ATTACHMENT C
PROJECT DESCRIPTION FOR SCOPING

LUMINO BISLIG TREE PLANTATION FOR BIOMASS PRODUCTION PROJECT

LUMINO
ENERGY PLANTATIONS, INC.

APRIL 2022

GARDENIA ENVIRONMENTAL
PERMITTING AND AUDITING SERVICES

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LUMINO BISLIG TREE PLANTATION FOR BIOMASS PRODUCTION PROJECT

PROJECT DESCRIPTION FOR SCOPING (PDS)

1. BASIC PROJECT INFORMATION

Name of project	Lumino Bislig Tree Plantation For Biomass Production Project
Location	Certificate of Ancestral Domain Title (CADT) R13-Bis-0408-070 (the "CADT 070") in Bislig City and Municipality of Lingig, Surigao Del Sur
Nature of project	Category A - Environmentally Critical Project (ECP) 2.2.1 Community Based Forest Resources Utilization With Projected Annual Wood Harvesting and Utilization of 621,683 cubic meters within the 9,325 hectares plantable area
Service contract	Memorandum of Agreement (MOA) with Manobo and Mandaya Ancestral Domain Management Council (MMADMC) of CADT 070
Proponent Name	Lumino Energy Plantations, Inc. (LEPI)
Address	Km. 8, San Jose, Bislig City, 8311 Surigao Del Sur
Contact details	Ms. Karine C. Ruivivar Email Address: kruivivar@luminocapital.com Mobile Number: 0917-961-9396
EIA Preparer	Gardenia Environmental Permitting and Auditing Services (GEPAS) Contact Person: Anabel Hierras-Garcia,PhD. Operation Manager Email Address: gepas_environment@yahoo.com hieerasag@yahoo.com Mobile Number: 0917-885-6880

2. PROJECT DESCRIPTION

2.1 Project Location

The proposed project is located within the CADT 070 (**Figure 1**) covering five (5) barangays namely (a) Barangay San Jose, (b) Barangay Pamaypayan and (c) Barangay San Antonio in Bislig City, and (d) Barangay Mahayahay and (e) Barangay Rajah Cabungsuan in Lingig Municipality, all in the Province of Surigao del Sur. **Table 1** provides the geographical coordinates of the project area.

2.2 Accessibility of the site

The CADT 070 and project site, approximately 15 km from Bislig City, can be reached via land transportation through the National Highway that connects Bislig City and Davao City (**Figure 2**). The city of Bislig is about 157 km from Butuan City (via Hinatuan) and about 223 km from Davao City (via the Pan-Philippine Highway). Within the project area is a network of unpaved secondary and tertiary roads connecting barangays.

Table 1. Project area geographical coordinates

OBJECT ID	X			Y		
	Deg	Min	Sec	Deg	Min	Sec
1	126	18	13.81	8	8	28.45
2	126	18	12.93	8	8	28.36
3	126	18	12.47	8	8	28.48
4	126	18	12.04	8	8	29.05
5	126	18	11.87	8	8	29.46
6	126	18	12.07	8	8	30.17
7	126	18	12.47	8	8	30.91
8	126	18	13.01	8	8	31.70
9	126	18	13.70	8	8	32.65
10	126	18	14.60	8	8	34.02
11	126	18	15.63	8	8	35.06
12	126	18	17.00	8	8	36.15
13	126	18	18.90	8	8	37.28
14	126	18	20.58	8	8	38.48
15	126	18	28.07	8	8	38.18
16	126	18	28.06	8	8	38.16
17	126	18	27.60	8	8	37.82
18	126	18	26.98	8	8	36.91
19	126	18	26.33	8	8	35.91
20	126	18	25.67	8	8	34.92
21	126	18	24.85	8	8	34.00
22	126	18	23.40	8	8	32.83
23	126	18	22.12	8	8	32.08
24	126	18	21.12	8	8	31.37
25	126	18	19.97	8	8	30.74
26	126	18	18.22	8	8	29.94
27	126	18	16.60	8	8	29.35
28	126	18	15.18	8	8	28.96
29	126	18	13.81	8	8	28.45
30	126	21	17.91	8	8	44.46
31	126	21	59.28	8	7	57.86
32	126	22	16.07	8	7	31.50
33	126	22	1.92	8	6	39.21
34	126	21	38.93	8	4	35.60
35	126	20	46.98	8	4	8.16
36	126	20	12.99	8	4	13.16
37	126	18	23.39	8	3	9.94
38	126	18	17.76	8	3	2.26
39	126	17	48.00	8	2	44.90
40	126	17	17.93	8	2	51.11
41	126	16	24.02	8	2	26.36
42	126	16	3.42	8	2	41.65
43	126	14	14.44	8	3	45.02
44	126	14	8.55	8	3	51.92
45	126	13	53.64	8	4	9.40
46	126	14	3.23	8	4	45.50

OBJECT ID	X			Y		
	Deg	Min	Sec	Deg	Min	Sec
47	126	13	42.81	8	5	50.46
48	126	13	36.39	8	6	10.88
49	126	13	4.62	8	7	51.90
50	126	12	52.97	8	8	7.57
51	126	14	32.94	8	8	34.40
52	126	14	32.94	8	8	34.36
53	126	14	32.84	8	8	33.22
54	126	14	33.50	8	8	31.89
55	126	14	35.11	8	8	30.82
56	126	14	40.74	8	8	30.23
57	126	14	43.05	8	8	30.16
58	126	14	45.14	8	8	30.18
59	126	14	47.85	8	8	30.36
60	126	14	50.07	8	8	30.37
61	126	14	51.89	8	8	29.84
62	126	14	53.65	8	8	28.65
63	126	14	55.18	8	8	27.41
64	126	14	58.06	8	8	25.14
65	126	15	0.12	8	8	23.32
66	126	15	1.61	8	8	24.97
67	126	15	4.07	8	8	28.24
68	126	15	4.89	8	8	29.40
69	126	15	5.62	8	8	30.68
70	126	15	6.54	8	8	32.66
71	126	15	7.27	8	8	34.40
72	126	15	7.71	8	8	35.30
73	126	15	8.78	8	8	36.63
74	126	15	9.82	8	8	37.34
75	126	15	10.31	8	8	37.71
76	126	15	10.68	8	8	38.08
77	126	15	11.42	8	8	39.12
78	126	15	12.18	8	8	40.89
79	126	15	12.87	8	8	45.07
80	126	15	12.88	8	8	45.11
81	126	15	14.91	8	8	45.65
82	126	15	15.01	8	8	45.66
83	126	15	15.02	8	8	45.65
84	126	15	15.46	8	8	45.32
85	126	15	16.39	8	8	44.42
86	126	15	17.07	8	8	43.77
87	126	15	17.67	8	8	43.12
88	126	15	18.18	8	8	42.71
89	126	15	18.80	8	8	42.84
90	126	15	19.68	8	8	42.97
91	126	15	21.73	8	8	42.99
92	126	15	24.76	8	8	43.84
93	126	15	25.73	8	8	43.98

OBJECT ID	X			Y		
	Deg	Min	Sec	Deg	Min	Sec
94	126	15	29.48	8	8	41.81
95	126	15	42.52	8	8	39.03
96	126	15	51.64	8	8	41.56
97	126	15	51.90	8	8	33.66
98	126	15	52.08	8	8	32.59
99	126	15	52.48	8	8	28.93
100	126	15	51.87	8	8	25.34
101	126	15	51.61	8	8	23.12
102	126	15	51.62	8	8	22.30
103	126	15	51.71	8	8	21.68
104	126	15	51.81	8	8	21.02
105	126	15	52.68	8	8	18.97
106	126	15	53.24	8	8	17.78
107	126	15	54.01	8	8	16.64
108	126	15	55.16	8	8	15.62
109	126	15	56.80	8	8	14.52
110	126	16	0.24	8	8	14.10
111	126	16	13.30	8	8	12.85
112	126	16	20.10	8	8	11.67
113	126	16	24.68	8	8	10.11
114	126	16	28.14	8	8	8.04
115	126	16	30.98	8	8	5.72
116	126	16	33.07	8	8	3.01
117	126	16	36.94	8	7	58.31
118	126	16	41.03	8	7	53.57
119	126	16	43.65	8	7	51.45
120	126	16	45.97	8	7	50.57
121	126	16	47.98	8	7	50.13
122	126	16	49.31	8	7	50.67
123	126	16	49.93	8	7	51.05
124	126	16	50.30	8	7	51.63
125	126	16	50.70	8	7	52.54
126	126	16	51.15	8	7	53.78
127	126	16	51.71	8	7	54.98
128	126	16	52.99	8	7	56.48
129	126	16	53.27	8	7	57.05
130	126	16	53.81	8	7	57.39
131	126	16	54.52	8	7	57.48
132	126	16	55.69	8	7	57.28
133	126	16	57.34	8	7	55.98
134	126	17	0.49	8	7	52.13
135	126	17	2.11	8	7	50.29
136	126	17	2.69	8	7	48.08
137	126	17	1.90	8	7	47.33
138	126	17	1.20	8	7	46.95
139	126	17	0.33	8	7	46.49
140	126	16	59.50	8	7	46.11

OBJECT ID	X			Y		
	Deg	Min	Sec	Deg	Min	Sec
141	126	16	58.71	8	7	45.61
142	126	16	57.80	8	7	45.11
143	126	16	55.64	8	7	44.35
144	126	16	50.03	8	7	41.58
145	126	16	46.27	8	7	38.74
146	126	16	45.12	8	7	37.70
147	126	16	43.09	8	7	35.95
148	126	16	41.93	8	7	35.16
149	126	16	40.73	8	7	34.58
150	126	16	37.50	8	7	32.98
151	126	16	35.13	8	7	31.52
152	126	16	31.08	8	7	28.89
153	126	16	29.22	8	7	27.39
154	126	16	28.35	8	7	26.48
155	126	16	27.50	8	7	25.11
156	126	16	26.85	8	7	23.83
157	126	16	26.46	8	7	22.13
158	126	16	26.16	8	7	19.62
159	126	16	25.90	8	7	17.47
160	126	16	25.75	8	7	16.44
161	126	16	25.64	8	7	15.00
162	126	16	25.51	8	7	12.89
163	126	16	25.53	8	7	11.45
164	126	16	25.55	8	7	10.05
165	126	16	25.57	8	7	8.53
166	126	16	25.86	8	7	6.26
167	126	16	26.63	8	7	1.90
168	126	16	28.42	8	6	57.29
169	126	16	29.14	8	6	56.72
170	126	16	30.23	8	6	56.03
171	126	16	31.08	8	6	55.67
172	126	16	31.62	8	6	55.47
173	126	16	32.66	8	6	55.43
174	126	16	33.29	8	6	55.44
175	126	16	35.00	8	6	55.70
176	126	16	36.42	8	6	56.08
177	126	16	37.33	8	6	56.29
178	126	16	38.87	8	6	56.68
179	126	16	40.21	8	6	56.98
180	126	16	41.46	8	6	57.20
181	126	16	42.54	8	6	57.41
182	126	16	43.96	8	6	57.51
183	126	16	44.92	8	6	57.51
184	126	16	46.01	8	6	57.44
185	126	16	47.40	8	6	57.12
186	126	16	49.25	8	6	56.35
187	126	16	51.70	8	6	54.31

OBJECT ID	X			Y		
	Deg	Min	Sec	Deg	Min	Sec
188	126	16	52.59	8	6	53.33
189	126	16	53.61	8	6	52.10
190	126	16	54.34	8	6	50.99
191	126	16	54.90	8	6	49.80
192	126	16	55.25	8	6	48.90
193	126	16	56.04	8	6	46.31
194	126	16	57.03	8	6	44.25
195	126	16	58.56	8	6	42.86
196	126	16	59.48	8	6	42.21
197	126	17	0.16	8	6	41.89
198	126	17	1.25	8	6	41.32
199	126	17	3.16	8	6	39.68
200	126	17	4.09	8	6	38.91
201	126	17	4.94	8	6	37.97
202	126	17	6.04	8	6	37.11
203	126	17	7.18	8	6	35.84
204	126	17	7.83	8	6	34.65
205	126	17	8.47	8	6	33.42
206	126	17	9.07	8	6	32.22
207	126	17	9.72	8	6	31.24
208	126	17	10.22	8	6	30.79
209	126	17	10.81	8	6	30.79
210	126	17	12.68	8	6	31.43
211	126	17	13.43	8	6	31.64
212	126	17	14.14	8	6	31.77
213	126	17	14.76	8	6	31.78
214	126	17	15.35	8	6	31.49
215	126	17	15.82	8	6	30.75
216	126	17	16.00	8	6	29.89
217	126	17	15.73	8	6	28.40
218	126	17	15.62	8	6	27.29
219	126	17	15.51	8	6	26.30
220	126	17	15.36	8	6	25.06
221	126	17	15.21	8	6	24.11
222	126	17	15.02	8	6	22.99
223	126	17	14.79	8	6	21.50
224	126	17	14.43	8	6	20.39
225	126	17	13.91	8	6	18.81
226	126	17	13.39	8	6	16.87
227	126	17	12.84	8	6	14.59
228	126	17	12.16	8	6	12.69
229	126	17	11.30	8	6	11.28
230	126	17	10.40	8	6	10.20
231	126	17	9.41	8	6	8.79
232	126	17	8.23	8	6	6.72
233	126	17	6.47	8	6	4.23
234	126	17	5.81	8	6	3.56

OBJECT ID	X			Y		
	Deg	Min	Sec	Deg	Min	Sec
235	126	17	3.37	8	6	1.68
236	126	17	2.05	8	6	0.72
237	126	17	0.84	8	6	0.22
238	126	16	59.64	8	5	59.75
239	126	16	57.89	8	5	59.24
240	126	16	56.31	8	5	58.74
241	126	16	54.61	8	5	57.81
242	126	16	51.38	8	5	53.16
243	126	16	50.65	8	5	51.51
244	126	16	50.16	8	5	50.31
245	126	16	49.77	8	5	45.60
246	126	16	49.77	8	5	42.75
247	126	16	49.68	8	5	40.48
248	126	16	49.59	8	5	37.63
249	126	16	51.38	8	5	32.32
250	126	16	52.02	8	5	31.04
251	126	16	52.33	8	5	30.42
252	126	16	52.21	8	5	29.60
253	126	16	51.56	8	5	28.68
254	126	16	47.23	8	5	24.89
255	126	16	44.42	8	5	22.47
256	126	16	43.76	8	5	21.81
257	126	16	42.90	8	5	20.93
258	126	16	40.46	8	5	18.97
259	126	16	39.10	8	5	17.40
260	126	16	38.20	8	5	16.19
261	126	16	37.05	8	5	14.69
262	126	16	36.27	8	5	13.98
263	126	16	35.48	8	5	13.61
264	126	16	33.76	8	5	11.53
265	126	16	33.60	8	5	10.62
266	126	16	33.79	8	5	8.93
267	126	16	34.48	8	5	7.74
268	126	16	35.28	8	5	6.75
269	126	16	36.34	8	5	6.02
270	126	16	39.06	8	5	5.67
271	126	16	41.98	8	5	5.69
272	126	16	43.35	8	5	6.32
273	126	16	44.68	8	5	6.95
274	126	16	46.38	8	5	7.91
275	126	16	47.67	8	5	8.62
276	126	16	49.36	8	5	9.71
277	126	16	50.81	8	5	10.71
278	126	16	54.62	8	5	12.85
279	126	16	56.13	8	5	12.98
280	126	16	58.32	8	5	11.30
281	126	16	58.89	8	5	9.49

OBJECT ID	X			Y		
	Deg	Min	Sec	Deg	Min	Sec
282	126	17	1.01	8	5	7.03
283	126	17	2.10	8	5	6.95
284	126	17	4.95	8	5	5.74
285	126	17	5.67	8	5	5.20
286	126	17	8.96	8	5	3.12
287	126	17	10.13	8	5	3.13
288	126	17	11.25	8	5	3.26
289	126	17	12.21	8	5	3.52
290	126	17	13.41	8	5	4.11
291	126	17	14.58	8	5	4.65
292	126	17	15.66	8	5	4.79
293	126	17	16.12	8	5	4.62
294	126	17	16.59	8	5	3.88
295	126	17	16.77	8	5	2.81
296	126	17	16.47	8	4	57.35
297	126	17	16.43	8	4	57.15
298	126	17	15.86	8	4	55.98
299	126	17	15.30	8	4	54.66
300	126	17	14.45	8	4	52.83
301	126	17	13.76	8	4	51.18
302	126	17	13.24	8	4	49.81
303	126	17	12.87	8	4	48.81
304	126	17	12.88	8	4	48.57
305	126	17	12.89	8	4	47.16
306	126	17	13.12	8	4	46.01
307	126	17	13.64	8	4	44.68
308	126	17	14.11	8	4	43.99
309	126	17	14.91	8	4	43.29
310	126	17	15.67	8	4	43.05
311	126	17	16.25	8	4	43.05
312	126	17	16.79	8	4	43.22
313	126	17	17.54	8	4	43.44
314	126	17	18.41	8	4	43.81
315	126	17	19.28	8	4	44.07
316	126	17	21.12	8	4	44.58
317	126	17	22.87	8	4	45.04
318	126	17	24.16	8	4	45.14
319	126	17	25.41	8	4	44.73
320	126	17	26.51	8	4	44.04
321	126	17	31.35	8	4	38.50
322	126	17	32.96	8	4	36.69
323	126	17	34.18	8	4	36.00
324	126	17	35.77	8	4	35.47
325	126	17	42.38	8	4	31.84
326	126	17	44.10	8	4	31.03
327	126	17	47.07	8	4	31.05
328	126	17	49.35	8	4	31.65

OBJECT ID	X			Y		
	Deg	Min	Sec	Deg	Min	Sec
329	126	17	51.06	8	4	32.28
330	126	17	54.21	8	4	33.92
331	126	17	55.54	8	4	34.51
332	126	17	57.45	8	4	35.31
333	126	17	58.65	8	4	35.73
334	126	17	59.78	8	4	35.79
335	126	18	1.12	8	4	35.50
336	126	18	2.97	8	4	34.82
337	126	18	4.69	8	4	34.13
338	126	18	6.33	8	4	33.56
339	126	18	8.00	8	4	33.04
340	126	18	10.09	8	4	33.14
341	126	18	11.47	8	4	33.48
342	126	18	12.87	8	4	34.11
343	126	18	14.62	8	4	34.95
344	126	18	15.74	8	4	35.54
345	126	18	16.57	8	4	36.21
346	126	18	17.51	8	4	37.66
347	126	18	17.91	8	4	38.91
348	126	18	18.05	8	4	40.32
349	126	18	18.12	8	4	41.72
350	126	18	18.10	8	4	42.92
351	126	18	17.92	8	4	44.04
352	126	18	17.82	8	4	45.24
353	126	18	18.06	8	4	45.90
354	126	18	18.68	8	4	46.73
355	126	18	19.39	8	4	47.15
356	126	18	21.13	8	4	48.16
357	126	18	24.15	8	4	50.58
358	126	18	25.69	8	4	53.36
359	126	18	26.67	8	4	55.19
360	126	18	27.66	8	4	56.77
361	126	18	28.39	8	4	58.14
362	126	18	28.71	8	4	59.13
363	126	18	28.90	8	5	0.30
364	126	18	28.97	8	5	1.21
365	126	18	28.69	8	5	3.77
366	126	18	28.67	8	5	5.13
367	126	18	28.94	8	5	6.83
368	126	18	29.51	8	5	7.99
369	126	18	30.54	8	5	9.16
370	126	18	31.57	8	5	10.04
371	126	18	32.93	8	5	11.33
372	126	18	34.37	8	5	13.20
373	126	18	35.06	8	5	14.86
374	126	18	34.72	8	5	18.33
375	126	18	34.48	8	5	20.48

OBJECT ID	X			Y		
	Deg	Min	Sec	Deg	Min	Sec
376	126	18	34.55	8	5	21.80
377	126	18	35.37	8	5	22.92
378	126	18	36.82	8	5	23.51
379	126	18	38.32	8	5	24.02
380	126	18	39.23	8	5	24.32
381	126	18	40.36	8	5	24.58
382	126	18	44.18	8	5	26.51
383	126	18	45.28	8	5	28.38
384	126	18	46.26	8	5	30.25
385	126	18	46.87	8	5	31.41
386	126	18	47.57	8	5	32.20
387	126	18	48.84	8	5	33.58
388	126	18	49.91	8	5	35.24
389	126	18	50.72	8	5	37.02
390	126	18	51.49	8	5	38.85
391	126	18	53.49	8	5	42.63
392	126	18	54.41	8	5	45.03
393	126	18	55.18	8	5	46.74
394	126	18	56.13	8	5	48.07
395	126	18	57.65	8	5	50.06
396	126	19	2.65	8	5	53.75
397	126	19	4.51	8	5	55.46
398	126	19	4.83	8	5	56.49
399	126	19	9.09	8	6	0.13
400	126	19	10.21	8	6	0.59
401	126	19	11.37	8	6	1.10
402	126	19	13.66	8	6	1.90
403	126	19	18.80	8	6	2.37
404	126	19	20.34	8	6	2.59
405	126	19	23.64	8	6	3.20
406	126	19	26.02	8	6	2.89
407	126	19	28.28	8	6	2.62
408	126	19	30.37	8	6	2.64
409	126	19	34.58	8	6	3.59
410	126	19	42.60	8	6	6.68
411	126	19	44.72	8	6	8.06
412	126	19	46.29	8	6	9.20
413	126	19	48.07	8	6	10.21
414	126	19	49.32	8	6	10.88
415	126	19	51.23	8	6	11.68
416	126	19	52.89	8	6	12.36
417	126	19	54.18	8	6	13.32
418	126	19	55.08	8	6	14.45
419	126	19	55.65	8	6	15.90
420	126	19	55.88	8	6	17.60
421	126	19	55.65	8	6	18.83
422	126	19	55.22	8	6	19.90

OBJECT ID	X			Y		
	Deg	Min	Sec	Deg	Min	Sec
423	126	19	54.28	8	6	21.13
424	126	19	53.64	8	6	21.91
425	126	19	52.58	8	6	22.98
426	126	19	50.17	8	6	25.47
427	126	19	44.29	8	6	30.78
428	126	19	42.31	8	6	31.59
429	126	19	40.68	8	6	31.78
430	126	19	39.22	8	6	31.73
431	126	19	37.71	8	6	31.63
432	126	19	34.65	8	6	32.09
433	126	19	33.48	8	6	32.50
434	126	19	32.12	8	6	33.72
435	126	19	31.10	8	6	35.24
436	126	19	29.10	8	6	37.82
437	126	19	27.92	8	6	38.60
438	126	19	26.20	8	6	39.28
439	126	19	24.64	8	6	40.13
440	126	19	22.83	8	6	41.23
441	126	19	21.35	8	6	42.04
442	126	19	19.84	8	6	42.73
443	126	19	18.16	8	6	43.29
444	126	19	12.17	8	6	44.43
445	126	19	10.32	8	6	44.54
446	126	19	7.40	8	6	44.68
447	126	19	5.30	8	6	45.11
448	126	19	3.74	8	6	45.92
449	126	18	59.61	8	6	48.65
450	126	18	58.42	8	6	49.42
451	126	18	56.58	8	6	50.14
452	126	18	54.60	8	6	50.75
453	126	18	51.79	8	6	51.50
454	126	18	47.08	8	6	53.23
455	126	18	43.60	8	6	54.44
456	126	18	40.24	8	6	55.69
457	126	18	37.76	8	6	56.24
458	126	18	36.09	8	6	56.19
459	126	18	33.21	8	6	55.62
460	126	18	32.30	8	6	55.41
461	126	18	31.47	8	6	54.95
462	126	18	30.10	8	6	54.44
463	126	18	28.46	8	6	54.92
464	126	18	27.30	8	6	57.05
465	126	18	26.38	8	7	0.14
466	126	18	25.79	8	7	3.02
467	126	18	25.64	8	7	5.33
468	126	18	26.09	8	7	8.97
469	126	18	27.15	8	7	10.66

OBJECT ID	X			Y		
	Deg	Min	Sec	Deg	Min	Sec
470	126	18	29.49	8	7	13.25
471	126	18	30.95	8	7	16.36
472	126	18	31.37	8	7	19.16
473	126	18	30.88	8	7	21.68
474	126	18	30.43	8	7	23.73
475	126	18	30.12	8	7	25.30
476	126	18	29.93	8	7	26.74
477	126	18	29.79	8	7	27.44
478	126	18	29.74	8	7	28.34
479	126	18	29.76	8	7	29.42
480	126	18	30.08	8	7	30.99
481	126	18	30.87	8	7	33.88
482	126	18	31.50	8	7	36.65
483	126	18	31.56	8	7	38.01
484	126	18	31.86	8	7	40.53
485	126	18	31.04	8	7	42.92
486	126	18	30.36	8	7	46.53
487	126	18	30.34	8	7	47.77
488	126	18	30.61	8	7	48.89
489	126	18	31.10	8	7	49.80
490	126	18	32.22	8	7	50.64
491	126	18	33.26	8	7	51.27
492	126	18	34.58	8	7	52.23
493	126	18	35.82	8	7	53.39
494	126	18	36.76	8	7	54.93
495	126	18	37.41	8	7	56.34
496	126	18	37.89	8	7	57.49
497	126	18	38.42	8	7	58.65
498	126	18	39.15	8	7	59.90
499	126	18	39.84	8	8	1.47
500	126	18	40.53	8	8	3.29
501	126	18	40.96	8	8	4.74
502	126	18	41.40	8	8	6.39
503	126	18	41.68	8	8	7.30
504	126	18	41.91	8	8	8.66
505	126	18	41.98	8	8	9.99
506	126	18	41.91	8	8	11.55
507	126	18	41.68	8	8	12.95
508	126	18	41.37	8	8	14.39
509	126	18	40.80	8	8	15.78
510	126	18	40.20	8	8	17.14
511	126	18	38.99	8	8	19.76
512	126	18	38.58	8	8	21.90
513	126	18	38.73	8	8	23.55
514	126	18	39.23	8	8	26.07
515	126	18	38.69	8	8	32.00
516	126	18	35.55	8	8	34.85

OBJECT ID	X			Y		
	Deg	Min	Sec	Deg	Min	Sec
517	126	18	31.07	8	8	37.57
518	126	18	30.15	8	8	38.07
519	126	18	30.13	8	8	38.09
520	126	18	50.38	8	8	37.26
521	126	20	35.96	8	9	6.84
522	126	21	17.91	8	8	44.46

Figure 1. Location Map

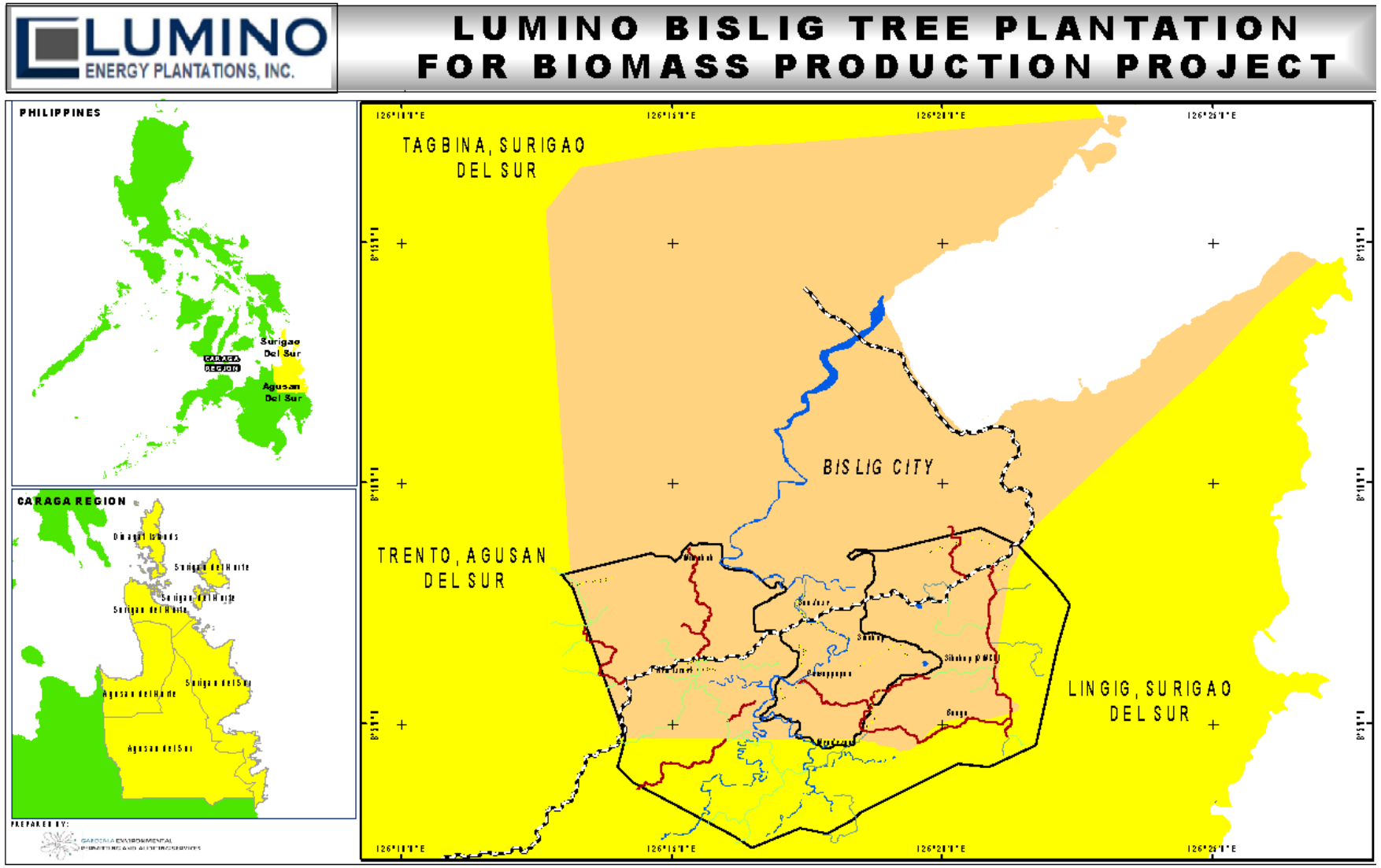
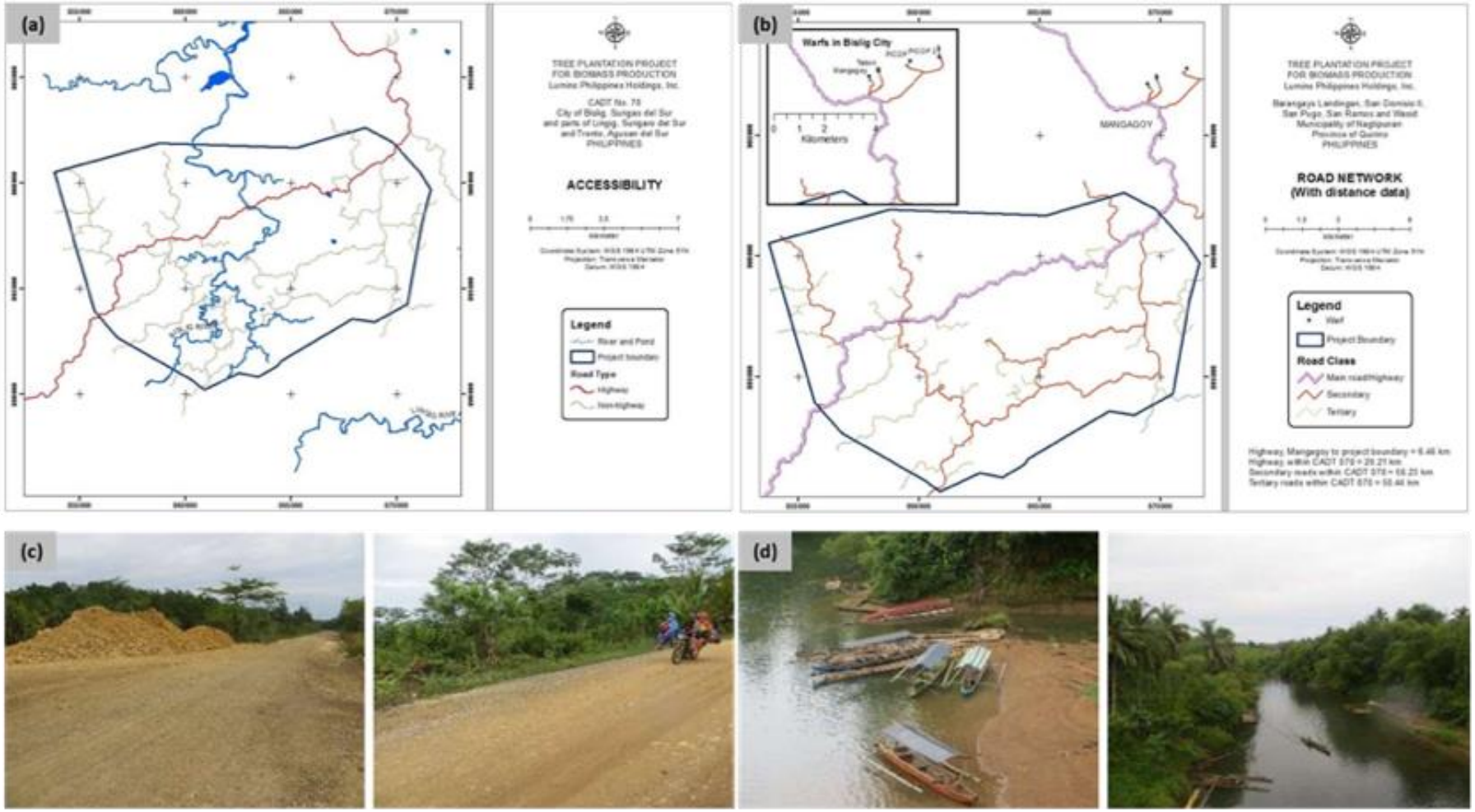


Figure 2. Project Site Accessibility Map



(a) Road network and river that provide access to the project area or places within the boundary; (b) Road network leading to potential wharves in Bislig City; (c) Sections of an earth road in Barangay San Antonio being improved; (d) Sections of the Bislig River near the highway used for transportation.

2.3 Project Components

The project total area is 10,493.94 hectares and **Table 2** shows the major components descriptions while **Figure 3** depicts the Site Development Plan.

Table 2. Major Components

Project Component	Area	Description
1) Tree Plantation	9,325 hectares	The cycle or rotation period is three (3) years from planting. The management will be conducted, together with the Indigenous People, for the next twenty-four (24) years or more based on the contract
2) Headquarter	27.79 hectares comprising the plantation facilities	Center for the project administrative, seedling production, demonstration and recreational, maintenance, and logistical operations
Administrative Building	4,300 sq.m.	Office, conference rooms, research and development room, utility/mechanical room, storage room, IT/server room, and restrooms
Multi-purpose building	1,000 sq.m.	For the events or activities involving a percentage of people leaving them the essence of pleasure to use the place
Manager's House Building	500 sq.m.	Accommodation
Supervisor's House Building	500 sq.m.	Accommodation
Staff House	500 sq.m. for 2 units	Accommodation
Guest House	10 units and 80 sq.m./unit	Accommodation
Canteen with Kitchen and Mess Hall	600 sq.m.	Personnel and visitors meals requirement
Warehouse 1 Building	3000 sq.m.	Compose of racking system for material handling
Warehouse 2 Building	1000 sq.m.	Provide a proper environment for the purpose of storing goods and materials that can require protection from the elements
Motorpool Building	3000 sq.m.	This houses the motor vehicles that are controlled and dispatched for use as needed
Multi-purpose Building	1,000 sq.m.	F*or events, conferences, meetings and company social events.*
Demo Plantation Area	8 hectares	For visitors, investors, funders to see the real situation inside the plantations that need not to visit its interiors. The total demo plantation is the remaining land area after deducting the total area covered by infrastructure
Material Recovery Facility	300 sq.m.	Facility that process the recyclable materials to manufacturers as raw materials for new products

Project Component	Area	Description
Sewage Treatment Plant	200 sq.m.	Facility to process the removal of contaminants from the sewage to produce liquid and solid suitable for discharge to the environment
Main Gate Security Building	100 sq.m.	It houses security personnel and equipment
Perimeter Security Outpost	6 units, elevated and 4 sq.m. per outpost	To prioritize the safety of all the facilities and its main components
Perimeter fence	8 hectares	Security purpose to create barriers from intruder access and deterrent to crime
Swimming Pool	200 sq.m.	For guests leisure and recreation
Water System with Pump House and Overhead Tank	50,000 gallons	For pumping fluids from one place to another such as the supply of water to canals and other uses
Parking Area	3000 sq.m.	For personnel and visitors vehicles: 50 parking slots, 20 motorcycles and 30 trucks
3.Logging Roads	58.69 hectares and 111.32 kilometers existing light and heavily damaged barangay access roads for rehabilitation	For logs, seedlings, equipment and personnel transport
4. Nursery	31.57 hectares comprising of 1 main nursery and 4 satellite nurseries	For seedlings production of about 21 million and more grown to desired age for transplanting to different development areas.
5. Protection Areas	1,050.90 hectares	All Inland water within 40-meter buffer zones, burial grounds and other sacred places including important ecosystems.

Annex 2-2 of the Revised Procedural Manual (RPM) of DAO 2003-30 defined the Direct Impact Area (DIA) at the pre-EIA stage as the area where all “project facilities are proposed to be constructed/situated and where all operations are proposed to be undertaken”. The DIA in the pre-EIA stage is shown in the red polygon that covered the whole CADT area which is perceived to be the most likely to be affected in terms of change in vegetation during the construction phase but enhancement of vegetation during the operation phase is expected. Areas outside the CADT area most likely to be affected during construction and operation phases such as dust generation and river water sedimentation are the Indirect Impact Areas (IIA) which is initially delineated 2-kilometer radius of the proposed plantation site at the pre-EIA stage (**Figure 4**).

Figure 3. Site Development Plan

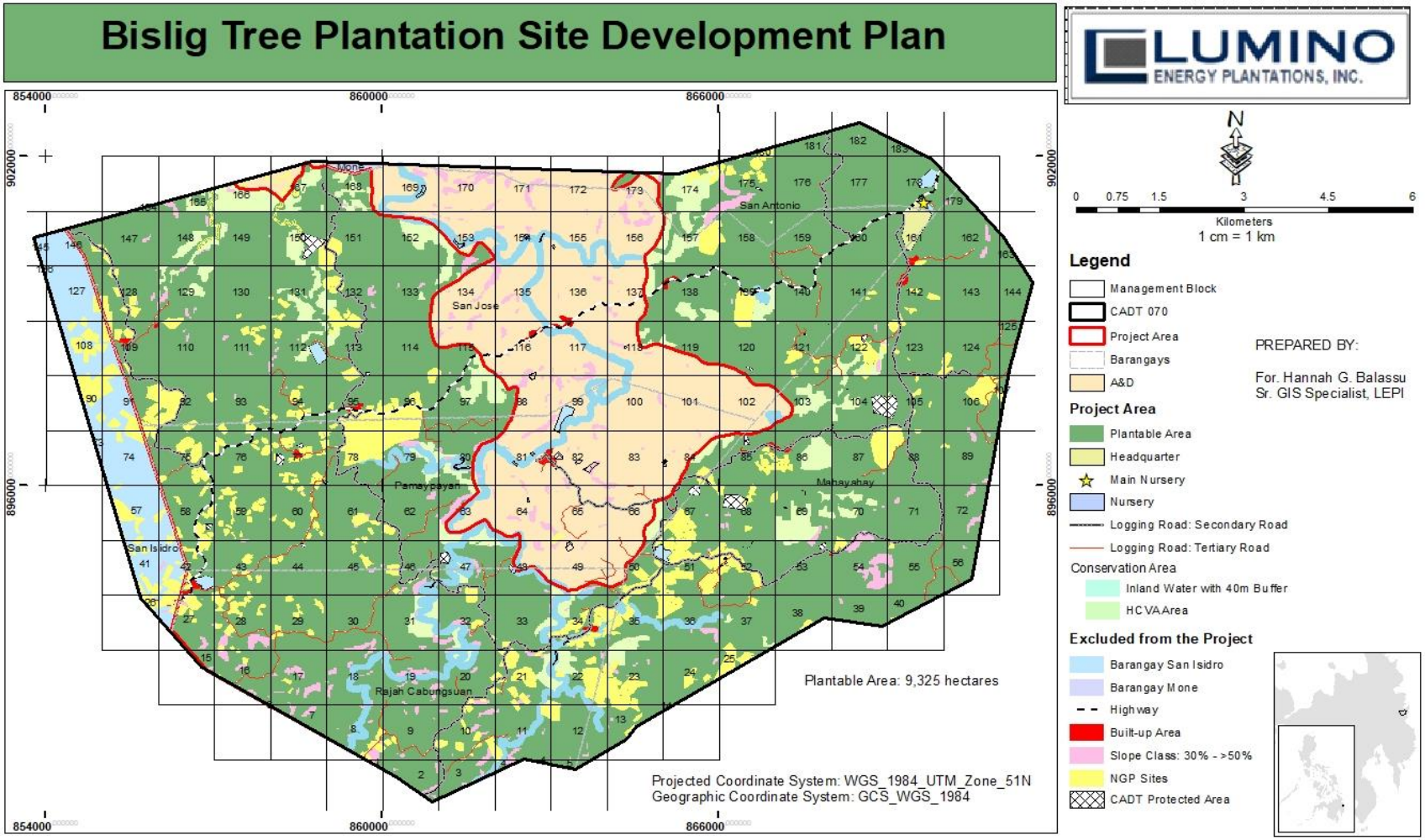
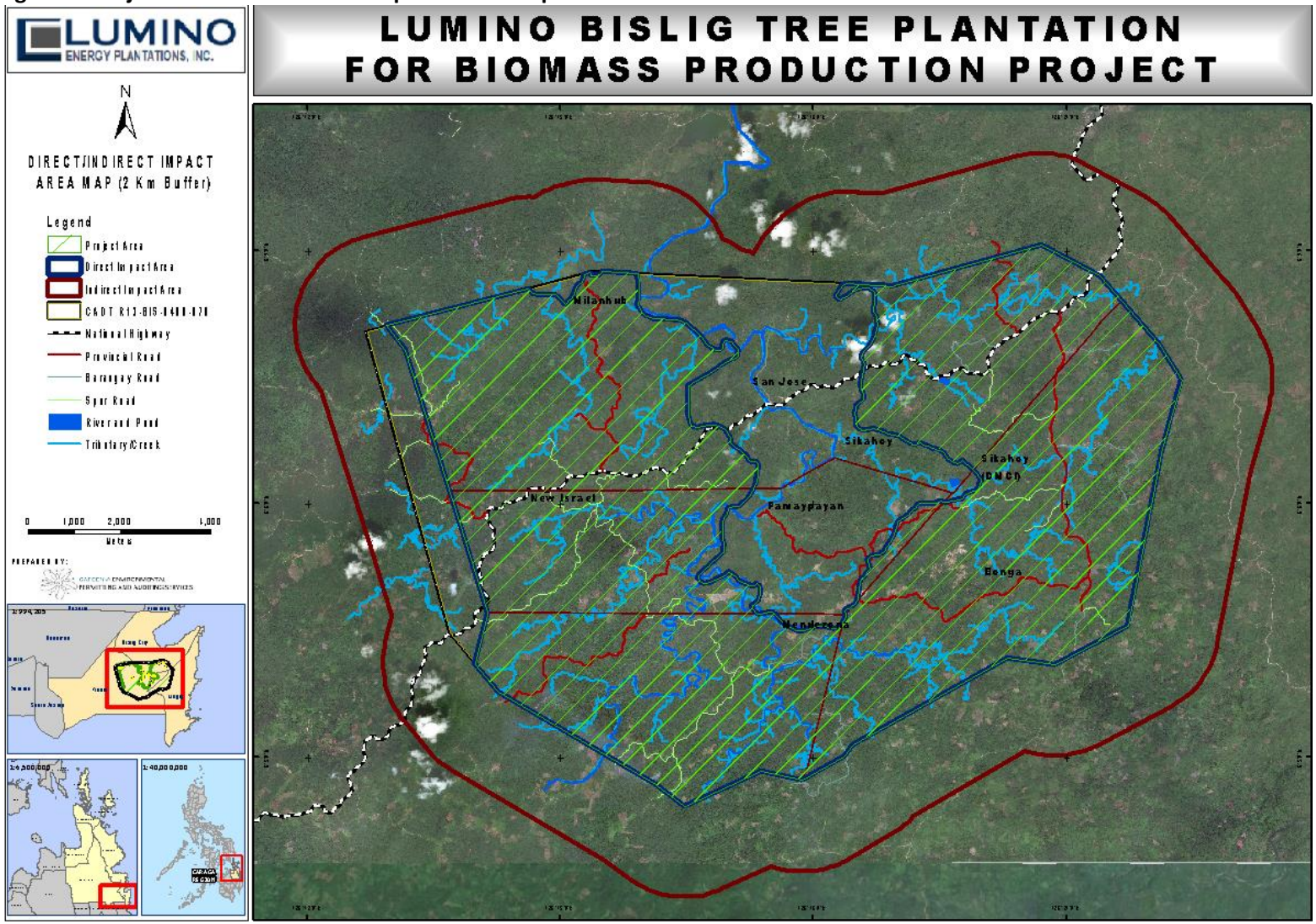


Figure 4. Project Direct and Indirect Impact Areas Map



3. PROJECT RATIONALE

The future of the wood-based industries in the country will depend largely on how successful the efforts in developing industrial tree plantations. There is guarded optimism that the investment climate in the forestry sector will improve and translate into more forest plantation development. Forests and forestry in the Philippines in 2020 will see an improvement in forest cover. This will come mostly in the form of forest plantations. It is projected that an additional 220,000 ha of forest plantations will be established, most as industrial forest plantations. It is projected that by 2020 the Philippines will be producing about 2 million cubic meters of logs mostly coming from forest plantations.

The efficient utilization of tree plantation species (TPS) has become increasingly more important particularly if these are to be used as substitutes to other widely and traditionally used wood species. Wood, aside from being conventionally used as construction and housing material when processed into lumber, has many industrial uses among which is for biomass materials for energy generation in other countries. These uses however depend on the properties/characteristics (sawmilling, drying, machining, chemical, physical, mechanical, and finishing), natural durability, and treatability of wood.

The Philippine government often unilaterally suspends all harvesting permits nationwide to include areas that are not affected by such calamities. The economic viability of forest management for wood production in the natural second-growth forest has become questionable brought about by the unilateral cancellation or suspension of harvesting permits whenever climatic disasters occur even if the locations of the disasters are far removed from the areas of operation of the permit-holders. However, such suspension or cancellation does not apply to tree plantations, especially those in private lands. At present, the harvesting of trees from the natural forest is banned throughout the country except in Regions XI and XIII. The government is more lenient on tree plantations in private lands.

The apparent demand for logs is projected to increase based only on the production of only about 841,000 cu.m. in 2005. This shows that there is a good market made up about 84% of the total log production of the country in 2005 and 74% of the log production came from plantations in private lands. Management of tree plantations for wood production appears to be economically viable.

Forest plantations for wood products can be further encouraged if incentives such as tax holidays on revenues, or provision of low-interest, and long-maturing loans for plantation development are provided in addition to non-payment of forest charges and the ability to export plantation logs. However, there are no comprehensive data on total and annual investments in commercial forest plantations both in public and private lands.

Employment in the forestry sector has definitely decreased from the days when the forest cover of the country was bountiful and there were as many as 400 logging companies. However, there are other opportunities for employment that have opened in spite of or because of the decline of the traditional forestry sector. These are in the fields of environmental and forest conservation, in secondary and tertiary wood processing such as in furniture manufacture, handicraft production, and forest-related tourism. Now, there are more companies involved in small-scale plantation development where employment could be found. Many individual farmers and communities have started to raise seedlings in nurseries in response to the growing demand from plantation developers. One company has started

the production of cloned seedlings to supply high-quality planting materials for plantation development in Mindanao. Another area where employment is being generated is the production of raw materials for herbal medicine, health and beauty care products as well as in supplemental foods.

Hence, the proposed Lumino Bislig Tree Plantation for Biomass Production will support the economic production of biomass materials for energy generation and will also open employment opportunities.

LUMINO BISLIG TREE PLANTATION FOR BIOMASS PRODUCTION PROJECT is a Joint Project between LEPI and MMADMC by virtue of a MOA. MMADMC was awarded the ancestral domain title, CADT 070 built on IPRA (Indigenous Peoples Rights Act) law that was signed and promulgated in 1997. The project is to plant *Acacia mangium* to produce biomass in the form of wood pellets. The project area coverage is 10,493.94 hectares within CADT 070 located in Bislig City and Municipality of Lingig, Surigao del Sur.

The contract was forged between LEPI and MMADMC to meet the following specific objectives:

- To plant biomass species in the whole production areas of CADT 070;
- To provide revenue shares to the indigenous people on the gross income annually for twenty-four (24) years as stipulated in the contract;
- To provide the Community Development Fund (CDF) annually for twenty (20) years as stipulated in the contract;
- To help the DENR in abating illegal logging within the CADT 070;
- To help the National Commission on Indigenous People (NCIP) in making the lives of the IPs within CADT 070 uplifted through LEPI social interventions and business portfolio;
- To provide mechanisms for business opportunities for the IPs not only with LEPI but also with other institutions;
- To make this as a social contract between LEPI as world-class biomass raw materials provider and MMADMC as a group of IPs whose lives will be changed for the better, in engaging with direct foreign investments;

4. PROJECT ALTERNATIVES

Since its inception, Lumino had explored its options within the country for its plans to establish tree plantations. Foremost consideration is a tract of land large enough to generate the required annual output while providing as much support as possible to the locals.

4.1. Project type, components, and size

4.1.1. Project type

LEPI in the pre-feasibility stage of the project considered the suitability of the existing and completed forest plantations project in Mindanao. Among these are the PICOP tree plantations in Region 13 and Region 11. Options for planning and implementing forestry projects considered the following:

a) **Integrated Forest Management Agreement (IFMA)**
An agreement entered into by the DENR and a qualified person to occupy and possess in consideration of a specified rental, any forestland of the public domain in order to establish it as industrial forest. (Reference: DAO 1999-53 – Regulations Governing the Integrated Forest Management Program. 1999.) **Table 3** shows the IFMA holders in Regions 11, 12 and 13.

Table 3. IFMA Holder in Region 11, 12, and 13

NAME OF IFMA HOLDER	IFMA NO	REGION	PROVINCE	MUNICIPALITY	AREA	DATE ISSUED	EXPIRY DATE	AREA PLANTED
TOPSFIELD, INC.	IFMA NO. 2002-06	R11	DAVAO ORIENTAL	MANAY	5,625.00	29-Aug-02	31-Dec-27	9.00
NORTHWEST MAHOGANY, INC. Now LA FORTUNA MAHOGANY, INC.	IFMA NO. 2001-1	R11	DAVAO ORIENTAL	BAGANGA, CATEEL, MALIBAGO, CAPAWAN	10,873.00	11-Jan-00	31-Dec-25	559.15
MATUGUINA INTEGRATED WOOD PRODUCTS, INC.	IFMA NO. 01-2008	R11	DAVAO ORIENTAL	BAGANGA, CARAGA	27,761.39	13-May-08	30-Apr-33	4246.97
SUPERIOR TIMBER AND CONSTRUCTION CORP	IFMA NO.01-06	R11	DAVAO ORIENTAL	LUPON	4,053.00	10-Jan-06	31-Dec-31	
ASIAN EVERGREEN DEVELOPMENT INCORPORATED	IFMA NO. 15-2007	R11	DAVAO ORIENTAL	CARAGA AND MANAY	6,159.00	30-Jul-07	31-Jul-32	

NAME OF IFMA HOLDER	IFMA NO	REGION	PROVINCE	MUNICIPALITY	AREA	DATE ISSUED	EXPIRY DATE	AREA PLANTED
CALFOLKS, INC	IFMA NO. 03-2009	R11	DAVAO ORIENTAL	MANAY	2,008.00	09-Oct-09	09-Oct-34	
M&S. CO., INC. (FORMERLY SODACO.,INC.)	IFMA NO. 99-001	R12	SARANGANI	MALUNGON	863.00	17-Feb-99	31-Dec-23	863.00
M & S, COMPANY	IFMA 18-2007	R12	SULTAN KUDARAT	ESPERANZA	1,555.00	27-Jul-07	31-Dec-32	
CASILAYAN SOFTWOOD DEV.CORPORATION	IFMA N0. 03-2008 (Renewal)	R13	AGUSAN DEL SUR	SAN LUIS, TALACOGON	5,000.00	10-Dec-08	01-Jan-34	4096.72
CASILAYAN SOFTWOOD DEV.CORPORATION	IFMA 07-2007	R13	AGUSAN DEL SUR	BAYUGAN, PROSPERIDAD	12,727.00	08-Jan-07	31-Dec-31	

NAME OF IFMA HOLDER	IFMA NO	REGION	PROVINCE	MUNICIPALITY	AREA	DATE ISSUED	EXPIRY DATE	AREA PLANTED
ARTIMCO, INC.	IFMA NO. 13-2007	R13	SURIGAO DEL SUR	MARIHATAG, CAGWAIT,TANDAG,TAGO,BAYABAS	11,032.00	05-Jul-07	30-Jun-32	
MEJORE WOODWORKS, INC.	IFMA 02-2006	R13	SURIGAO DEL SUR	MARIHATAG, SAN MIGUEL,LANUZA, MADRID,SAN AGUSTIN	22,470.00	31-Aug-06	31-Aug-31	
			AGUSAN DEL SUR	SIBAGAT	4,772.00			
			SURIGAO DEL NORTE	CLAVER	9,328.00			
VENTURA TIMBER CORPORATION	IFMA No. 02-2010	R13	SURIGAO DEL SUR	MADRID, LANUZA AND CORTES	4,591.00	10-Feb-10	31-Dec-35	
			AGUSAN DEL NORTE	JABONGA	2,772.00			

NAME OF IFMA HOLDER	IFMA NO	REGION	PROVINCE	MUNICIPALITY	AREA	DATE ISSUED	EXPIRY DATE	AREA PLANTED
SURIGAO DEVELOPMENT CORP.	IFMA No. 06-2009	R13	SURIGAO DEL SUR	MADRID, CARMEN, LANUZA, CORTES, TANDAG, TAGO AND SAN MIGUEL	75,671.00	04-Nov-09	31-Dec-34	
SOURCE PHILIPPINE FORESTRY STATISTICS (2020)								

b) Community-Based Forest Management Agreement (CBFMA)

An agreement entered into by and between the government and the local community, represented by people's organization, as forest managers, which has a term of twenty-five (25) years renewable for another twenty-five (25) years. (Reference: DAO 2004-29. Revised Rules and Regulations for the Implementation of Executive Order 263 or Community Based Forest Management Strategy. 2004.) **Table 4** shows the CBFA holders of Regions 11, 12 and 13.

Table 4. CBFMA Holders of Regions 11, 12 and 13

Old Name of PO	New Name of PO	Location	CBFMA (based on signed hard copy)			
			CBFM No.	Date Issued	Expiry Date	CBFM area
Tribal Settlers Association (TRISA)	Perez Sibagat Tribal Development Farmers Association, Inc. (PESTRIDEFA)	Brgy. Perez, Sibagat, Agusan del Sur	71004	12/29/1998	12/29/2023	1,750.00
Banwa-on Multi-purpose Cooperative, Inc. (BMCI)		Brgy. Tagbalili, Esperanza, Agusan del Sur	71002	9/18/1998	9/18/2023	3,198.80
Iligan Tribal Farmers Development Organization (ITRIFADO)	Iligan Tribal Farmers Community Development Association Incorporated (ITFCDAI)	So. Iligan, Brgy. Padiay, Sibagat, Agusan del Sur	71005	12/31/1998	12/31/2023	2,639.75
Mabuhay Timberland Farmers Association, Inc. (MATILFA)	Mabuhay Timberland Farmers Multi-Purpose Cooperative (MATILFAMCO)	Brgy. Mabuhay, Prosperidad, Agusan del Sur	71001	5/13/1998	5/13/2023	2,115.00
Babuyan Farmers Multi-Purpose Development Cooperative (BAFAMDC)	Babuyan Farmers Mountain Developers Core Group Incorporated (BAFAMDCGI)	Brgy. Babuyan, Carrascal, Surigao del Sur	73001	12/16/1997	12/16/2022	2,350.00
Adlay ISF Farmers Multi-Purpose Cooperative (ADISFAMCO)		Brgy. Adlay, Carrascal, Surigao del Sur	73006	12/17/1998	12/17/2023	1,258.00
Federation of Community Resource Development Cooperatives (FEDCOMM)		Brgy. Mandus, Lingig, Surigao del Sur	74001	12/12/1997	12/12/2022	5,702.50

c) Other Forestry Projects Co-managed With DENR (ex. NGPs)

The National Greening Program or NGP is the country's most ambitious reforestation program to date. It seeks to plant 1.5 billion trees in 1.5 million hectares for a period of six (6) years, from 2011 to 2016. Executive Order No. 26, signed on February 24, 2011 by President Benigno S. Aquino III serves as the legal basis for the implementation of the NGP. Executive Order 193, s. 2015 expands its coverage from 2016 to 2028. **Table 5** shows the NGP sites in the Provinces of Surigao del Sur and Agusan del Sur.

Table 5. NGP projects of the Provinces of Surigao del Sur and Agusan del Sur

FID	BARANGAY	MUNI_ CITY	PROVINCE	NAME_ORG	CONT_ PERS	SPECIES	YEAR	ZONE	TENURE	AREA ha
1	Langkilaan	Trento	Agusan del Sur	Indigenous People Cooperative	Charlito Gableo	Falcata, Mangosteen, Rubber	2011	Production	CADT	5.06
2	San Jose	Bislig City	Surigao del Sur	Admin-DENR-Bislig City	Palangan	Coffee, Durian, Rubber	2012	Production	Untenured	20.01
3	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.06
4	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.07
5	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.02

FID	BARANGAY	MUNI_ CITY	PROVINCE	NAME_ORG	CONT_ PERS	SPECIES	YEAR	ZONE	TENURE	AREA ha
6	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.04
7	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.05
8	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	5.19
9	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	8.01
10	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	10.15

FID	BARANGAY	MUNI_ CITY	PROVINCE	NAME_ORG	CONT_ PERS	SPECIES	YEAR	ZONE	TENURE	AREA ha
11	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.06
12	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.05
13	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.08
14	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.05
15	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.01

FID	BARANGAY	MUNI_ CITY	PROVINCE	NAME_ORG	CONT_ PERS	SPECIES	YEAR	ZONE	TENURE	AREA ha
16	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.09
17	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.04
18	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.09
19	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.01
20	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.06

FID	BARANGAY	MUNI_ CITY	PROVINCE	NAME_ORG	CONT_ PERS	SPECIES	YEAR	ZONE	TENURE	AREA ha
21	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.12
22	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.08
23	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.07
24	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.13
25	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	5.05

FID	BARANGAY	MUNI_ CITY	PROVINCE	NAME_ORG	CONT_ PERS	SPECIES	YEAR	ZONE	TENURE	AREA ha
26	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	5.02
27	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.12
28	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.06
29	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.14
30	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	1.91

FID	BARANGAY	MUNI_ CITY	PROVINCE	NAME_ORG	CONT_ PERS	SPECIES	YEAR	ZONE	TENURE	AREA ha
31	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.01
32	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.09
33	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	0.00
34	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.05
35	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.04

FID	BARANGAY	MUNI_ CITY	PROVINCE	NAME_ORG	CONT_ PERS	SPECIES	YEAR	ZONE	TENURE	AREA ha
36	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.06
37	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.99
38	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.07
39	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.05
40	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.30

FID	BARANGAY	MUNI_ CITY	PROVINCE	NAME_ORG	CONT_ PERS	SPECIES	YEAR	ZONE	TENURE	AREA ha
41	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.62
42	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.24
43	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.06
44	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	2.06
45	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.06

FID	BARANGAY	MUNI_ CITY	PROVINCE	NAME_ORG	CONT_ PERS	SPECIES	YEAR	ZONE	TENURE	AREA ha
46	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.06
47	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	1.20
48	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	3.07
49	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	1.06
50	Sta.Maria	Trento	Agusan del Sur	Barangay LGU	Roland Magno	Bagras, Falcata, Fruit Trees, Rubber	2013	Production	CADT	1.08

FID	BARANGAY	MUNI_ CITY	PROVINCE	NAME_ORG	CONT_ PERS	SPECIES	YEAR	ZONE	TENURE	AREA ha
51	San Jose	Lingig	Surigao del Sur	BLGU of San Jose	Jomar Sumagan day	Toog, Narra, Sagimsim, Lauan	2013	Protection	Untenured	20.01
52	Mahayahay	Lingig	Surigao del Sur	BLGU of Mahayahay	Eugen Bantilan	Toog, Narra, Sagimsim, Lauan	2013	Protection	Untenured	20.01
53	San Isidro	Trento	Agusan del Sur	Barangay LGU	Benjamin Ferrer	Fruit tree, Rubber	2014	Production	CADT	26.53
54	Bogac	Lingig	Surigao del Sur	LGU	Jimmy Luna	Rubber	2014	Production	Untenured	13.26
55	San Jose	Bislig City	Surigao del Sur	LGU	Librado Navaro	Falcata	2014	Production	CADT_070	104.46
56	San jose	Bislig City	Surigao Del Sur	BLGU of San jose	Jomar S. Sumaga mday	Falcata, Cacao	2015	Production	Untenured	20.02

FID	BARANGAY	MUNI_ CITY	PROVINCE	NAME_ORG	CONT_ PERS	SPECIES	YEAR	ZONE	TENURE	AREA ha
57	Pamaypayan	Bislig City	Surigao Del Sur	Manobo/ Mandaya Ancestral Domain Management Council of CADT-070	Adrian Sano	Falcata, Rubber, Cacao	2015	Production	Untenured	781.84
58	San Isidro	Trento	Agusan del Sur	Pakyaw Group Leader	Elmer Valentin	Falcata	2016	Production	CADT	50.28
59	Mone	Bislig City	Surigao del Sur	LGU	Froilan Arcetas	Fruit trees, Mahogany, Indigenous	2016		Untenured	5.96
60	Mone	Bislig City	Surigao del Sur	LGU	Froilan Arcetas	Fruit trees, Mahogany, Indigenous	2016		Untenured	15.87
61	San Antonio	Bislig City	Surigao del Sur	BLGU of San Antonio		Rubber / Cacao / Coffee / Durian	2017	Production Forest	Timberland	13.53

FID	BARANGAY	MUNI_ CITY	PROVINCE	NAME_ORG	CONT_ PERS	SPECIES	YEAR	ZONE	TENURE	AREA ha
62	San Antonio	Bislig City	Surigao del Sur	BLGU of San Antonio		Falcata	2017	Production	Timberland	17.21
63	BOGAC	Lingig	Surigao del Sur	BLGU OF BOGAC	FACULTAD	Falcata	2019	PRODUCTION	TIMBERLAND	4.47
64	BOGAC	Lingig	Surigao del Sur	BLGU OF BOGAC	FACULTAD	Falcata	2019	PRODUCTION	TIMBERLAND	3.67
65	BOGAC	Lingig	Surigao del Sur	BLGU OF BOGAC	FACULTAD	Falcata	2019	PRODUCTION	TIMBERLAND	1.06
66	BOGAC	Lingig	Surigao del Sur	BLGU OF BOGAC	FACULTAD	Falcata	2019	PRODUCTION	TIMBERLAND	1.29
67	BOGAC	Lingig	Surigao del Sur	BLGU OF BOGAC	FACULTAD	Falcata	2019	PRODUCTION	TIMBERLAND	2.55

4.1.2 Project components

4.1.2.1 Tree plantation

The whole CADT 070 was considered for the establishment of the Project including the Barangays of Mone and San Isidro. Considering the land classification, slope, and land cover, the plantable area of the Bislig Project was calculated. Excluded from the plantable areas are the A&D lands, slopes greater than 30%, protected areas of the IPs such as the burial and hunting grounds, sites under DENR's National Greening Program, national highway, the locations of the nurseries, headquarter complex, and protection areas. Ultimately, LEPI decided to exclude the previous alternatives: Barangays Mone and San Isidro.

Around 60% or 9,325 has. of the total area of CADT 070 is considered plantable: located within Barangays San Jose, Pamaypayan and San Antonio in Bislig City and Barangays Mahayahay and Raja Cabungsuan in Lingig Municipality.

4.1.2.2 Headquarter and support facilities

The headquarters complex will be located within the Project Area. Ideally, the location must have relatively flat land with easy access to the main highway and has sufficient nearby area to accommodate a nursery. Barangays San Jose, San Antonio and Mahayahay, which are nearest to the national highway, were considered as potential locations.

Ultimately, LEPI chose Barangay San Jose, since minimal clearing and site development activities are needed to be done in Km 8 - within San Jose - since it was previously the main nursery of the Paper Industries Corporation of the Philippines (PICOP).

4.1.2.3 Logging roads

The Secondary and Tertiary Roads within CADT 070 will be utilized as the proposed logging roads of the Project. These are all the former access roads of the PICOP concession and are now the access roads of Barangays Pamaypayan, San Jose, San Antonio, Rajah Cabungsuan and Mahayahay. These are all-weather roads with varying damages that will be repaired but sufficient to accommodate loads. No other alternatives are available.

4.1.2.4 Nurseries

Forest nursery sites must be carefully selected in order to attain productivity and efficiency in operation. The factors in site selection must consider the following criteria: topography or slope (relatively flat land), accessibility to stream, accessibility to road, present land use, and minimal flood hazard. Alternatives that do not fit these criteria were disregarded.

All barangays included in the Project will have their own nursery - four of which will be company satellite nurseries.

For the main nursery, the selection criteria include the size of the area. Initially, San Jose was considered for the location of the main nursery, however, the area is not large enough for the establishment of the centralized nursery.

Ultimately, the main nursery will be located in Barangay San Antonio considering that the area meets all the criteria.

4.1.2.5 Protection Areas

The Protection Areas will be located throughout the Project Area. These will be identified as the inland water bodies with 40 meter-buffer zones and areas with concentrations of biological diversity including endemic species, and rare, threatened, or endangered species. The protection areas will not be part of the production forest and will be allowed to develop to its natural state. There are no alternatives.

4.1.3 Project size

LEPI in its market study has projected a total wood volume of about 2,300,000 cubic meters to produce the target biomass materials. The site optioneering schemes considered the selected CADT 070, CADT 223 and CADT 0007. These 3 CADT areas will provide the desired plantable areas and the projected maximum of 34,560 hectares of plantable area that will produce an annual wood harvest and utilization.

IFMA, CBFMA and other NGP sites were considered as alternatives. However, the other sites are not large enough to meet the target volume of biomass materials.

4.2 Process/technology

There are several plantation development technologies that vary according to the end product that companies desire. Silvicultural approaches in plantation establishment are guided by the planting spacing that will be implemented.

Spacing in plantations depends on the intended uses and soil fertility. For sawtimber production uses, 3m x 3m and 4m x 4m have been applied in South East Asia and in particular in Caraga region IFMA's such as Provident Tree Farms, Inc. and Casilayan Softwood Development Corporation.

The planting technology was applied for the purpose of producing sawtimber with a cutting cycle of 8 to 10 years. This plantation approach entails several silvicultural applications such as pruning, singling, and thinning including maintenance weeding. Likewise, the stand-level management block scheme whose attributes are defined by species, composition, age, yield, and other stand characteristics has been adopted.

As for LEPI's plantation which will be dedicated to the production of woody biomass for pellets and biofuel for the cogeneration plant, it will adopt high-density plantation management blockings to maximize yield per hectare. A planting spacing of 1.5m x 1.5m or 4,444 trees per hectare has been chosen to maximize woody biomass yield with a rotation cutting cycle of three (3) years. Technically, LEPI's plantation is a Short-Rotation Forestry/Plantation (SRF/SRP) and defined as the silvicultural practice in which high

density, sustainable plantations of fast-growing tree species produce biomass either on agricultural fertile lands, waste lands or degraded lands generally outside the traditional forests.

The plantation design of LEPI comprises the project area subdivided into 1 km x 1 km grid blocks. The blocks facilitate the identification of areas where activities are planned for a period of time. The blocking scheme also facilitates data management and GIS applications as blocks are either complete or cut out by the project boundary. The total area of the Bislig project of 9,325 hectares has an annual plantation development target of 3,108.33 hectares and replanting will be done thereafter every rotation period of three (3) years.

No toxic chemicals will be used nor produced for the entire duration of the tree plantation project. Organic fertilizers will be utilized.

4.3 Resource utilization (water, energy, etc.)

Water Supply
The tree plantation and its maintenance works will depend on rainwater.

The water requirements of the headquarter of about 50 cubic meters per day will be provided by the local water district provider and supplemented by rainwater harvesting and groundwater extraction. The generated water will also be used for the demo plantation area, and water domestic requirements of the personnel. The water system will also be supported by a pump house and 50,000-gallon overhead tanks.

The water requirements of the main nursery of about 50-70 cubic meters per day will be supplied through groundwater extraction and rainwater harvesting.

Power Supply
The power requirements will be sourced from the existing power utility provider, Surigao del Sur Electric Cooperative II (SURSECO 2), for the headquarter operation with an approximate demand of 13,500 to 20,000 kWh per month. Required transformer equipment should be accompanied by the manufacturer's laboratory test indicating as PCV-free. A standby diesel-powered generator will be used during power outages in the headquarters. Plantation maintenance works will not require power because it will be done in daytime.

Manpower Requirement
The manpower requirements during the construction phase will be provided by the General Contractor to be determined upon the finalization of the structural designs of the proposed headquarters.

The operational manpower requirements for the plantation will prioritize employment of qualified MMADMC members in conformance with the signed MOA. Local residents and others from nearby areas will also be tapped for employment.

The plantation operations will be implemented and monitored by LEPI management to be composed of Plantation Manager; Supervising Foresters; Nursery Technicians; Human Resources and Administrative Manager and personnel; Finance Manager and personnel; Security Personnel; and Utility Personnel

including project vehicle drivers. The headquarters will accommodate about 100 individuals including some personnel from LEPI's nearby affiliates.

Outsourcing through a third-party manpower agency may also be explored.

4.4 Alternatives considered in the decision in terms of location of project components

During the site selection process, LEPI considered the concepts of CBFMA and IFMA.

4.4.1 Tree plantation

The proposed 9,325-hectare plantable area was delineated based on the available land use maps and the conducted ground validations wherein the most suitable are the existing, brush/shrubs, grasslands, areas with perennial and annual crops and some open forest and open/barren areas with slope class 30% and below. The 9,325 has. plantable area are located in Barangays San Jose, Pamaypayan and San Antonio in Bislig City and Barangays Mahayahay and Raja Cabungsuan in Lingig Municipality.

Foremost consideration is a tract of land large enough to generate the required annual output while providing as much support as possible for the locals so LEPI looked into CADTs that are the most feasible in terms of tree growing conditions; with existing infrastructures such as an internal road network and easy access to roads to transport the raw materials; accessible power and water supply; availability of nearby lands that can be developed for LEPI affiliates' projects; with the institutional strength of the IP organization to collaborate with Project; and with institutional recognition by the NCIP and support of the local government units (municipality/city and barangays).

4.4.2 Headquarter

The project headquarter is to be developed in the former nursery of PICOP in Km. 8, Barangay San Jose with an existing road connected to the national highway. The headquarters will occupy 27.79 hectares with existing water source and storage tank. The proposed facilities that will cater to the requirements of the project will be easily accessible.

4.4.3 Logging Road

The proposed project logging roads will be the former access roads of the PICOP concession being used as the access road of residents of the impact barangays. These are all-weather roads with varying damages but sufficient to accommodate loads. These roads will be rehabilitated prior to their use during the operations phase. Their maintenance will provide better road transport for the public use as well.

Logging roads will be 6-meter width with a total length of 111.32 kilometers and an area of 58.69 hectares.

4.4.4 Nurseries

The LEPI Nursery has a total area of 31.57 hectares comprising one (1) Main Nursery and four (4) satellite nurseries. The Main Nursery located at the former nursery of PICOP in Barangay San Antonio has an

existing road connected to the national highway, is mostly flat, presence of water supply, and strategically located to the majority of the plantable area. The identified Main Nursery site has a high potential groundwater table.

The 4 satellite nurseries will be spread throughout the plantable area and will have access through the logging roads. The satellite nurseries will be developed in Barangays San Jose, Bislig City; and Barangays Mahayahay and Rajah Cabungsuan of Municipality of Lingig. The combined nurseries can provide the target seedlings production annually of about 26 million seedlings.

4.4.5 Protection Area

A section of Bislig River is inside the project area. A 40 meter-buffer zone will be set and will be made part of the Protection Area, areas with concentrations of biological diversity potentially located in two (2) barangays with closed canopy. The protection areas will not be part of the production forest and will be allowed to develop to its natural state.

5. Aerial Photos of the Project Site

Drone photos of the project area are shown in **Figures 5 to 18**.

Figure 5. CADT 070 exit road, Km. 61, San Jose, Bislig City

Figure 6. CADT Entrance at San Antonio, Bislig City; red circle is part of plantable area and blue is the proposed main nursery.

Figure 7. Part of Bislig River, upstream at Mendizona, Rajah Cabungsuan

Figure 8. Part of Bislig River, upstream at Barangay Pamaypayan with nearby community

=Figure 9. Part of Bislig River, Downstream at San Jose, Bislig City

Figure 10. Barangay San Jose Existing Road

Figure 11. Km. 8, Barangay San Jose Proposed Headquarter Location along National Road; red circle is part of Brgy. Mahayahay plantable area

Figure 12. Sitio Sikahoy, Barangay San Jose Existing Road within Plantable Area

Figure 13. Barangay San Jose Plantable Area Facing East

Figure 14. Barangay San Jose Plantable Area Facing North

Figure 15. Barangay San Jose Plantable Area Facing South

Figure 16. Barangay San Jose Plantable Area Facing West

Figure 17. Demo Nursery besides the headquarter at KM. 8, San Jose, Bislig City

Figure 18. Barangay Pamaypayan Existing Road within Plantable Area

6. FOR PROJECT PROPONENT, INDICATE INCORPORATORS AND SUBSIDIARIES

LEPI is a duly-organized Philippine entity and with Company Registration No. CS201953529 approved by Securities and Exchange Commission with registered office address at Km. 8, Barangay San Jose, Bislig City, Surigao del Sur. LEPI is a subsidiary company of Lumino Biomass Fuel, Inc. **Table 6** shows the names, nationality and designations of the incorporators.

Table 6. The names of the Incorporators and designations

Name	Nationality	Designation
1. Lumino Biomass Fuel, Inc.	American	-
2. Daniel S. Kim	American	Director
3. Karine C. Ruivivar	Filipino	Director
4. Joel P. Lubguban	Filipino	Director
5. Emilyn L. Bengil	Filipino	Director
6. Shinichi Tokuda	Japanese	Director
7. Bruce Huang	American	-

7. PROJECTED TIMEFRAME OF THE PROJECT PHASES

The plantation development including the support facilities such as the construction of headquarter, establishment of nursery, and construction and rehabilitation of road networks will be completed within the first three years as shown in **Table 7**.

Table 7. GANTT Chart of Projected Timeframe of Project Phases

Development Activities	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10 TO Y25
Bislig Project										
Division 1 (3,108.33 ha.)										*continuing harvest and plant management cycle*
Division 2 (3,108.33 ha.)										
Division 3 (3,108.33 ha.)										
Total . . . 9,325 hectares										

Legend:	
Road Network Construction/ Repair/Rehabilitation/Maintenance	
Nursery Establishment & Seedlings Production	
Plantation Establishment	
Tree Maintenance and Protection	
Tree Plantation Harvesting (3-Year old from start month of planting)	

8. INDICATIVE PROJECT INVESTMENT COST

The project will cost about Philippine Pesos 1,046,000,000.

9. PRELIMINARY IDENTIFIED ENVIRONMENTAL ASPECTS FOR EACH ALTERNATIVE

The preliminary identified environmental aspects during the establishment of the plantation in the delineated plantable area and the target wood harvesting are as follows:

9.1 Environmental Impacts

Change in the vegetation: remnants of secondary forests, brushland and grasslands including plantations and farms of the IPs and Non-IPs with rights being recognized under the existing agreement will be cleared for the intended plantable area but not to include tree species with local importance and conservation values. There will be immediate planting of Acacia mangium after the first year of site clearing and expected to be fully grown in the third year. It is expected to have monoculture plantation and following the prescribed planting and harvesting cycles, constant changes in the landscape of the CADT area in the long term. The proponent will implement appropriate tree plantation management schemes for 24 years to include conservation strategies for the protection areas which are outside the plantable area.

Disturbance to wildlife due to vegetation clearing

Numbers of terrestrial wildlife species were recorded consisting of amphibians, reptiles, birds, bats and non- volant mammals. However, the wildlife low endemicity are recorded in other part of Mindanao and even in Visayas. Their disturbance during the site clearing will be temporary and short term as they can transfer in adjacent portion of the CADT area and even in nearby forests of CADT 223 in Trento, Agusan del Sur. During the 3-year plantation establishment and maintenance phase, birds and other wildlife species can roam again the plantation. The proponent will formulate and implement biodiversity management measures during construction and operation phases to include the strict no-hunting and trapping of wildlife at the selected plantable and conservation areas.

Bislig River Sedimentation and Siltation: Several portions of the plantable area are characterized by broadly undulating with the presence of major river or stream channels. Site clearing and removal of trees holding the soil can possibly cause deposition of solid materials deposited by mass-wasting at the base of slopes. Although the site is relatively free from any active (and progressive) mass-wasting processes, this scenario, however, could be different during prolonged and intense rains when the loose weathered materials and blanketing soil are carried out to the natural water channels from whence possible sedimentation may occur.

Siltation of the river during site clearing of the plantable area, headquarter and nurseries is possible due to increased peak runoff during rainy days. Aside from the removal of vegetation, earth movement works at the proposed headquarter at Brgy. San Jose may contribute to the increase in surface runoff.

During tree harvesting the proponent will employ appropriate logs staging and hauling including immediate removal of small branches, twigs and leaves to cause barriers to the natural drainage flow and Increased peak runoff in the channels inside the plantable area.

The proponent will determine the strategic locations of siltation ponds and will provide and maintain adequate drainage leading to siltation ponds. Practice proper housekeeping practices and set-up sanitary

facilities at the proposed headquarter during construction and operation phases. Bislig River easement zones included in the project protection area will be sustainably protected.

Soil contamination in the case of improper solid wastes disposal - site clearing of the plantable area and land preparation and tree harvesting are expected to generate a substantial amount of biodegradable vegetative parts of trees. However, numbers of workers may generate food residues and plastic materials to contaminate the soil. This scenario will be restricted and monitored by the proponent to align with the target retention of the soil suitability for the plantation.

During construction of the headquarter and main nursery, expected are spoiled construction materials and hazardous wastes at the temporary facility. Excess used oil and fuel lubricants, excess paint, lambasted fluorescent lamps and dead batteries will be appropriately contained and temporarily stored in the Material Recovery Facility and immediately disposed of by DENR accredited hauler and treater.

The proponent will formulate Solid Waste Management Plan in conformance with DENR and LGU guidelines.

Riverine habitat alteration and threat to existence or loss of important local fish species

Discharges generated during construction and operation at the headquarter and main nursery may affect water quality of a portion of Bislig River. Erosion of sediments during plantation site clearing and tree harvesting to cause run-off during heavy rains down to the river. Riverine habitat alteration may affect compositions of phytoplankton, zooplankton, macrobenthos, decapods and the recorded four native but least concern fish species.

Aside from the provision of siltation ponds, the proponent will integrate Hazardous Wastes Management in the target Solid Waste Management Plan and the required construction and operation of Sewage Treatment Plant at the proposed headquarter.

Degradation of air quality

Existing barangay roads will be cleared for the logging roads lay-outing and compaction. Earth movements including operation of heavy equipment will generate fugitive dust during dry and high wind conditions. Same situation will be experienced during log transport due to movements of hauling trucks. Site preparation, earth movements, transport and staging of construction materials will be the causes of fugitive dust dispersion at the proposed headquarter as well.

The proponent will implement best available fugitive dust control and suppression measures during high wind conditions.

9.2 Social Impacts

The MOA provides the direct involvement to the project implementation of the concerned Indigenous Peoples in CADT area including Non-IPs who will be recognized by MMADMC as legal settlers. There will be no displacement of the households as they will be engaged in various activities during construction

and operation phases. There will be no perceived impact on in-migration as well that will not affect the cultural/lifestyle change of the IPs and impact to their cultural resources. Consequently, the existing peace and order situations in the impact barangays will not be affected.

Generation of local benefits from the project

Community development - the MOA provides further the provision of Community Development Fund for MMADMC in the prescribed period and revenues from project operation. This was supported by NCIP in recognition of the rights of the CADT holder and in conformance to the national guidelines. The proponent will comply with the MOA with full transparency.

Increased revenues for the National Government and LGUs – tree plantation and biomass production will generate long term revenues with substantial shares for the national and local governments in form of income taxes. This will provide support for the social services interventions of the government.

Long term employment – salaries during tree planting and maintenance, nursery operation and tree harvesting including logs hauling will benefit qualified local workers with preferences to the IPs. Training requirements particular to the forestry regulations and standard practices are being considered during the construction phase and institutional coordination will be in place.

Transportation convenience to the locals – the rehabilitation of the existing barangay roads that will be used during operation will provide unrestricted access to the residents of the host impact barangays. Current road conditions during rainy days hindered their daily routines due to limited vehicle access that only 4-wheel drive vehicles can pass. The sustained maintenance work of the proponent for the logging roads will provide easy access to the common habal-habal mode of transportation.

Public Health During Site Clearing and Tree Harvesting - the delineated plantable area and logging roads must be prepared to generate fugitive dusts and the wind directions will possibly disperse it to nearby communities. Dust can cause skin allergies and lung related illnesses especially to the children and elders. The proponent aside from the implementation of dust and suppression measures will extend medical assistance to the host communities especially for the partners IP sectors.