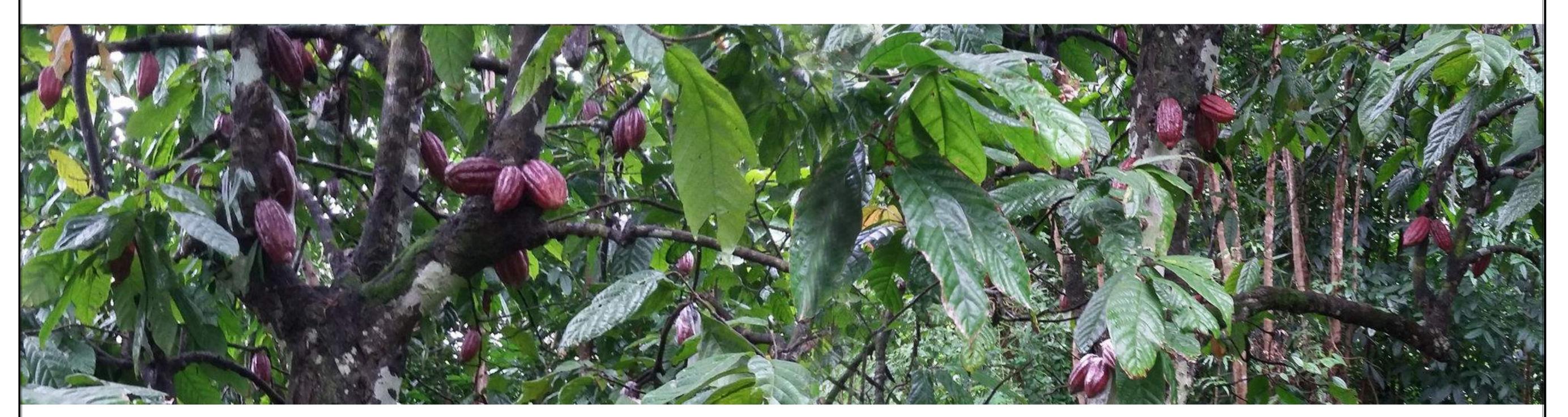
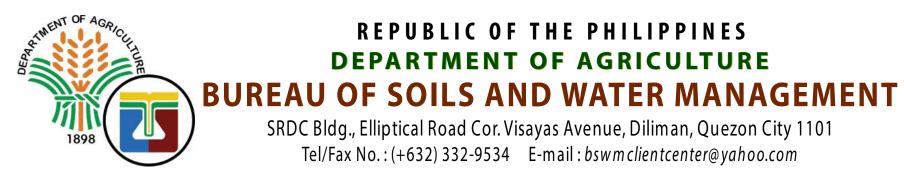
## LAND SUITABILITY MAP

### CACAO

# LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS

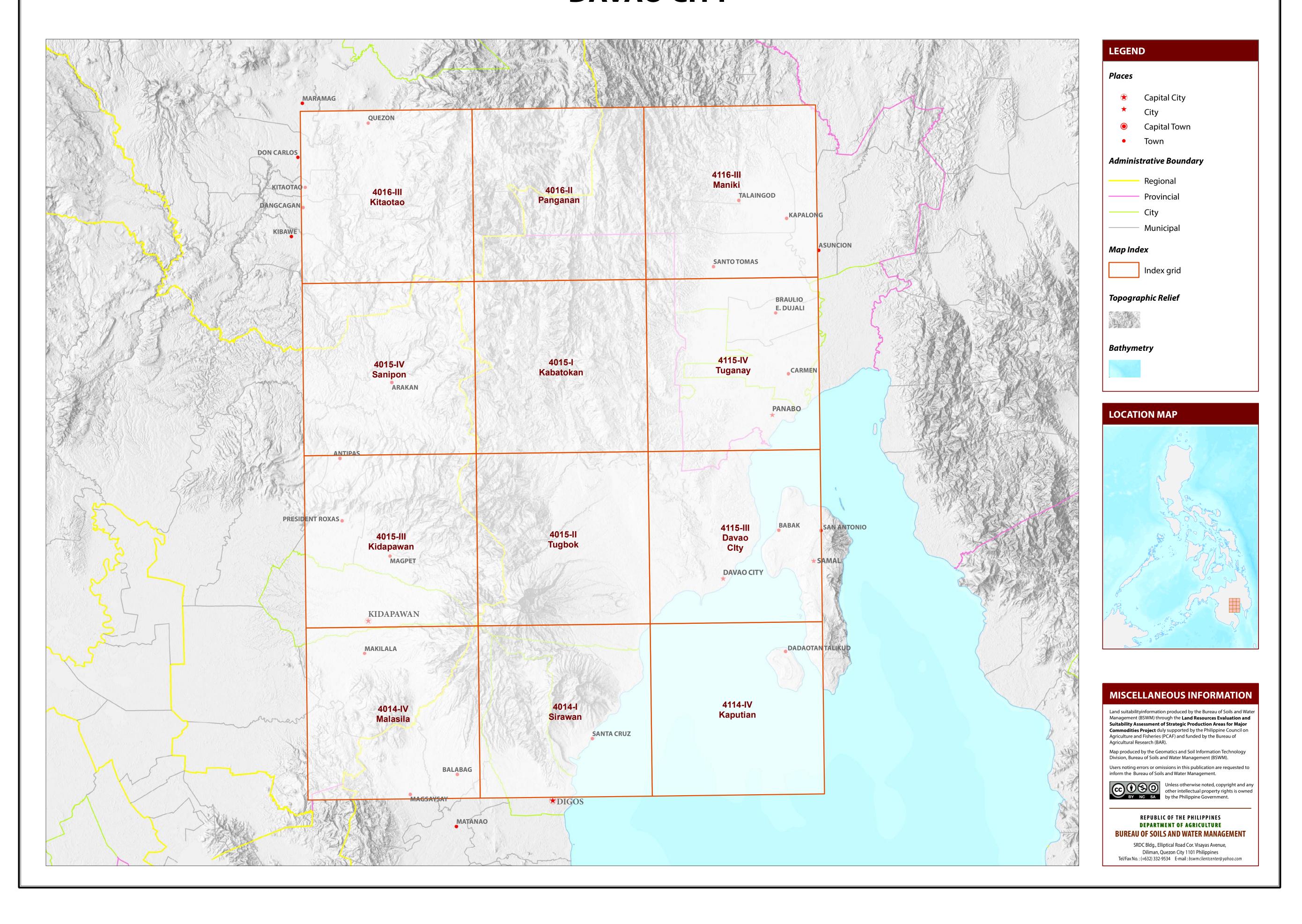
### **DAVAO CITY**





### MAP INDEX

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



# LAND SUITABILITY MAP FOR **CACAO**

## LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS DAVAO CITY, REGION XI

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

						EXP	ANSION A	AREA (H	a)					CONFLIC	T RESOLU	JTION ARI	EA (Ha)				TOTAL
MUNICIPALITY	EXISTI	NG CACA	O (Ha)	TOTAL EXISTING AREA (Ha)	Coco	onut	Shrubl unmana		Grass unman	'	Bana	ana	Mai	ngo	Pinea	pple	Sugar	cane	Other	crops	POTENTIAL EXPANSION
	<b>S1</b>	<b>S2</b>	<b>S</b> 3		<b>S1</b>	S2	<b>S1</b>	S2	<b>S1</b>	<b>S2</b>	<b>S1</b>	<b>S2</b>	<b>S1</b>	<b>S2</b>	<b>S1</b>	S2	<b>S1</b>	S2	<b>S1</b>	<b>S2</b>	AREA (Ha)
DAVAO CITY	154	491	958	1,603	42,559	10,910	2,452	914	7,140	3,780	2,601	2,523	1,187	11	766	553	91	25	437	116	76,063
TOTAL	154	491	958	1,603	42,559	10,910	2,452	914	7,140	3,780	2,601	2,523	1,187	11	766	553	91	25	437	116	76,063

Note: Delivery of cacao planting materials must be started on the onset of rainy season.

\*establishment of shade trees prior to planting of cacao.

### AGRONOMIC REQUIREMENT OF CACAO 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	5.6 -7.2	high	none-slight	none-slight	none-few	<1000	2001-4500	I, III, IV
Cacao	S2	8 - 30	50 - 100	FSL, L, SiL	SPD,PD	5.1 - 5.5 7.3 - 7.8	medium	moderate	moderate	common	1000-1500	1000-2000	I, II
	S3	>30	<50	S, LS, CSL, SL	VPD,ED	<5.0 - > 7.9	low	severe	severe	many	>1500	<1000 >4500	

			<u> </u>		>4500
SLOPE (%	<b>%</b> )	SOIL DRAINAGE	SOIL REACTION (pH)	SOIL TEXTURE	
0 - 3	- level to gently sloping	ED - excessively drained	< 4.5 - extremely acid	Coarse	Fine
3 - 8	- gently sloping to undulating	WD - well drained	4.5 - 5.0 - very strongly acid	S - sand	SC - sandy clay
8 - 18	- undulating to rolling	MWD - moderately well drained	5.1 - 5.5 - strongly acid	LS - loamy sand	SiC - silty clay
18 - 30	- rolling to moderately steep	SPD - somewhat poorly drained	5.6 - 6.0 - medium acid	CSL - coarse sandy loam	C - 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	
			7.3 - 7.8 - mildly alkaline	FSL - fine sandy loam	
SOIL DEP	РТН (cm)	SURFACE IMPEDIMENT	7.9 - 8.4 - moderately alkaline	L -loam	
0 - 30	- very shallow	ROCK OUTCROPS	> 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	

### LAND LIMITATIONS DESCRIPTION AND COMBINATIONS

ELEVATION	SOIL DRAINAGE	SOIL DEPTH	SOIL EROSION
El2 - 1000m - 1500m	D2 - Somewhat poorly drained to poorly drained	Sh2 - Moderately deep (50 - 100cm)	E2 - Moderate erosion
El3 -> 1500m	D3 - Very poorly drained or excessively drained	Sh3 - Very shallow to shallow (< 50cm)	E3 - Severe erosion
SLOPE/TOPOGRAPHY	SOIL TEXTURE	ROCK OUTCROPS	FLOODING
SLOPE/TOPOGRAPHY T2 - Undulating to moderately steep	SOIL TEXTURE Tc - Coarse texture	ROCK OUTCROPS  Rc2 - Common	<b>FLOODING</b> F2 - Moderate seasonal flooding

CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION
1	E2-Sh2-Rc2	11	F2-D2	21	T2-El2-E3	31	T3-E3-Sh3-Rc2	41	Т3	<i>51</i>	T3-El3
2	El2	12	F3-D2	22	T2-El2-E3-Rc2	32	T3-E3-Sh3-Rc3	42	Т3-Е3		
3	El2-E2-Sh2-Rc3	13	Rc2	23	T2-El2-E3-Rc3	33	T3-E12	43	T3-E3-Sh3-Rc3		
4	El2-E3-Sh2-Rc3	14	Sh2	24	T2-El2-E3-Sh2-Rc2	34	T3-E12-E3	44	T3-El2		
5	El2-Rc2	15	Sh2-Rc2	25	T2-El2-E3-Sh2-Rc3	<i>35</i>	T3-E12-E3-Rc2	45	T3-El2-E3		
6	El2-Sh2-Rc2	16	T2	26	T2-El3-E3	36	T3-El2-E3-Sh3-Rc2	46	T3-El2-E3-Rc3		
7	El2-Sh2-Rc3	17	T2-E3	27	T2-El3-E3-Sh2-Rc2	<i>37</i>	T3-El2-E3-Sh3-Rc3	47	T3-El2-E3-Sh3-Rc3		
8	El3	18	T2-E3-Sh2-Rc2	28	T2-El3-E3-Sh2-Rc3	38	T3-El3	48	T3-El3		
9	El3-E3-Sh2-Rc3	19	T2-E3-Sh2-Rc3	29	T3	39	T3-El3-E3	49	T3-El3-E3		
10	El3-Sh2-Rc2	20	T2-El2	30	T3-E3	40	T3-El3-E3-Sh3-Rc2	<i>50</i>	T3-El3-E3-Sh3-Rc3		

CODE	LANDUSE	CODE	LANDUSE
4	Corn	134	Shrubs, unmanaged
34	Diversified crops		
84	Pineapple		
85	Mango		
91	Banana		
105	Fruit trees, mixed		
112	Sugarcane		
116	Coconut		
126	Grassland		
131	ipil ipil		

#### **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**

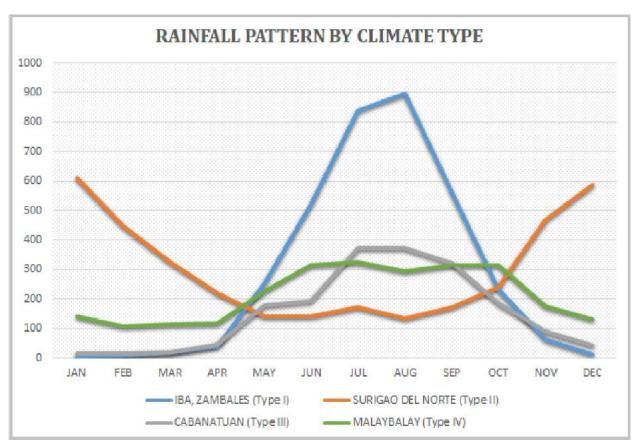
**TYPE I**: Two pronouced season, dry from November to April and **TYPE II**: No dry season with a very pronounced maximum rain wet during the rest of the year. Maximum rain period is from June to September

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 season.

Davao City is classified as 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>.

