LAND SUITABILITY MAP

ROBUSTA, LIBERICA AND EXCELSA COFFEE

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS

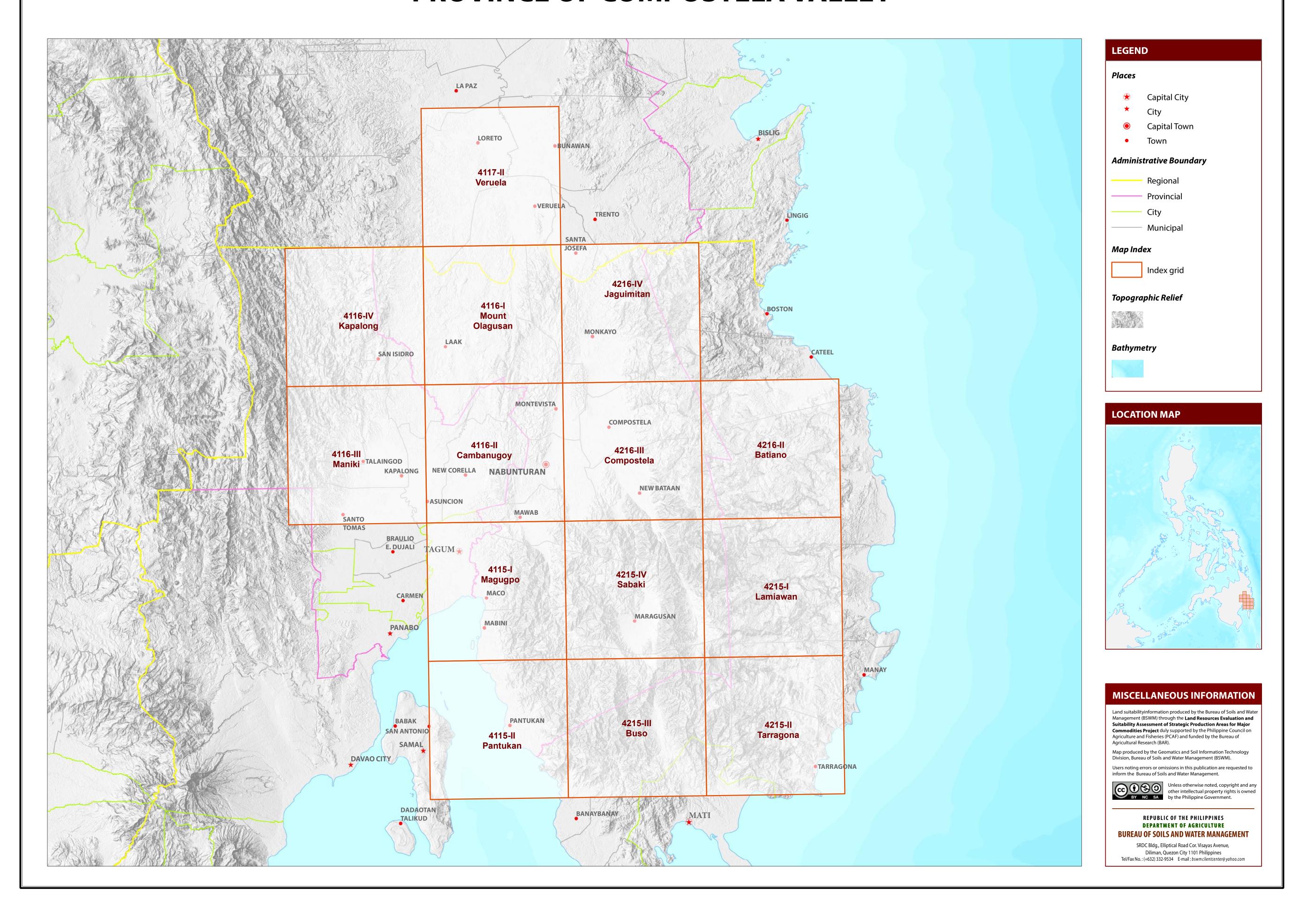
PROVINCE OF COMPOSTELA VALLEY





MAP INDEX

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS PROVINCE OF COMPOSTELA VALLEY



LAND SUITABILITY MAP FOR ROBUSTA, LIBERICA AND EXCELSA COFFEE

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS

COMPOSTELA VALLEY, REGION XI

EXTENT OF SUITABILITY FOR ROBUSTA, LIBERICA AND EXCELSA COFFEE PRODUCTION BY MUNICIPALITY

			EXPANSION AREA (Ha)						CONFLICT RESOLUTION AREA (Ha)									TOTAL			
MUNICIPALITY	EXISTING COFFEE (Ha)			TOTAL EXISTING AREA (Ha)	Coconut		Shrubland, unmanaged*		Grassland, unmanaged*		Banana		Corn		Oil palm		Mango		Other crops		POTENTIAL EXPANSION AREA (Ha)
	S1	S2	S 3		S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	AREA (IIa)
COMPOSTELA	-	-	404	404	2,326	-	78	61	18	-	3,760	-	1,133	-	43	-	-	-	29	-	7,449
LAAK	24	-	4	28	10,778	19,072	3,515	2,699	1,455	2,918	767	568	711	403	-	-	-	-	-	-	42,886
MABINI	-	-	105	105	2,356	8	83	-	250	-	1,223	-	-	-	-	-	-	-	-	-	3,920
MACO	-	-	4	4	4,367	3	157	21	157	219	1,197	-	254	-	-	-	-	-	5	-	6,380
MARAGUSAN	-	2,287	3,841	6,128	_	-	-	200	-	8	-	55	-	-	-	-	-	-	-	14	277
MAWAB	-	-	-	-	2,794	34	672	-	954	2	785	2	1,229	5	-	-	21	-	-	-	6,497
MONKAYO	219	3	422	644	12,096	2,397	2,053	-	939	-	2,239	-	582	-	71	-	-	-	9	-	20,386
MONTEVISTA	-	-	-	-	2,093	6,135	460	18	185	-	1,037	1	15	7	-	-	-	2	2	-	9,954
NABUNTURAN	-	-	-	-	8,356	193	195	-	705	-	763	19	72	-	182	-	1	-	6	-	10,491
NEW BATAAN	-	-	-	-	5,921	-	388	-	50	-	116	-	306	-	-	-	-	-	-	-	6,782
PANTUKAN	-	-	33	33	6,798	-	90	65	313	-	1,153	216	123	-	-	-	51	-	-	-	8,808
TOTAL	243	2,290	4,813	7,346	57,884	27,842	7,691	3,065	5,026	3,147	13,040	860	4,425	415	296	-	73	2	51	14	123,831

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

*establishment of shade trees prior to planting of robusta coffee.

AGRONOMIC REQUIREMENT OF ROBUSTA, LIBERICA AND EXCELSA 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
Coffee	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
(Robusta, Excelsa, Liberica)	S2	8 - 30	30 - 100	FSL, L, SiL	SPD,PD	5.1 - 5.5 7.3 - 7.8	medium	moderate	moderate	common	1000-2000	1000-2000	I, II
	S3	>30	<30	S, LS, CSL, SL	VPD,ED	<5.0 -> 7.9	low	severe	severe	many	>2000	<1000 >4500	
GV ODE (0/)	•	•					'				'		T.

SLOPE (9	%)	SOIL DR	SOIL DRAINAGE				
0 - 3	- level to gently sloping	ED	- excessively				
3 - 8	 gently sloping to undulating 	WD	 well draine 				
8 - 18	- undulating to rolling	MWD	 moderately 				
18 - 30	- rolling to moderately steep	SPD	- somewhat				
30 - 50	- steep	PD	- poorly drai				
> 50	- very steep	VPD	 very poorly 				
SOIL DEI	PTH (cm)	SURFAC	SURFACE IMPEDIMEN				

- very shallow ROCK OUTCROPS 30 - 50 - none - few 10 - 30% - common - moderately deep > 30% - deep to very deep

CODE LIMITATION

11 F2-D2

12 F3-D2

13 Rc2

14 Sh2

17 T2

18 T2-E3

19 T2-E3-Rc2

20 T2-E3-Rc3

15 Sh2-Rc2

16 Sh2-Rc3

SOIL REACTION (pH) ly drained - extremely acid very strongly acid ely well drained - strongly acid 5.6 - 6.0 poorly drained - medium acid 6.1 - 6.5 - slightly acid ly drained

CODE LIMITATION

34 T3-E3-Sh3-Rc2

35 T3-E3-Sh3-Rc3

38 T3-El2-E3-Rc2

30 | T2-El3-E3-Sh2-Rc3 | 40 | T3-El2-E3-Sh3-Rc2 | 50 | T3-El2-E3

31 T3

32 T3-E3

33 T3-E3-Rc2

6.6 - 7.2 - neutral 7.3 - 7.8 - mildly alkaline - moderately alkaline - strongly alkaline

CODE

42 T3-El3

45 T3

46 T3-E3

49 T3-El2

47 T3-E3-Rc3

48 T3-E3-Sh3-Rc3

SOIL TEXTURE Coarse - sand loamy sand - coarse sandy loam - sandy loam

- fine sandy loam - loam

SOIL EROSION

FLOODING

E3 - Severe erosion

- Moderate erosion

- silt loam - clay loam SiCL - silty clay loam - sandy clay loam

LAND LIMITATIONS DESCRIPTION AND COMBINATIONS

El2 - 1000m - 2000m El3 -> 2000m SLOPE/TOPOGRAPHY

T3 - Steep to very steep

T2 - Undulating to moderately steep

LIMITATION

E2-Sh2-Rc2

4 El2-E2-Sh2-Rc3

5 El2-E3-Sh2-Rc3

7 El2-Sh2-Rc2

8 El2-Sh2-Rc3

9 El3-Sh2-Rc2

10 El3-Sh2-Rc3

2 E3-Sh2-Rc3

3 El2

6 El2-Rc2

ELEVATION

CODE

D2 - Somewhat poorly drained to poorly drained D3 - Very poorly drained or excessively drained

SOIL DRAINAGE

SOIL TEXTURE Tc - Coarse texture

CODE LIMITATION

21 T2-E3-Sh2-Rc2

22 T2-E3-Sh2-Rc3

25 T2-E12-E3-Rc2

26 T2-El2-E3-Sh2-Rc2 36 T3-El2

27 | T2-El2-E3-Sh2-Rc3 | 37 | T3-El2-E3

29 T2-El3-E3-Sh2-Rc2 39 T3-El2-E3-Sh2-Rc3

23 T2-El2

28 T2-El3

24 T2-El2-E3

SOIL DEPTH

LIMITATION

41 T3-El2-E3-Sh3-Rc3

43 T3-El3-E3-Sh3-Rc2

44 T3-El3-E3-Sh3-Rc3

Sh2 - Shallow to moderately deep (30 - 100cm) Sh3 - Very shallow (< 30cm) **ROCK OUTCROPS**

Rc2 - Common F2 - Moderate seasonal flooding Rc3 - Many F3 - Severe seasonal flooding

CODE LIMITATION

51 T3-El2-E3-Rc3

53 T3-El3

55 T3-El3

52 T3-El2-E3-Sh3-Rc3

54 T3-El3-E3-Sh3-Rc3

CODE LANDUSE CODE **LANDUSE** 3 Upland rice 126 Grassland 4 Corn 127 Pasture 81 Coffee 134 Shrubs, unmanaged 82 Cacao 137 Rubber (T) 83 Citrus, calamansi 139 Falcata 85 Mango 91 Banana 105 Fruit trees, mixed 116 Coconut 119 Oil palm

- sandy clay

silty clay

heavy clay

- clay

SiC

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.

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.

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.

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

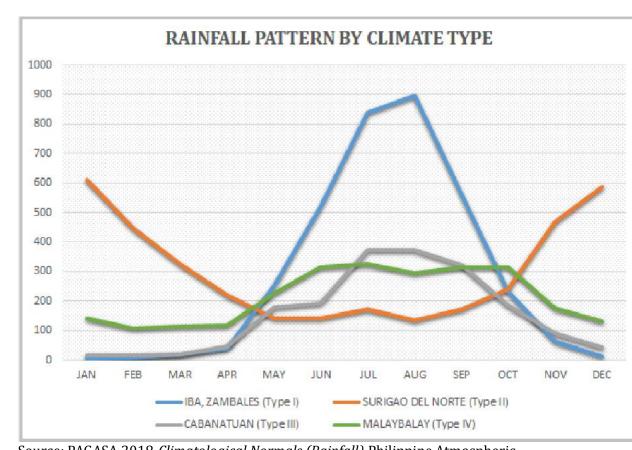
TYPE I: Two pronouced season, dry from November to April and wet during the rest of the year. Maximum rain period is from June to September

TYPE II: No dry season with a very pronounced maximum rain 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

Compostella Valley is classified as climatic Type IV.



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

