

Gross Income and Profitability of Onion Production in Trincomalee District

S. Anojini and P. Sivarajah*

Department of Agricultural Economics, Faculty of Agriculture, Eastern University, Vantharumoolai, Chenkalady-303-50 (EP), Sri Lanka

Abstract

Red onion plays a vital role in the diet of Sri Lankan and is a high value cash crop of the dry and intermediate zone. Major red onion growing areas are Jaffna, Vavuniya, Mullaitivu, Trincomalee and Puttalam. This study was designed to analyze gross income, profitability of red onion cultivation and to determine the factors affecting gross income/crop value of onions in Kuchchaveli DS division, Trincomalee District. Simple random sampling technique was used to draw the sample. Data were collected through pre tested questionnaires and were analyzed for frequencies, cross-tabulations and regression analysis. The average area of land cultivated by an onion farmer was 1.68 acres. A Cobb-Douglas production function was applied to find the factors affecting the crop value of onions in both seasons. Planting material and marketed quantity had significant effects on crop value of red onions in *Maha*.

Key words: Red onions, Production, Cobb-Douglas function, Gross Income, Profits

Introduction

Red onion has a vital role in the diet of Sri Lankans and is a high value cash crop of the dry and intermediate zones. Red onion cultivation was confined to the northern part of the country until it was recently extended to non-traditional areas, thus promoting off-season production. Major red onion growing areas are Jaffna, Vavuniya, Mullaitivu, Trincomalee and Puttalam (Gunawardena, 1990). Red onions are cultivated in both '*Maha*' and '*Yala*' seasons on highland and home gardens. Red onion cultivated area was initially 1,200 acres in 1975 and then it extended to 1,950 acres. More than 50% of the red onion production in Trincomalee is coming from Nilaveli area. Total cultivated extent for 2012 in Trincomalee was 261 ha in *Yala* as well 676 ha in *Maha* season. Around 84% of onions cultivation takes place in Kuchchaveli Divisional Secretariat in Trincomalee District where total production of red onions was 9,675 tons in *Maha* 2012 to early *Yala* 2013 and domestic consumption was 3,920 tons. Most of the products are marketed to wholesalers from Colombo and Dambulla areas (DS office, Kuchchaveli, 2012).

Jaffna is the major district for onion cultivation compared to Trincomalee District and high level of onion production in Jaffna leads to low prices in Trincomalee District, is a major problem faced by onion farmers. Moreover, importation of red onions from India during harvesting period reduces the income of red onion farmers. While pest and disease attack and unfavorable climatic conditions such as flooding, cloudy weather, and heavy rain also severely affect red onion cultivation. Major objective of the study is to analyze the red onions production in Nilaveli AI range in Kuchchaveli DS Division of Trincomalee District. The specific objective of the study is to identify the factors that influence the crop value of red onions and profitability.

Materials and Methods

In Trincomalee District, there are eleven DS divisions. But large scale of red onion production is carried out in Kuchchaveli DS division. In Kuchchaveli DS division, Nilaveli AI range was selected as a study area which covers five GN divisions. The selected villages in the GN

divisions were Nilaveli-01, Thamarakulam, Nilaveli-02, Nilaveli-03 and Gopalapuram according to the number of red onion farmers and the extent of onion cultivation. Proportionate sample size was selected from each GN division. Simple random sampling method was used to select the samples. Thus the final sample comprised of 90 onion farmers as respondents from the five villages. A structured questionnaire was designed for interviewing onion farmers. Primary data were collected using a pretested questionnaire among the sample farmers through personal interviews. Discussions were also held with key informants: AI, village headman, presidents of farmer associations. The Cobb-Douglas function was used to examine the factors affecting crop value for both *Maha* and *Yala* seasons. Data analysis was confined to descriptive, frequencies and simple linear regressions (log-log form).

Results and Discussion

The average area of land cultivated with onions by a

farmer was 1.68 acres. In *Maha* season the average yield of red onions was 5,294.34kg/ac, while in the *Yala* season the average yield 3,905.84kg/ac. Significant difference ($P < 0.01$) was observed in average yield of the red onions between *Maha* and *Yala* seasons. Average gross income in *Maha* season was Rs.455,920 per acre and in *Yala* season it was Rs.303,090 per acre, which were significantly different ($P < 0.01$). Average profit in *Maha* season was Rs.205,850 per acre, while in the *Yala* season it was Rs.49,349 per acre, which were significantly different ($P < 0.01$).

Regression results indicated that the factors of marketed quantity and planting material had significant impact on gross income/crop value of red onions in the *Maha* season.

Onion was cultivated on less than 2 acres of land in the Kuchchaveli DS area of Trincomalee district. Significant difference was observed in average yield of

Table 1. Production elasticities and related production function statistics for value of onion production in Maha season ($P < 0.01$)

Coefficients	
	B
(Constant)	2.279 (2.514)
1. Land preparation cost (X_1)	0.022 (0.045)
2. Planting material cost (X_2)	0.507 ** (0.2)
3. Fertilizer amount (X_3)	0.028 (0.102)
4. Agrochemical cost (X_4)	-0.004 (0.091)
5. Marketed quantity (X_5)	0.533* (0.07)
R ²	0.47
F	14.728*

N = 90 (Within brackets- Std. errors) Dependent variable = Gross Income (Crop value)

the red onions between *Maha* and *Yala* seasons, with *Maha* season yield being greater. Average gross income in *Maha* season was significantly different from that of *Yala* season. Average profit in *Maha* season was also significantly different from the profits obtained in *Yala* season. The Cobb-Douglas production function showed that an increasing economic returns to scale existed in red onion cultivation in the *Maha* season. Planting material and marketed quantity had significant effects on crop value of red onions in *Maha*.

References

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