

# LAND SUITABILITY MAP

## ROBUSTA, LIBERICA AND EXCELSA COFFEE

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

### PROVINCE OF APAYAO



REPUBLIC OF THE PHILIPPINES  
DEPARTMENT OF AGRICULTURE  
**BUREAU OF SOILS AND WATER MANAGEMENT**

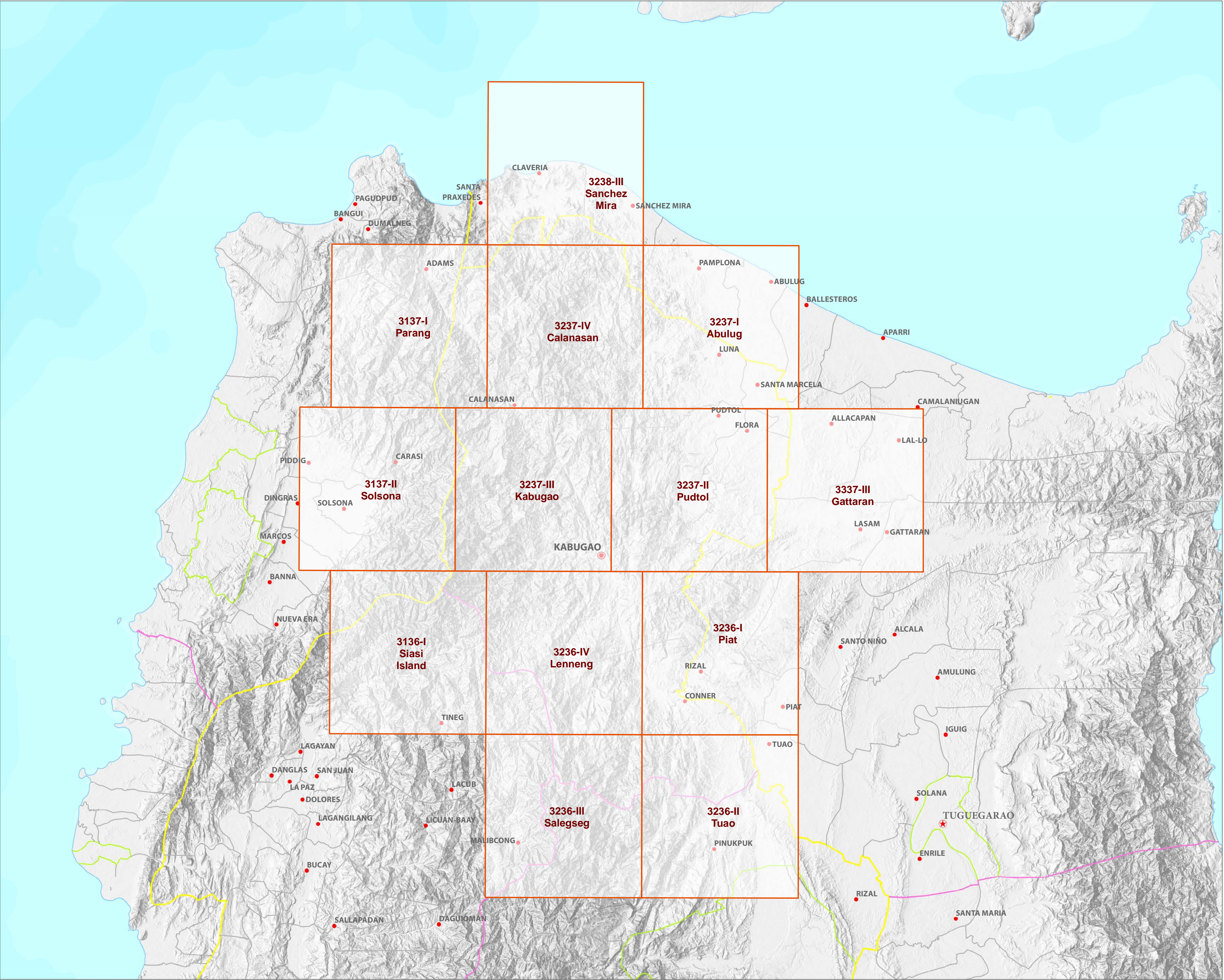
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# MAP INDEX

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS

## PROVINCE OF APAYAO



LEGEND

**Places**

- ★ Capital City
- ★ City
- Capital Town
- Town

**Administrative Boundary**

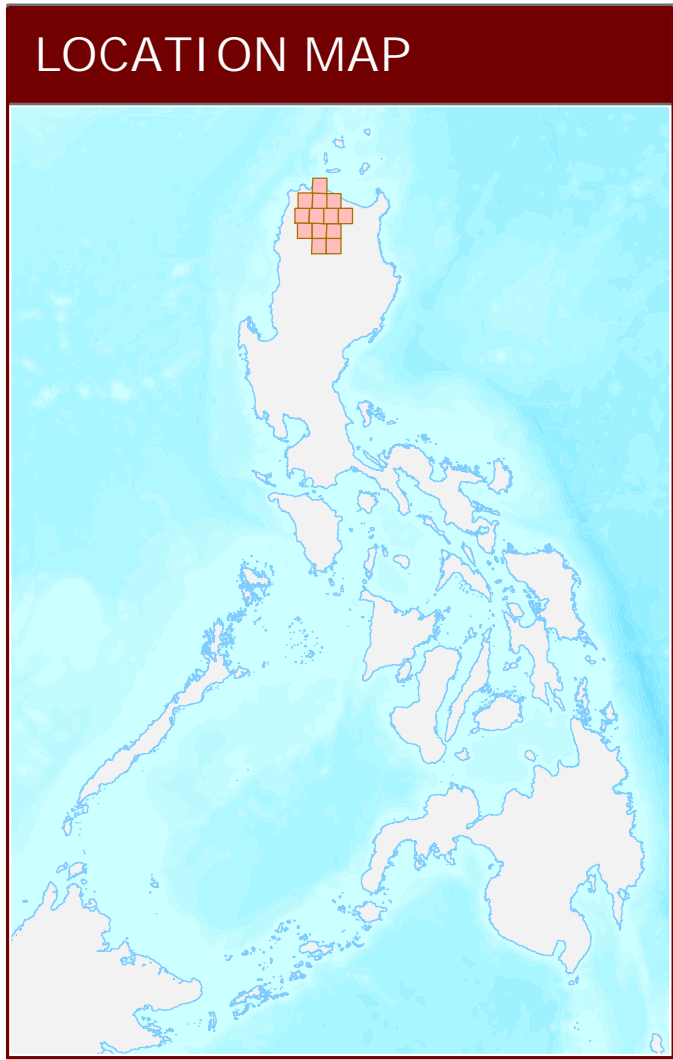
- Regional
- Provincial
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- Municipal

**Map Index**

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**Topographic Relief**

**Bathymetry**





# LAND SUITABILITY MAP FOR ROBUSTA, LIBERICA AND EXCELSA COFFEE

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

### APAYAO, CAR

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

MUNICIPALITY	EXISTING COFFEE (Ha)			TOTAL EXISTING AREA (Ha)	EXPANSION AREA (Ha)						CONFLICT RESOLUTION (Ha)								TOTAL POTENTIAL EXPANSION AREA (Ha)
					Coconut		Shrubland, unmanaged*		Grassland, unmanaged*		Rice paddy, non-irrigated		Corn		Mango		Other crops		
	S1	S2	S3		S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2			
CALANASAN	8	-	268	276	-	-	71	-	53	1	22	2	35	3	-	-	-	-	187
CONNER	19	2	46	67	-	3	85	23	137	27	169	24	123	16	3	-	-	-	610
FLORA	11	-	8	19	-	-	169	9	125	10	358	10	148	4	1	-	-	-	834
KABUGAO	-	4	22	26	-	-	188	11	59	6	41	-	99	-	-	-	-	-	404
LUNA	13	37	4	54	-	-	90	24	72	13	227	44	188	30	-	-	-	-	688
PUDTOL	24	-	2	26	-	-	122	12	126	26	204	96	158	63	-	-	-	-	807
SANTA MARCELA	-	-	-	-	-	-	21	-	13	-	225	29	134	28	-	-	-	-	450
TOTAL	75	43	350	468	-	3	746	79	585	83	1,246	205	885	144	4	-	-	-	3,980

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

#### SUITABILITY CLASSES:

<div></div> <b>Highly Suitable (S1)</b> 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.	<div></div> <b>Marginally Suitable (S3)</b> 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.
<div></div> <b>Moderately Suitable (S2)</b> 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.	<div></div> <b>Not Suitable / Not Relevant</b> 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.

#### 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 (Robusta, Excelsa, Liberica)	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
	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	

<b>SLOPE (%)</b> 0 - 3 - level to gently sloping 3 - 8 - gently sloping to undulating 8 - 18 - undulating to rolling 18 - 30 - rolling to moderately steep 30 - 50 - steep > 50 - very steep	<b>SOIL DRAINAGE</b> ED - excessively drained WD - well drained MWD - moderately well drained SPD - somewhat poorly drained PD - poorly drained VPD - very poorly drained	<b>SOIL REACTION (pH)</b> < 4.5 - extremely acid 4.5 - 5.0 - very strongly acid 5.1 - 5.5 - strongly acid 5.6 - 6.0 - medium acid 6.1 - 6.5 - slightly acid 6.6 - 7.2 - neutral 7.3 - 7.8 - mildly alkaline 7.9 - 8.4 - moderately alkaline > 8.5 - strongly alkaline	<b>SOIL TEXTURE</b> <b>Coarse</b> S - sand LS - loamy sand CSL - coarse sandy loam SL - sandy loam <b>Medium</b> FSL - fine sandy loam L - loam SiL - silt loam CL - clay loam SiCL - silty clay loam SCL - sandy clay loam	<b>Fine</b> SC - sandy clay SiC - silty clay C - clay HC - heavy clay
<b>SOIL DEPTH (cm)</b> 0 - 30 - very shallow 30 - 50 - shallow 50 - 100 - moderately deep > 100 - deep to very deep	<b>SURFACE IMPEDIMENT</b> ROCK OUTCROPS < 10% - none - few 10 - 30% - common > 30% - many			

#### LAND LIMITATIONS DESCRIPTION AND COMBINATIONS

<b>ELEVATION</b> EI2 - 1000m - 2000m EI3 - > 2000m	<b>SOIL DRAINAGE</b> D2 - Somewhat poorly drained to poorly drained D3 - Very poorly drained or excessively drained	<b>SOIL DEPTH</b> Sh2 - Shallow to moderately deep (30 - 100cm) Sh3 - Very shallow (< 30cm)	<b>SOIL EROSION</b> E2 - Moderate erosion E3 - Severe erosion
<b>SLOPE/TOPOGRAPHY</b> T2 - Undulating to moderately steep T3 - Steep to very steep	<b>SOIL TEXTURE</b> Tc - Coarse texture	<b>ROCK OUTCROPS</b> Rc2 - Common Rc3 - Many	<b>FLOODING</b> F2 - Moderate seasonal flooding F3 - Severe seasonal flooding

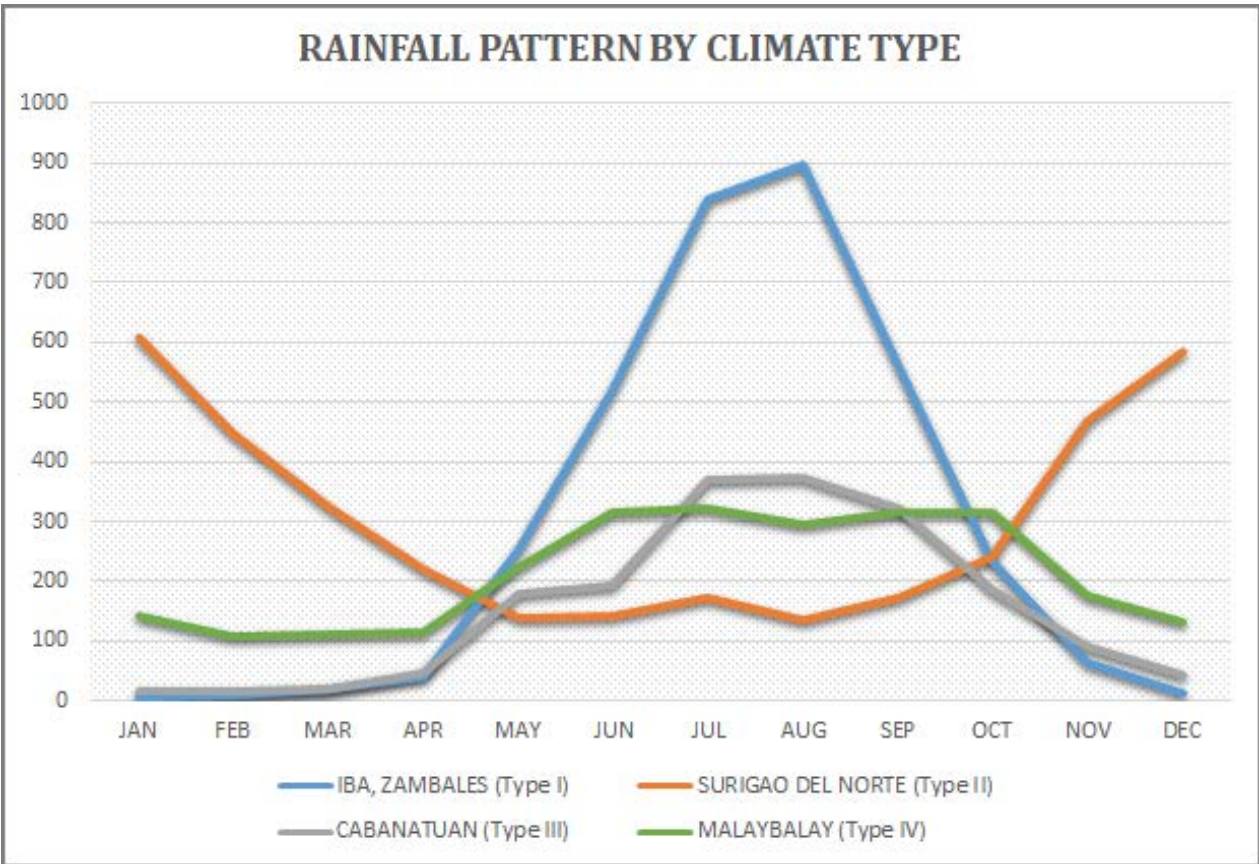
CODE	LAND LIMITATION	CODE	LAND LIMITATION	CODE	LAND LIMITATION	CODE	LAND LIMITATION
1	E2-Sh2-Rc2	11	Sh2	21	T2-E3-Sh3-Rc3	31	T2-F2-D2
2	E2-Sh2-Rc3	12	Sh2-Rc2	22	T2-EI2	32	T3
3	E3-Sh2-Rc3	13	Sh2-Rc3	23	T2-EI2-E3	33	T3-E3
4	EI2	14	T2	24	T2-EI2-E3-Rc3	34	T3-E3-Rc3
5	EI2-E2-Sh2-Rc3	15	T2-E3	25	T2-EI2-E3-Sh2-Rc2	35	T3-E3-Sh3-Rc3
6	EI2-E3-Sh2-Rc3	16	T2-E3-Rc2	26	T2-EI2-E3-Sh2-Rc3	36	T3-EI2
7	EI2-Sh2-Rc2	17	T2-E3-Rc3	27	T2-EI2-E3-Sh3-Rc2	37	T3-EI2-E3
8	EI2-Sh2-Rc3	18	T2-E3-Sh2-Rc2	28	T2-EI2-E3-Sh3-Rc3	38	T3-EI2-E3-Sh3-Rc3
9	F2-D2	19	T2-E3-Sh2-Rc3	29	T2-EI3-E3-Rc3	39	T3-EI3-E3-Sh3-Rc3
10	Rc2	20	T2-E3-Sh3-Rc2	30	T2-EI3-E3-Sh3-Rc3		

CODE	LAND USE
2	Rice paddy, non-irrigated
4	Corn
81	Coffee
82	Cacao
85	Mango
116	Coconut
126	Grassland
134	Shrubs, unmanaged

#### CLIMATE TYPE

<b>TYPE I</b> : Two pronounced season, dry from November to April and wet during the rest of the year. Maximum rain period is from June to September	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.
<b>TYPE III</b> : 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.	Rainfall is more or less evenly distributed throughout the year. This type resembles Type II since it has no dry season.

Mostly in the Northeastern part of the Apayao lies on Type III climate classification and the rest of the province is Type I.



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>>.





LAND SUITABILITY MAP  
ROBUSTA, LIBERICA  
AND EXCELSA COFFEE

LAND RESOURCES EVALUATION AND SUITABILITY  
ASSESSMENT OF STRATEGIC PRODUCTION AREAS

SCALE 1 : 50 000

Universal Transverse Mercator Zone 51 N, PRS 1992 Datum  
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LEGEND

SUITABILITY CLASSES

S1

Highly Suitable - Land having no significant limitations 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.

S2

Moderately Suitable - Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations 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.

S3

Marginally Suitable - 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

OTHER SIGNS

NGP Areas

Coffee

Land limitation

Land use

CONVENTIONAL SIGNS

ROADS

Expressway  
 Trunk line  
 Primary  
 Secondary  
 Tertiary

BOUNDARY

Region  
 Province  
 District  
 Municipality  
 Barangay

HYDROLOGY

Sea / Shoreline  
 Lakes / Rivers

PLACES

Capital City / City  
 Capital Town / Town

LAND USE

Built-up  
 Fishpond  
 Mangrove

ADJOINING SHEETS

3238-III

INDEX MAP

MISCELLANEOUS INFORMATION

SOURCES OF INFORMATION : Topographic information taken from NAMRIA Topographic Map at 1:50,000 scale. Land resources information from the Agricultural Land Management and Evaluation Division (ALMED), Soils Survey Division (SSD) and Laboratory Services Division (LSD) of BSWM. Rice areas obtained from the Land Use System (FAO, 2015) and Philippine Rice Information System (PRISM) (IRRI, 2015). Data analysis and compilation through the Land Resources Evaluation and Suitability Assessment of Strategic Production Areas for Major Commodities Project implemented by BSWM (2017).

Project Leader : BERNARDO B. PASCUA  
GIS and Cartography : IRVIN K. SAMALCA

Funding Agency : Department of Agriculture - Bureau of Agricultural Research (DA-BAR)

Collaborating Agencies : Philippine Council on Agriculture and Fisheries (PCAF)  
: Department of Agriculture and Fisheries - ARMM, Department of Agriculture Regional Field Office of Region IX, X, XII and XIII (Caraga)  
: Local Government Unit (LGU) of covered provinces and municipalities

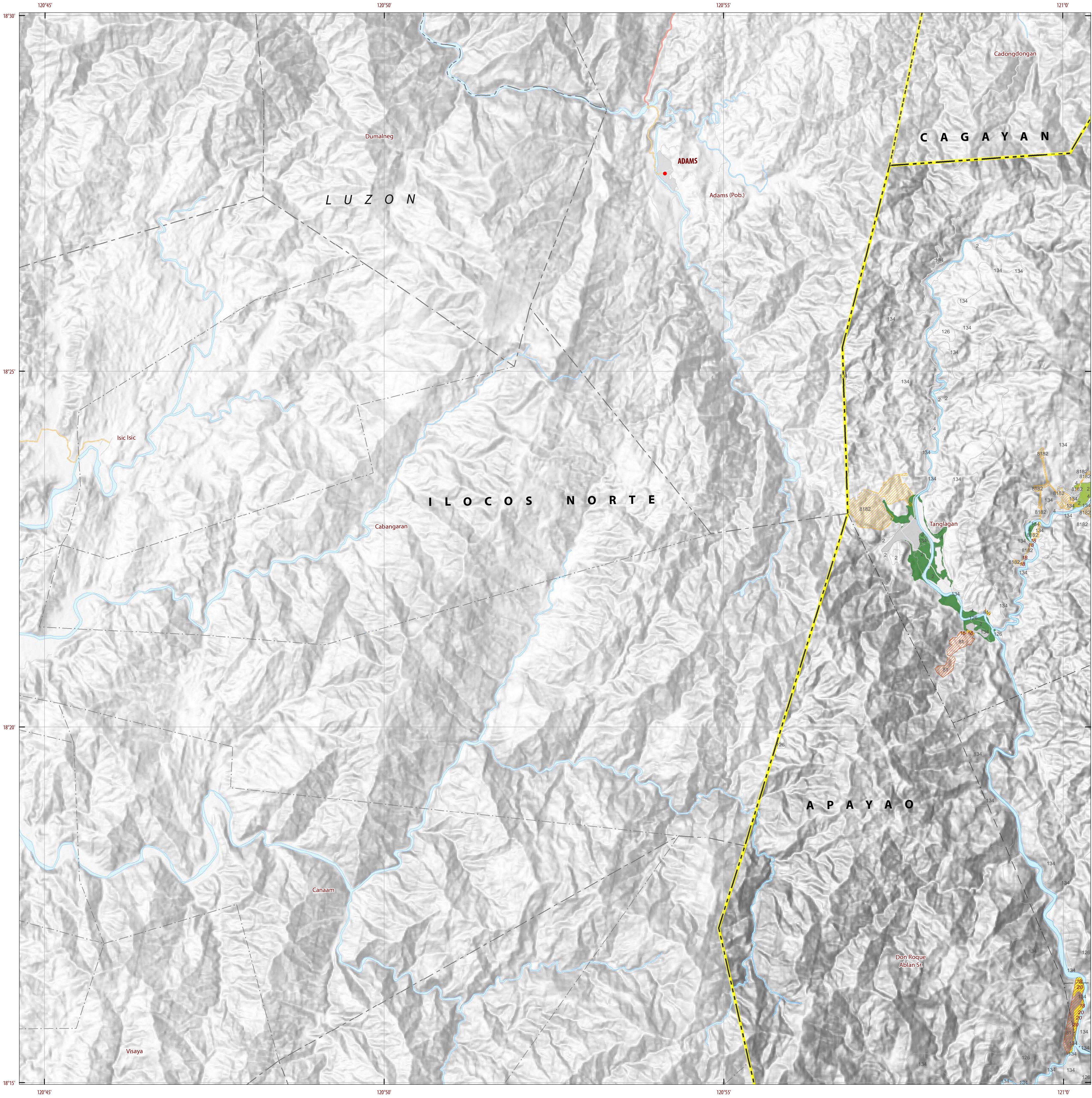
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PROVINCE OF APAYAO Sheet 1 of 13 Sheet No. 3238-III





## LAND SUITABILITY MAP ROBUSTA, LIBERICA AND EXCELSA COFFEE

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

**SCALE 1 : 50 000**

0 0.5 1 2 3 4 5  
Kilometers

0 0.5 1 2 3  
Miles

Universal Transverse Mercator Zone 51 N, PRS 1992 Datum  
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**LEGEND**

**SUITABILITY CLASSES**

- S1 Highly Suitable** - Land having no significant limitations 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.
- S2 Moderately Suitable** - Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations 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.
- S3 Marginally Suitable** - 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**

**OTHER SIGNS**

- NGP Areas
- Coffee
- Land limitation
- Land use

**CONVENTIONAL SIGNS**

**ROADS**

- Expressway
- Trunk line
- Primary
- Secondary
- Tertiary

**BOUNDARY**

- Region
- Province
- District
- Municipality
- Barangay

**HYDROLOGY**

- Sea / Shoreline
- Lakes / Rivers

**PLACES**

- Capital City / City
- Capital Town / Town

**LAND USE**

- Built-up
- Fishpond
- Mangrove

**ADJOINING SHEETS**

**INDEX MAP**

**3137-I**

**MISCELLANEOUS INFORMATION**

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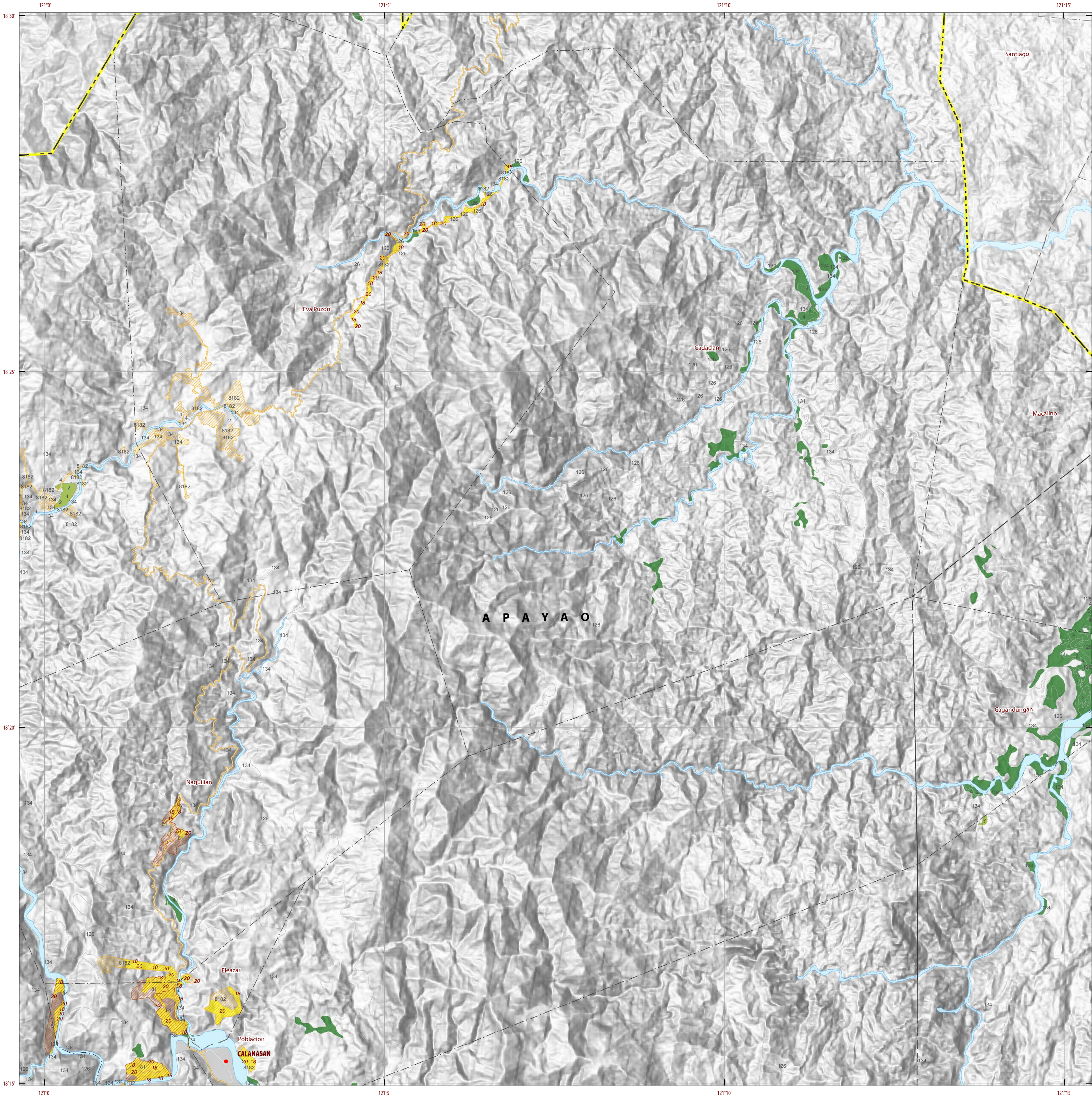
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### LAND SUITABILITY MAP ROBUSTA, LIBERICA AND EXCELSA COFFEE

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

N

W

E

S

SCALE 1 : 50 000

00.512345

00.512345

Kilometers

Miles

Universal Transverse Mercator Zone 51 N, PRS 1992 Datum  
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**LEGEND**

**SUITABILITY CLASSES**

S1

**Highly Suitable** - Land having no significant limitations 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.

S2

**Moderately Suitable** - Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations 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.

S3

**Marginally Suitable** - 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**

**OTHER SIGNS**

NGP Areas

Coffee

Land limitation

Land use

**CONVENTIONAL SIGNS**

**ROADS**

Expressway

Trunk line

Primary

Secondary

Tertiary

**BOUNDARY**

Region

Province

District

Municipality

Barangay

**HYDROLOGY**

Sea / Shoreline

Lakes / Rivers

**PLACES**

Capital City / City

Capital Town / Town

**LAND USE**

Built-up

Fishpond

Mangrove

**ADJOINING SHEETS**

3237-IV

3238-III

3137-I

3237-I

3137-II

3237-III

3237-II

**INDEX MAP**

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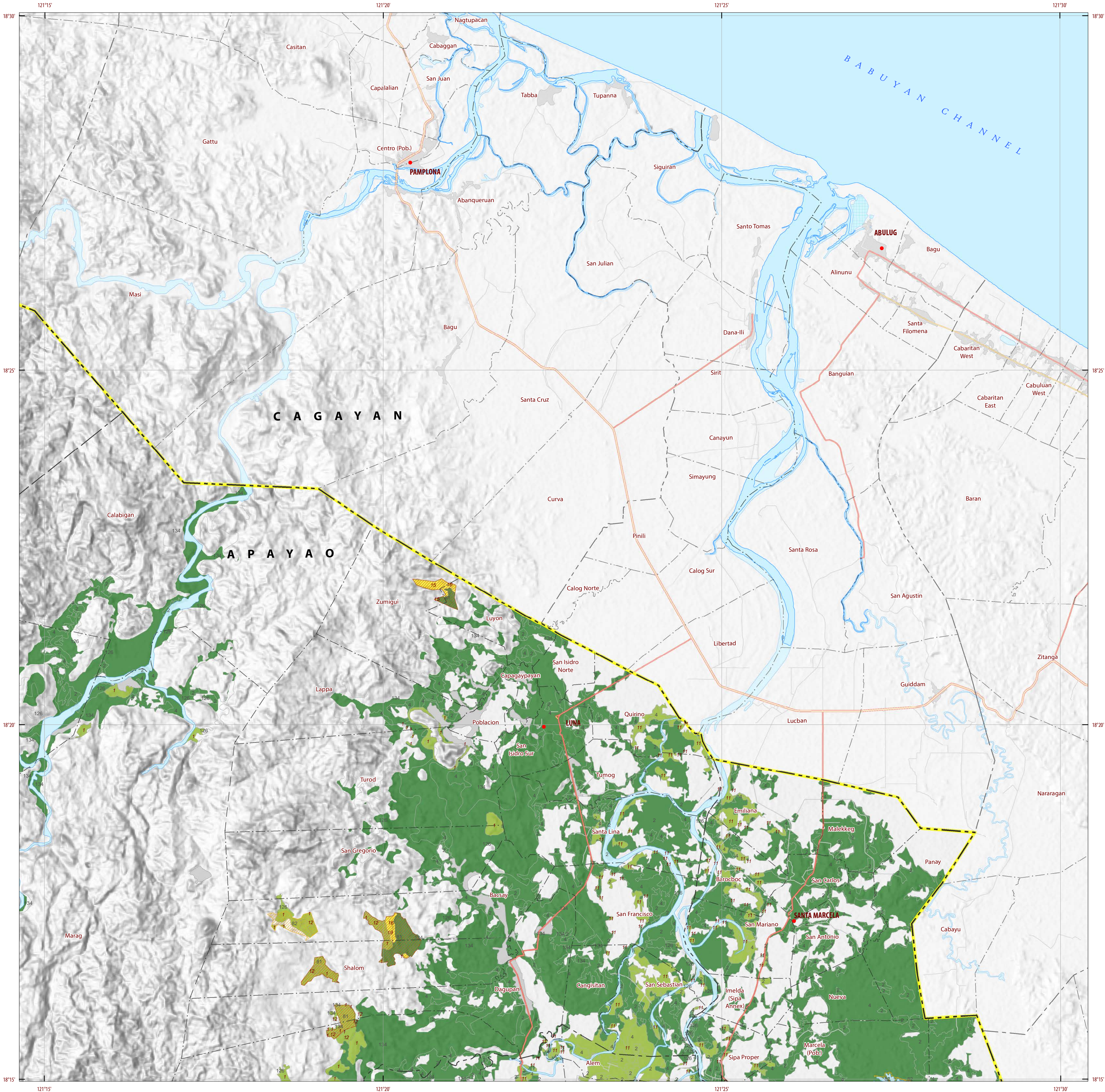
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PROVINCE OF APAYAO Sheet 3 of 13 Sheet No. 3237-IV

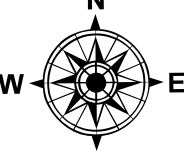
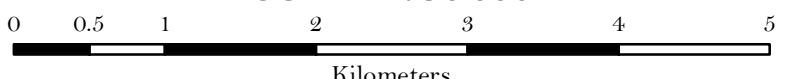







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ROBUSTA, LIBERICA  
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LAND RESOURCES EVALUATION AND SUITABILITY  
ASSESSMENT OF STRATEGIC PRODUCTION AREAS

  
SCALE 1 : 50 000  
  
  
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LEGEND

SUITABILITY CLASSES

S1

Highly Suitable

Land having no significant limitations 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.

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Coffee

Land limitation

Land use

CONVENTIONAL SIGNS

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Primary

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BOUNDARY

Region

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District

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Barangay

HYDROLOGY

Sea / Shoreline

Lakes / Rivers

PLACES

Capital City / City

Capital Town / Town

LAND USE

Built-up

Fishpond

Mangrove

ADJOINING SHEETS

3237-I

3238-III

3237-IV

3237-III

3237-II

3337-III

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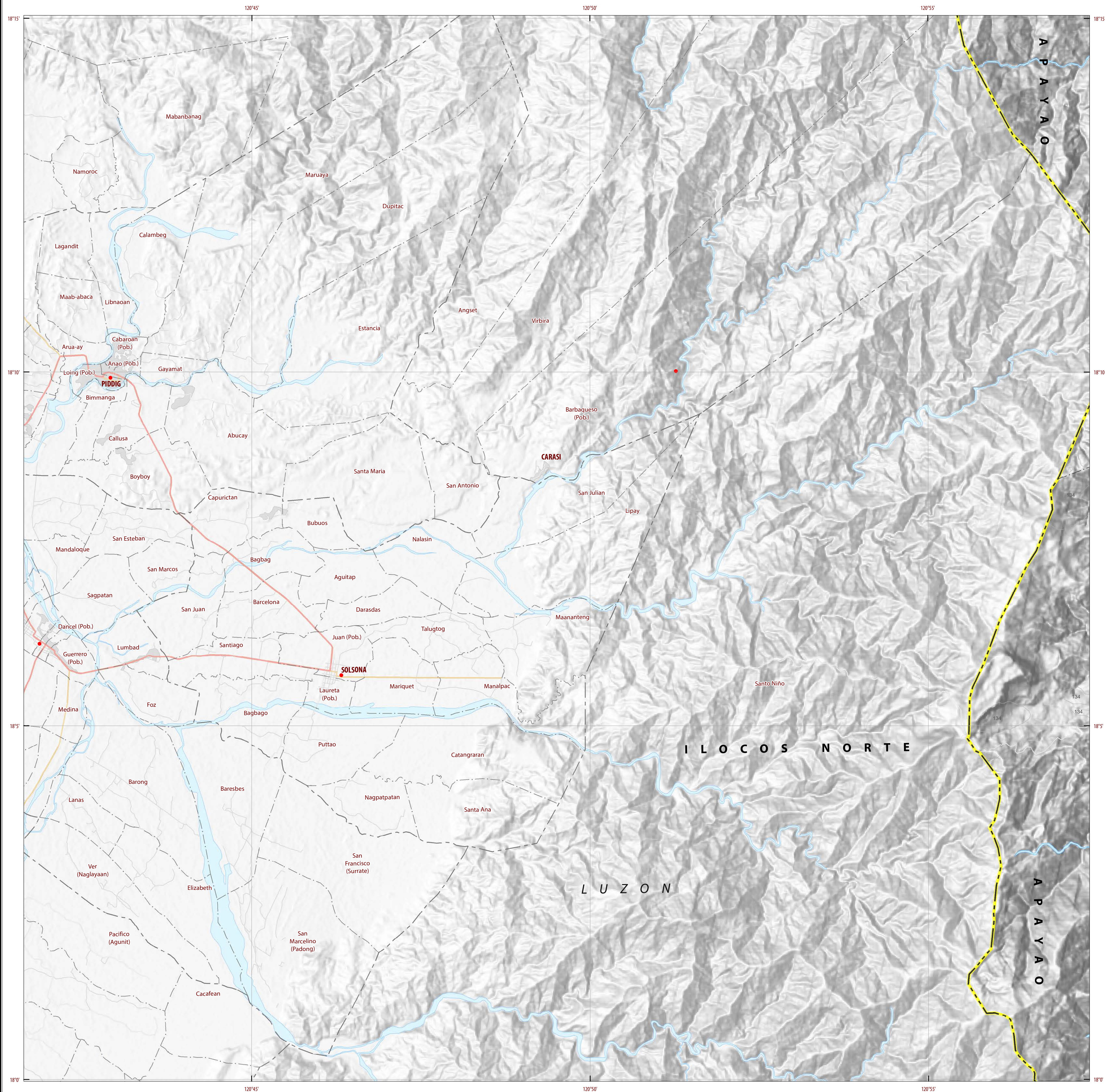
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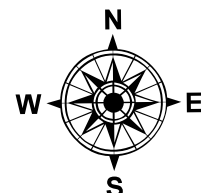
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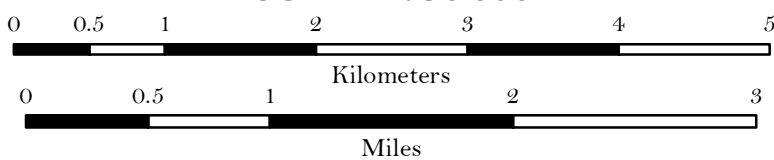


# LAND SUITABILITY MAP ROBUSTA, LIBERICA AND EXCELSA COFFEE

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



**SCALE 1 : 50 000**



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### LEGEND

### SUITABILITY CLASSES

- |           |  |
|-----------|--|
| <b>S1</b> | <b>Highly Suitable</b> - Land having no significant limitations 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.  |
| <b>S2</b> | <b>Moderately Suitable</b> - Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations 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. |
| <b>S3</b> | <b>Marginaly Suitable</b> - Land having limitations which in aggregate are severe for sustained application of a given use and will reduce productivity or benefits, or increase required inputs, that this expenditure will be only marginally justified.   |

☐ Not Suitable/ Not Relevant

### OTHER SIGNS

-  NGP Areas  
 Coffee  
 Land limitation  
 Land use

## CONVENTIONAL SIGNS



## ROADS

- Express
- Trunk line
- Primary
- Secondary
- Tertiary

## BOUNDARY

-  Region  
 Province
-  Sea / Shoreline  
 Lakes / Rivers

## PLACES

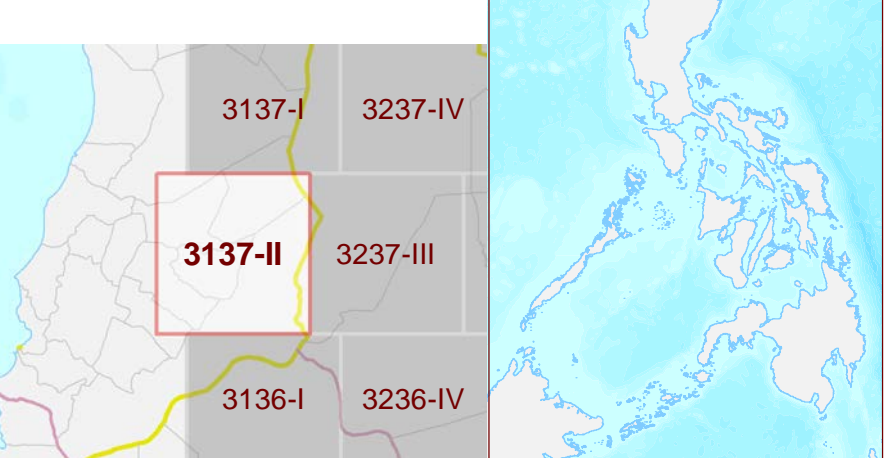
-  Secondary      Municipality      Capital City / City  
 Tertiary      Barangay      Capital Town / Town

## LAND USE

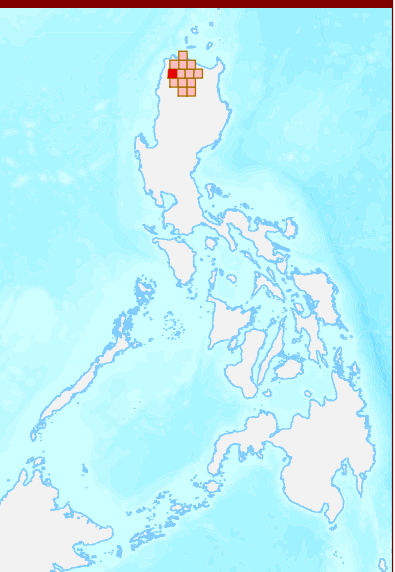
-  Built-up  Fishpond  Mangrove

## ADJOINING SHEETS

**3137-II**



## INDEX MAP




### MISCELLANEOUS INFORMATION

**SOURCES OF INFORMATION :** Topographic information taken from NAMRIA Topographic Map at 1:50,000 scale. Land resources information from the Agricultural Land Management and Evaluation Division (ALMED), Soils Survey Division (SSD) and Laboratory Services Division (LSD) of BSWM. Rice areas obtained from the Land Use System (FAO, 2015) and Philippine Rice Information System (PRISIM) (IRRI, 2015). Data analysis and compilation through the **Land Resources Evaluation and Suitability Assessment of Strategic Production Areas for Major Commodities Project** implemented by BSWM (2017).

Project Leader	: BERNARDO B. PASCUA
GIS and Cartography	: IRVIN K. SAMALCA
Funding Agency	: Department of Agriculture - Bureau of Agricultural Research (DA-BAR)
Collaborating Agencies	: Philippine Council on Agriculture and Fisheries (PCAF) : Department of Agriculture and Fisheries - ARMM, Department of Agriculture Regional Office of Region IX, X, XI, XII and XIII (Caraga) : Local Government Unit (LGU) of covered provinces and municipalities

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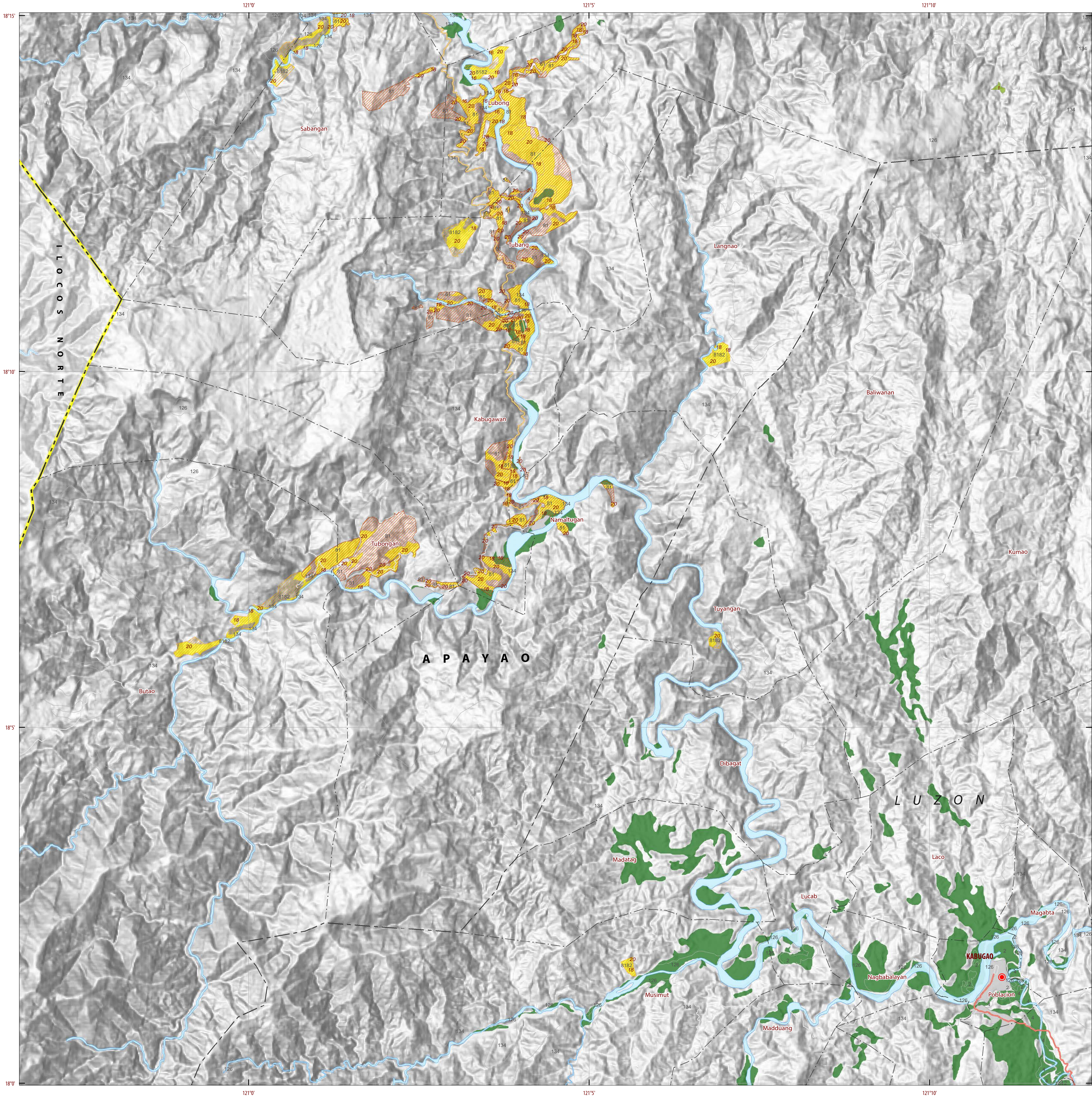


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BUREAU OF SOILS AND WATER MANAGEMENT

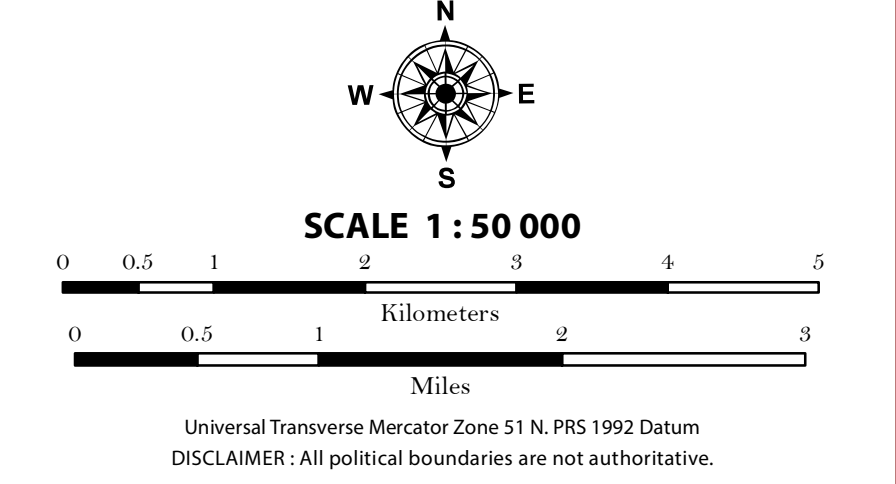
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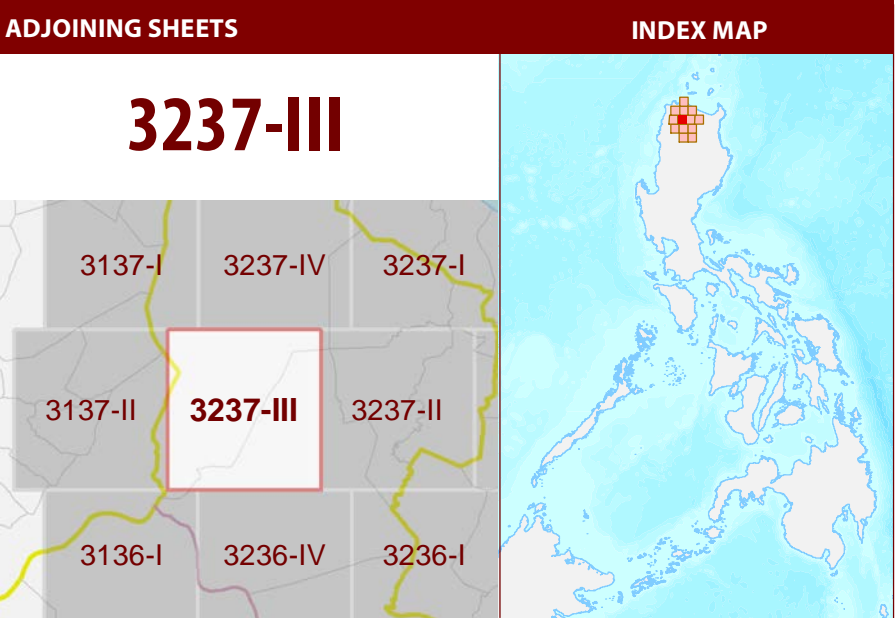
## LAND SUITABILITY MAP ROBUSTA, LIBERICA AND EXCELSA COFFEE

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



LEGEND	
<b>SUITABILITY CLASSES</b>	
<b>S1</b>	<b>Highly Suitable</b> - Land having no significant limitations 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.
<b>S2</b>	<b>Moderately Suitable</b> - Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations 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.
<b>S3</b>	<b>Marginally Suitable</b> - 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.
	<b>Not Suitable/ Not Relevant</b>
<b>OTHER SIGNS</b>	
NGP Areas	Land limitation
Coffee	Land use

CONVENTIONAL SIGNS		
<b>ROADS</b>	<b>BOUNDARY</b>	<b>HYDROLOGY</b>
Expressway	Region	Sea / Shoreline
Trunk line	Province	Lakes / Rivers
Primary	District	
Secondary	Municipality	<b>PLACES</b>
Tertiary	Barangay	Capital City / City
		Capital Town / Town
<b>LAND USE</b>		
Built-up	Fishpond	Mangrove



**MISCELLANEOUS INFORMATION**

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GIS and Cartography : IRVIN K. SAMALCA

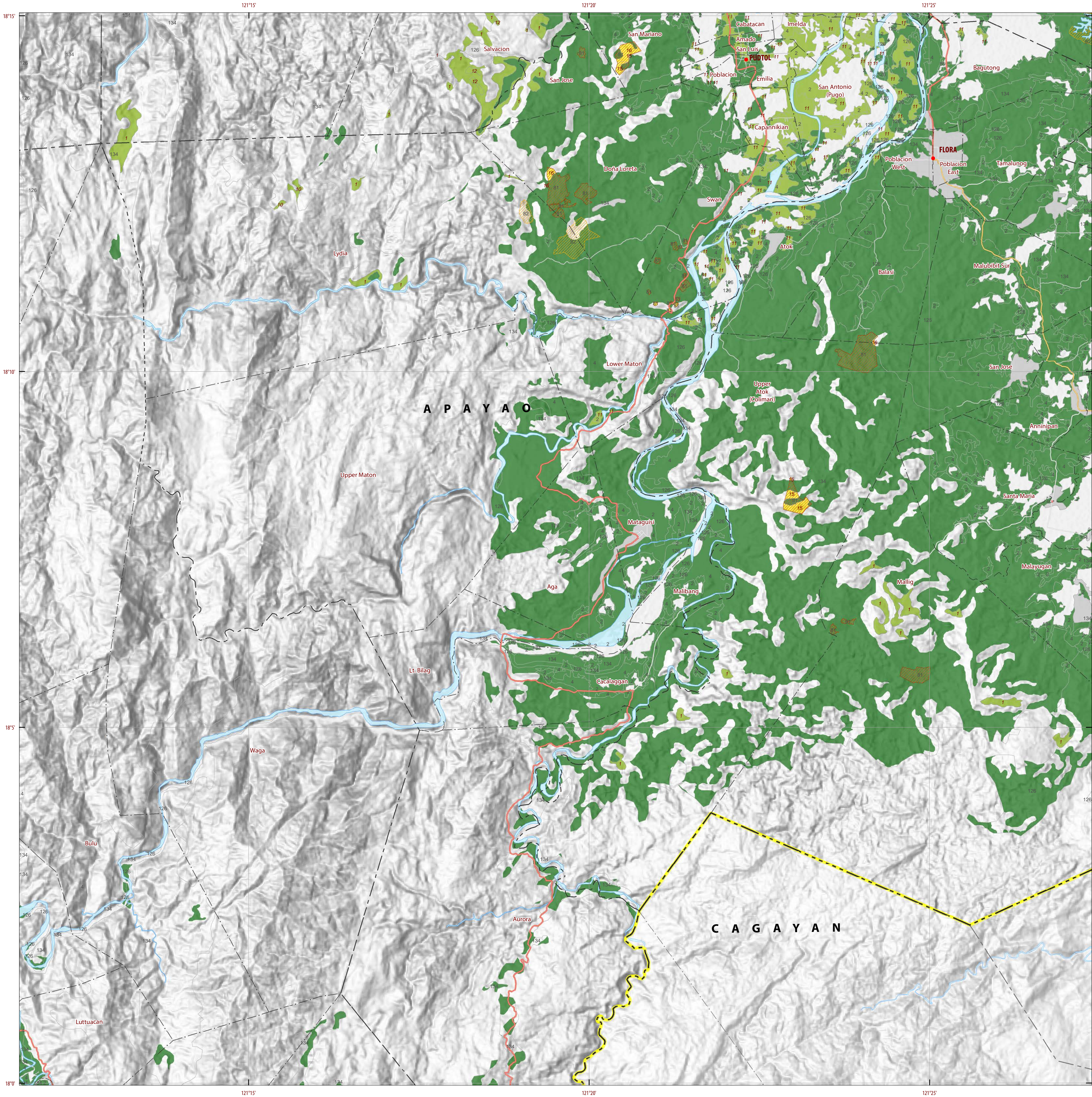
Funding Agency : Department of Agriculture - Bureau of Agricultural Research (DA-BAR)  
Collaborating Agencies : Philippine Council on Agriculture and Fisheries (PCAF)  
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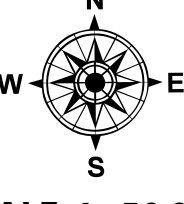






LAND SUITABILITY MAP  
ROBUSTA, LIBERICA  
AND EXCELSA COFFEE

LAND RESOURCES EVALUATION AND SUITABILITY  
ASSESSMENT OF STRATEGIC PRODUCTION AREAS



SCALE 1 : 50 000

0 0.5 1 2 3 4 5  
Kilometers

0 0.5 1 2 3  
Miles

Universal Transverse Mercator Zone 51 N, PRS 1992 Datum  
DISCLAIMER : All political boundaries are not authoritative.

LEGEND

SUITABILITY CLASSES

S1

Highly Suitable

Land having no significant limitations 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.

S2

Moderately Suitable

Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations 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.

S3

Marginally Suitable

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

OTHER SIGNS

NGP Areas

Coffee

Land limitation

Land use

CONVENTIONAL SIGNS

ROADS

Expressway

Trunk line

Primary

Secondary

Tertiary

BOUNDARY

Region

Province

District

Municipality

Barangay

HYDROLOGY

Sea / Shoreline

Lakes / Rivers

PLACES

Capital City / City

Capital Town / Town

LAND USE

Built-up

Fishpond

Mangrove

ADJOINING SHEETS

3237-II

3237-IV 3237-I  
3237-III 3237-II 3237-III  
3236-IV 3236-I

INDEX MAP


MISCELLANEOUS INFORMATION

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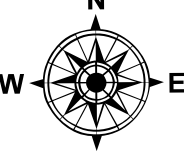

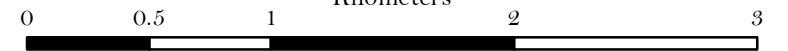






LAND SUITABILITY MAP  
ROBUSTA, LIBERICA  
AND EXCELSA COFFEE

LAND RESOURCES EVALUATION AND SUITABILITY  
ASSESSMENT OF STRATEGIC PRODUCTION AREAS

  
SCALE 1 : 50 000  
  
  
Universal Transverse Mercator Zone 51 N, PRS 1992 Datum  
DISCLAIMER : All political boundaries are not authoritative.

LEGEND

SUITABILITY CLASSES

S1

Highly Suitable

Land having no significant limitations 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.

S2

Moderately Suitable

Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations 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.

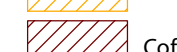
S3


Marginally Suitable


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

OTHER SIGNS

 NGP Areas


 Coffee

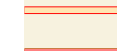
 Land limitation


 Land use


CONVENTIONAL SIGNS


ROADS

 Expressway


 Trunk line


 Primary

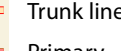
 Secondary

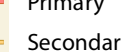
 Tertiary


BOUNDARY

 Region


 Province


 District

 Municipality

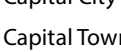
 Barangay


HYDROLOGY

 Sea / Shoreline

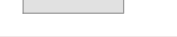
 Lakes / Rivers


PLACES


 Capital City / City

 Capital Town / Town

LAND USE

 Built-up

 Fishpond

 Mangrove

ADJOINING SHEETS

3337-III

3237-I

3237-II

3236-I

INDEX MAP

MISCELLANEOUS INFORMATION

SOURCES OF INFORMATION

Topographic information taken from NAMRIA Topographic Map at 1:50,000 scale. Land resources information from the Agricultural Land Management and Evaluation Division (ALMED), Soils Survey Division (SSD) and Laboratory Services Division (LSD) of BSWM. Rice areas obtained from the Land Use System (FAO, 2015) and Philippine Rice Information System (PRISM) (IRRI, 2015). Data analysis and compilation through the Land Resources Evaluation and Suitability Assessment of Strategic Production Areas for Major Commodities Project implemented by BSWM (2017).

Project Leader

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GIS and Cartography

: IRVIN K. SAMALCA

Funding Agency


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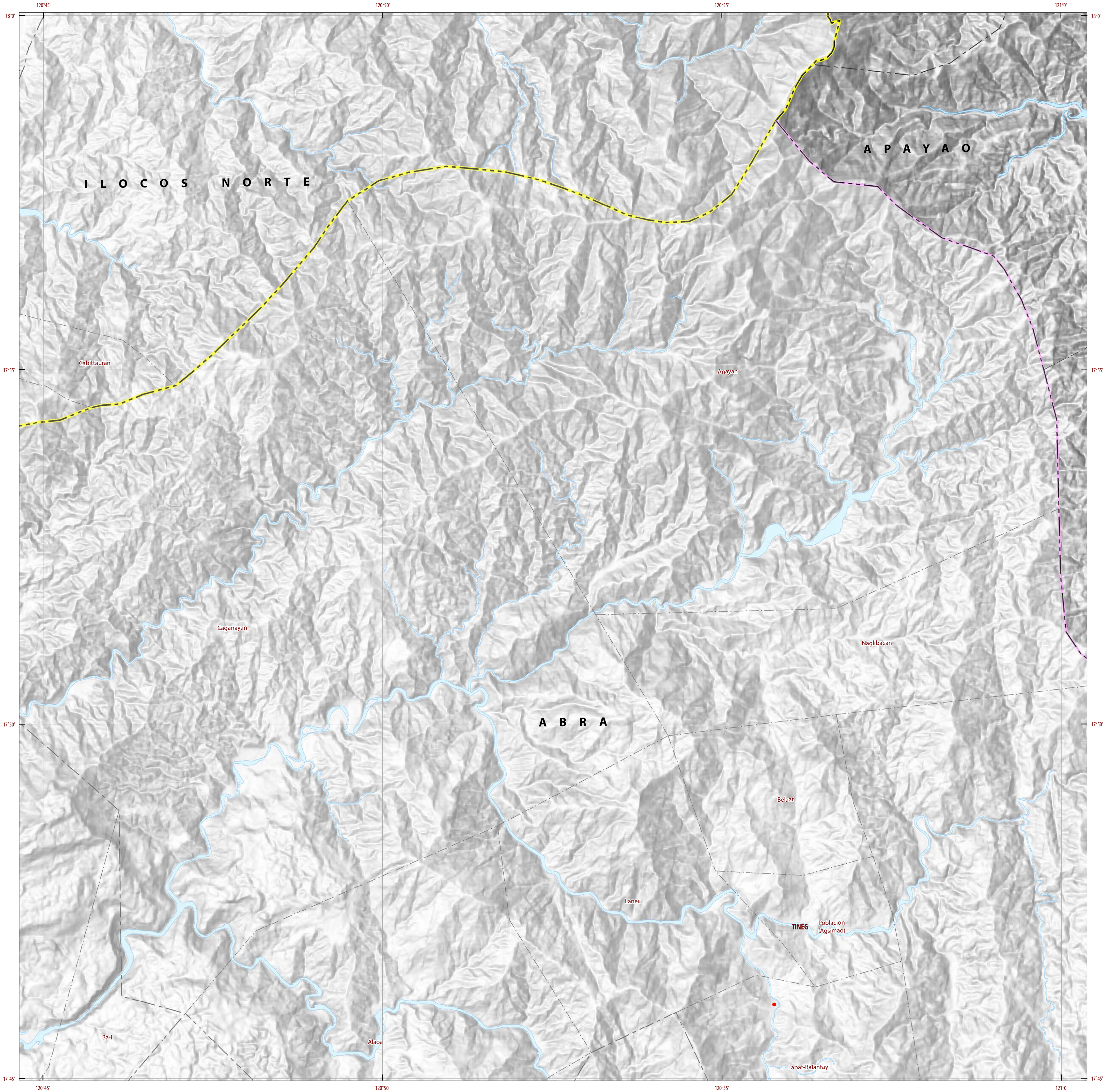
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PROVINCE OF APAYAO Sheet 8 of 13 Sheet No. 3337-III





### LAND SUITABILITY MAP ROBUSTA, LIBERICA AND EXCELSA COFFEE

LAND RESOURCES EVALUATION AND SUITABILITY  
ASSESSMENT OF STRATEGIC PRODUCTION AREAS

SCALE 1 : 50 000

0 0.5 1 2 3 4 5

0 0.5 1 2 3

Kilometers

Miles

Universal Transverse Mercator Zone 51 N, PRS 1992 Datum  
DISCLAIMER : All political boundaries are not authoritative.

**LEGEND**

**SUITABILITY CLASSES**

S1

**Highly Suitable** - Land having no significant limitations 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.

S2

**Moderately Suitable** - Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations 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.

S3

**Marginally Suitable** - 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**

**OTHER SIGNS**

NGP Areas

Coffee

1

Land limitation

Land use

**CONVENTIONAL SIGNS**

**ROADS**

Expressway

Trunk line

Primary

Secondary

Tertiary

**BOUNDARY**

Region

Province

District

Municipality

Barangay

**HYDROLOGY**

Sea / Shoreline

Lakes / Rivers

**PLACES**

Capital City / City

Capital Town / Town

**LAND USE**

Built-up

Fishpond

Mangrove

**ADJOINING SHEETS**

3136-I

3137-II

3237-III

3136-IV

3236-III

**INDEX MAP**

**MISCELLANEOUS INFORMATION**

**SOURCES OF INFORMATION :** Topographic information taken from NAMRIA Topographic Map at 1:50,000 scale. Land resources information from the Agricultural Land Management and Evaluation Division (ALMED), Soils Survey Division (SSD) and Laboratory Services Division (LSD) of BSWM. Rice areas obtained from the Land Use System (FAO, 2015) and Philippine Rice Information System (PRISM) (IRRI, 2015). Data analysis and compilation through the **Land Resources Evaluation and Suitability Assessment of Strategic Production Areas for Major Commodities Project** implemented by BSWM (2017).

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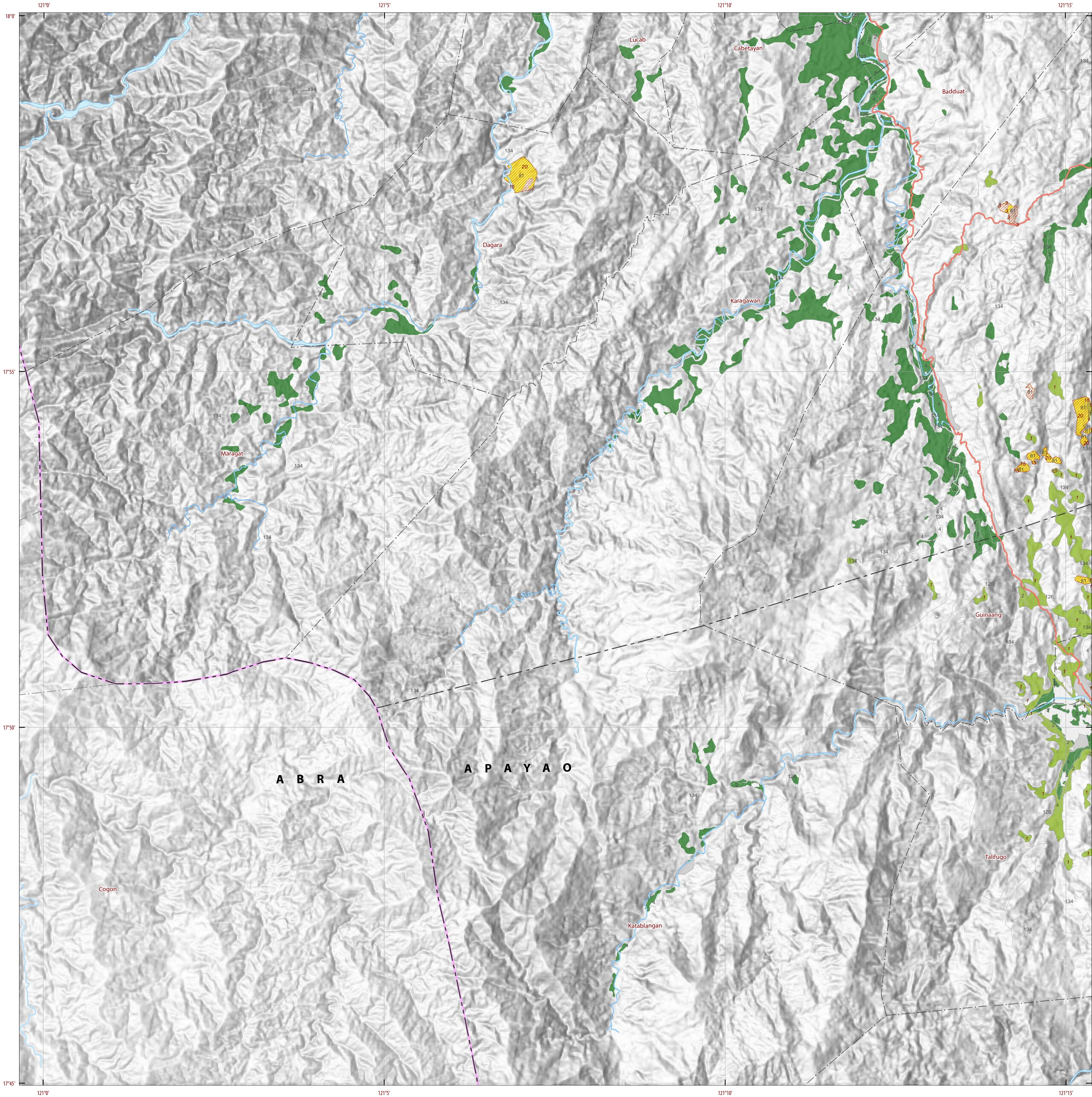
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PROVINCE OF APAYAO

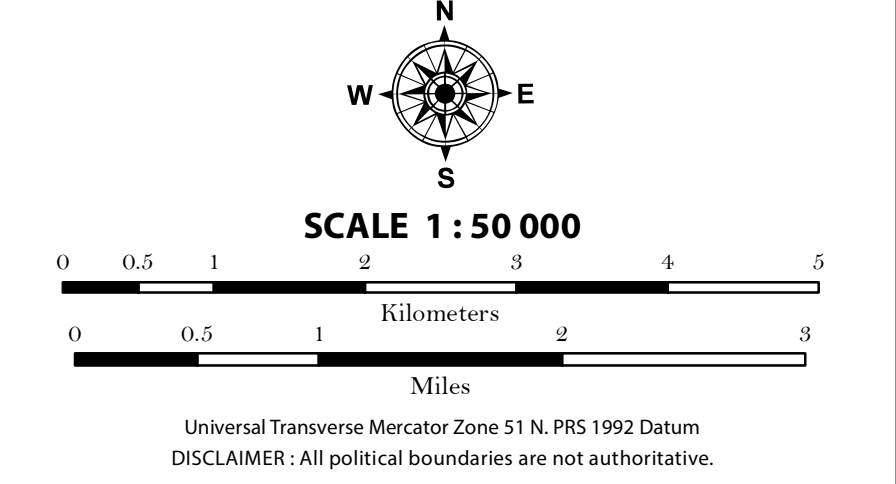
Sheet 9 of 13 Sheet No. 3136-I





## LAND SUITABILITY MAP ROBUSTA, LIBERICA AND EXCELSA COFFEE

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



**LEGEND**

**SUITABILITY CLASSES**

- S1 Highly Suitable** - Land having no significant limitations 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.
- S2 Moderately Suitable** - Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations 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.
- S3 Marginally Suitable** - 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**

**OTHER SIGNS**

- NGP Areas
- Coffee
- Land limitation
- Land use

**CONVENTIONAL SIGNS**

**ROADS**

- Expressway
- Trunk line
- Primary
- Secondary
- Tertiary

**BOUNDARY**

- Region
- Province
- District
- Municipality
- Barangay

**HYDROLOGY**

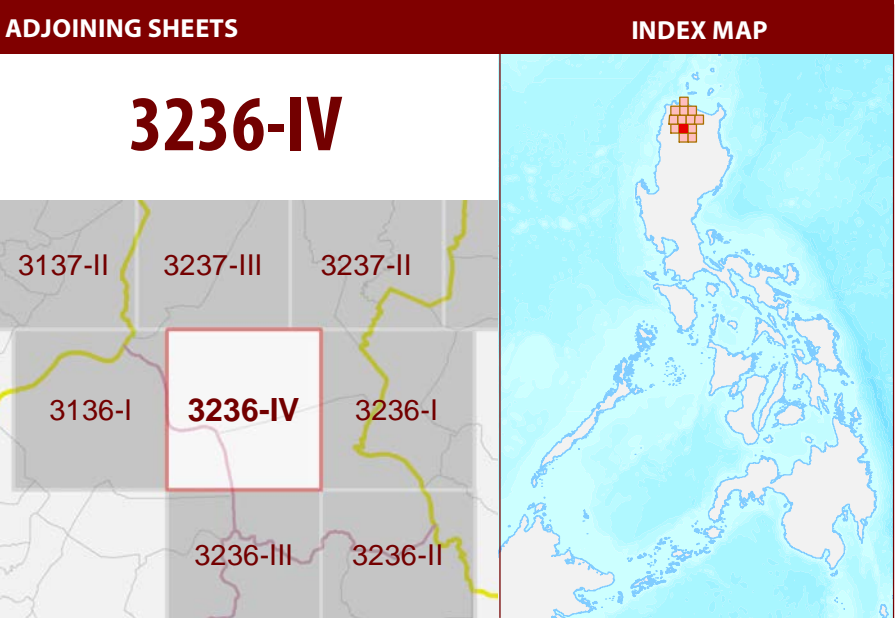
- Sea / Shoreline
- Lakes / Rivers

**PLACES**

- Capital City / City
- Capital Town / Town

**LAND USE**

- Built-up
- Fishpond
- Mangrove



**MISCELLANEOUS INFORMATION**

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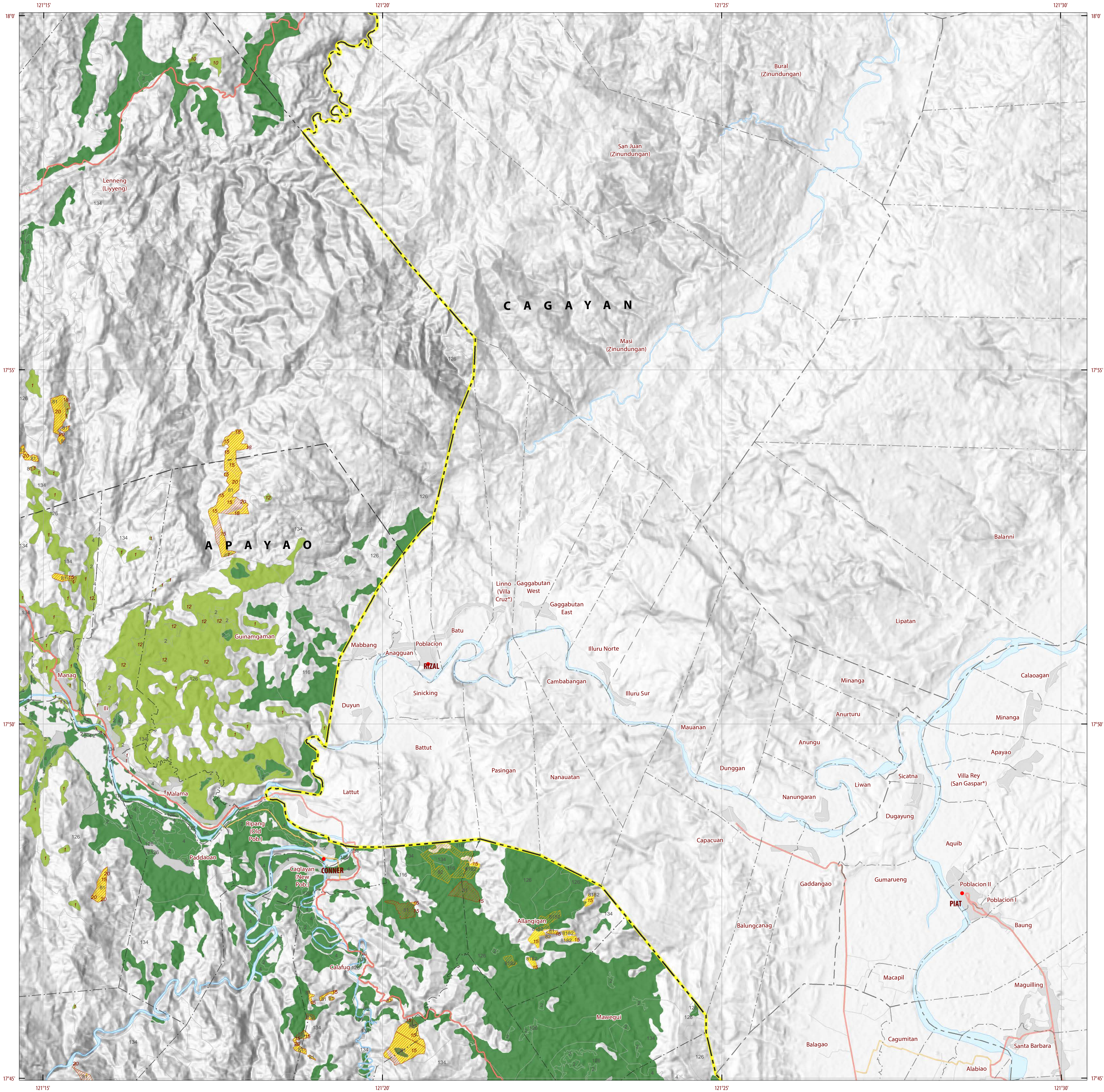
Funding Agency : Department of Agriculture - Bureau of Agricultural Research (DA-BAR)  
Collaborating Agencies : Philippine Council on Agriculture and Fisheries (PCAF)  
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LAND SUITABILITY MAP  
ROBUSTA, LIBERICA  
AND EXCELSA COFFEE

LAND RESOURCES EVALUATION AND SUITABILITY  
ASSESSMENT OF STRATEGIC PRODUCTION AREAS

SCALE 1 : 50 000

Universal Transverse Mercator Zone 51 N, PRS 1992 Datum  
DISCLAIMER : All political boundaries are not authoritative.

LEGEND

SUITABILITY CLASSES

S1

Highly Suitable - Land having no significant limitations 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.

S2

Moderately Suitable - Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations 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.

S3

Marginally Suitable - 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

OTHER SIGNS

NGP Areas

Coffee

Land limitation

Land use

CONVENTIONAL SIGNS

ROADS

Expressway

Trunk line

Primary

Secondary

Tertiary

BOUNDARY

Region

Province

District

Municipality

Barangay

HYDROLOGY

Sea / Shoreline

Lakes / Rivers

PLACES

Capital City / City

Capital Town / Town

LAND USE

Built-up

Fishpond

Mangrove

ADJOINING SHEETS

3236-I

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3236-IV 3236-I

3236-III 3236-II

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MISCELLANEOUS INFORMATION

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Project Leader : BERNARDO B. PASCUA  
GIS and Cartography : IRVIN K. SAMALCA

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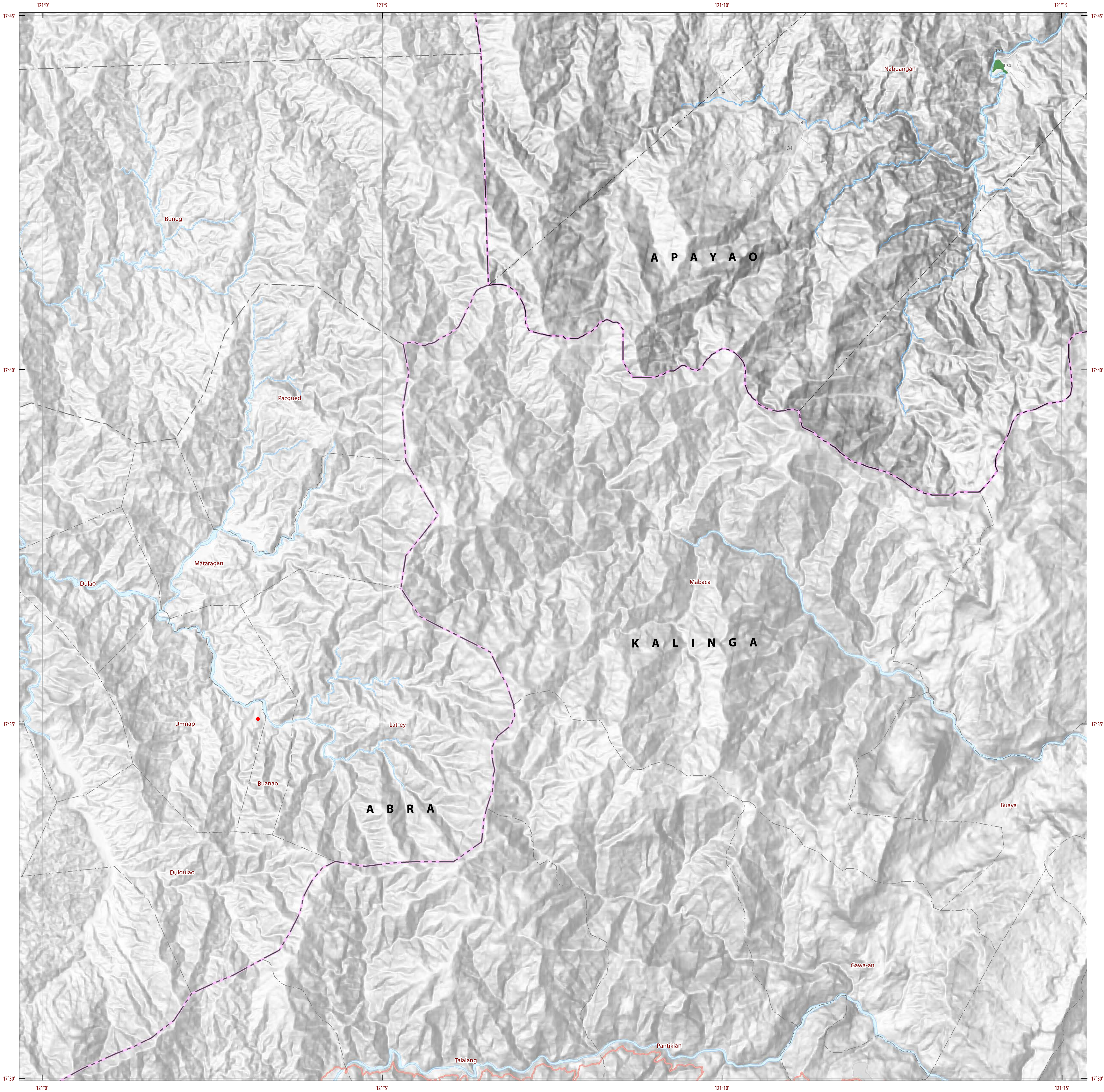
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DEPARTMENT OF AGRICULTURE  
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Tel/Fax No. : (+632) 332-9534 E-mail : bswmcenter@da.gov.ph

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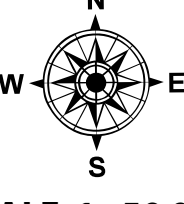
### LAND SUITABILITY MAP

### ROBUSTA, LIBERICA

### AND EXCELSA COFFEE

#### LAND RESOURCES EVALUATION AND SUITABILITY

#### ASSESSMENT OF STRATEGIC PRODUCTION AREAS



**SCALE 1 : 50 000**

0 0.5 1 2 3 4 5  
Kilometers

0 0.5 1 2 3  
Miles

Universal Transverse Mercator Zone 51 N, PRS 1992 Datum  
DISCLAIMER : All political boundaries are not authoritative.

#### LEGEND

**SUITABILITY CLASSES**

**S1 Highly Suitable** - Land having no significant limitations 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.

**S2 Moderately Suitable** - Land having limitations which in aggregate are moderately severe for sustained application of a given use; the limitations 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.

**S3 Marginally Suitable** - 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**

**OTHER SIGNS**

NGP Areas

Coffee

Land limitation

Land use

#### CONVENTIONAL SIGNS

**ROADS**

Expressway

Trunk line

Primary

Secondary

Tertiary

**BOUNDARY**

Region

Province

District

Municipality

Barangay

**HYDROLOGY**

Sea / Shoreline

Lakes / Rivers

**PLACES**

Capital City / City

Capital Town / Town

**LAND USE**

Built-up

Fishpond

Mangrove

#### ADJOINING SHEETS

#### INDEX MAP

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3236-III 3236-II

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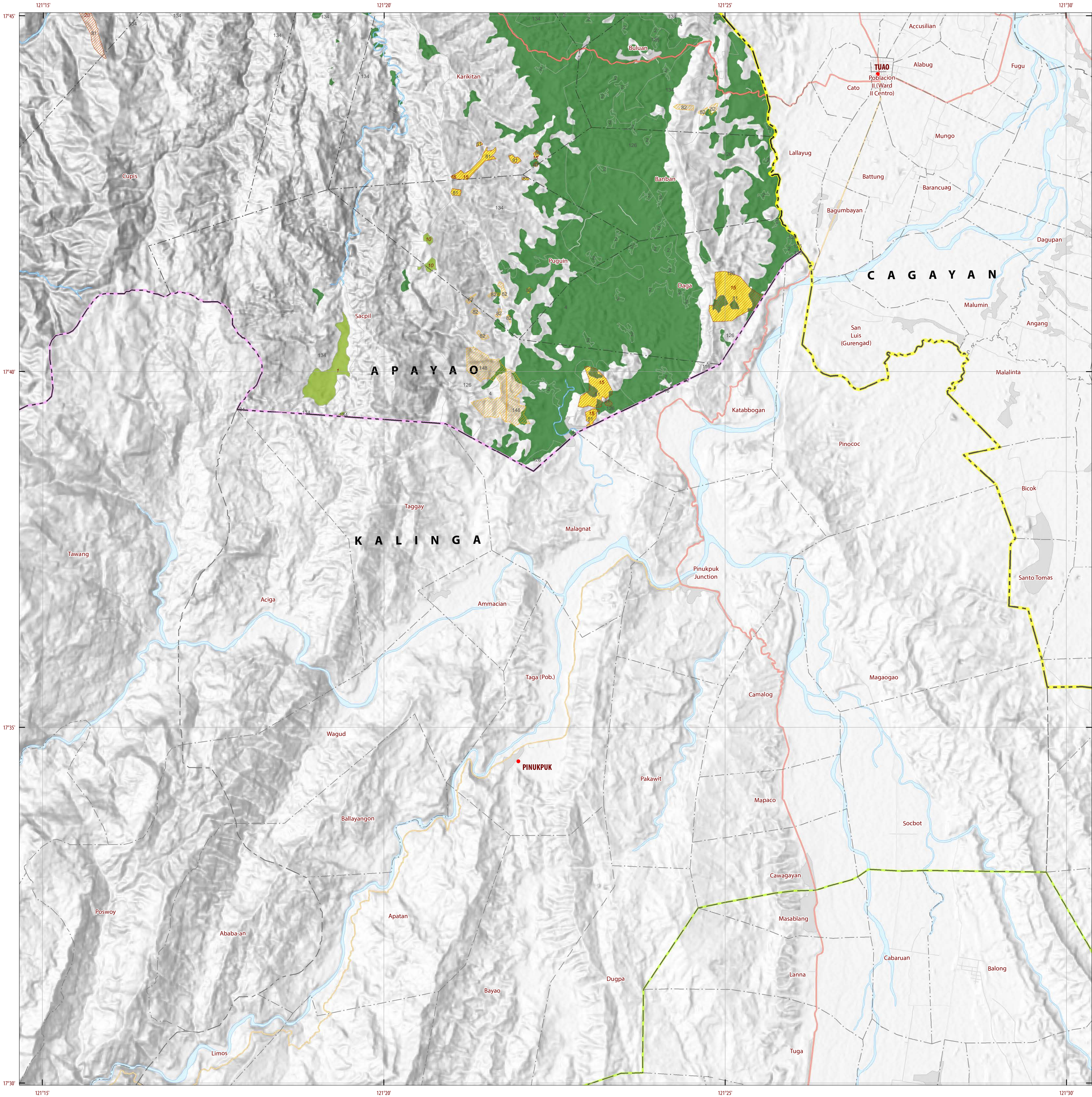
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LAND SUITABILITY MAP  
ROBUSTA, LIBERICA  
AND EXCELSA COFFEE

LAND RESOURCES EVALUATION AND SUITABILITY  
ASSESSMENT OF STRATEGIC PRODUCTION AREAS

SCALE 1 : 50 000  
0 0.5 1 2 3 4 5  
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LEGEND

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