

PHYSIOGRAPHY OF THE COCONUT GROWING LANDS IN THE COCONUT TRIANGLE

The term **land** which includes physical environment embraces soils, relief, climate, hydrology and vegetation. Nevertheless, the physical location of the land on the terrain which is determined by the physiography is very important in the identification of different soil types and suitability for coconut cultivation.

- Examples :
- (a) Land located in a low - lying water - logged area with clayey soil is unsuitable for coconut cultivation.
 - (b) Land which is level or slightly sloping with deep soil and with somewhat better drainage is very suitable for coconut cultivation.
 - (c) Land located in rolling areas requires a fair amount of inputs to make it suitable for coconut cultivation, such as for land preparation, soil conservation practices etc., which are costly agricultural operations. Success or failure of such an investment is dependent upon the proper management of the land. If not, the entire venture will end up in complete failure.

Physiography of the survey area

The "Coconut Triangle" can be divided into four major land form systems according to the physiography (Fig. 1). They are as follows:

- (A) Coastal Plain
- (B) Gently undulating to rolling mantled plain
- (C) Inland Valley bottoms
- (D) Alluvial plain

Within each land form system, further sub - divisions are possible according to the variations

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in physiographical features.

- (A) Coastal plain (elevation 0 - 30 meters (above mean sea level)

This plain (Fig. 2) was formed by the action of the tidal waves, and wind resulting in the sedimentation of sand. There are two subdivisions of this plain.

A1 - Recent (young) Beach

Soils of recent beach (Regosol) are very young, sandy and very deep. Drainage ranges from excessive to somewhat slow (Imperfect). Colour of these soil is pale brown to white. These soils occur along the coastline on flat to gently undulating (0 - 4% slopes) areas.

A2 - Old Pleistocene Beach Plain

Age of these soils is over million years. Soils of this plain (latosols) are derived from beach sands and shows better soil profile development than above - described recent beach soils. Soil colours are reddish and yellowish. Soils are very deep and texture is sandy loam. Drainage is well to imperfect.

- (B) Gently undulating to Rolling mantled plain (Elevation: 300 - 400 meters above mean sea level)

This plain (Fig. 4) was formed on material derived from decomposing rocks. Soils of the mantled plain are reddish to yellowish brown in colour and texture of these soils ranges from loamy to clayey and also consist of quartz, feldspar and

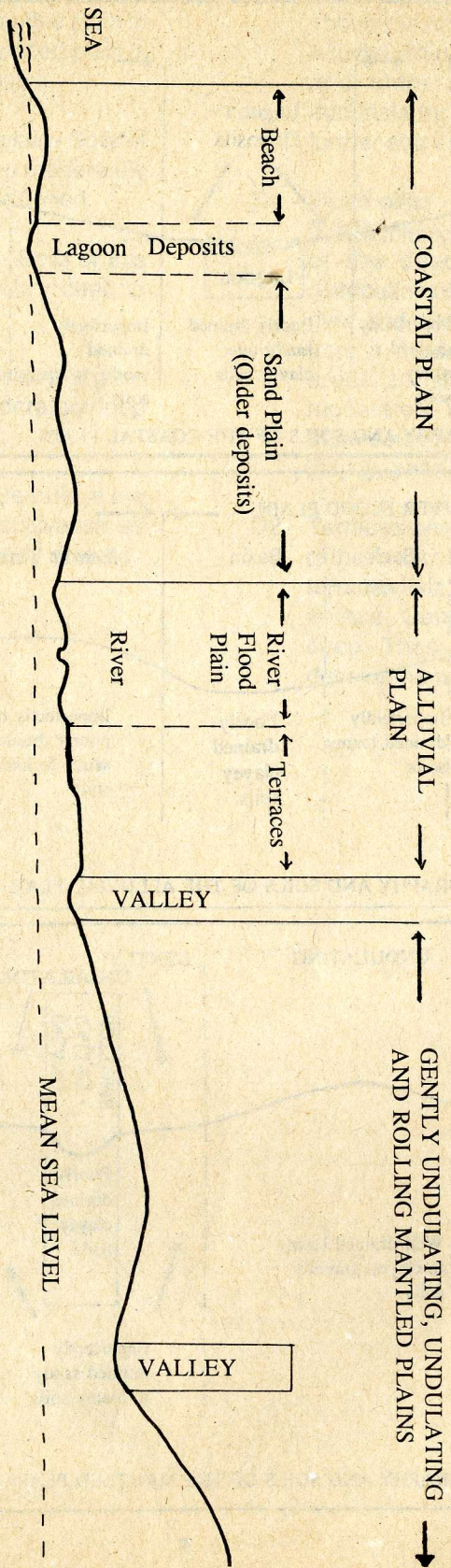
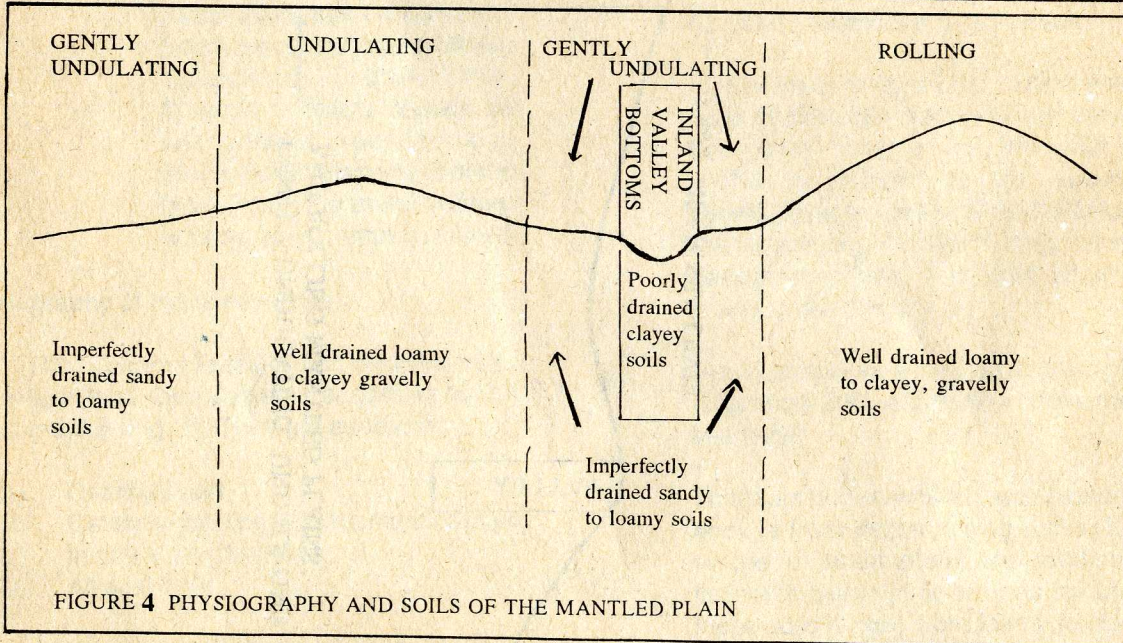
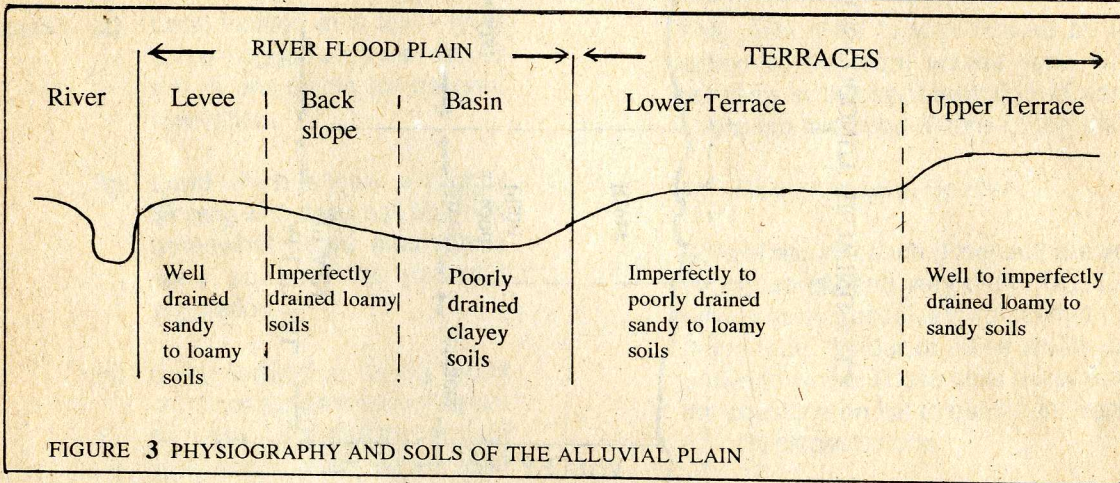
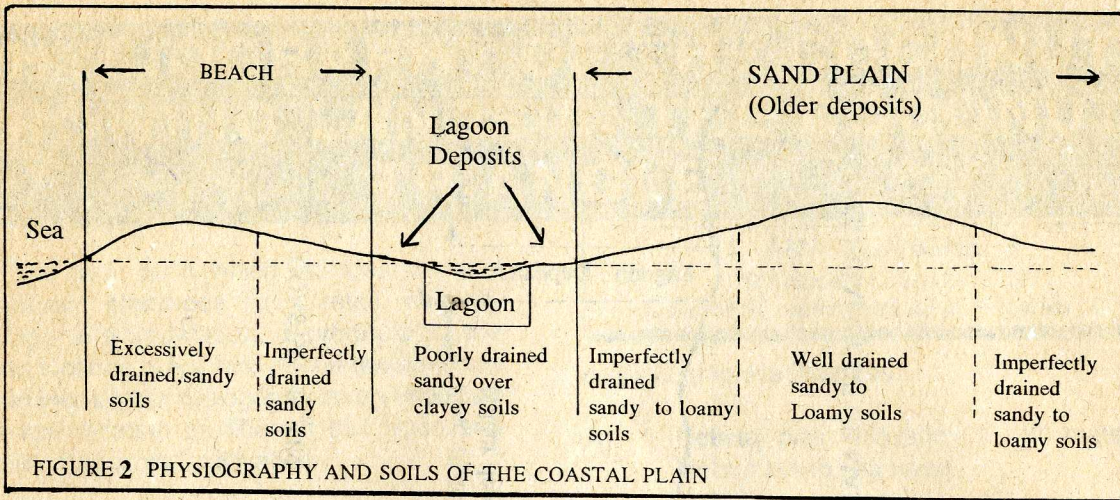


Figure: 1. PHYSIOGRAPHY OF THE MAJOR COCONUT GROWING AREA



ironstone gravels. Residual erosional remnants rise above the mantled plain in the same locations. This mantled plain is further sub - divided as follows.

B1 - Gently undulating mantled plain - Soils of this plain are generally deep moderately well drained to imperfectly drained.

B2 - Undulating mantled plain - Soils of this plain are generally moderately deep to deep and well drained.

B3 - Rolling mantled plain - Soils of this plain are generally shallow to moderately deep and deep and well drained.

(C) Inland valley bottoms - These valleys are presently used for paddy cultivation as the soils are clayey and poorly drained.

(D) Alluvial plain (Elevation: 5 - 30 meters above mean sea level)

Alluvial plain (Fig. 3) comprises recent and older deposits of transported materials by water. The alluvial plain is further sub - divided as follows:

D1 - Flood plain - Recent deposits occurred due to the overflow of rivers. The pattern of the deposition was the gradual distribution of large particles closer to the river and smaller particles further away from it. Upper (levee) and back slope areas consist of very deep, well to moderately well drained soils. Lower depression parts (basin) consist of deep clayey, poorly drained soils.

D2 - Terraces were formed due to the changes of the river course. There are two levels of terraces, viz, higher terrace and lower terrace. Generally these soils are very deep. These soils show better profile development than recent deposits.