## LAND SUITABILITY MAP

### ARABICA COFFEE

# LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS

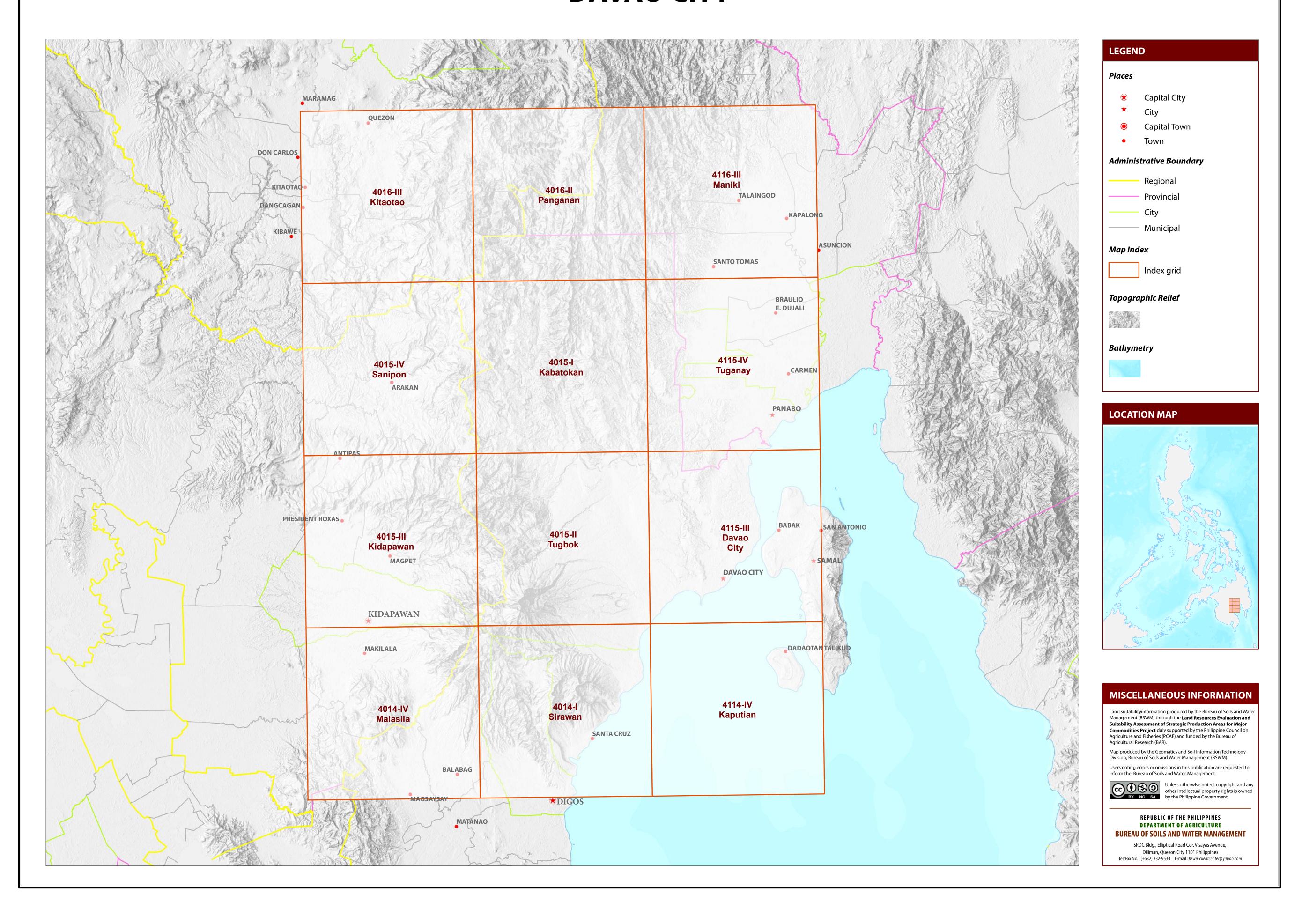
### DAVAO CITY





### MAP INDEX

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



# LAND SUITABILITY MAP FOR ARABICA COFFEE

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

#### EXTENT OF SUITABILITY FOR ARABICA COFFEE PRODUCTION BY MUNICIPALITY

					EXPANSION AREA (Ha)				CONFLICT RESOLUTION AREA (Ha)							ТОТАІ					
MUNICIPALITY	EXISTI	NG COFFE	EE (Ha)	TOTAL EXISTING AREA (Ha)	Coc	onut	Shrubla unmana	, I	Grass unman	•	Bana	ana	Pinea	ipple	Sugai	cane	Ma	ngo	Other	crops	TOTAL 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>	S2	S1	<b>S2</b>	<b>S1</b>	S2	<b>S1</b>	S2	АКЕА (Па)
DAVAO CITY	-	545	6,099	6,644	-	8,736	14	883	27	2,211	-	2,467	-	553	-	25	-	11	-	18	14,944
TOTAL	_	545	6.099	6.644	_	8.736	14	883	27	2.211	_	2.467	_	553	_	25	_	11	_	18	14.944

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

\*establishment of shade trees prior to planting of arabica coffee.

### AGRONOMIC REQUIREMENT OF ARABICA COFFEE 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	1000-2000	2001-4500	I, III, IV
Coffee ( Arabica )	S2	8 - 30	30 - 100	FSL, L, SiL	SPD,PD	5.1 - 5.5 7.3 - 7.8	medium	moderate	moderate	common	500-1000 2000-2500	1000-2000	I, II
	S3	>30	<30	S, LS, CSL, SL	VPD,ED	<5.0 - > 7.9	low	severe	severe	many	<500 >2500	<1000 >4500	

			>2500	0 >4500
SLOPE (%)	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 DEPTH (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

**20** T2-El2-E3-Sh2-Rc3

10 T2

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

**40** T3-El2

*50* T3-E3

60 T3-El3

CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION
1	E2-Sh2-Rc3	11	T2-E3	21	T2-El2-Rc2	31	T2-El3-Rc2	41	T3-E12-E3	<i>51</i>	T3-E3-Rc3
2	El2	12	T2-E3-Rc2	22	T2-El2-Sh2-Rc2	32	T2-Rc2	42	T3-El2-E3-Rc2	<i>52</i>	T3-E3-Sh3-Rc3
3	El2-E2-Sh2-Rc3	13	T2-E3-Sh2-Rc2	23	T2-El2-Sh2-Rc3	33	T2-Sh2-Rc2	43	T3-El2-E3-Sh3-Rc2	<i>53</i>	T3-El2
4	El2-Sh2-Rc2	14	T2-E3-Sh2-Rc3	24	T2-El3	34	T2-Sh2-Rc3	44	T3-El2-E3-Sh3-Rc3	54	T3-El2-E3
5	El3	15	T2-El2	25	T2-El3-E2-Sh2-Rc2	35	T3	45	T3-El3	<i>55</i>	T3-El2-E3-Rc3
6	El3-F2-D2	16	T2-El2-E3	26	T2-El3-E3	36	T3-E3	46	T3-El3-E3	56	T3-El2-E3-Sh3-Rc3
7	El3-F3-D2	17	T2-El2-E3-Rc2	27	T2-El3-E3-Sh2-Rc2	<i>37</i>	T3-E3-Rc2	47	T3-El3-E3-Sh3-Rc2	<i>57</i>	T3-El3
8	El3-Sh2	18	T2-El2-E3-Rc3	28	T2-El3-E3-Sh2-Rc3	38	T3-E3-Sh3-Rc2	48	T3-El3-E3-Sh3-Rc3	<i>58</i>	T3-El3-E3
9	El3-Sh2-Rc2	19	T2-E12-E3-Sh2-Rc2	29	T2-El3-F2-D2	39	T3-E3-Sh3-Rc3	49	T3	<i>5</i> 9	T3-El3-E3-Sh3-Rc3

30 T2-El3-F3-D2

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

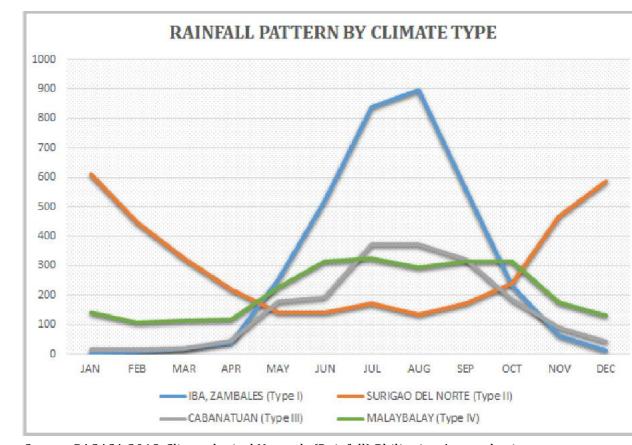
period from December to February. There is not a single dry month. Maximum monthly rainfall occurs during the period from March to May.

**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

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

Davao City is classified as climatic Type IV.

a short dry season.



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>.

