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## ECONOMIC ANALYSIS OF POST-HARVEST LOSSES IN RICE IN TIRUNELVELI DISTRICT, TAMIL NADU

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### *Abstract*

*This study is intended to analyze the post harvest losses of rice in Tirunelveli district of Tamil Nadu. Primary data were collected from 60 rice growers and 20 rice processors in the period from November 2018 to February 2019. The results shows that the majority of post harvest losses viz., occurs in rice growers while in harvesting of rice accounts for 500 kg with the value of Rs. 8500/- then major losses which goes on cleaning and winnowing [700 kg stood the value of Rs. 11,900/-] followed by drying, transportation from rice field to road and threshing cost incurred during storage and value Addition/Processing, the material cost accounts for Rs. 1850/- while the harvesting of rice, the foremost problem of to entry of rodents and pig followed by Delaying of middleman to settle the amount, Flooding at the time of harvesting/winnowing, Non availability of combine harvester as well as right path way and Low price of the produce.*

**Keywords:** Rice, Post harvest losses, Middleman, Procurement centre.

### **Introduction**

Agricultural products and commodities that produced on the farm levels have to undergo a series of operations such as harvesting, threshing, winnowing, drying, bagging, transportation, storage, processing, marketing and exchange before they reach to the final consumer, and there are substantial losses in crop output at all these stages. So there is a urgent need to analyze the economic losses in rice in various stages might be more meaningful for both policy makers as well as farming community.

This study has been purposefully attempt for the main objectives of to assess the post-harvest losses in paddy under different operations in Tirunelveli district of Tamil

Nadu. The following specific objectives are carried out as follows

1. to assess the post-harvest losses in paddy under different operations;
2. to identify factors responsible for such losses; and
3. to suggest ways and means to reduce the extent of losses in different operations of the farms.

### **Methodology**

Used with the multi-stage random sampling techniques, Tirunelveli district of Tamil Nadu is purposefully selected for this study. In the second stage three blocks were selected randomly. Two villages from each block were selected randomly. Then 20 rice growers from each village it will leads to

totally 60 rice growing farmers. Finally, 20 rice processors were selected randomly. The data were collected in the period of November 2018 to February 2019.

**Results and Discussion**

The collected primary data from rice growers as well as rice processors were analyzed and tabulated for easy understanding results.

**Post-Harvest Losses of Rice in different Stages**

Stages	Loss [kg]	Value [Rs]
Harvesting	500	8500
Threshing	4	68
Cleaning / Winnowing	700	11900
Drying	15	255
Transportation loss from field to road	10	170

It can be observed from the table 1, the majority of post harvest losses viz., while in harvesting of rice accounts for 500 kg with the value of Rs. 8500/- then major losses which goes on cleaning and winnowing [700 kg stood the value of Rs. 11,900/-] followed by drying, transportation from rice field to road and threshing. Hence, utmost care might be taking above said operations.

**Cost incurred during Storage and Value Addition / Processing**

Cost Incurred	Materials /Methods used	Qty[kg ]	Value [Rs]
Storage	Dharpai	1	50
Value addition / Processing	Removal of stone and other admixtures		30
By products			370
Shelf-life period	3 days		
Selling price		75	1400
			1850

Cost incurred during Storage and Value Addition / Processing has been available from the table 2, the material cost accounts for Rs. 1850/- whenever, the post harvest operation of rice the farmers should kept for traditional materials will minimize the cost of operation.

**Constraints that have been faced in Post Harvest Losses of Different Stages of**

**Rice Cultivation**

Constraints	Ranking
Entry of Rodents and piggery	I
Delaying of middleman to settle the amount	II
Flooding at the time of harvesting/winning	III
Non availability of combine harvester as well as right path way	IV
Low price of the produce	V

Rice growers were opined that [from table 3] while the harvesting of rice, the foremost problem of to entry of rodents and pig followed by Delaying of middleman to settle the amount, Flooding at the time of harvesting/winning, Non availability of combine harvester as well as right path way and Low price of the produce.

**Suggestions to Minimize the Post Harvest Losses of Different Stages of Rice Cultivation**

Suggestions	Ranking
To avoid the labour shortage, promote more mechanization	I
Need more of threshing floor facilities	II
Increase the number of Government rice procurement centre	III
Training is essential for developing mechanized harvest operator skill	IV

**Post harvest losses of rice in different stages from Rice processors**

Stages	Loss [kg/q]	Value [Rs]
Grain scattering while threshing / Combine harvesting	10	180
Transport	300	2400

Evident from the table 5, the rice processor also have been losses at the time transporting from production point to rice mill with 300 kg in terms of value Rs.2400/- and in Grain scattering while threshing / Combine harvesting would occur in minimum level of losses.

**Cost incurred during Storage and Value Addition / Processing**

Operations	Materials /Methods used	Quantity[kg]	Value [Rs]
Storage	Gunny	2075	4150

ge	bag		0
By products		1.5	75
Shelf-life period	Godown		5000
Purchase price		75	1400
Selling price		1	38

Table 6 shows that the rice processor has been incurred the cost of Rs.41500/- for gunny bag for the storage and using the godown charges of Rs.5000/-

#### **Constraints that have been faced in Post Harvest Losses of Different Stages of Rice processor**

Constraints	Ranking
Irregular maturity of harvest	I
Water scarcity	II
Issue of cheque to the farmers, produce might be reduced in 10 kg	III
High damage of byproducts	IV

#### **Suggestions to Minimize the Post Harvest Losses of Different Stages of Rice processors**

Suggestions	Ranking
Allowing the produce to required drying in yard	I
Stored in a large quantity of rice with gunny bag in sequential manner	II
Rainy days to cover the rice bag in good condition to avoid the loss	III
Immediate drain the flood in the threshing floor/storage godown	IV

#### **Conclusion**

The majority of post harvest losses viz., occurs in rice growers while in harvesting of rice accounts for 500 kg with the value of Rs. 8500/- then major losses which goes on cleaning and winnowing [700 kg stood the value of Rs. 11,900/-] followed by drying, transportation from rice field to road and threshing. Cost incurred during Storage and Value Addition / Processing, the material cost accounts for Rs. 1850/-while the harvesting of rice, the foremost problem of to entry of rodents and pig followed by Delaying of

middleman to settle the amount, Flooding at the time of harvesting/winnowing, Non availability of combine harvester as well as right path way and Low price of the produce.

To overcome the post harvest losses the rice growers were suggested that avoid the labour shortage, promote more mechanization followed by Need more of threshing floor facilities, Increase the number of Government rice procurement centre and Training is essential for developing mechanized harvest operator skillthe rice processor also have been losses at the time transporting from production point to rice mill with 300 kg in terms of value Rs.2400/- and in Grain scattering while threshing / Combine harvesting would occur in minimum level of losses.

Rice processor has been incurred the cost of Rs.41500/- for gunny bag for the storage and using the godown charges of Rs.5000/-

Major constraints faced by the rice processor of Irregular maturity of harvest, Water scarcity, Issue of cheque to the farmers, produce might be reduced in 10 kg. Suggestions given by the rice processors to minimize the post harvest losses of rice, Allowing the produce to required drying in yard followed by Stored in a large quantity of rice with gunny bag in sequential manner, Rainy days to cover the rice bag in good condition to avoid the loss and Immediate drain the flood in the threshing floor/storage godown

Rice growers might take more care on post harvest operations like harvesting, threshing, winnowing, transportation, packaging and value addition of rice. Adopt proper techniques to minimize the losses. Government may be increasing the number of rice procurement centre at the time of harvesting with higher price to safeguards the rice growers from the middleman intervention.