Soil-landscape Units of Basaltic landscapes of Cambodia

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KC1 **Cambodian Soil Group: Labansiek, non-petroferric**

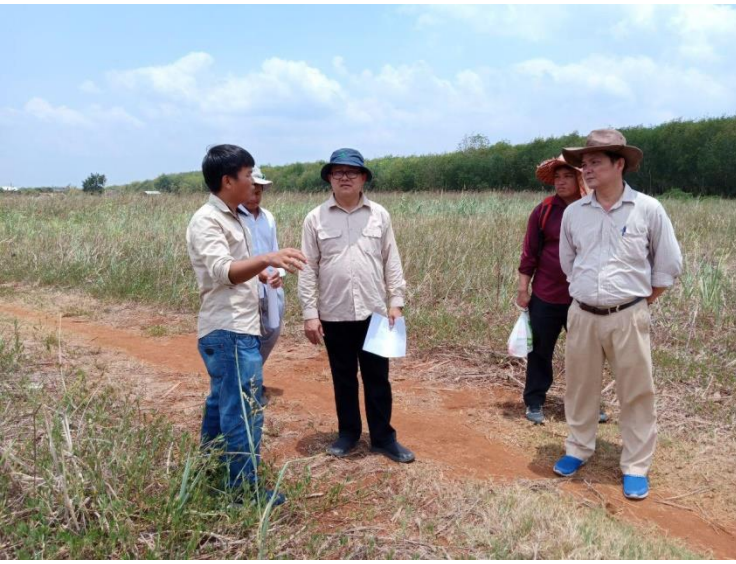
Very gently undulating to undulating uplands on basalt with red clay soils. Commonly occupied by rubber plantations. A deep soil with stable granular structure and clayey sub-soil.

KC2 **Cambodian Soil Group: Ou Reang Ov**

Gentle to moderately sloping fringes of basalt uplands and low basaltic rises with rocky or gavelly red or brown soils. Occurs higher in the landscape and on greater slopes than Kompong Siem soil. Almost always too well drained for padi rice, but supports upland crops. Colour of the soil is more brownish than Kompong Siem in the surface but usually reddish in the sub-surface. It has an abundance of medium to coarse red-brown gravel fragments unlike in Kompong Siem.

KC3 **Cambodian Soil Type :Kompong Siem**

Very gently sloping areas surrounding basalt uplands. A black to dark grey clay texture that occurs on flat land or the footslopes of hills. Commonly forms deep, wide cracks over clay sub-soil in the dry season. May have basalt boulders at depth. Paddy rice fields and upland crops.



KC1. Key land qualities affecting capability rating of Labansiek Soil Group assuming typical soil properties

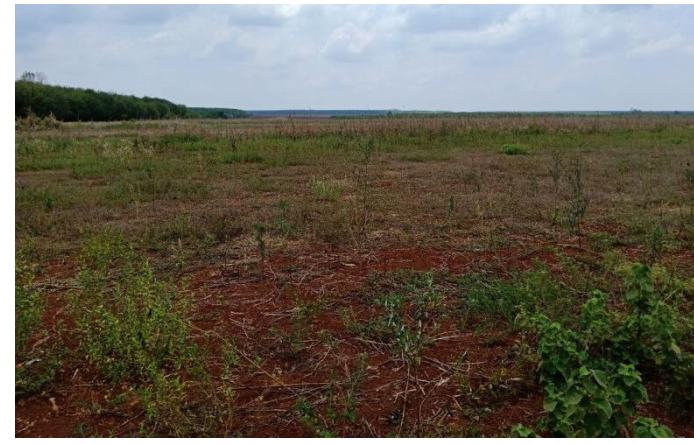
Land qualities	Value	Capability
pH ($CaCl_2$) (0-20 cm)	4.3-4.5	Fair
pH ($CaCl_2$) (20-50 cm)	4.3-4.5	Fair
Nutrient availability	Strongly acid, moderate leaching, high P retention	High
Water erosion risk	Moderate	High
Overall land capability	Low pH	Fair

Deep, well drained soil with good water storage, but root growth and uptake of water and nutrients may be limited by acidity. Variation in acidity occurs- on sites with very low pH, the capability of the most forms this soil is very low for all crop except very acid tolerant species like cassava. With higher pH this soil has high capability. Water erosion risk needs to be managed on sloping sites without adequate cover by mulch or vegetation.

KC2. Key land qualities affecting capability rating of Ou Reang Ov Soil Group assuming typical properties

Land qualities	Value	Capability
Soil workability	Poor	Fair
Surface condition	Firm, self-mulching with tendency to crusting	Very high -fair
Surface soil structure decline susceptibility	Moderate risk	High
pH($CaCl_2$) (0-20 cm)	4.6 to > 5	Very high - high
pH ($CaCl_2$) (20-50 cm)	4.3 to > 5	Very high -fair
Nutrient availability	Moderate to high leaching risk, moderate to high P retention, moderate acidity	High
Soil water storage	Low	Fair
Water erosion risk	Moderate	High
Overall land capability	Low soil water storage	Fair

Moderately deep to shallow very well drained soil with poor soil water storage due to high gravel content in the sub-soil. Drought sensitive crops like soybean often yield poorly on this soil unless rainfall is regular and moderate. Yields on this soil may vary greatly from season to season depending on rainfall distribution and amount. The soil is prone to be hard when dry, and forms crusts at the surface. It is difficult to till in the early wet season, and crop emergence is often poor. Sub-soil acidity may limit root growth on some sites. Leaching of nutrients is likely, but this soil has naturally high levels of phosphorus. On sloping land, water erosion risk needs to be managed.



KC3. Key land qualities affecting capability rating of Kompong Siem Soil Group assuming typical soil properties

Land qualities	Value	Capability
Soil workability	Poor	Fair
Surface soil structure decline susceptibility	Moderate risk	High
Nutrient availability	Low leaching risk Moderate P retention	Very high - high
Rooting depth	35 to > 50 cm	Very high - high
Waterlogging	Moderate	Fair
Overall land capability	Waterlogging and soil workability	Fair

Moderately deep soil which is prone to waterlogging especially in the main wet season. Variations in waterlogging occur over short distances based on drainage and elevation differences in fields. Soil is hard when dry which limits land preparation in the early wet season and becomes sticky when wet, making it difficult to till for upland crops. Lower elevation forms of Kompong Siem are used almost exclusively for paddy rice since the waterlogging and inundation risks are too high for upland crops.