NA	100	NA	NA
Compensatory Plantation	Compensatory plantation	5.0%	N/A	NA	0	NA	NA

SAFEGUARD PERFORMANCES MONITORING							
Environment- Implementation Performances of the Subprojects							
Category	**Description (Parameters to be changed as EMP)**	**Weightage**	**Score (GKMHP)**	**Score (MPKMHP)**	**Score (PCKMHP)**	**Score (KKMHP)**	**Average**
Labors and work camps are healthy and have sanitary facilities	Labors and work camps are healthy and have logistic and sanitary facilities	5.0%	N/A	80	100	80	87
Labors are insured	Labors are insured	5.0%	N/A	100	100	100	100
Safety Gears are sufficient and used	Adequate Personal Protection Equipment (PPE) shall be provided by the contractor to the construction workers	5.0%	N/A	80	80	30	63
Community Structures	Protection/rehabilitation of cultural and religious sensitive sites and private structures	5.0%	N/A	NA	100	80	90
others	Storage/handling of construction materials	2.5%	N/A	100	100	80	93
others	Grievances received and addressed through GRC	2.5%	100	100	70	80	88
others	Contractor shall hire local people during construction	2.5%	100	80	100	80	90
others	Any issues recorded (sexually transmitted diseases, stress in infrastructure, etc.) in the community due to migrant worker	5.0%	100	100	100	100	100
others	Provision of informative signboard at the entrance of the construction site	5.0%	100	50	100	0	63
others	Develop a health and safety plan and ensure its strict implementation	2.5%	N/A	100	100	50	83
others	Fire-fighting equipment shall be positioned in the construction areas	2.5%	N/A	NA	100	NA	NA
others	Shall maintain gender equity in providing employment	2.5%	100	100	100	100	100
others	Most priority of job will be given to BPL and DAG family	2.5%	100	100	100	100	100
others	Prohibit recruiting child labor	5.0%	100	100	100	100	100
	Total Weightage	**100%**	**100**	**95**	**93**	**65**	**88**

Annex VI: E&S Compliance Monitoring Report of SaniVeri Uttarganga MHP, East Rukum

South Asia Sub-Regional Economic Cooperation (SASEC) Power System Expansion Project/Renewable Energy for Rural Livelihood
Environmental and Social Monitoring Checklist
Mini-Hydro Power Subproject

Project Name: SaniVeri Uttarganga MHP
Project Capacity: 998 KW
Project Location: Putha Uttarganga Rural Municipality – 11, Rukum East
Status of Project during Monitoring: Construction (8%)
Monitoring Date/Time: 21/03/2022 to 24/03/2022

SN	Activity	Details			Remarks
		Implementation Status		N/A	
		Yes	No		
	Bio-Physical Environment				
1.	**Land use change**				
	Is disturbed area vegetated?			✓	Construction has just started
	Is construction area fenced?	✓			Fenced with the green net and Rod
					
2.	**Spoil Management**				
	Use of safe spoil disposal location?		✓		Disposal site is not available. Excavated soil is being disposed on the bank of the river and used for access road
	Lower value land is used as	✓			Used in access road

SN	Activity	Details			Remarks
		Implementation Status		N/A	
		Yes	No		
	disposal site?				
	Reuse of spoil materials	✓			Raise the level of access road
	Plantation is done on the spoil disposal land			✓	Construction has just started
	Is excavated soil used for backfilling?			✓	
					
3.	**Air, Water and noise quality**				
	Dust generation from construction sites		✓		Not exactly from the construction work. However, dust is generated from the crusher. *Water spray to be used to avoid impact n workers and passersby*
	Water spraying in dust generation spot?			✓	
	Noise generation from construction sites	✓			Noise is generated occasional from the rod cutting work, the excavator and the crusher. Not significant.
	River morphology is affected?		✓		Risk of erosion and sedimentation due to river diversion
	Disturbance of drinking water			✓	

SN	Activity	Details			Remarks
		Implementation Status		N/A	
		Yes	No		
	Disturbance in other uses of water			✓	
	Vehicles and machines maintenance?			✓	Damage events and regular maintenance
	Vehicle movement on designated time	✓			Only during day time
					
4.	**Slope instability**				
	Slope failure encountered	✓			Number and location of slope failure: Settling basin area
	Measures for landslides and erosion control	✓			Safety shoring has been used (white cotton and metal rods have been used for shoring)
	Application of bioengineering measures			✓	
	Disturbed area due to lack of drainage			✓	
	Public Infrastructure is affected	✓			Due to river diversion, agricultural land is at risk of erosion *As the monsoon is approaching, river should be restored into its normal course.*

SN	Activity	Details			Remarks
		Implementation Status		N/A	
		Yes	No		
					
On the request of locals, the chainage of the track that lies along the residential area of “Tallo Sera” village has been cleared and excavated manually by local villagers themselves. They were concerned of the instability of the slope. A team of AEPC/RERL visited the village to assess the potential risk that migth be posed by the excavation. The team observed that the residential area is in significant distance and are protected with retention wall.					
					
5.	**Forest and vegetation**				
	Pressure due to use of firewood on nearby forest		✓		Use of LPG for cooking
	Plantation program	✓			No. of trees cut: X No. of compensatory trees planted:
	Sales of Timber and Non-Timber Forest Product due to subproject		✓		

SN	Activity	Details			Remarks
		Implementation Status		N/A	
		Yes	No		
6.	**Wildlife and Birds**				
	Hunting and Poaching by workforce		✓		No. of cases: Name and number of Wildlife and birds hunted or poached:
	Trading by workforce		✓		No. of cases: Name and number of Wildlife and birds hunted or poached:
	Loss of wildlife and bird's habitat due to construction		✓		
	Fish habitat situation				Not disturbed
	Socio-Economic Environment				
7.	**Employment generation?**	✓			No. of local labor: 15 (semiskilled and unskilled) Female: 5 Male: 10 No. of outsider labor: 2 (skilled) Female: 0 Male: 2 No. of child worker involved (if any): No
8.	**Training and awareness program**				
	Awareness program on electrocution, health and safety including HIV/AIDS awareness		✓		Date: No. of participants: Female: Male:
	Environmental Management		✓		Date: No. of participants: Female: Male:
	Income Generating Training	✓			Date: 20/03/2022 (start date) 15 days mason training No. of participants: 15 Female: 5 Male: 10

SN	Activity	Details			Remarks
		Implementation Status		N/A	
		Yes	No		
					
9.	**Trade and Commerce**				
	Livelihood impact due to Water Diversion		✓		
	New Enterprise established (including new shops)	✓			No. of establishments: 2 eateries
	House rental increment			✓	No. of new rental house:
	Land value increment	✓			Change in land value in NRs.
10.	**Transportation**				
	Public Vehicle Increment			✓	No. of increased vehicles
	Cost of transportation increment			✓	Previous cost from headquarters: New Cost from headquarters:
11.	**Migration Pattern**				
	Migration to subproject area			✓	Total no. of persons: No. of persons returned from foreign job: No. of persons migrated for business purposes:
	Migration from subproject area			✓	No. of persons:
12.	**Occupational Health and Safety**				

SN	Activity	Details			Remarks
		Implementation Status		N/A	
		Yes	No		
	measures				
	First aid facility and emergency services provided at work sites	✓			First aid box is available with necessary supplies
	Protective gears provided to workers and using helmet, facemasks, gloves, muffle, boots, jacket, goggles, etc.	✓			*Face shield and safety harness and floating jackets are required to be provided at site*
	Accident occurred	✓			**Number of accident/s:** 1 **Date:** 28/02/2022 *Type of accidents: accidental fall in excavated area* *The construction activity was stopped for a few days and later resumed after further securing the site by using safety net, iron rod and safety signage.* *Incident Report has been drafted and shared with the NPM*
	Accidental insurance for worker	✓			Only for technical staffs of the construction company Letter has been sent to AEPC for the approval of provisional sum
	Information, sign, signboard used at construction sites and is it in Nepali language.	✓			No Entry, Authorized Entry Only, Use of PPE, Slippery Area, Restriction for Child Playing
	Emergency preparedness plan/Evacuation plan		✓		Template has been provided and oriented ***Prepare mitigation plans***

SN	Activity	Details			Remarks
		Implementation Status		N/A	
		Yes	No		
					
13.	**Camp site management**				
	Clean Drinking water supply at camp	✓			
	Temporary pit latrine at camp site	✓			
	Kitchen Waste management at camp site	✓			
	Cooking facilities	✓			**Types of fuel used for cooking: LPG**
14.	**Cultural and religious sites**				
	Protection of temple, dharmsala, cremation sites, etc. (if any)	✓			**Religious and cultural site name and situations of project area (if any):** Cremation site in in the upstream of the weir construction area, which will not be affected by any construction activity Opening of the Bhume Cave is located beneath the chainage (xxx) of canal/access road. During the consultation, the villages suggested to offer puja, which had been performed on 24/03/2022

SN	Activity	Details			Remarks
		Implementation Status		N/A	
		Yes	No		
	Others				
15.	**Grievance received in last month**				**Total no. of grievance received: 1** **Total no. of grievances received last month:** No. of grievance resolved *Activate the GRC*
16.	**Establishment of safeguard unit**			✓	
17.	**Meeting conducted by Users' Committee**	✓			**No. of meetings: 1 (22/03/2022)** Presence of the Chairperson of RM, representative of local government, Committee members of Cooperative, AEPC/RERL, Contractor Discussed the effective implementation of IEE, coordination with Dhorpatan hunting Reserve and Safety at the construction site

SN	Activity	Details			Remarks
		Implementation Status		N/A	
		Yes	No		
					
18	**Gender and vulnerable group conflicts?**	✓			Within the committee
19.	**Land procurement**	✓			**Negotiated** **Willing Buy and willing Sell**
20.	**Temporary land acquisition during construction**	✓			For storage of construction material and labor camp (NRs. 1000 – 3000/month)
21.	**Loss of productive land during construction**	✓			For storage of construction material For the construction of infrastructures
23.	**Does the subproject cause any involuntary resettlement?**		✓		

SN	Activity	Details			Remarks
		Implementation Status		N/A	
		Yes	No		
					

Any other major issues encountered this month:
The Dhorpatan hunting Reserve issued a letter on 2078/11/16 in the name of AEPC and Bhugol Dawn JV (contractor) to stop the construction of weir sighting that the location is within the border of the Dhorpatan Hunting Reserve, and they have not received any document of the Environmental Assessment. Thus, the construction activities of Weir have been halted.

Corrective Action plan prepared/implemented:
A letter was prepared explaining that the Initial Environmental Examination (IEE) has been conducted as per the requirement of the ADB. However, the subproject capacity do not lie in the threshold of the Environmental Protection Rule 2020. A team of AEPC/RERL visited the subproject site, has a meeting with the Warden of the reserved and letter was submitted to him. Moreover, the Chairperson of the Putha Uttarganga Rural Municipality assured to coordinate with the concerned governmental authority to resolve the issue.

Annex VII: Photographs

Giri Khola MHP, Jumla

Patarasi Chukeni Khola MHP, Jumla