### LAND SUITABILITY MAP

### NATURAL RUBBER

## LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS

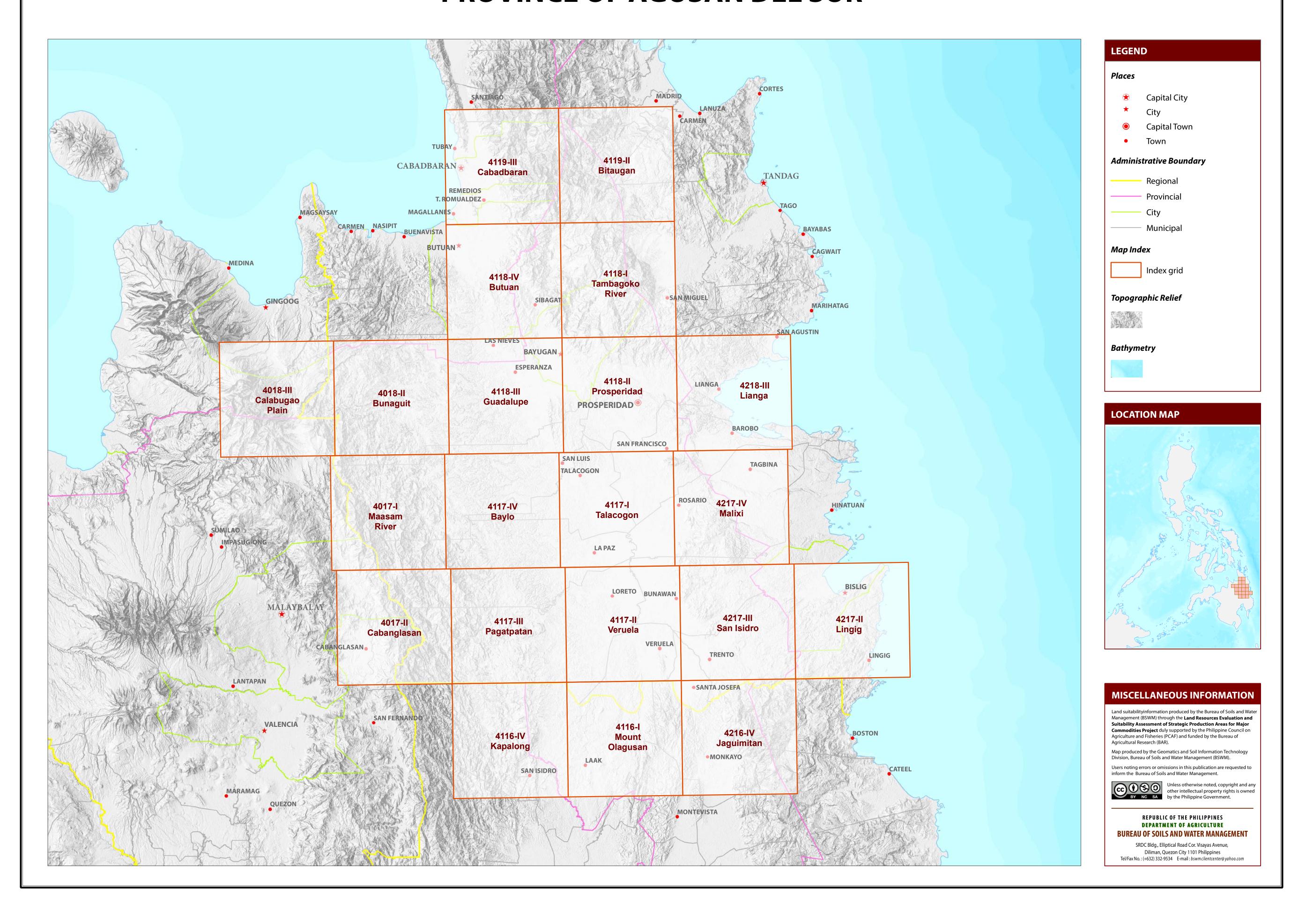
### PROVINCE OF AGUSAN DEL SUR





### **MAP INDEX**

# LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS PROVINCE OF AGUSAN DEL SUR



## LAND SUITABILITY MAP FOR RUBBER

### LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS AGUSAN DEL SUR, REGION XIII

#### **EXTENT OF SUITABILITY FOR RUBBER PRODUCTION BY MUNICIPALITY**

					EXPANSION AREA (Ha)					CONFLICT RESOLUTION AREA (Ha)					TOTAL		
MUNICIPALITY	EXISTING RUBBER (Ha)		R (Ha)  EXISTING  AREA (Ha)		onut	Shrub unman	,	Grass unman	-	Co	rn	Oil p	alm	Other c	rops	POTENTIAL EXPANSION AREA (Ha)	
	<b>S1</b>	<b>S2</b>	<b>S</b> 3		<b>S1</b>	<b>S2</b>	<b>S1</b>	<b>S2</b>	<b>S1</b>	<b>S2</b>	<b>S1</b>	<b>S2</b>	<b>S1</b>	<b>S2</b>	S1	<b>S2</b>	AREA (Ha)
BUNAWAN	25	27	13	65	1,708	4,470	159	563	821	1,914	2,806	90	10	169	56	130	12,895
CITY OF BAYUGAN	-	-	-	-	1,526	1,151	260	1,225	1,576	4,897	2,461	731	-	-	-	-	13,828
ESPERANZA	-	-	-	-	508	1,493	1,049	3,004	3,338	6,809	2,812	683	-	-	-	-	19,696
LA PAZ	-	-	-	-	_	-	1,695	5,546	1,581	2,742	3,271	425	-	-	-	-	15,261
LORETO	-	-	-	-	274	210	4,130	5,456	3,901	3,861	1,797	449	-	-	44	135	20,258
PROSPERIDAD	-	-	-	-	746	1,473	170	222	4,889	7,376	6,396	1,422	-	-	-	-	22,693
ROSARIO	-	-	-	-	1,793	2,182	326	1,332	863	1,341	2,559	121	1,596	2	3	5	12,123
SAN FRANCISCO	-	-	-	-	1,743	1,060	135	664	1,741	1,571	6,805	695	3,448	88	2	-	17,950
SAN LUIS	-	-	-	-	448	1,045	4,090	12,057	1,743	6,550	948	720	-	-	-	-	27,600
SANTA JOSEFA	_	-	-	-	573	606	989	667	51	-	38	-	2,552	136	-	-	5,612
SIBAGAT	_	-	-	-	294	26	316	3,792	321	4,099	75	200	-	-	-	-	9,123
TALACOGON	-	-	-	-	558	2,890	4,644	3,693	1,767	563	2,514	444	50	11	-	-	17,134
TRENTO	-	-	-	-	7,271	8,794	917	1,828	111	411	1,597	384	315	152	-	-	21,779
VERUELA	-	-	-	-	1,563	3,125	5,226	4,885	101	97	1,283	50	516	-	45	61	16,953
TOTAL	25	27	13	65	19,006	28,523	24,106	44,934	22,803	42,232	35,361	6,413	8,486	558	150	332	232,904

Note: Delivery of rubber planting materials must be started on the onset of rainy season. \*establishment of shade trees prior to planting of rubber.

#### AGRONOMIC REQUIREMENT OF RUBBER PRODUCTION

LAND UTILIZATION TYPE	SUITABILITY RATING	SLOPE (%)	SOIL DEPTH (cm)	SOIL TEXTURE	SOIL DRAINAGE	SOIL REACTION (pH)	INHERENT FERTILITY	FLOODING CLASS	EROSION CLASS	ROCK OUTCROPS	ELEVATION (masl)	ANNUAL RAINFALL (mm)	CLIMATIC TYPE
	S1	<8	>100	CL, SiCL, SCL, SC, SiC, C, HC	WD,MWD, SPD	5.6 -7.2	high	none-slight	none-slight	none-few	<500	1000-2000	III, IV
Rubber Tree	S2	8 - 30	30 - 100	FSL, L, SiL, SL	PD,VPD	4.5 - 5.5 7.3 - 7.8	medium	moderate	moderate	common	500-1000	2001-4500	I, II, III
	S3	>30	<30	S, LS, CSL	ED	<4.5 - > 7.9	low	severe	severe	many	>1000	<1000 >4500	

	S3	>30	<30	S, LS, CSL	ED	<4.5 - > 7.9	low	severe	severe	many	>1000	>45	
SLOPE (%	<b>%)</b>	la de la companya de	SOIL DRAIN	NAGE		SOIL REACT	ΓΙΟΝ (pH)		SOIL TEX	XTURE		1.	
0 - 3	- level to gently sloping	g	ED -	excessively drained		< 4.5	extremely acid		Coarse			Fine	
3 - 8	- gently sloping to und	_	WD -	well drained		4.5 - 5.0 -	very strongly acid		S	- sand		SC	- sandy clay
8 - 18	- undulating to rolling	J	MWD -	· moderately well drain	ned	5.1 - 5.5 -	strongly acid		LS	- loamy sand		SiC	- silty clay
18 - 30	- rolling to moderately	steep	SPD -	somewhat poorly dra	ined	5.6 - 6.0 -	medium acid		CSL	- coarse sandy loam		С	- clay
30 - 50	- steep	-	PD -	poorly drained		6.1 - 6.5 -	slightly acid		SL	- sandy loam		HC	- heavy clay
> 50	- very steep		VPD -	very poorly drained		6.6 - 7.2 -	neutral		Medium	- I			
						7.3 - 7.8 -	mildly alkaline		FSL	- fine sandy loam			
SOIL DEF	PTH (cm)		SURFACE II	MPEDIMENT		7.9 - 8.4 -	moderately alkaline		L	- loam			
0 - 30	- very shallow		ROCK OUTC	ROPS		> 8.5 -	strongly alkaline		SiL	- silt loam			
30 - 50	- shallow		< 10% -	none - few					CL	- clay loam			
50 - 100	- moderately deep		10 - 30% -	common					SiCL	- silty clay loam			
> 100	- deep to very deep		> 30% -	many					SCL	- sandy clay loam			
1 100	deep to very deep		. 5570	1110111					COL	saira, siay isairi			

#### LAND LIMITATIONS DESCRIPTION AND COMBINATIONS

ELEVATION	SOIL DRAINAGE	SOIL DEPTH	SOIL EROSION
El2 - 500 - 1000m or 2000 - 2500m	D2 - Somewhat poorly drained to poorly drained	Sh2 - Shallow to moderately deep (30 - 100cm)	E2 - Moderate erosion
El3 - < 500m or > 2500m	D3 - Very poorly drained or excessively drained	Sh3 - Very shallow (< 30cm)	E3 - Severe erosion
SLOPE/TOPOGRAPHY	SOIL TEXTURE	ROCK OUTCROPS	FLOODING
T2 - Undulating to moderately steep	Tc - Coarse texture	Rc2 - Common	F2 - Moderate seasonal flooding
T3 - Steep to very steep		Rc3 - Many	F3 - Severe seasonal flooding

CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION
1	El2	11	T2-E3-Rc2	21	T2-El2-Rc2	31	T3-E3-Sh2-Rc3	41	T3-El3-E3-Sh3-Rc2
2	El2-E2-Sh2-Rc3	12	T2-E3-Rc3	22	T2-El2-Sh2-Rc2	32	T3-E3-Sh3-Rc2	42	Т3
3	El2-Sh2-Rc2	13	T2-E3-Sh2-Rc2	23	T2-El2-Sh2-Rc3	33	T3-E3-Sh3-Rc3	43	T3-E3
4	F2-D2	14	T2-E3-Sh2-Rc3	24	T2-El3-E3-Sh2-Rc2	34	T3-El2	44	T3-E3-Rc3
5	F3-D2	15	T2-El2	25	T2-El3-Sh2-Rc2	35	T3-El2-E3	45	T3-E3-Sh3-Rc3
6	Sh2	16	T2-El2-E3	26	T2-F2-D2	36	T3-El2-E3-Rc2	46	T3-El2
7	Sh2-Rc2	17	T2-El2-E3-Rc2	27	T2-F3-D2	37	T3-El2-E3-Sh2-Rc3	47	T3-El2-E3
8	T2	18	T2-El2-E3-Rc3	28	Т3	38	T3-El2-E3-Sh3-Rc2	48	T3-El2-E3-Rc3
9	T2-E2-Sh2-Rc2	19	T2-El2-E3-Sh2-Rc2	29	T3-E3	<i>3</i> 9	T3-El2-E3-Sh3-Rc3	49	T3-El2-E3-Sh3-Rc3
10	T2-E3	20	T2-El2-E3-Sh2-Rc3	30	T3-E3-Rc2	40	T3-El3-E3-Rc2	<i>50</i>	T3-El3-E3-Sh3-Rc3

CODE	LIMITATION	CODE	LIMITATION
4	Corn	119	Oil palm
81	Coffee	126	Grassland
82	Cacao	131	Ipil-ipil
85	Mango	134	Shrubs, unmanaged
91	Banana	137	Rubber
98	Rambutan	139	Falcata
105	Fruit trees, mixed		
107	Abaca		
115	Mixed crops		
116	Coconut		

#### **SUITABILITY CLASSES:**

Highly Suitable (S1) Land having no significant limitation to sustained application of a given use, or only minor limitations that will not significantly reduce productivity or benefits and will not raise inputs above an acceptable level.

Marginally Suitable (S3) Land having limitations which in aggregate are severe for sustained application of a given use and will so reduce productivity or benefits, or increase required inputs, that this expenditure will be only marginally justified.

**Moderately Suitable (S2)** Land having limitation which in aggregate are moderately severe for sustained application of a given use; the limitation will reduce productivity or benefits and increase required inputs to the extent that the overall advantage to be gained from the use, although still attractive, will be appreciably inferior to that expected on class S1 land.

**Not Suitable / Not Relevant** Land having limitations which may be surmountable in time but which cannot be corrected with existing knowledge at currently acceptable cost; the limitations are so severe as to preclude successful sustained use of the land in the given manner. Existing forest, shrubland greater than 18% slope, irrigated paddy rice and miscellaneous land types such as built up areas, roads, etc are considered as not relevant.

#### **CLIMATE TYPE**

**TYPE I**: Two pronouced season, dry from November to April and **TYPE II**: No dry season with a very pronounced maximum rain wet during the rest of the year. Maximum rain period is from June to September

period from December to February. There is not a single dry month. Maximum monthly rainfall occurs during the period from March to May.

**TYPE III**: No very pronounced maximum rain period, with a dry season lasting only from one to three months, either during the period from December to February or from March to May. This type resembles Type I since it has a short dry season.

**TYPE IV**: Rainfall is more or less evenly distributed throughout the year. This type resembles Type II since it has no dry

Northeastern part of Agusan Del Sur is classified as climatic Type II while the rest, specifically, the southwestern is climatic Type IV.

Source: PAGASA 2018, Climatological Normals (Rainfall), Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), accessed 27 July 2018, <a href="https://www1.pagasa.dost.gov.ph/index.php/climate/climatological-normals">https://www1.pagasa.dost.gov.ph/index.php/climate/climatological-normals</a>.

