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Priyanka Kumari
Student M.Sc. (Agricultural
Economics) Department of
Agricultural Economics
Sam Higginbottom University of
Agriculture, Technology and
Sciences Allahabad, Uttar
Pradesh, India

Sanjay Kumar
Assistant Professor, Department
of Agricultural Economics
Sam Higginbottom University of
Agriculture, Technology and
Sciences Allahabad, Uttar
Pradesh, India

A study on post-harvest losses and constraints in banana cultivation in Vaishali district (Bihar)

Priyanka Kumari and Sanjay Kumar

Abstract

The study was conducted during 2017-18 entitled “post-harvest losses at different stages during marketing and constraints in banana cultivation in Vaishali district (Bihar).” A extended survey was conducted in Vaishali district and its major fruit markets to signify the entitled objective of post-harvest losses in banana. The total post-harvest losses in banana were found to be 2.90% of total farm produce. There were various sources of losses which include disease, inefficient harvesting techniques, transportation and loading, packing and packaging, as well erratic post-harvest techniques leading to major losses physically and economically. Total post-harvest loss was estimated 15 quintal/hectare quantitatively. Major constraints during the study was found to be high cost of fertilizer and less awareness about new technologies among different farm size group followed by a high transportation cost was the major marketing constraints.

Keywords: carriage constraints, quantitative loss, marketing loss, constraints

Introduction

Banana (*Musa paradisiaca*) is one of the oldest fruits known to mankind and also a rich source of energy (104 cal/100gram). It is highly nutritive and very delicious. The probable origin of this crop is Southeast Asia. Banana is the largest produced and maximum consumed amongst the fruits cultivated in India. India ranks first amongst the banana cultivating countries of the world. The important banana growing states are Maharashtra, Tamil Nadu, Andhra Pradesh, Kerala, Karnataka, Bihar and Gujarat. Post-harvest loss of fresh produce is a major challenge in the post-harvest sector. Fruits are the most perishable agricultural produces facing a tremendous loss from harvest to consumption. The post-harvest losses in banana have been estimated in the range of 4-4.7 quintal from harvesting, disease fruits in 3.16 quintal, storage in 2.08 quintal, transportation 2.5 quintal, to consumption stage. It was observed that the contribution of mechanical damage to banana loss might be attributed to the inefficient handling during harvesting and transport of bananas (Del, *et al.* 2010) [3]. Banana is an important fruit of many tropical and subtropical regions of India. Major constraints during the study was found to be high cost of fertilizer and less awareness about new technologies among different farm size group followed by a high transportation cost was the major marketing constraints. The study identified production problems like lack of technical know-how, scarcity of labour, pest and diseases, lack of adequate credit facility, and scarcity of water (Guledgudda, *et al.* 2002) [7]. Observed that improper maturity as a major factor to banana loss might be as a result of the delivery of immature bananas to the collection site. Collectors are not willing to pay for bananas with reduced quality, especially at times where there is good banana supply in the area. (Robinson and Sauco 2010) [9]. studied that banana was found to be stable crop for the state of Assam, moreover, it was also observed from the study that the growth of production of Banana has been mostly influenced by the growth of area rather than productivity further, it may be noted that land is a natural resource and the physical environment determines it's availability, respectively (Deka and Sarmah 2004) [2].

Research Methods

The present study pertains to the “A study on post-harvest losses, of Banana in Vaishali district of Bihar”. This investigation was under taken to study post-harvest losses of banana. Vaishali district is located on global map between 25°41' and 25°68' North latitude and 85°13' and 85°22' East longitude. The district occupies an area of 2,036 square kilometers. The rank of the district in comparison to other districts of Bihar in terms of area is 25th

Correspondence
Priyanka Kumari
Student M.Sc. (Agricultural
Economics) Department of
Agricultural Economics
Sam Higginbottom University of
Agriculture, Technology and
Sciences Allahabad, Uttar
Pradesh, India

Post-harvest losses tools

Post-harvest losses occurring in banana at various stages in marketing network were assessed by physical examination and assessment. Post-harvest loss were assessed at –

- i. Physical post-harvest losses (value of percentage)
- ii. Economical post-harvest level (value of Rs.)

Result and Discussion

Table 1: Post harvest losses in Banana at producer level (Quintals/ha)

S. No.	Stage	Small	Medium	Large	Sample average
	Yield	355.96 (100.00)	438.99 (100.00)	755.12(100.00)	516.69(100.00)
1	Diseased fruits	1 (0.28)	1.25(0.28)	1.75(0.23)	1.33(0.26)
2	Harvesting	2 (0.56)	2.25(0.51)	3.25(0.43)	2.5(0.48)
3	Storage	2 (0.56)	2.25(0.51)	2(0.26)	2.08(0.40)
4	Packaging	0.50 (0.14)	0.75(0.17)	1(0.13)	0.76(0.14)
5	Loading	0.15 (0.042)	0.50(0.11)	0.75(0.09)	0.47(0.09)
6	Transportation	4.35 (1.22)	4.50(1.02)	5.25(0.69)	4.7(0.90)
7	Marketing	3 (0.84)	3.50(0.79)	3(0.39)	3.16(0.63)
	Total post-harvest losses	13 (3.65)	15(3.41)	17(2.25)	15(2.90)

Note: Figure in the parenthesis indicate percentage to the total Table 1: Post harvest loss in banana during harvesting is high in small size farm group viz. 0.56 percent followed by medium 0.28 percent and large 0.22 percent. Total post-harvest losses during packaging high in medium 0.17 percent followed by small size 0.14 percent and large size 0.13 percent. Total losses during storage high in medium size 0.57 percent followed by small size 0.56 percent and large size 0.26 percent. Total post-harvest losses during loading high in

medium size 0.11 percent followed by large 0.03 percent and large size 0.04 percent. During Transportation total losses high in medium size of farm groups 1.22 percent followed by small size 1.02 percent and large 0.63 percent. Total losses during marketing high in small size 0.84 percent flowed by medium size 0.79 and large size 0.39 percent. Total losses during post-harvest of banana high in small size 3.46 percent flowed by medium size 3.41 percent and large size 2.25 percent.

Table1.2: Post harvest losses in banana at physical and economical in different stages (Rs. /quintals)

S. No.	Physical post-harvest losses	In quintal	Economical post-harvest losses	Value in Rs.
1	Diseased fruits	1.33(0.26)	Diseased fruits	4000
2	Harvesting	2.5(0.48)	Harvesting	7500
3	Storage	2.08(0.40)	Storage	6250
4	Packaging	0.76(0.14)	Packaging	2250
5	Loading	0.47(0.09)	Loading	1400
6	Transportation	4.7(0.90)	Transportation	14100
7	Marketing	3.16(0.63)	Marketing	9500
	Total	15.00(2.90)	Total	45000

Note: Figures in the parenthesis indicate percentage to the total in value in Rs.

Table 1.2: shows that post-harvest losses in banana were found to be 15.00 quintals i.e. 2.90% because of low shelf life, economical and physical nature of banana.

Constraints in production of banana in different size of farms group

Figure 2.1 shows that constraints faced by the different size of

farms group in production of banana. Most of the farmers expressed that major constraint was high initial investment and was assigned first percentage followed by High cost of fertilizers (95.45), High cost of PPC chemicals (91.81), High cost of labour (72.72), Pest and disease attack (50), High cost of hormones (91.81), High cost of planting material (68.2), Non- availability of quality seedlings locally (54.54) respectively.

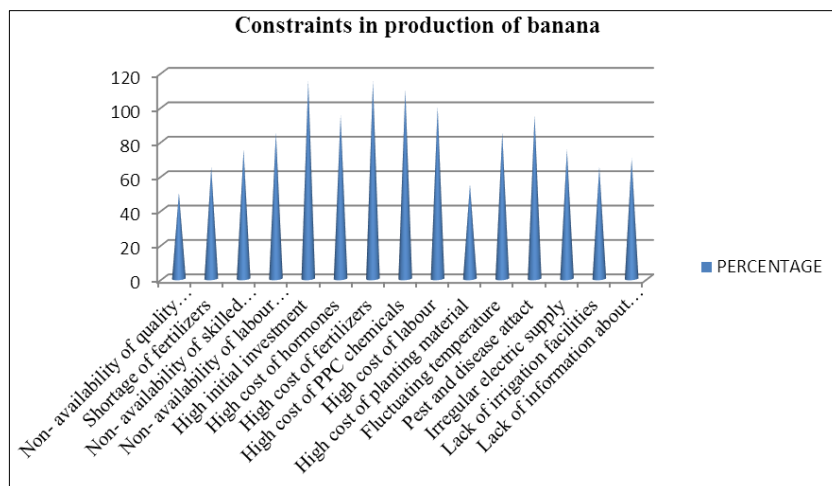


Fig 2.1: Constraints in production of banana in different size of farms group. Constraints in Marketing of Banana Farm Families in different Size of Farms Group

Figure 2.2 shows that constraints faced by the different size of farms group in marketing of Banana. Most of the farmers expressed that major constraint was identified that frequent price fluctuations and was assigned first percentage followed by high transportation cost (90.90), Lack of information about

government schemes and subsidies (89.09), Markets are far away from farm (93.5), Lack of scientific training about banana cultivation (91.3), and finally delay in cash payment which assigned least rank i.e. (42.72) respectively.

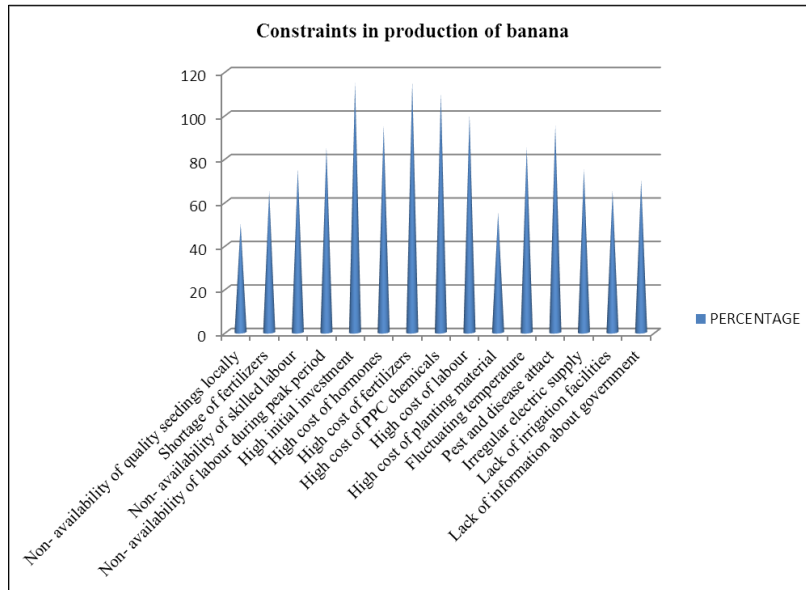


Fig 2.2: Constraints in marketing of banana in different size of farms group.

Conclusion

The study pertains to the post-harvest losses, of banana in Vaishali district. The objective of the study was to constraints and post-harvest losses in banana at physical and economical in different stages of banana. The results show that the constraints and post-harvest losses in stages of the respondents.

Total post-harvest disease in Vaishali district are very important in reducing yield and market quality of banana and are primarily responsible for the losses that occur during shipment of the fruit, Post-harvest losses in surface shipments and air shipments are not unusual. Losses due to disease, depending on post-harvest handling, transportation and packing producers. The diseases are of three general type fruit surface rots, stern-end rots, and internal fruit infections.

Major constraints in production was found that high cost of labour and less awareness sabot new technologies among different farms size group followed by a huge price fluctuation was the major marketing constraint in banana.

Reference

1. Anandaraj P. A Study on marketing of banana in Tiruchendur and Srivaikundam Taluks in Tuticorin District- Tamil Nadu. *International Journal of Scientific Research*. 2016; 5(3).
2. Deka N, Sarmah AK. Directorate of Research (Department of Agril. Statistics) Assam Agricultural University Jorhat 785013 Assam (India's) Growth trend in area production and productivity of banana in Assam Agricultural Situation in India, 2004.
3. Del Aguila JS, del Aguila LSH, Sasaki FF, Tsumanuma GM, Ongarelli MG, Spoto MHF. *et al.* postharve modifications of mechanically injured bananas. *Revista Iberoamericana de Tecnología Postcosecha*, 2010; 10(2):73-8
4. Deshmukha DS, Prashant PB, Er Pankaj kumar

Anawadec. Constraints in banana marketing and scope of improvement: Acase study for jalgaon Region, Pratibha. *International Journal of Science, Spirituality, Business and Technology*. 2013; 2(1).

5. Ebarle EJN. A Comparative Analysis of marketing margins of fruit and vegetables in Mindanao. *International Society for Horticultural Science*. 2013; 1006:143-147.
6. Gajanana TM. Marketing practices and post-harvest loss assessment of banana variety poovan in Tamil Nadu. *Agricultural Economics Research Review*. 2002; 15(1):56-65
7. Guledgudda SS, Shripad Vishweshwar, Olekar JN, Economics of Banana Cultivation and its marketing in Haveri District of Karnataka State. *Indian Journal of Agricultural Marketing*, 2002; 16(1):51-59. BHAT ANIL, JYOTI
8. John Jagwe *et al.* Transactional costs and small holders' participation in banana market in The Greater Lake Region of Burundi, Rwanda and Democratic Republic of Congo. *AfJARE* 2007; 6(1).
9. Robinson JC, Saucó VG. *bananas and plantains*. 2nd ed. CAB International, UK, MPG Books group. 2010.
10. District at Glance: - Vaishali 2017-2018.