

**The effect of climatic changes on coconut production and their implications:
A case study in a small holding at Madurankuliya, Puttalam district**

A Wijedasa Silva*

Department of Management Studies, Faculty of Humanities and Social Sciences, The Open University of Sri Lanka, Nawala, Nugegoda

The objective of this study was to identify direct and indirect effects of climatic changes on coconut production and cultivation. This study was conducted on a 10 acre land situated in *Madurankuliya*. It has about 520 fully-grown palms and about 55 non-bearing young plants. The land is flat with sandy soil and the water table varies from 3 m to over 12 m. The study was conducted for the period 2002-2004 using the data on coconut production obtained from the land owner and daily rainfall figures recorded by the nearest Meteorological Station at Palavi. Only the major climatic factor i.e. rainfall was taken into consideration in order to limit the study and the annual yield was calculated as the total harvest of six picks at two monthly intervals.

The coconut palm produces an inflorescence at the rate of one per month and it has a development cycle lasting one year before the bunch is ready for picking. According to the literature available, the ideal for coconut growing will be a uniform annual rainfall of about 1270 mm and any rainfall below 50 mm per month is considered as a drought month.

The average rainfall received in the *Madurankuliya* area for the period under consideration, from January to March and June to September was 24.0, 35.0, 48.3, 49.2, 4.8, 6.0 and 26.6 mm respectively; accordingly these are drought months. The average rainfall for the remaining five wet months was 229, 107, 186, 203 and 95 mm. This is a clear indication of uneven distribution of rainfall in the said area.

The output of a coconut land depends on the cumulative effect of rainfall in the previous 12 months of a particular pick. The lowest yield from 2002 to 2004 was 3100, 3300 and 3000 nuts respectively. These figures are related to the December pick of each year. This shows that during drought months, the fall of buttons and immature nuts is relatively heavy. Similarly the highest yield for the years 2002 to 2004 was 4200, 4550 and 4450 nuts respectively. These figures are related to the June pick of each year. Drying up of young plants and loss of fronds in bearing palms are other direct adverse effects on coconut cultivation.

Some of the indirect adverse effects of the dry weather are the fast spread of mita infection, causing a reduction in the size of nuts etc. and damage to the crop caused by wild squirrels.

*wijedasa_silva@yahoo.com

Tel: 011-2851301 Ext.248