

P-10

## LINEAR PROGRAMMING APPROACH FOR CHOICE OF CROPS FOR OPTIMAL PROFIT UNDER MIXED STRATEGY CRITERION

G. T. F. de Silva  
(University of Moratuwa)

The paper aims at applying the mixed strategy criterion (ref. 1, also 2, 3) in the selection of crops for cultivation in a region, in order to maximise profits subject to probabilistic inputs of weather conditions.

By taking four types of weather conditions for the agricultural seasons, available data is used to find expected profit per acre from each of  $n$  crops, to obtain the  $n \times 4$  profit matrix.

A linear programming problem is next solved to seek the mixed strategy.

Results of applying the method to selected highland crops for the NCP is reported. Analysis of data (4), and other calculations were done on a computer. The Linear Programming problem was solved by the use of a standard routine (5).

The results indicate at current prices, proportions per acre to be cultivated as chillies (0.26), red onions (0.57) and groundnut (0.17) for the expected maximum profit of Rs. 551 for a season.

### References:

1. Found, W. G., 71, A theoretical approach to rural land use patterns.
2. Von Neumann J. Norgenstern, 44, Theory of games and economic behaviour.
3. Wald, A., 50, Statistical Decision Functions
4. Statistical Abstracts of Sri Lanka.
5. Kuo, S. S., 66, Numerical methods and computing.