



Research Article

CONSTRAINTS OF THE COLD STORAGE BUSINESS AND SUITABLE POLICY MEASURES

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Abstract- In this section an attempt has been made to identify the problems faced by the cold storage owners of Jaipur district of Rajasthan. Technical constraints are the lack of technical knowledge or skill required for running this business. Lack of the technically trained persons for running cold storage and dripping of condensate ceiling was more acute problem (about 87.5 percent owners faced this problem) among the problems under study. About 75 percent owners reported that they faced problems of lack of technological knowledge of cold storages or icing of evaporative coils and 62.5 percent people faced the problem of lack of knowledge about specific temperature and humidity in respect to a specific product rearing in the cold storages. Increase of electricity consumption, rooting of walls and ceiling of walls due to lack of technical knowledge was reported by 37.5 percent of respondents. Problem of ceiling injury in product during storage was 25 per cent stores. Problem of shriveled, rooting and off flavor was reported by 50 per cent respondents. In the acquisition part of funds, it was observed that most of the respondents reported it as a problem. Cold storage owners were asked if there is any problem in the acquisition of loans or subsidies and 87.5 percent respondents replied in affirmative. The opinions about the costing of the project showed that 75 percent respondents told about high cost of construction, 62.5 percent said about high cost of electricity charges, 50 percent opinioned about high cost of machinery and 37.5 percent opinioned about high cost of gas and fuel and lack of transportation means. The average reporting under the heads technical problems and financial problems showed that both the heads had almost equal weight age. Technical problems were reported by 59.72 per cent respondents whereas financial problems were reported by 60.71 per cent.

Keywords- Problems, Technical, Financial, Respondents, and Cold Storages.

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Introduction

The cold storages faced number of problems with main problem of initial high capital cost, which have made further addition to the capacity quite unremunerative. Entrepreneurs are not being attracted towards setting up of the additional cold storages. There is therefore, an immediate need for identification and adoption of alternative designs and technologies which are likely to be cost effective Energy efficient and which cut down on construction time. Efforts are being made towards up-gradation of the cold storage/ refrigeration technology and methods [1]. Effects of seed potato and haulm cutting dates on tuber weight loss during cold storage. Minimum tuber weight loss during storage occurred in tubers of 61-90 gm in weight with haulm cutting and 110 days after planting and maximum weight loss was observed in tubers of 15-30 gm with haulm cutting at 80 days after planting. Weight loss in tubers during cold storage was inversely proportional to haulm cutting dates. At early stage of harvest tubers were immature and had low total soluble solids more water and skin were not hardened resulting in greater evaporation loss from the tuber surface [2]. Effect of potato stores operation on energy usages and weight loss. In response to the demand for un-sprouted potatoes, which have not been treated with sprouts up present, the use of refrigerated store was considered. Effects of various parameters on power usage and tuber weight loss for a fully refrigerated potato store were investigated. A computer model validated by detailed monitoring of potato stores was used for the calculations. Store parameters considered were; storage temperature, storage

RH, local ambient conditions, store capacity or loading factor, half cooling time and infiltration rate or air tightness of the store, Results showed that poor consumption was not affected by storage temperature and infiltration rate of the store, and weight loss was most affected by the half cooling time [3]. The post-harvest and cold storage losses of apple in blotchiest district of Pakistan concluded that on an average 17 per cent damage apple and out of these 12 per cent quantity was not consumed and thus wasted. If there were same grade of apple found accurate than revenue was much higher. Therefore, in a multiple grade carte there is an additional cost on waste product of apple. Storage process is very sensitive and the multiple and poor grade affected "A" grade and returns from it [4]. The effect of floor depth and thermal insulation on heat gain during storage period results of calculation showed great advantage of partly underground location and lack of floor insulation of cold storage in comparison with traditional fruit stores. Insulating the floor with foamed polystyrene 10 cm thick reduced total heat gain during the whole cold storage season by as much as about 40 percent and several times lowers demand of necessary power of cold storage plant at the beginning of storage period [5].

Methodology

The present study was conducted in the Jaipur district of Rajasthan because it has maximum (35) number of cold storage among the 35 cold storages; eight cold storages were selected for present study. The study was based on primary and

secondary data collected from Jaipur district of Rajasthan. For the collection of the data, a well structured questionnaire was prepared and on the basis of record of cold storages, and interview with managerial staff or owner of cold storage, primary data were collected. While secondary data on area and production of major fruits (Lemon, Orange, Sapota, Mango, Moshambi, Aonla and Pomegranate) and vegetables crops (Carrot, Onion, Pea, Potato, Sweet Potato and Tomato) were collected from different sources like Krishi Bhavan Jaipur and different publications.

Results and Discussion

Technical Problem

Technical constraints are the lack of technical knowledge or skill required for running this business. Lack of the technically trained persons for running cold storage and dripping of condensate ceiling was more acute problem (about 87.5 percent owners faced this problem) among the problems under study [Table-1]. About 75 percent owners reported that they faced problems of lack of technological knowledge of cold storages or icing of evaporative coils, 62.5 percent persons faced the problem of lack of knowledge about specific temperature and humidity in respect to a specific product rearing in the cold storages. Increase of electricity consumption, rooting of walls and ceiling of walls due to lack of technical knowledge was reported by 37.5 percent of respondents. Problem of ceiling injury in product during storage was 25 per cent and problem

related to shriveled, rooting and off flavor was reported by 50 per cent respondents. This study reported that on average 59.72 per cent cold storages faced with problem.

Financial Problems

Finance is acquisition and use of funds. The problem observed to be related to finance and profitability was observed to be seven in numbers. In the acquisition part of funds, it was observed that most of the respondents reported it as a problem. Cold storage owners were asked if there is any problem in the acquisition of loans or subsidies then 87.5 percent respondents replied in affirmative. The opinions about the costing of the project showed that 75 percent respondents told about high cost of construction, 62.5 percent said about high cost of electricity charges, 50 percent opinioned about high cost of machinery and 37.5 percent opinioned about high cost of gas and fuel and lack of transportation means. Further at the front of profitability, 75 percent participant reported that targets of profitability were not met with cold storages. The average of respondents reporting under various financial groups was estimated to be 60.71 per cent. The average reporting under the heads technical problems and financial problems showed that both the heads had almost equal weight age. Technical problems were reported by 59.72 percent respondents whereas financial problems were reported by 60.71 percent.

Table-1 Cold Storages Facing Technical Problems

S. No.	Problem	Number of cold Storages facing Problem	Number of cold Storages Not facing Problem	Per cent of cold Storages facing Problem
1	Lack of technical knowledge	6	2	75
2	Lack of technical Person	7	1	87.5
3	Temperature & humidity specification for Product	5	3	62.5
4	Increase in electrical consumption	3	5	37.5
5	Mouldy & rooting of walls & ceiling	3	5	37.5
6	Icing of evaporator Coils	6	2	75
7	Dripping of condensate ceiling	7	1	87.5
8	Chilling injury in product	2	6	25
9	Product are shriveled rooted & give off flavor and weight Loss	4	4	50
Per cent of the average problem faced by cold storages				59.72%

Source: Derived from primary information collected, tabulated and analyzed from the study area.

Table-2 Cold Storages Facing Financial Problems

S. No.	Problem	Number of cold Storages facing Problem	Number of cold Storages Not facing Problem	Per cent of cold Storages facing Problem
1	High cost of electricity charge	5	3	62.5
2	High cost of Machinery	4	4	50
3	High cost of gas & Fuel	3	5	37.5
4	High cost of Construction	6	2	75
5	Difficulties in obtaining loan & govt. subsidies	7	1	87.5
6	Projections are not Meet	6	2	75
7	Lack of Transportation	3	5	37.5
Per cent of the average problem faced by cold storages				60.71%

Source: Derived from primary information collected, tabulated and analyzed from the study area

Conclusion

The present study concluded that the major problems faced by owners of cold storages are technical problems like lack of technical knowledge, lack of technical Person, temperature & humidity specification for product, increase in electrical consumption, mouldy & rooting of walls & ceiling, icing of evaporator, coils dripping of condensate ceiling, chilling injury in product, product are shriveled rooted & give off flavor and weight loss. Financial problems like high cost of electricity charge, high cost of machinery, high cost of gas & fuel, high cost of construction, difficulties in obtaining loan & govt. subsidies, projections are not meet and lack of transportation are the major problems faced by the cold storage owners in Jaipur district of the Rajasthan. The average reporting under the heads technical problems and financial problems showed that both the heads had almost equal weight age. Technical problems were reported by 59.72 per cent respondents whereas financial problems were reported by 60.71 per cent. There may be problems of the cold storages owners, which if talked out can help improving efficiency of the cold storage units. Presently there is dearth of studies

and information which can help planners in achieving for said objectivity of high availability of fruits and vegetables. Increasing availability of fruits and vegetables required cold storages which in turn causes cost of establishment and operation in Jaipur district. Thus, present study has been undertaken with following objective which are helpful in increasing viability of cold storages.

Application of research

The present study provided various information about major constraints like financial problems and technical problems faced by owners of cold storage business which will be helpful to increasing the viability of cold storages business.

Research Category: Technical problem, Financial problem, Cold Storage, Jaipur

Abbreviations

%- Percent, ha- Hectare, kg/ha- Kilogram per hectare
MT- Million tone, Pp-Page number, qtl- Quintal, qty- Quantity

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Ethical Approval

This article does not contain any studies with human participants or animals performed by any of the authors. This is the original research work of post-graduation.

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