Original Research Paper Marketing

A Study on Uncertainty Factors Affecting the Procurement of Paddy in Odisha

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ABSTRACT

Uncertainty deals with the supply of right quality and right quantity of paddy in the whole process of supply chain of paddy from procurement till it reaches common people through PDS The quantum of procurement is directly linked with the commitments of the public distribution system. But, so long as there is partial or informal rationing, procurement will account for only a small share of marketable surplus. Data were collected from the farmers of villages belonging to Bargarh, Sambalpur, Kenrdapada and Cuttack sample size covered was 250 from which 190 are the farmers ,40 millers and 20 govt. officials who are involved in paddy supply chain on Odisha.. This supply of paddy depends on the following factors such as production, fair average quality, rainfall, price & infrastructure which directly influence the system of supply chain of paddy in Odisha.

KEYWORDS Uncertainty, processing, procurement, , PDS, Fair average quality

Introduction-

Rice being the pre dominated crop of Odisha marketing has recently added to this and has resulted in non availability of remunerative prices to farmers. As way out of this problem the Govt. of India has adopted various schemes to procure paddy from farmers at MSP and to distribute it through PDS to the consumers. Under the system of food security the govt. of Odisha procure paddy from farmers and after processing distribute it to the beneficiaries.. During procurement many uncertainty factors play at the micro level of affecting adversely and distort the farmers and the supply chain. Rice output tends to increase unless natural disaster such as flooding in regular years happen and destroy rice crop land. They rely on the volume of rainfall in each year. Approximately 20 percent are irrigated rice crop lands also can face uncertainty of planning and control in cultivation when famers cannot access the data of water management from two main dams. These factors ultimately affect adversely the harvesting and yield of paddy. Therefore a deep understanding of these uncertainty factors and food supply chain management at depth is necessary to deal with paddy procurement

Background of the research

(Mohammad J. Alam,2015) Price appears a significant signal for influencing stockholding behavior of farming households. Farm income as well as annual household income of the participant farmers increased by 4.03 and 3.03%, respectively as they sold their certain amount of paddy to procurement centers. the procurement program supports farmers indirectly through market mechanism as market price and procurement price are positively associated**.**.

M.S.Jairath (2008) has conducted a study on rural infrastructure viz. Grameen Bhandaran Yojana (Rural godown) and analyzed the extent of spread of constructed rural godown , investment made, subsidy distributed , regional imbalances in construction of rural godowns , the availability of rural godowns, utilization pattern and benefits extended to rural economy , wastage reduction and price gain to farmers and suggested that benefits of rural godowns should be extended to small farmers and farmers of hilly and desert areas and the growing imbalance among the regions, districts and states in the construction of rural godowns should be checked.

Maurice R. Landes and Mary E. Burfisher (2009) examined the performance of India's agricultural marketing system and analyzed the economy wide implications of improved marketing efficiency system in India and concluded that greater investment in agricultural markets and efficiency in production can enhance agricultural supply chains potential to enhance agricultural growth .

Objective of the study

- To identify the supply uncertainty factors which affect the procurement of paddy in Odisha.
- To study the relation of the factors upon the procurement in the supply chain of paddy in Odisha.

Methodology -

Research design

The study is exploratory in nature. Survey method was adopted to carry out the objectives of the study. Both primary and secondary data were used in the study

Data collection

Data were collected from the farmers of villages belonging to Bargarh, Sambalpur, Kenrdapada and Cuttack sample surveys using structured, pre-tested interview schedules, The total sample size covered was 250 selected through convenience non random sampling technique. Secondary data were collected from a wide spectrum of sources including Websites of various organizations

Data collection tool

The study was conducted at the micro level for observation of procurement of paddy. Several visits were made to the field to interact with the farmers with the help of a structured questionnaire.

Analysis and Interpretation of Data: The data thus collected were classified, tabulated, analysed and interpreted with the help of tables ,graphs and pie charts.

In this study, the supply side is the paddy rice from rice producers or merchants to rice millers, and milled rice from rice millers to govt for PDS.Govt, fixes the target for procuring the paddy from farmers by considering the average production of 3-4 previous years accordingly farmers also have to sell their paddy in the mandi and it is to be processed by the millers and the same is to distribute to the beneficiaries through different schemes. The supply uncertainty deals with the supply of right quality and right quantity of paddy in the whole process of supply chain of paddy that is the procurement from the farmer ,processing by millers and once again available of milled rice to the govt agency for PDS .So when proper supply of paddy is their the flow of supply chain becomes very smooth and easy This supply of paddy depends

on the following factors such as production, FAQ, rainfall, price, storage infrastructure

Production-
The production of paddy helps in setting the target for govt to procure the paddy from the farmers. When the production is more in that season govt. procures paddy as per target and even more when the production is quiet high in order to maintain market stability of paddy and meeting the target of PDS.

Table-1 Production affecting supply in supplychain

	Strongly disagree	Disagree	Slightly disagree	Neutral	Slightly agree	Agree	Strongly agree	Total
Farmers	–	–	–	–	45 (23.6%)	62 (31.5%)	83 (43.6%)	190
Millers	–	–	–	11 (27.5%)	1 (2.5%)	24 (60%)	4 (10%)	40
Govt. officials	–	–	–	–	2 (10%)	2 (10%)	16 (80%)	20
Total				11 (4.4%)	48 (19.2%)	88 (35.2%)	103 (41.2%)	250

Source-Field survey

The above table 1 explains that production of paddy plays an important factor in the supply uncertainty which affects the supply chain of paddy. Among the total size of 250, 103 number of respondents strongly agree ,88 number of respondent agree & 48 respondents slightly agree about the fact that the production affects the supply chain directly which consists of around 41%,35%&20%brespectively.83 numbers of farmers strongly agree about this relation as they very well know that every production of good quantity paddy is important for mitigating the supply uncertainty24 numbers i:e60% of the total size of the miller agree that production has the impact on supply chain.

Fair Average Quality-
Damaged, sprouted and weevilled grains should not exceed 4%. As per the Fair Average Quality (FAQ) specifications in order to ensure that produer get due price for their produce and rejection of the stocks is avoided. Procurement of paddy is ensured by OSCSC Ltd. strictly in accordance with above Fair Average Quality (FAQ) specifications.

Table2-Fair Average Quality(FAQ)affecting the supply in supply chain

	Strongly disagree	Disagree	Slightly disagree	Neutral	Slightly agree	Agree	Strongly agree	Total
Farmers	–	–	–	–	12 (6.3%)	46\ (24.2%)	132 (69.7%)	190
Millers	–	–	–	–	–	4 (10%)	36 (90%)	40
Govt. officials	–	–	–	–	–	2 (10%)	18 (90%)	20
Total					12 (4.8)	52 (20.8%)	186 (74.4)	250

Source-Field Survey

Table 2 relates the influence of FAQ with the supply uncertainty in the supply chain of paddy in Odisha. The above table and chat interprets that 186 no. of total respondents I;e74.4% of the whole sample agree that FAQ has impact on supply chain of paddy.69.7% of total farmers strongly agree about the fact. Where as 46 no of farmers and 36 no of millers arre agree and strongly agree that FAQ should be maintained which is which is 46% and 90 % of their respective samples respectively.

Rainfall
The annual normal rainfall of the State is 1451.2 mm with a unimodal distribution. Rainfall pattern is highly unpredictable in timing, amount and distribution and therefore, the state suffers either from drought or flood. Orissa agriculture depends much on monsoon rains. Normal distribution of rainfall influences crop yield, failure of rain in drought years causes scarcity, while excess rainfall causes flood which ultimately hampers the supply chain of paddy.

Table-3 Rainfall affecting the supply in supply chain

	Strongly disagree	Disagree	Slightly disagree	Neutral	Slightly agree	Agree	Strongly agree	Total
Farmers	–	–	–	–	10 (5.2%)	26 (13.6%)	154 (81%)	190
Millers	–	–	–	–	–	–	40 (100%)	40
Govt. officials	–	–	4 (20%)	–	–	13 (65%)	3 (15%)	20
Total			4 (1.6%)		10 (4%)	39 (15.6%)	197 (78.8%)	250

Source-Field survey

Table3 interprets that 154 farmers gave their opinion that rainfall affects the supply chain if paddy as it directly has the impact on supply uncertainty.When this question is asked to the millers all the millers strongly agree about the fact as if the rainfall occurs in field in the procurement system the FAQ deteriorate at the time of procurement which also prevail in the processing as well as they find difficult to maintain it while delivering to govt. agencies. Also if in the time storage the rainfall occurs it also deteriorate the quality of rice. Around 15% of govt.officials slightly disagree as they feel that it can be managed by millers in case of storage.

Price
The majority of the produce of the farmers was sold in the village itself at a much less price, invariably to their creditors and private traders at an unfavorable time and terms. Unethical trade practices like under cover system, open auction system, private agreement and close tender system reacted very badly against the interest of the agriculturists. Therefore, as measures of combating frequent Famines and food problem, removing the defects of agricultural marketing, mainly eliminating middlemen's share and malpractices, assuring farmers fair price for their produce and consumers to get fair produce for the price, securing control over demand and supply of foodgrains and also improving the needs of economic development,Government decided to directly procure the paddy from the producers.in Minimum Support Price (MSP)

Table-4 Price affecting the supply in supply chain

	Strongly disagree	Disagree	Slightly disagree	Neutral	Slightly agree	Agree	Strongly agree	Total
Farmers	–	–	–	–	–	102 53.6%)	88 (46.4%)	190
Millers	–	–	–	–	–	–	–	0
Govt. officials	–	5 (25%)	–	–	–	13 (65%)	2 (10%)	20
Total		5 (2.3%)				115 (54.7%)	90 (42.8%)	210

Source-Field survey

In pricing related to procurement of paddy is around 102 no. of out of total agreed and 88 no farmers strongly agreed that pricing definitely have an impact in supply uncertainty. Both the selling price i:e MSP and the payment period put impact on the farmers for selling their paddy in govt. mandies and market. Around 65 % of govt officials agreed to it as the pricing has impact on supply of paddy but 25 % of govt. officials also disagree about this as they stated that the MSP is given when the paddy are in proper FAQ which is fixed by govt. and regarding the payment it is being given by account payee cheque as per govt. guidelines.

Storage infrastructure-

As per OSAMB, there are regulated Markets having 53 principal market yards and 375 sub market yards, in total 428 market yards operating under regulated market committees in 194 blocks of the state. There are 576 temporary market yards for paddy procurement functioning under Market Committees. Paddy is procured at MSP at RMC markets, PACS by procurement agencies.. Though Govt. has made it mandatory to have the basic facilities in the procurement centre such as, plenty of space for unloaded paddy adequate storage, protection from unusual rainfall ,threshing or cemented floors to spread the paddy to reduce the moisture content, security arrangement for paddy stocked in the floor and shelter for the distant farmers are necessary.

Table-5 Storage infrastructure affecting the supply of paddy in supply chain

	Strongly disagree	Disagree	Slightly disagree	Neutral	Slightly agree	Agree	Strongly agree	Total
Farmers	–	–	29 (15.2%)	–	17(8.9%)	58 (30.5%)	86 (45.3%)	190
Millers	–	–	7 (17.5%)	–	13 (32.5%)	9 (22.5%)	11 (27.5)	40
Govt. officials	–	3 (15%)	4 (20%)	–	5 (25%)	–	8 (40%)	20
Total		3 (1.2%)	40 (16%)		35 (14%)	679 (26.8%)	105 (42%)	250

Source-Field survey

The above table 5 states that around 45.3%,30.5% of farmers i:e 86&58 numbers of farmers out of total strongly agreed and agreed respectively but 29nos. of farmers slightly disagree that storage infrastructure is essential for supply of paddy in the supply chain. In case of millers 32.5% millers slightly agree about the relation of infrastructure with supply chain of paddy. In this context many gives their opinion that. The farmers were suffering huge loss due to lack of adequate storage and protection from unusual rain. If the paddy is lacking basic FAQ standard it needed to be stored over night till its back to the prescribed standard. To avoid such loss the farmers preferred to dispose the paddy at a price less than MSP rather than getting back at huge transport cost. Incase asked the farmers found difficulty in drying the paddy due to lack of space and store it due inadequate storage facility. They have to wait for their turn without any proper shelter in the mandi. There was also lack of security arrangement in the market yard, mandi or in the temporary procurement centers. Some miller also states that the storage house are not sufficient to store the milled rice as govt. delay in uplifting the process paddy which also affect the milling process and finally the supplychain of paddy.

Suggestions

The govt. should discourage the hand in hand in globe between the mill owners and the procurement officials to benefit themselves at the cost of farmers by of purchasing at lower price than MSP by the mill owners. The farmers should not be put to heavy lock due to heavy discount on account of deficiency in FAQ and should not be pushed to the mercy of mill owners /agents.The govt. should take adequate care for storage for indisposed paddy, threshing floor for reduction of moisture content, protection of paddy from un usual rain and night shelter of the farmers.

Conclusions

There is lack of adequate storage facilities, threshing floor, security arrangement in collection centres which break the flow of supply chain as the farmers have to dry their produce and store them.Rainfall destroy the paddy or deteriorate the quality of paddy due to improper storage or in production period which also hampers in the supplying of the quality paddy for procurement. .Instead of getting back the paddy to house the farmers prefer to dispose of their stock to mill owners or agents at a price less than MSP to avoid costs involved in twice transportation. The millers are not able to meet their target in time as the govt is not able to collect the processed rice from miller in time due to lack in storage infrastructure. The farmers were unable to know the MSP advance and came to know from hear say only. The farmers should be indicated well in advance the quantity of paddy to be brought to the centre for procurement at MSP. Govt should monitor those factors in routine wise basis and should make the policy in order to overcome those uncertainty factors and run the procurement smoothly.

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