

LOCUST PATROL UNIT

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INTRODUCTION

The unit was formed in March 1977, following a short course on survey and control of the migratory locust *Locusta migratoria* L., given by staff members of the Centre for Overseas Pest Research, England. Experiences on Goodenough Island (1966-1970) and in the Markham/Ramu Valley (1972-1976) had made it necessary for the Department to learn methods of monitoring locust numbers and of preventing crop damage. As a result, food gardens, crops and pastures will now be in less danger from the locusts and considerable expense can be saved in the long run. These locusts have always been present in the country, living as individuals in what is called the solitary phase. Given the right conditions, transformation to the gregarious phase can take place when the locusts form huge swarms which cause considerable damage to crops.

Briefly, the objectives of the Locust Patrol Unit are:

1. To carry out surveys and record locust numbers.
2. To carry out surveys to detect early stages of swarming.
3. To report and take necessary control measures to prevent development of outbreaks.

LOCUST SURVEY - 1977

Counts of locust numbers in the Markham and Ramu valleys varied greatly through the year, being considerably influenced by rainfall and type and density of vegetation cover. Initial counts during March and April 1977 recorded a population density of between 50 and 800 adults per hectare at a series of sites (34 major sites) between Narakapor in the lower Markham Valley and Dumpu in the Upper Ramu Valley of Madang Province. There was a notable decrease in population density during the following five months due to the onset of the dry season and the burning of grassland which depleted food resources. There was a notable difference in distribution of population between developed farm areas involved either in cropping or in pasture improvement and natural grassland areas. Availability of food and sites for oviposition are two major factors determining such differences. Farming practices and other human activities are contributing causes influencing the pattern of distribution.

The 1977 survey did not record any gregarisation behaviour. Other species of grasshoppers recorded included the spur-throated locust *Austracris guttulosa* and a species of *Valanga*. The former was prevalent and at times showed higher densities than *L. migratoria* in parts of the Markham and Ramu valleys.

In April 1977 community schools in the Markham Valley were visited and given talks on locusts, and specimens of both solitary and gregarious phases were shown. This is part of a public relations programme to foster and maintain locust awareness in the people. It is hoped that a programme can be drawn up in which visits will be made not only to community schools, but also to villagers and land-holders.

At present, locust survey activity is confined to the potential outbreak area between the Ramu and Umi rivers of the Markham Valley. It is intended to survey other parts of the Markham and Ramu Valleys which had recorded locust activity during the swarming phase of 1973-1976 about every three months. Some sections, including isolated grassland and cattle properties of the lower Markham, the hilly areas of Zenag/Mumeng, and the Brahman/Usino area of the Ramu Valley, will no longer be surveyed.