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Price Variation of Cabbage in Different Seasons with Reference to Organized Retail in Ranchi

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ABSTRACT

Vegetables are the fundamentals of our regular eating routine. In India the creation of vegetables is in unbelievable trip. After China, India is the fourth greatest maker of vegetables. Starting late the increasing expenses of vegetables have been an authentic concern in Indian homes. This paper attempts to recognize the variation in cost of Cabbage in various seasons from farmers to end clients concerning organized retail. in the connecting territory of Ranchi. In case you accept that it is simply onions whose cost is extending, you are significantly stirred up. Masters express that a rising in central sustenance things in India is chiefly an immediate consequence of the extending thing costs abroad, increase in fuel expenses and fertilizers, which accordingly impact the local produce by growing info costs. With a development in the masses, there is moreover an addition in the enthusiasm for vegetables. In India's trading system, the conclusive outcome shows up at the customer in the wake of experiencing various authorities or agents. Each center individual endeavors to get benefits by extending the principal cost and the end cost ends up being amazingly higher than the genuine expense. Thusly, it is typical in India that we, as customers, finish on a noteworthy cost and at the same time the farmers don't get a justifying cost for the vegetables. In this way the aftereffect of this paper shows that there is a significant difference in the cost of Cabbage in various seasons from the farmers to end client having various intermediates.

KEYWORDS: *Cabbage, Price, Seasons, Organized Retail, Intermediaries*

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1. INTRODUCTION

India is a big country by population and by geographical area. There are many religions, caste and creed and living with their natural food habit across India. Due to living differentiation the food habits are also different, especially vegetable food products. The demand of the vegetables varies from one region to another. Generally, vegetables that are in demand by the local population are grown locally or in its adjoining area. These vegetables come under the perishable product category under the natural conditions. The efficiency of marketing for vegetables in India has been of significant concern in the recent years. It is very poor capability in the advertising channels and inadequate showcasing foundation are acknowledged to be the reason for high and fluctuating customer costs, yet in addition excessively less of the end users rupee achieving the farmers. (Kaul 1997, Ashturker and Deole 1985).

Indian farmers normally depend completely on middlemen especially when we talk about the vegetable market. The purchaser and the farmers frequently receive a poor arrangement and the go between control the market, however don't include much worth. There is additionally gigantic wastage, decay in quality just as the successive be fuddle 3 among interest and supply both involving and after some time (Subbanarasiah 1991, Singh M. et.al. 1985).

Vegetables consistently contain a fundamental piece of diet in India and from most areas of the majority they are in great in demand round the year. The estimated business of vegetables to the extent quick use, getting ready similarly as trade has risen altogether recently. Their money related importance has in like manner extended and high work influence in the formation of most vegetables age, furthermore makes them huge from the business point too, Sharma (1991). Increment in region allotments under plant yields has frequently been recommended as a measure for farming broadening, expanded work and salary, Malik, (1998).

In light of these issues, this study tries to find out the variation of price of cabbage in different seasons with reference to organized retail. The study tries to find out the chain that exist in vegetable marketing and selling. The normal chain that exist is from The Farmer → The mahajans → The Agent → The Wholesaler → Retailer → Consumer. Costs of vegetables are administered by the law of free market activity. At the point when the supply of any vegetable surpasses the interest for that item, costs will in general be lower than normal. Similarly, when the demand exceeds the supply, prices tend to rise. Often small changes in quantities offered for disposal on the National Markets have a magnified effect on prices. The year-round availability of processed vegetables (frozen, canned and, to a lesser extent, dehydrated) may reduce demand for the fresh product, particularly when prices are inflated. The availability of other products, which can be used as

substitutes for a particular vegetable, may also play a role. Thus, when potatoes are very expensive, there is a greater consumption of sweet potatoes, rice and maize products. Various vegetable marrows or squash may substitute for pumpkins. The demand for a specific vegetable is also affected by changes in consumer preferences and eating patterns, and by change of the season. Serving of mixed greens harvests are progressively famous during the hotter summer months, while those vegetables utilized for cooking and for soups are more sought after during the cooler, winter period. Changes in expectations for everyday comforts, and expanding urbanization of the populace, influence the sort of sustenance that families devour. At the point when costs have been anomalous high for a few while, numerous farmers who don't ordinarily develop the specific harvest endeavor to benefit from these costs by developing the yield. This prompts over-supply of the item, with resultant low costs. After times of low costs, a few cultivators suspend generation, bringing about a drop in supply and more expensive rates. It is typically just the steady maker who makes a money related accomplishment of vegetable cultivating over the long haul. The overall atmosphere in the creation regions is the significant reason for variances in the occasional supply of vegetables, and along these lines of costs. Ice delicate yields are typically just delivered in summer in many territories of the nation. The supply of vegetables intolerant of cold temperatures increases in summer, and lower prices prevail for these crops. In winter, and particularly in spring, creation of such warm-season harvests is confined to a couple of ice free territories. Makers in such zones may in this manner anticipate more expensive rates for their items. The contrary pattern happens with warmth touchy harvests, which require cooler conditions for best yields and quality. In such cases, costs will in general be lower in winter and spring and higher in the mid year to-harvest time period. Another complicating factor is that, while the climate at a particular time of year may favor crop growth, it may also favor disease development or pest incidence. This may make creation of a particular vegetable progressively troublesome, or all the more expensive, with the additional contribution of fundamental control measures. Misfortunes from bugs and ailments can influence the supply circumstance, and costs at that season will ascend with deficiencies. Aside from occasional patterns, the powers of nature can have an exceptionally checked impact on provisions and costs acknowledged for vegetables. For instance, floods, hail, tempests or illness may cause an unseasonal lack of a specific yield, and costs can rise drastically. Substantial downpours may postpone gathering tasks. This could result in a sharp ascent in crisp produce costs, trailed by a droop when abundance supplies achieve the market with synchronous gathering of the postponed harvests. Regardless of the considerable number of elements which are equipped for influencing business sector costs, there are particular regular value patterns. This reality can be utilized to advantage by any planned producer, gave that the ecological conditions at his creation unit take into consideration the generation of a particular harvest when progressively good costs are likely. In general, production of good yields of quality vegetables will be economic, even with relatively depressed prices.

1.1. BUSINESS MODELS OF VEGETABLERETAILERS

In India the retail area is still in its early stage. The arrangements and globalization of financial progression had lighted the nation's economy for faster development with the help of these retail businesses. The concurrent demonstration of advancement of the Indian economy and globalization set off a quickened modern development over the range of all the market areas in India. The mechanical development in Indian and changed efficient arrangement pulled in worldwide players to India in each modern segment (Saxena and Sahay, 2000).The overall retail industry isn't a special case since it has seen headway into sorted out exchanging. Sorted out retailing alludes to promoting exercises undertaken by authorized retailers, that is, the individuals who are enrolled for deals charge, annual duty for whose business is corporate, who execute the executives methods overseen by experts as a firm or restricted organization or helpful. Conventional retailing alludes to the individuals who work in chaotic markets. The composed retailing had been started in a wide manner by the corporate, household and worldwide.

An exploratory examination has been completed to comprehend customary and composed the vegetable retailing and it‘s calculated the process. In the city of Ranchi the region of the concentrate was restricted to the vegetable retailing.

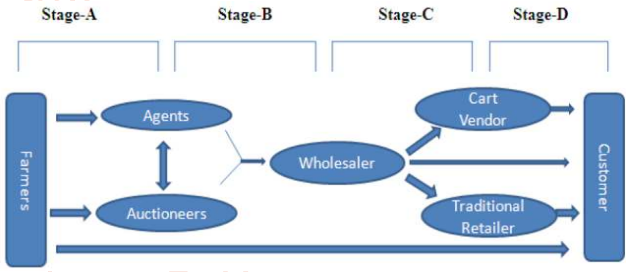

Figure1. Traditional Model of Logistics (Source: Paulrajan Rajkumar 2010)

1.2. VALUE CHAIN MODEL

Currently, organized retailer Reliance Fresh (Reliance Retail Ltd) follows a Value Chain business model (VCM). Organized retailers who adopt VCM procure the produces directly from farmers and sell to customers by avoiding intermediaries. This model is based on its core growth strategy of backward integration and progressing towards building an entire value chain starting from the farmers to the end consumers. Very fewer players are involved in this model compared to the traditional retail model or organized retailer's hub and spoke model. Farmers, composed retailers, and customers are the players who structure this value chain. In this preparation, farmers, composed retailer's operational units, association centers, focus point (scattering centers) and retail outlet stores, and players are customer. Fewer farmers, contract farmers, and lease Farmers are the basic wellspring of supply of vegetables to the sorted out retailers. Contract farmers and lease farmers are farmers who execute a trade agreement with the organized retailers for sale of vegetables. Figure2 speaks to the Value Chain Model strategy of vegetable retailing. Vegetables move from ranch territories to customers in four phase‘s farmers to blend centers, association centers to focus guide, focus point to retail outlets (stores) and stores to customers. Free Farmers supply their produces to the mix centers; contract Farmers and lease farmers produces are gotten by hardening centers. One hardening center supplies vegetables to various focus focuses, depend upon the thing. Focus focuses get quick movement from the understanding of developing zones.

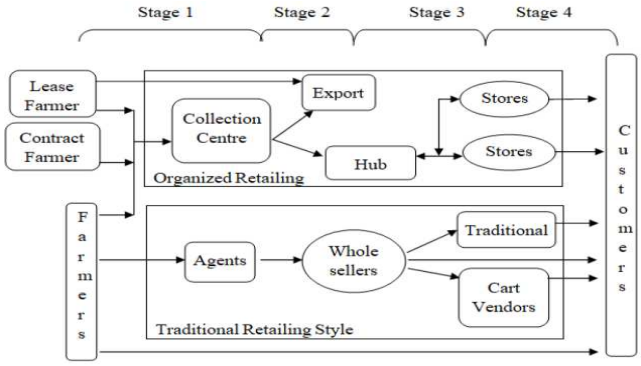

Figure2. Value Chain Model
(Source: Halder & Pati 2011)

1.3. PRICE VARIATION OF VEGETABLES

Costs of vegetables are administered by the law of free market activity. At the point when the supply of any vegetable surpasses the interest for that item, costs will in general be lower than normal. Similarly, when the demand exceeds the supply, prices tend to rise. Often small changes in quantities offered for disposal on the National Markets have a magnified effect on prices. The year-round availability of processed vegetables (frozen, canned and, to a lesser extent, dehydrated) may reduce demand for the fresh product, particularly when prices are inflated. The availability of other products, which can be used as substitutes for a particular vegetable, may also play a role. The interest for a particular vegetable is likewise influenced by changes in shopper inclinations and eating designs, and by the difference in the season. A Plate of mixed greens yields is progressively well known during the hotter summer months, while those vegetables utilized for cooking and for soups are more sought after during the cooler, winter period. Changes in expectations for everyday comforts, and expanding urbanization of the populace, influence the sort of sustenance that families devour. At the point when the costs have been unusually high for a few whiles, numerous Farmers who don't regularly develop the specific yield endeavor to benefit from these costs by developing the harvest. This prompts over-supply of the ware, with resultant low costs. After times of low costs, a few cultivators suspend generation, bringing about a drop in supply and more expensive rates.

2. LITERATURE REVIEW

Ganesh Iyer and J. Miguel Villas-Boas (2003) say that the bargaining power of retailers by concluding that an increase in the relative power of the retailer in the channel reduces double marginalization and promotes channel coordination. Balagtas and Holt's discussion has contributed to understand market information systems and the functioning of market-based mechanisms for agricultural risk management, including futures, options, and insurance. Though the progress over the decades have been a remarkable journey, Gulati explains the demand for stronger vertical coordination in the food system as a means of satisfying increasingly diverse consumer preferences are changing the landscape facing food supply chain participants. The consolidation trend in the marketing sector seems inexorable, implying that noncompetitive behavior and its effects will remain high on the research agenda.

A, Rasi M & Sheoran , (2015), Generally the price is paid by the different marketing agencies regarding the packing, transportation, storage and processing, but in the city like Ranchi the intermediaries or mahajans cut down the price of these variables from the farmers end and lower down their margin, an efficient marketing channel has to be developed through which the farmers can sustain with any losses. An efficient marketing system can reduce the post-harvest losses, enhances the farmer's realization, reduce the consumer price, promote grading and food safety practices, induce demand-driven production, enable higher value addition, and facilitate export.

Gupta and Ram (1981) conducted a study on price spread behavior of vegetables in Delhi and found that producers receive only 37.6 percent of consumers' price for all vegetables and the intermediaries shared 10.7 percent for wholesaler, 24.3percent for retailer and 2.6 per cent for commission agent. This indicated high profit margin of the intermediaries and a wide price spread.

Mohsin et al. (1984) In general, the soil of Jharkhand is red and acidic (pH 5.5 to 5.9) in uplands, yellowish and slightly acidic in medium lands (pH 6.5 to 7.3), and grey and alkaline in the lowlands, water holding capacity of upland soil is poor.

Singh et al.(1996) reported that during the diagnosis phase of project on TAR through IVLP, Agro-ecosystem diagnosis was done using the Participatory Rural Appraisal (PRA) tools. Through this analysis poor productivity and profitability in rainy season cauliflower was prioritized as the most important problem, out of seven identified production problems in vegetable crops. The criteria of problem prioritization included the extent of yield loss, intensity of occurrence, and importance of enterprise and distribution of the problem. Browning of curds and hollowness in stem, mainly due to deficiency of boron and molybdenum was identified as the major bio-physical cause as decided in the farmer-scientist interface meeting. Continuous cropping of cauliflower on the same land caused depletion of boron and molybdenum which led to curd rot and hollowness in the stem and thereby lowering the productivity tremendously.

Chauhan et al.(1979) observed maximum disease incidence (58.3 per cent) in experimental plots of Ranchi Agricultural College, Kanke, followed by Samlong and Pithoria villages. Least incidence of disease was recorded in Bero followed by Chutia in Ranchi district. Chauhan et al (1979) and Singh et al (1988). Ajay et al (2006) observed that key pest responsible for deterioration of quality and quantity in brinjal was shoot and fruit borer, Leucinodes orbonalis Guen (Pyralidae: Lepidoptera).

Gadgil D.R. (1954)in the title of The Industrial Evolution of India in Recent Times' studied the economic effects of irrigation and concluded that the total direct and indirect effects of irrigation projects were very favorable to the farmers. With irrigation, farmers received higher levels of income and they were able to make additional investment on cattle, farm implements and on commercial crops like sugarcane and cotton. Further, it generated additional employment opportunities as well.

Anderson R.L. (1968) in their research article on A Simulation Programme to Establish Optimum Crop Pattern in Irrigated Farms Raised on Pre-Season Estimation of Water Supply'has developed a simulation model to make the most

efficient use of the predicted water supply throughout the season for higher net returns. The Model determined the optimum cropping pattern for each farm based on the individual farm water supply, crops grown, minimum and maximum acreage of each crop and water requirement of each crop.

Singh and Singh (1992) has been stated that the different fruits and vegetables absorbs vibration and collapsed with each-other during road transportation, handling, loading and unloading which caused mechanical damage.

Egharevba, (1995) Different fruits and vegetables treated as an important source of vitamins, minerals and fiber due to the several nutritional benefits the consumption of fruits and vegetables increased which also improve the commercialization of fruits and vegetables.

Singh and Singh (1992) The transportation of perishables agricultural commodities with the help of road transported vehicles hamper the quality of commodities and basically caused the significant textural damages (higher in the case of perishable commodities) due to the irregular and unsmooth roads.

Rai (1965) pointed out that less preference of laborers, difficulty in procuring seed, and high cost of seeds and failure of crops were the reason for non applicability. Choudhary et al. (1999) made an attempt to ascertain the extent of adoption of fertilizers between contact and non-contact farmers in Ranchi, West Champaran and Patna districts representing the three different agro climatic regions of the state. The findings revealed that contact farmers were far ahead in making use of plant nutrients (N, P, K) in comparison to non-contact farmers. The study suggested the need to utilize the contact farmers as change agents for transforming the state agriculture scenario.

2.1. SUMMARY OF LITERATURE REVIEW

The different literature overviewed in regards to the value component and promoting of vegetables expresses that there is a variation in cost of the vegetables from farmers to the retailers and the farmers don't understand a real pay after venture made by them. The above literary works have likewise expressed that because of absence of framework, the farmers can't hold the vegetables with them for a long range of time because of its perishability in nature and in this manner the farmers need to sell the vegetables in undesirable costs which thus make a poor profit for their venture and work. Since the farmers are not particularly mindful in regards to the showcasing of the vegetables, so the farmers can't move toward a fitting channel for the equivalent. The retailers have a solid dealing power which prompts give a value hole from the ranchers to the retailers which result the vegetables comes in the market to the customer with significant expense.

A portion of the literature stastes that various seasons additionally assume a significant job in the variety of cost of vegetables. Like in storm when the development is acceptable, at that point the cost of the vegetables is steady or less when contrasted with different seasons like pre-monsoon and post-monsoon and it shifts as needs be. Then again the different horticultural information sources likewise assume an essential job in the variety in cost, particularly the water system offices, for example in monsoon the farmers need to put forth less attempt with respect to the water, yet in different seasons they need to try in regards to the equivalent and need to make a course of action to store at various medium.

3. OBJECTIVES AND HYPOTHESES

3.1. OBJECTIVES

The research study was taken up in Ranchi districts of Jharkhand. In view of highest volume of production of cabbage in this district and due to large scale marketing activity taking place in relation to the vegetables in Ranchi district and in its adjoining areas as they are endowed with relatively highest areas under respective vegetable.

1. To identify the extent of price variation of Cabbage across different seasons with respect to farmers and organized retailers
2. To understand the price gaps of cabbage between farmers selling price and organized retailers selling price.

3.2. HYPOTHESES

In order to achieve the desired result, a hypothesis have been formulated, which will be tested and conclusions will be drawn on the basis of the test results. The hypotheses are mentioned below:

Ho : There is no variation in average productivity, average production cost and average transportation cost of Cabbage at different seasons.

H1 : There is a variation in the average productivity of Cabbage at different seasons.

H2 : There is a variation in the average production cost of Cabbage at different seasons.

H3 : There is a variation in the average transportation cost of Cabbage s at different seasons.

4. METHODOLOGY

The process of selecting a portion of the population to represent the entire population is known as sampling (LoBiondo-Wood & Haber 1998; Polit & Hungler 1999).

A stratified random sampling method was used. In using this method each element in the population has a known and equal probability of being the sample actually selected. The selection of the sample is free from personal bias because the investigator does not exercise any discretion or preference in the choice of items. For the farmers the self – completed individual questionnaire method was selected where the questionnaire was personally handed. This method helped the respondents to clarify the doubts with the researcher.

The respondents were randomly selected and asked to fill the questionnaire on request. The respondent who gave willingness to participate typically gave better response. The respondent who did not fill the form correctly and completely their forms were rejected. The researcher took all the care that no respondent were repeated. (Sample size - 139 respondents for the study), only those respondents (farmers) we considered who have four acres of land for the cultivation, small farmers were not considered since they do not cultivate so much or do not have the relationship with the retailers, they only produce and sell to the villages.

5. DATA ANALYSIS AND INTERPRETATION

After collecting the data from the farmers, the data were systematically arranged and tabulated for analysis and interpretation in a spread sheet. Since the price form the farmer and retailer were found as a price gap because there are fixed price from both the side and there is a variations in price in different seasons. so, in order to test the significant differences between the seasons for Average productivity, cost of production, cost of transportation Cabbage at different Seasons (Pre Monsoon, Monsoon and Post Monsoon), Analysis of Variance with one way Anova was considered.

5.1. Price Variation of Cabbage across the Seasons

Table1. Total costs incurred by the farmer, farmers selling price, consumer price and price variation of Cabbage across the seasons.

Seasons	Cost from the farmers Side				Farmers Selling Price in Rs./Tons	Consumer Price in Rs./Tons	Price variation of vegetables in Rs./Tons
	Production cost in Rs./Tons	Transportation cost in Rs./Tons	Packaging cost in Rs./Tons	Total Cost in Rs./Tons			
Pre-Monson	10625.00	3125.00	0.00	13750.00	16000.00	23000.00	7000.00
Monsoon	8487.00	3125.00	0.00	11612.00	14500.00	19000.00	4500.00
Post-Monsoon	8262.00	3125.00	0.00	11387.00	14000.00	17000.00	3000.00

Source: Primary Data

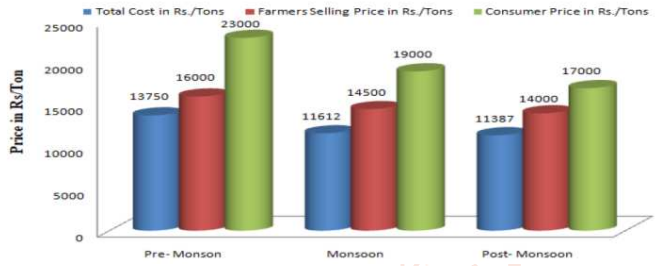

Figure3. Price Variations of Cabbage at different Season

Interpretation:

The Table and Figure states that there is maximum price of cabbage in the pre-monsoon season as compared to other seasons, similarly the cost of production is less in monsoon and post monsoon. The farmers receive maximum profit in the monsoon season rather than pre-monsoon season and post-monsoon season. Cabbage has also no packaging cost as similar to cauliflower.

5.2. Percentage of Price Variation and Price Gap from Farmers to Organized Retailers at different seasons.

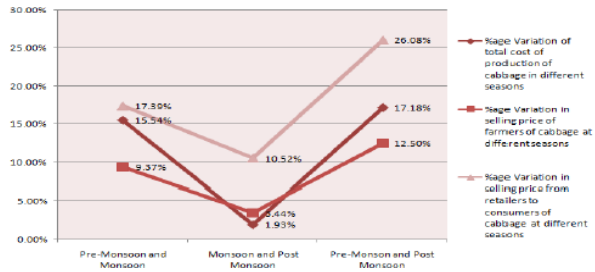

Figure4. Price variations / Price gap in respect to the total cost of production, farmers selling price, and retailers selling between two different seasons for Cabbage

Interpretation:

The average percentage variation of total cost of production of cabbage was found 17.18% at pre monsoon season and post monsoon season, which is highest as compared to pre monsoon season and monsoon season i.e. 15.54%. In monsoon and post monsoon seasons the percentage of variation is 1.93% which means there is less variation in total cost of production in these seasons.

The average percentage variation in selling price of cabbage form farmers was found 12.50% at pre monsoon season and post monsoon season, which is highest as compared to pre monsoon season and monsoon season i.e. 9.37%. In monsoon season and post monsoon season the percentage of variation is minimum as compared to other season which is 3.44%.

The average percentage variation in selling price of organized retailers for cabbage was found 26.08% at pre monsoon season and post monsoon season, which is highest as compared to pre monsoon season and monsoon season i.e. 17.39%. In monsoon season and post monsoon season the percentage of variation is 10.52% which means these seasons have less variation than other seasons.

5.3. Testing of Hypothesis related to Price Variations in the Average Productivity, Average Production Cost and Average Transportation Cost of Cabbage in different seasons

5.3.1. H1. There is a variation in the average productivity of Cabbage in different seasons.

Table2. Average productivity of Cabbage in tons in different seasons (Pre Monsoon, Monsoon and Post Monsoon)

Descriptive Statistics

Seasons	Mean (in Tons)	Std. Deviation
Pre-Monsoon	0.56	0.3937
Monsoon	0.88	0.4272
Post-Monsoon	0.96	0.4153

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between the seasons	2.240	2	1.120	6.588	0.002
Within seasons	12.240	137	0.170		

Interpretation:

The above two Table states about the descriptive statistics and analysis of variance. From the Table it can be understood in Pre-Monsoon (M = 0.56, S.D = 0.3937), Monsoon (M = 0.88, S.D = 0.4272) and in Post-Monsoon (M = 0.96, S.D = 0.4153).

The analysis of variance Table depicts, the value of F = 6.588 and the sig. value is 0.002, for the average productivity of Cabbage in tons in different seasons.

The analysis of variance states that the average productivity of Cabbage was found the highest during the post-monsoon season, which is at par with the monsoon season. The average productivity during the monsoon and post-monsoon seasons was significantly higher than the pre-monsoon season.

For Cabbage, it has been inferred that the total production is showing an increment of 36.36% from monsoon to post-

monsoon and on the other hand the same is showing a reduction of 09.09% from monsoon to pre-monsoon.

Hence, the alternative hypothesis has been accepted, which states that, there is a variation in the average productivity of cabbage in different seasons.

5.3.2. H2: There is a variation in the average production cost of Cabbage at different seasons.

Table3. Average production cost of Cabbage in tons in different seasons (Pre Monsoon, Monsoon and Post Monsoon)

Descriptive Statistics

Seasons	Mean (in Tons)	Std. Deviation
Pre-Monsoon	5950.00	4183.06
Monsoon	7468.56	3625.64
Post-Monsoon	7931.52	3431.46

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between seasons	53723149.54	2	26861574.77	6.588	0.002
Within seasons	1018039951.38	137	14139443.76		

Interpretation:
The above two Table states about the descriptive statistics and analysis of variance. From the Table it can be understood in Pre-Monsoon (M = 5950.00, S.D = 4183.06), Monsoon (M = 7468.56, S.D = 3625.64) and in Post-Monsoon (M = 7931.52, S.D = 3431.46).

The analysis of variance Table depicts, the value of F = 6.588 and the sig. value is 0.002, for the average cost of production of Cabbage in tons in different seasons.

The analysis of variance states that the average cost of production of Cabbage was found the highest during the post-monsoon season, which is at par with the monsoon season. The average cost of production during the monsoon and post-monsoon seasons was significantly higher than the pre-monsoon season.

For Cabbage, it has been inferred that the total production cost is showing an increment of 20.33% from monsoon to post-monsoon and on the other hand the same is showing a reduction of 6.20% form monsoon to pre-monsoon.

Hence, the alternative hypothesis has been accepted, which states that, there is a variation in the average production cost of Cabbage in different seasons.

5.3.3. H3: There is a variation in the average transportation cost of Cabbage at different seasons.

Table4. Average transportation cost of Cabbage in tons in different seasons (Pre Monsoon, Monsoon and Post Monsoon)

Descriptive Statistics

Seasons	Mean (in Tons)	Std. Deviation
Pre-Monsoon	1750.00	1230.31
Monsoon	2750.00	1335.00
Post-Monsoon	3000.00	1297.90

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between seasons	21875000.00	2	10937500.00	6.588	0.002
Within seasons	119531250.00	137	1660156.250		

Interpretation:
The above two Table states about the descriptive statistics and analysis of variance average transportation cost of Cabbage. From the Table it can be understood in Pre-Monsoon (M = 1750.00, S.D = 1230.31), Monsoon (M = 2750.00, S.D = 1335.00) and in Post-Monsoon (M = 3000.00, S.D = 1297.90).

The analysis of variance Table depicts, the value of F = 6.588 and the sig. value is 0.002, for the average transportation cost of Cabbage in tons in different seasons.

The average transportation cost of Cabbage was found the highest during the post-monsoon season which is at par with the monsoon season. The average transportation cost during the monsoon and post-monsoon seasons was significantly higher than the pre-monsoon season.

For Cabbage, it has been inferred that the total transportation cost is showing an increment of 9.09% from monsoon to post-monsoon and on the other hand the same is showing a reduction of 36.36% form monsoon to pre-monsoon.

Hence, the alternative hypothesis has been accepted, which states that, there is a variation in the average transportation cost of Cabbage in different seasons.

6. FINDINGS

Based on the survey analysis various major findings are made which are listed below.

A. There is variation in production, production cost, transportation cost and packaging cost among the seasons.
B. The average productivity, average production cost, average transportation cost and were found the highest for all the vegetables during the post monsoon season which is at par with the monsoon season
C. The average productivity during the monsoon and post monsoon seasons was significantly higher than pre-monsoon season.
D. It has been inferred that the total production is showing an increment of 36.36% for Cabbage, from monsoon to post-monsoon and on the other hand the same is showing a reduction of 9.09% for Cabbage from monsoon to pre-monsoon.
E. It has been inferred that the total production cost is showing an increment of 20.33% for Cabbage from monsoon to post-monsoon and on the other hand the same is showing a reduction of 06.20% for Cabbage from monsoon to pre-monsoon.
F. It has been inferred that the total transportation cost is showing an increment of 09.09% for Cabbage from monsoon to post-monsoon and on the other hand the same is showing a reduction of 36.36% for Cabbage from monsoon to pre-monsoon.

7. OBSERVATION ON THE BASIS OF RESEARCH SURVEY

Based on the research survey various major observation was observed during the time period which are listed below.

A. Major source of irrigation is tube well due to which the price of the vegetables rises.
B. Maximum vegetables are available in winter season.
C. Cabbage is the highly demanded vegetables in the Ranchi area.
D. Post harvest losses of cabbage are @13%.
E. Vegetables grower avail least profit at the cabbage.
F. The intermediaries are the constraint regarding the variation of the price of the vegetables.
G. Poor infrastructure.
H. Many intermediaries who increase cost, but do not add much value.

9. CONCLUSION

Marketing and selling of vegetables is a very critical task because of their perishable nature, seasonality and bulkiness. It is further understood that the farmers have limited areas under their cultivation and small markeTablequantity.

The farmers have to face all the suiation, but they do not realize a right profit margin. Since the post-harvest losses are higher and these vegetables require a developed marketing system within the area for their quick disposal. It has also been observed that as the number of intermediaries increases, the producer's share decreases and ultimately consumer has to pay maximum. If the producer sell their products directly they get higher margin but this is only limited to small producers. The producers who cultivate in quantity they have to consult the intermediaries for their marketing and selling.

There is a major price gap in price of cabbage as compared to other vegetables lime tomato, brinjal, beans and bottle gourd. The farmers do not get appropriate value for their produce vegetables. Due to lack of storage they can't be able to hold back these vegetables with them for a long period of time after the cultivation because of its perishability in nature, so they have to sell within a particular period of time at the intermediary's price. The result the farmer does not get proper value and intermediaries like mahajans earn more than the farmers. These intermediaries also play a vital role in fixing the price of the vegetables and sell in the market or to the retailers as their convenient.

There is a variation in price of Cabbage at different seasons regarding the average productivity, average production cost, average transportation cost and average packaging cost. The average productivity, average production cost, average transportation cost and average packaging cost were found the highest for all the vegetables during the post monsoon season which is at par with the monsoon season. The average productivity during the monsoon and post monsoon seasons was significantly higher than a pre monsoon season. There is a percentage of variation in total cost of production, selling price of farmers and selling price of the organized retailers in two different seasons.

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