

Environmental and Social Screening Report

*Jhakera Urja Tatha Mal Bikas Pvt Ltd
Badhaiyatal Rural Municipality-8, Bardiya*

Environmental and Social Impact:

The purpose of this checklist is to identify potential environment and social issues related to subproject.

(A) Project Background

1.	Name of Proposed Project	Waste to Energy Large Scale Biogas Subproject
2.	Subproject Location	The proposed subproject is situated at <i>Badhaiyatal Rural Municipality – 8, MunalBasti, Bardiya District, Lumbini Province</i> of Nepal. The municipality is situated at an elevation ranging from 143 to 157 meters above sea level and covers an area of 115.19 square km. It is bordered by Banggadhi Municipality to the north, Gulariya Municipality to the west, India to the south, and Banke District to the east. Geographically, Badhaiyatal Rural Municipality lies between 81°23'17" to 81°33'49" east longitude and 28°04'11" to 28°13'58" north latitude. The coordinates of the subproject site are <i>28°10'8.89" N, 81°26'5.68" E</i> .
3.	Subproject objectives	CNG and Fertilizer production
4.	Subproject Developer	Jhakera Urja Tatha Mal Bikas Pvt. Ltd.
5.	Contact Details	Name: Narayan Kumar Kandu Phone: 9766715735 Email:
6.	Brief description of the subproject	The subproject will be Continuous Stirred Tank Reactor (CSTR) based biogas plant for the efficient production of biogas through the continuous digestion of organic waste with an anaerobic digester. The organic material such as animal waste (cow dung) manure and press mud will be used as feedstock in the subproject. This subproject aims to establish through the technical and financial support of GoN (AEPC) and World Bank to establish a sustainable and circular economy where organic waste is transformed into valuable energy and agricultural inputs, promoting environmental, social, and economic sustainability and resource efficiency.
7.	Define project's boundaries and area of influence	<u>Area of Influence</u> Purono kathapur, Munal Basti
8.	Capacity or size of the subproject	2600 m ³ (65 TPD)
9.	Relevant E&S national requirements (assessment, threshold limits etc.)	Technology service provider is Green Planet Energy Pvt. Ltd. Bhairahawa, Nepal and is preparing the Initial Environmental Examination (IEE) and it is final stage approval from Provincial

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		Government.
10.	Relevant E&S required as per ESMF of MGEAP and World Bank	Environmental and Social Impact Assessment (ESIA)
11.	Total Project Cost	NRs. 20,00,00,000 (Approx.)

(B) Social Screening Checklist

Potential Social Impacts				
SN	Screening Questions	Yes	No	Comments (Provide information)
1.	Permanent land acquisition	✓		The proposed land for the subproject is privately owned land. As the land is agricultural, developer cultivates seasonal crops on it. During the field visit on November 18-21, 2025, the proposed land was barren and not under cultivation.
2.	Temporary land acquisition		✓	The proposed subproject does not require any additional land acquisition. The developer possesses adequate private land parcels to meet the project's requirements. The developer owns approximately 29 <i>Katha</i> of land, of which only 20.43 <i>Katha</i> (6,772.63 <i>sq. ft.</i>) will be utilized for the construction and operation of the subproject.
3.	Type of land Private land ✓ Public land Government land Leasehold land	✓		The proposed subproject development will be implemented entirely on private land owned by the developer.
4.	Type of land procurement Voluntary donation Involuntary acquisition Negotiation			The proposed land is privately owned.
5.	Loss of productive land	✓		The designated land is agricultural, using by the developer for seasonal crop cultivation. During the field visit, it was found uncultivated and left barren for the development of the biogas subproject.
6.	Impacts on livelihoods/ economic displacement?		✓	The project area is private land. It is used for left barren and uncultivated by project

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				development. Hence, the project development will not impact any livelihood/economic displacement. Hence, No such impacts is envisioned.
7.	Impacts on ecosystem services for local communities?		✓	The land allocated for the biogas subproject is privately owned and using for seasonal crop cultivation by developer. As observed during the field visit, the land has been left uncultivated in preparation for the subproject development. Since the site is private and not relied upon by the wider community for ecosystem services, the subproject will not obstruct or diminish the availability of provisioning, regulating, or cultural services for local people. Accordingly, no adverse impacts on ecosystem services for surrounding communities are anticipated.
8.	Is there any household need to be relocated?		✓	The nearest settlement from the proposed subproject site is approx. 300 m away, and there are no structures on the proposed land. The subproject development does not require relocation of any household.
9.	Is the resettlement site environmentally and/or culturally sensitive?		✓	The subproject development does not engage in the resettlement.
10.	Project's construction will cause any damage to the existing local roads system?		✓	Accessible by road which approx. 3 km away south from Hulaki Rajmarg.
11.	Will project activities have adverse impact on school, drinking water supply system, other facilities?		✓	There is no drinking water supply exist in the proposed subproject area. However, a irrigation canal is adjacent to the proposed land.
12.	Will project need to use existing or open new access roads? What will be the impacts of increased traffic on communities?		✓	The subproject area is accessible by existing roads, with no need for additional routes. Increased traffic during material transport may generate dust and noise affecting nearby villagers. A Traffic Management Plan should therefore be prepared to assess these impacts during the ESIA study.
13.	Will project cause encroachment on historical/cultural/religious areas?		✓	No historical, cultural, or religious sites are located within a 500 m radius of the proposed subproject site. The nearest temple (Shiva Mandir) is located in Kanthapur Village which is approximately 1 km from the proposed subproject site.
14.	Acquisition of private land leading to loss of shelter and livelihood		✓	The developer owns approx. 29 katha of land, of which only about 20.43 Kattha (74,467.35

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				sq. ft.)will be used for purpose of subproject development. Therefore, the land used for the subproject will not result in any loss of shelter or livelihood.
15.	Involuntary land taking resulting in loss of income, livelihood, sources of livelihood, loss of access to common property resources and/or private residential and/or property resources		✓	The proposed subproject will be implemented on the developer's private land. The use of land will not result in loss of income, livelihood, and access to common property resources, or private residential assets.
16.	Possible conflicts with and/or disruption to local communities		✓	As the subproject site needs to be accessed via an existing road passing through Munalbasti, community members may have concerns regarding dust and noise from the transportation of construction materials to the site. Therefore, it is recommended to conduct an Environmental and Social Impact Assessment (ESIA) for further analysis.
17.	Is there a possibility of activities supported by the project that have impacts on international waterways? If yes, what are the potential impacts?		✓	There is no possibility that activities supported by the proposed subproject will have impacts on international waterways. There is an irrigation canal exist approx. 250 m way from proposed site and the project will not interact with or affect canal. Therefore, no potential impacts on international waterways are anticipated.
18.	Is the project site located in disputed territory?		✓	The subproject area is not located in disputed territory, as land required for the subproject development is private land.
19.	Uncontrolled human migration into the area, made possibly by the subproject activities		✓	During the construction period of the subproject, approximately 30-40 labours will be employed daily for about 5-6 months. The developer is willing to hire labours/staff based on their interest and qualifications from nearby communities that ensure there will be no uncontrolled human migration into the subproject area. However few skilled workers who are not available locally will be hired from out the local area.
20.	Disproportionate impacts on the poor, children and other vulnerable groups		✓	As the subproject is carried out within the confined area of private land of developer. The impacts on livelihood and private assets of community people is not anticipated. However ESIA is recommended to carry out for the details impacts.
21.	Community health and safety risks due to the transport, storage, and use and/or disposal of		✓	The subproject area has road access. Dust and noise related impacts are envisioned which can

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	materials likely to create physical, chemical and biological hazards			affect the villagers from where construction materials are transported, However risk of Community health and safety to community due to the storage and disposal of material will not be as the all these activities will be with in private land of developer.
22.	Will the project potentially cause community-related impact due to temporary influx of labor?		✓	As per discussion with the developer, people form surrounding villages from the subproject site will be given priority for employment opportunities based on their skills, qualification, and availability of the preferred workforce in subproject area. It is expected that mostly the unskilled workforce will be employed from the local area as far as available which also ensure negligible impact to community due to temporary labor influx. ESIA will assess the impact in detail.
23.	Are there Vulnerable Groups (Adibasi/Janajati/Dalit/Women headed households residing within or adjacent to project site?		✓	The subproject site is located about 300 m away from the nearest village, Munal Basti (West) and kanthapur village (East). People from diverse caste and ethnicities reside in the village. The majority of the residents belong to Tharu, Hill Brahmin, Chhetri, Kami and Magar, Musalman, Dholi etc.
24.	Community Perception toward project			During the consultation with community people, people were found positive towards the subproject development. Additionally they have few expectations from the subproject; <ul style="list-style-type: none"> • Employment opportunity during construction and operation phase • Subsidies fertilizer for the farmers • Regular maintenance of road that used by subproject

(C) Environmental setting of the project locality

Is the project located in forest area or close to forest	Yes	No <input checked="" type="checkbox"/>
If Yes,		
Name of forest		
Management regime		

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Does vegetation need to be Removed for the project? Give estimate?		
Permission to operate in the forest?		
Is the project located in the protected area or any protected area in	Yes	No <input checked="" type="checkbox"/>
Vicinity		
Is yes, please provide details on		
(a)name of PA		
(b)area to be acquired		
(c)distance to PA from the Project site		
(d)access from the project tothe PA		
1. Water sources/water bodies		
Area there any water sources/water bodies in and around the Project site	Yes	No <input checked="" type="checkbox"/>
If yes provide details on		
Location/Type		
Use of water		
Potential impact by the project		
2. Air pollution		
Number and type of vehicles to be usedper day	3, mostly for transporting substrate from various locations	
Capacity of vehicles	10 – 15 tons	
Condition of the road (asphalted, earthen)	3 km gravel road from highway	

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3. Land use			
Land required for the project and type of land use: 12.43 Bighas; currently owned by one of the developers			
Facilities	Required Area	Land use type	Location
(1) Biogas Plant	20.43 Kattha (74,467.35 sq. ft.)	Private	Badaiyatal Rural Municipality-8, Bardiya
4. Impact due to land use change			
a) Loss of private land: Yes b) Loss of agricultural product: Seasonal Crop (Paddy, wheat, Sugarcane, Red lentils etc) c) Loss of private structures/community structures: No d) Loss of Forest and vegetation: No e) others: No			
5. Waste input for the project			
Define waste (type)	Press mud, and Cattle Manure		
Quantity of waste	65 tons per day		
Location of collection	Badaiyatal Rural Municipality-8, Bardiya		
Workers involved	14 (1 plant manager, 1 electrical engineer, 1 mechanical engineer, 1 marketing manager, 1 admin manager, 2 operators and 7 skilled workers)		
Legal clearance required	No		
6. Technology			

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Type	CSTR
Capacity	Digester Volume: Total 55,00 cu.m
Gas production	Gas Production: 2,600 m ³ per day
Slurry production	Slurry Production: 97.8 tonnes per day

7. Waste from the project implementation	Yes	No
Generation of solid waste? If yes,.....		<input checked="" type="checkbox"/>
Are any wastes required to be stored on-site either for reuse or off-site disposal? If yes,		<input checked="" type="checkbox"/>
Are effluents required to be discharged to a sewer or combined drainage system? If yes,.....		<input checked="" type="checkbox"/>
8. Health and Safety Issues	Yes	No
a. Does project intervention affect health and safety condition?	<input checked="" type="checkbox"/>	
b. List out likely health and safety issues during construction period <ul style="list-style-type: none"> ○ Construction related accidents ○ Emissions of dust and noise pollution c. List out likely health and safety issues during implementation period <ul style="list-style-type: none"> ○ Handling of slurry (with pathogens) ○ Effluence from substrate store ○ Vehicle emissions from transport of slurry ○ Accidents associated with firing and explosion ○ Spreading of diseases due to increased disease vectors, flies, mosquitoes etc. ○ COVID-19 infection 		
9. Other observations		
Can vector disease spread to the adjoining settlements?	No	
Can foul odor affect the adjoining settlement?	No	
Slurry use(proposed)	Organic fertilizer	

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Climate Benefits	
Will project activities contribute in the reduction of GHG emissions? Description on the activities that	

D) Conclusion

E&S Risk Category of the Subproject (High, Medium, Low):	<p>Select one of the following based on the guidance provided below.</p> <p>() High-risk: Subprojects that is likely to have significant adverse environmental and/or social impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works. Any subproject that needs an EIA according to GoN regulations shall be classified as high risk.</p> <p>(✓) Medium Risk: Subprojects that involve potential adverse environmental or social impacts on human populations or environmentally important areas-including wetlands, forests, grasslands and other natural habitats-are less adverse than those of high risk projects. These impacts are site-specific, reversible; and in most cases mitigation measures can be designed more readily than for high risk projects. Moreover, a proposed subproject is classified as medium risk that displaces less than 50 families in the mountain region, less than 75 families in the hills, and less than 100 families in the Terai plains due to involuntary land acquisition (unless such impacts are, in the judgement of AEPC, are exacerbated by other contributing factors). A project can be classified as medium risk regardless of whether it needs IEE as per GoN regulations.</p> <p>() Low Risk: Subprojects that likely to have minimal or no adverse environmental and social impacts. Moreover, a proposed subproject does not displace any family and none of affected person loses more than 10% of their productive assets.</p>
Main reasons/justification for the selection of E&S risk category above	The preliminary assessment of the subproject indicates that its activities are expected to have minimal or no adverse environmental and social impacts. Moreover, the proposed

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	<p>subproject will not result in the displacement of any families, nor will community members lose their productive assets. However, in line with Government of Nepal (GoN) regulations, an Initial Environmental Examination (IEE) is required based on the subproject's capacity. Given its scale, the subproject has been classified as Medium Risk. As stipulated in the Environmental and Social Management Framework (ESMF) of MGEAP, subprojects categorized as Medium Risk must undertake an Environmental and Social Impact Assessment (ESIA). Accordingly, it is recommended that to carry out ESIA of subproject to further identify and assess potential risks associated with the subproject.</p>
<p>E&S Instruments to be prepared for the Subproject (ESIA, ESMP, RAP, Biodiversity Management Plan, OHS plan, Cultural Heritage Management Plan etc)</p>	<p>Recommended to carry out ESIA</p>
<p>Beneficial impacts and augmentation opportunities for any issues? Etc.</p>	<ul style="list-style-type: none"> • Cheap Availability of fertilizer and gas • Creation of short term employment during the construction and operation phase of subproject • Reduction of GHG emission and dependency on fossil fuel
<p>The outcome of screening summarizing entire table's information with assessor's candid opinion on way forward and future actions limiting in one paragraph.</p>	<p>The subproject will be Continuous Stirred Tank Reactor (CSTR) based biogas plant for the efficient production of biogas through the continuous digestion of organic waste with an anaerobic digester. Organic material such as agricultural waste, animal waste (cow dung) and press mud etc. will be used as feedstock in the subproject.</p> <p>The subproject is accessible throughout the year and does not require to construct separate access road. Similarly, the project will be constructed on private land owned by subproject developer and does not require obtaining land from community people. Furthermore, the subproject will not require to relocation people and any infrastructure. In addition, subproject is not located in ecologically sensitive area.</p> <p>Thus, based on the field observation the impact on environmental and social aspects due to the implementation of the proposed subproject seems negligible. However, as per the subproject categorized as Medium Risk. Thus the study team recommends to conduct ESIA to identify the potential risk and its mitigations measures in detail.</p>

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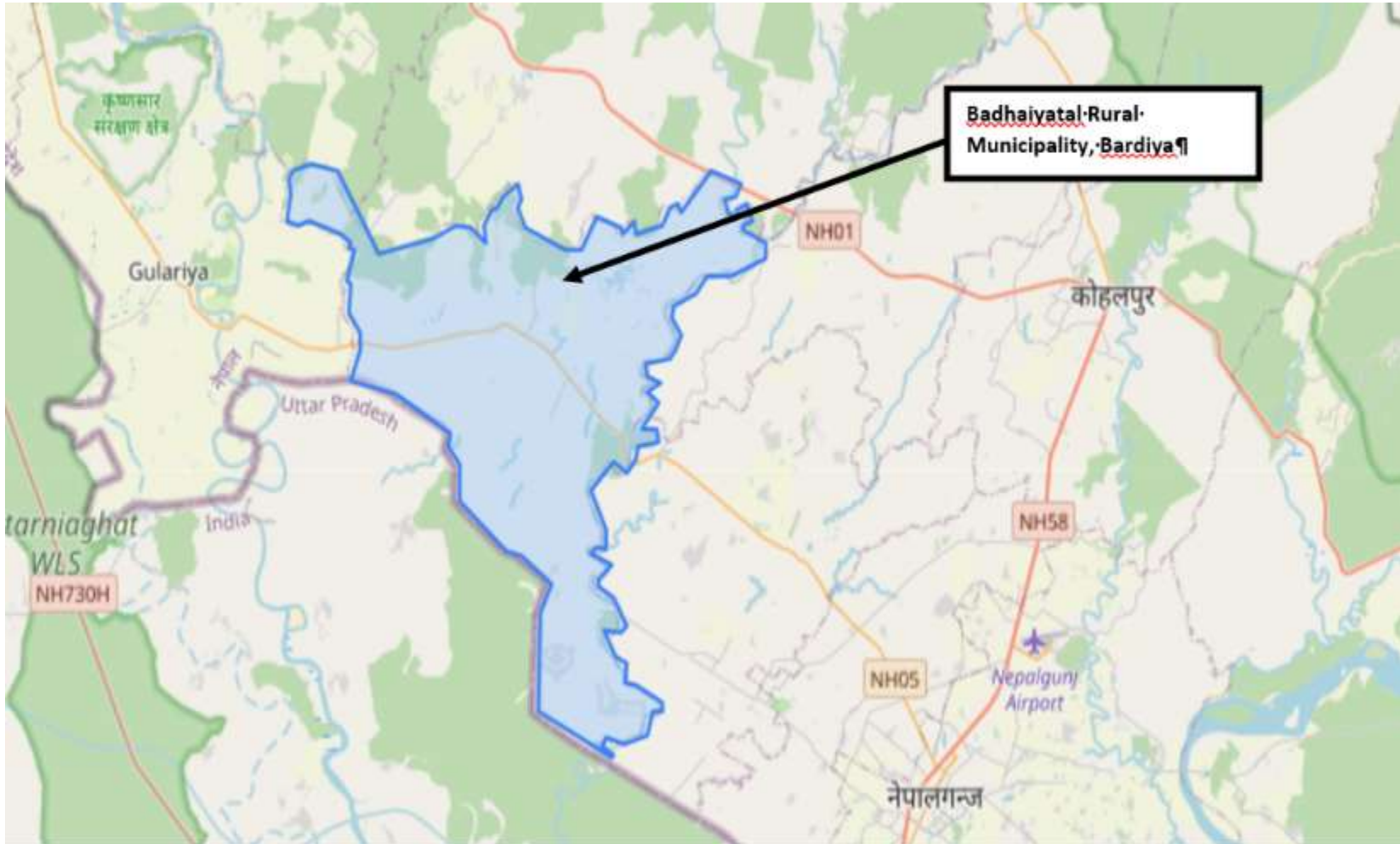
E&S Screening Team

1. Shreejan Ram Shrestha,
Environment Expert
AEPC/MGEAP
2. Shiva Hari Budhathoki
Social Safeguard Expert
AEPC/MGEAP

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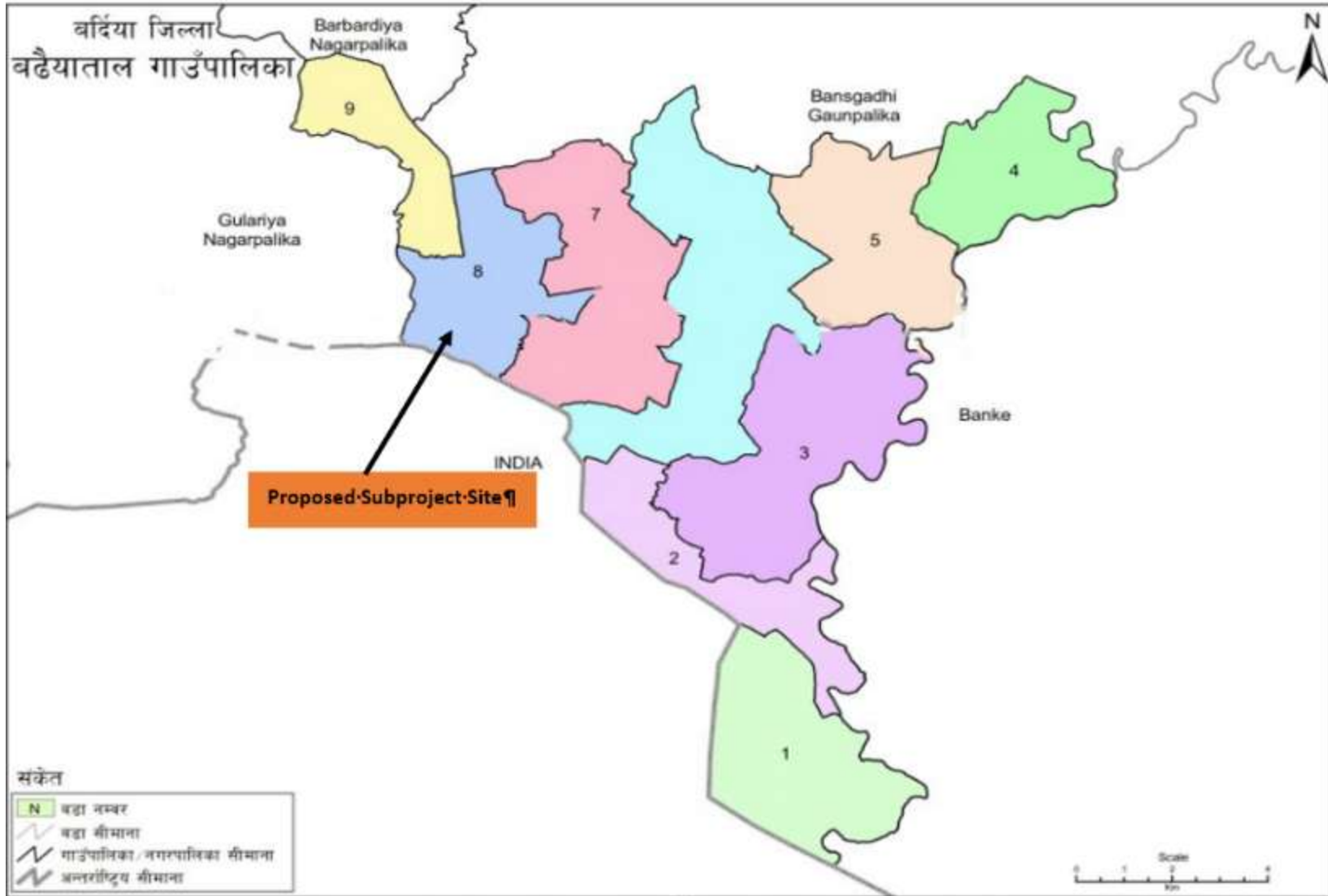
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Annex 1: Badhiyatal Rural Municipality's map



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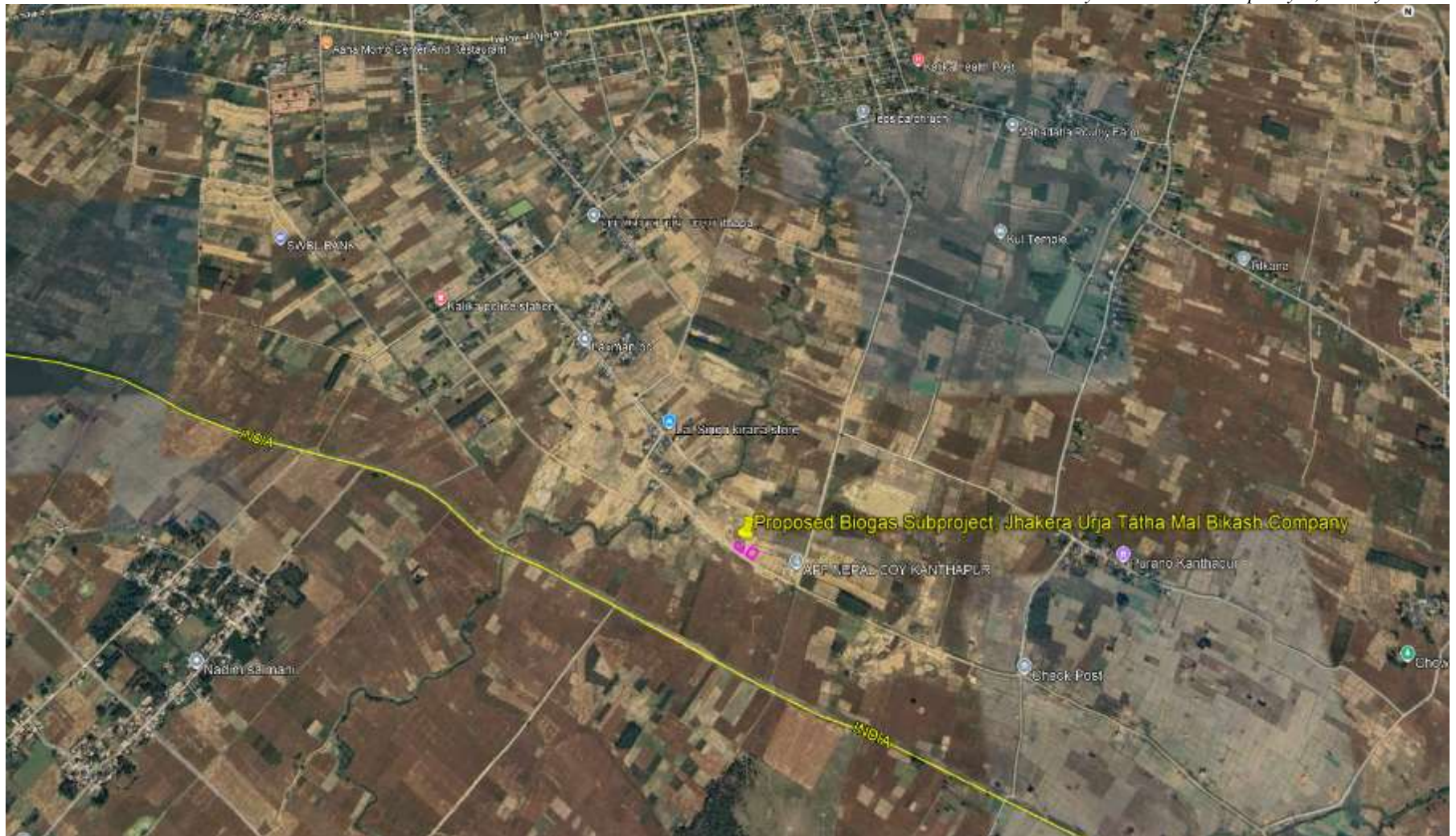
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Annex 2: Proposed Subproject area in Google map

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Annex: II Photographs



Proposed land for the development of biogas Subproject by Jhakera Urja Tatha Mal Bikas Company