# DEVELOPMENT OF LOW YIELDING COCONUT LANDS BY INTERCROPPING

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Coconut lands where the production levels are as low as 1000-1500 nuts per acre per year (15-20 nuts per palm/year) are classified low yielding plantations, and these are prominent in Puttalam, Kurunegala and Gampaha districts.

Factors that contribute to such low yields are

(a) Poor soil conditions e.g. shallow soil, where the growth of the coconut root system is limited.

(b) Continuous loss of top soil.

(c) Neglect of regular fertilizer application and other agricultural practices such as soil and moisture conservation.

Of the three factors mentioned above, a and b are considered most important that need serious consideration. The recommended agricultural practices for rehabilitation of such plantations are regular application of fertilizer especially organic and green manures, soil and moisture conservation and irrigation. The objective of this article is to present how these lands could be rehabilitated with the cultivation of intercrops in addition to the agricultural practices mentioned above.

There are over 30 types of plants that can be ideally mix-cropped with coconut. The crops vary with recommended agroclimatic zones, land characters and the stage of the coconut plantations. Long term trials conducted by the Coconut Research Institute have indicated that systematic intercropping provides extra income and in addition increases the coconut yield as well. Coffee and cocoa are such two major traditional crops. Lands suitable for

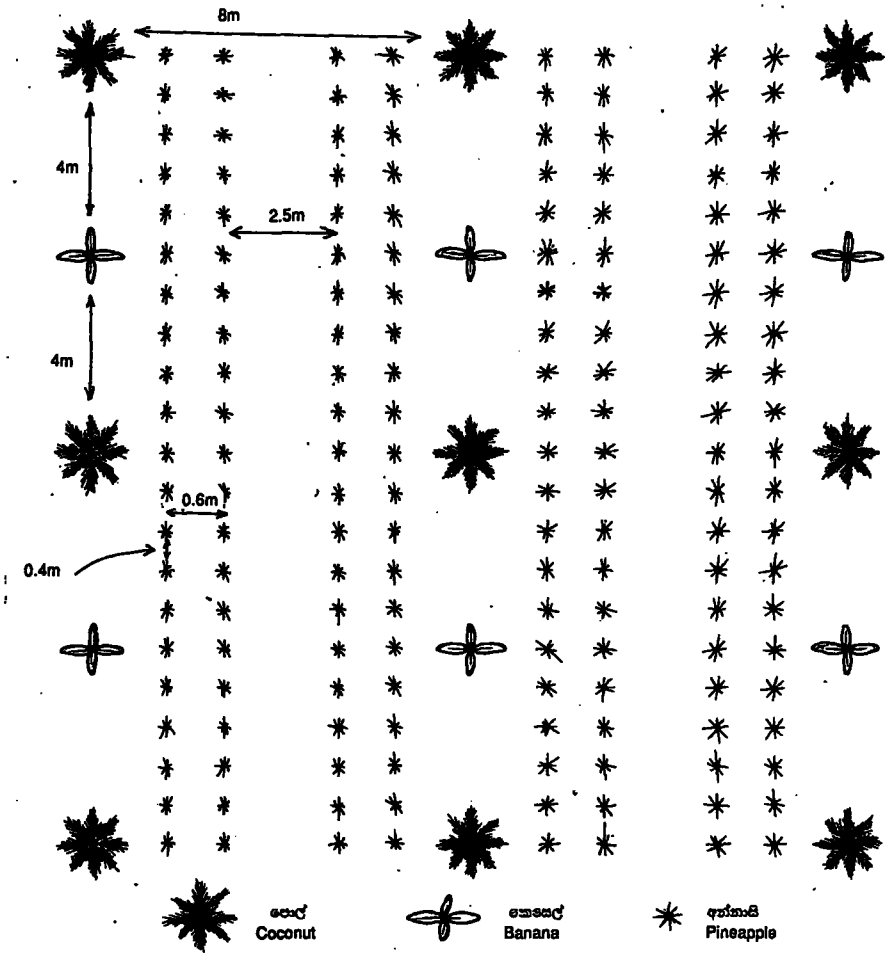
*Pineapple and banana grown under coconut*

intercropping with coffee are few. Therefore lands with poor soils could be profitably intercropped with Pineapple, Banana, Passionfruit, Papaw, and short term crops like vegetable etc. Of these pineapple and Banana have been the most popular among growers.

A positive example is the intercropping of coconut lands with Pineapple and Banana under land lease system, presently in operation in Gampaha and Kuliyapitiya areas by many growers. Normally coconut lands given on lease for cultivation of pineapple and banana are those that cannot be easily rehabilitated. It is clear that when such poor lands are systematically planted with intercrops like pineapple and banana young coconut plantations too improve satisfactorily, in addition to increase of the coconut yield. Also early bearing, is yet another advantage attributable to proper maintenance and management as coconut palms receive an extra dose of fertilizer when fertilizers are applied to the intercrops. This is an important factor that contributes towards regeneration of the once stunted coconut stand. The other factors that favour coconut are the minimised soil erosion, weed control, liberal availability of soil moisture due to coir dust, and above all good management.

Observations have been made that in some coconut lands where there were no yields at all, have recorded above average nut yields after systematic intercropping.

Accordingly a plan of an ideal crop model for rehabilitation of a low yielding coconut land is shown below:

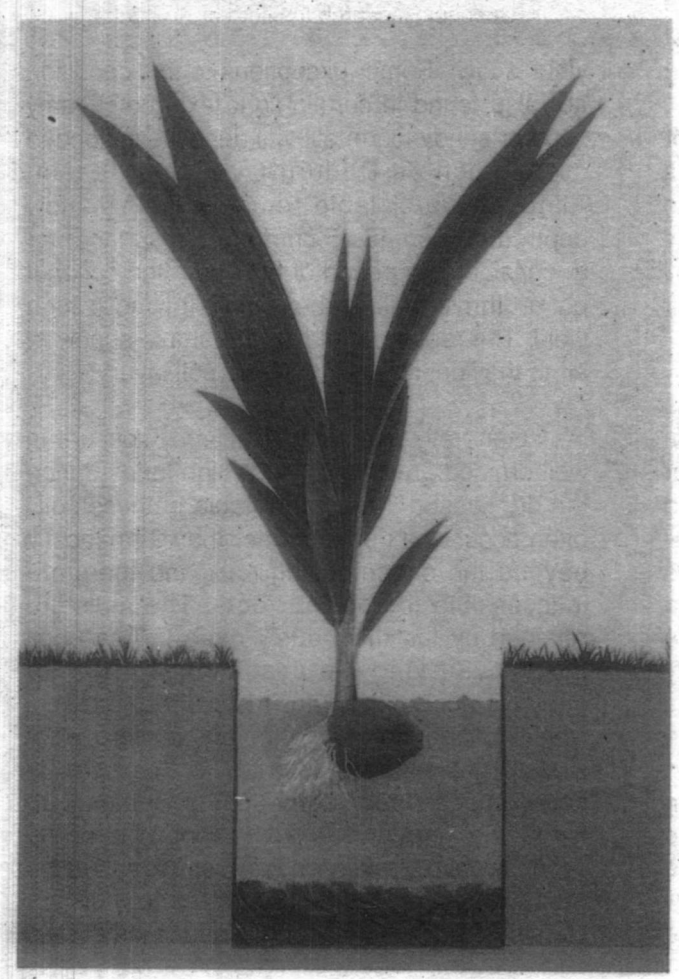


In addition ginger, tumeric, chillies, and vegetables etc could be grown in the land between the two rows of pineapple.

A special feature in this model is that provision has also been made to leave a distance 2 m from the base of the coconut palm, besides the availability of sufficient space for husk pits. It also enables mulching of the manure circle.

A number of other intercropping models suitable for rehabilitation of coconut lands in Kuliyapitiya and Madurankuliya areas can also be presented. The major constraints for establishment of young coconut in these lands are dryness in the surface sandy soils, lack of organic matter in the soil and poor soil conditions. As a result farmers in these areas purposely cultivate Brinjals, Chillies, Vegetables and banana to facilitate coconut. As these plots receive water and fertilizer regularly, and as Illuk is kept under control the coconuts grow faster. Another method practised by farmers in Kalpitiya area is to plant banana under coconut purely to improve their coconut stands. In an intercropped land, a regular supply of water and additional application of fertilizer are the basic contributory factors for increased coconut yields. Most growers affirm that major share of the expenditure on intercropping is defrayed by the income from the increasing coconut yield.

The Coconut Research Institute has further improved the intercropping models with details on various intercrops which are designed for coconut lands requiring rehabilitation. The owners should note that in coconut lands so rehabilitated by intercropping, the agricultural practices and the management levels should necessarily continue. Failure to maintain such standards will make it difficult for the land owner to realise the long term beneficial effects of the rehabilitated coconut lands.



## CORRECT PLANTING OF A SEEDLING

* Cut planting hole.
  in gravelly soil - 3' x 3' x3'
  in loamy and sandy soils - 2' x 2' x 2'
* Arrange two layers of husks
* Fill the seed hole with top soil mixed with 1kg of dolomite and 1kg of the young Palm Fertilizer Mixture
* Plant at ground level.
  Always keep the collar region exposed.