

**LINKING FARMERS TO MID DAY MEAL PROGRAMME –
AGRICULTURAL MARKETING PERSPECTIVE**

By

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JAIPUR, RAJASTHAN - 302033

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Report submitted in fulfillment of the requirement for

Research Internship Programme

to

Chaudhary Charan Singh National Institute of Agricultural Marketing, Jaipur, Rajasthan

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CERTIFICATE

This is to certify that the report entitled, “**LINKING FARMERS TO MID DAY MEAL PROGRAMME – AGRICULTURAL MARKETING PERSPECTIVE**” submitted in fulfillment of **Research Internship Programme** to **Chaudhary Charan Singh National Institute of Agricultural Marketing, Jaipur, Rajasthan** is a record of bonafide research work carried out by Ms. **ANGELIN KEERTHIGA A** under my supervision and guidance and that no part of the report has been submitted for the award of any other degree, diploma, fellowships or other similar titles or prizes.

Place: Jaipur

Date:

Approved By

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(ANGELIN KEERTHIGA A)

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Abstract

Linking Farmers to Mid Day Meal Programme – Agricultural Marketing Perspective

The Mid Day Meal Scheme (MDMS) is a school meal programme of the Government of India designed to better the nutritional standing of school-age children nationwide. In India, around 12 crore children in over 12 lakh schools and Education Guarantee Scheme centres are being served under the scheme. Rice, Wheat, Pulses, Oil and salt are being provided directly to the schools through FCI. Other ingredients are being purchased by the Noon Meal Organizers in the local markets. In this process, the crops grown by the farmers in a village ultimately land up in the same village after going through a number of intermediaries. This study examines the possibilities of procuring these ingredients directly from the local farmers rather than the existing channel of procurement. For the specified purpose, Government Higher Secondary School, Paalamadai village of Tirunelveli district, Tamil Nadu was studied. A sample of 20 farmers was selected randomly and primary data was collected using structured interview schedule. The challenges and suggestions in implementing the alternative method of procurement were listed and ranked by the farmers. The ranked data was analyzed using Henry Garrett's ranking technique. The study shows that, the government can save Rs. 73.632 for rice, Rs. 60.198 for Okra and Rs. 5.390 for Black gram for a student per year in proposed linkage. Similarly, the farmer can earn an additional profit of Rs.742.5, Rs. 43300 and Rs. 206 per acre of paddy, okra and black gram crops respectively. The results of Henry Garrett's ranking technique shows that the major challenges in implantation of the proposed linkage are, delayed payment for the produce by the government, increased transportation cost for the farmers, lack of assured procurement by the government, lack of storage and processing facilities in the village, seasonal supply of the produce. Similarly, the suggestions alleged by the farmers were ranked using Henry Garrett's ranking technique. Immediate payment for the produce by the government, making the existing co-operative societies as an intermediary institution, mandatory procurement of the produce by the government for the scheme, promoting more FPOs and Public Private Partnership (PPP), establishing adequate storage facilities in the village are the major suggestions by the farmers. Based on the empirical evidence provided, study suggests promoting market information among the farmers and establishing

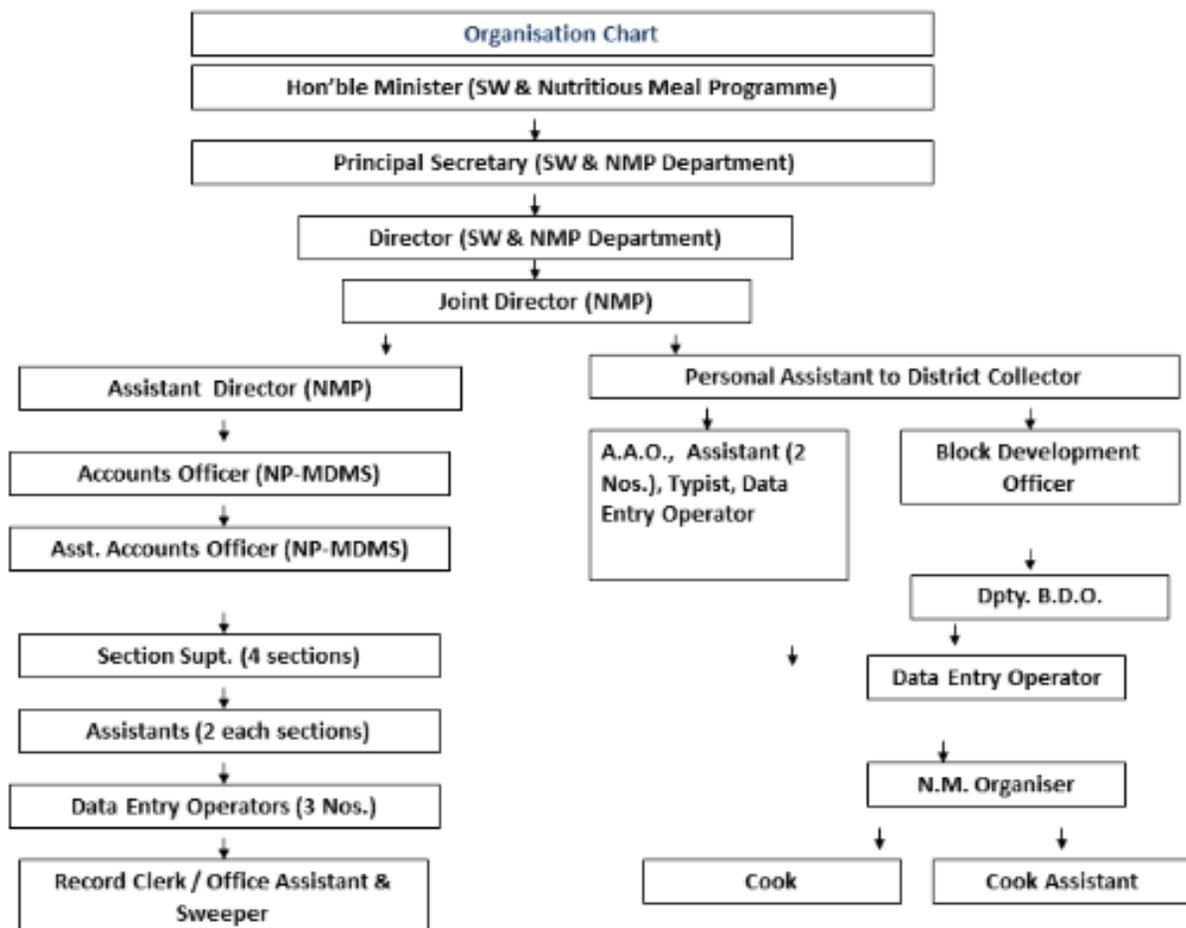
adequate storage and processing facilities in the grass root level. Furthermore, promoting PPP and making the existing co-operative societies and FPOs more efficient through the proposed linkage is being suggested from the study.

CHAPTER I

Introduction

The Mid Day Meal Scheme (MDMS) is a school meal programme of the Government of India designed to better the nutritional standing of school-age children nationwide. The programme supplies free lunches on working days for children in primary and upper primary classes in government, government aided, local body, Education Guarantee Scheme, and alternate innovative education centres, Madarsa and Maqtabas supported under Sarva Shiksha Abhiyan, and National Child Labour Project schools run by the ministry of labour.

1.1 Organisational setup:



1.2. Status of MDMS in India:

In India, around 12 crore children in over 12 lakh schools and Education Guarantee Scheme centres are being served under the scheme. Around 2000 MT of rice and 500 MT of wheat was allocated for primary and upper primary schools for the year, 2017-18. The following table shows the allocation of rice and wheat for the provision of food under MDMS in 2017-18

Table.1.1. Allocation of food grains in 2017-18

Quarter	Primary		Upper Primary	
	Rice	Wheat	Rice	Wheat
I	34041.89	229022.92	183007.00	28195.03
II	372407.09	72751.52	304578.92	26026.85
III	280638.89	43382.33	252020.00	41488.57
IV	280638.89	43382.33	252020.00	41488.57
Total	967726.76	388539.1	991625.92	137199.02

1.3. Status of MDMS in Tamil Nadu:

Across the state of Tamil Nadu, 43,143 Noon Meal Centres are established, engaging 1,28,130 noon meal employees. Nearly, 53.82 lakhs children, studying in 43,787 Primary & Upper Primary schools are provided with hot cooked nutritious variety meals on all school working days (215 days) inside the school campus itself. About 7,612 Children studying in National Child Labour Special Schools are also provided with Nutritious variety meals in 16 districts for 312 days in a year.

Table.1.2: Total number of students benefitted under MDMS in Tamil Nadu

Schools	Total No. of centres	No. of students (2017-18)					
		Enrolled			Proposed		
		Govt & LB	Govt Aided	Total	Govt & LB	Govt Aided	Total
Primary	26810	2082861	935793	3018654	1911186	706877	2618063
Upper Primary	16064	1571254	784393	2355647	1506549	552217	2063766
NCLP	269	7612	0	7612	7612	0	7612
Total	43143	3661727	1720186	5381913	3425347	1259094	4684441

1.4. Nutrition provided to the students:**Table.1.3: Nutritional status of food provided**

Stage	GOI Norms		State Govt Provision	
	Calories (Kcal)	Protein (gms)	Calories (Kcal)	Protein (gms)
Primary	450	12	553.30	18.12
Upper Primary	700	20	733.86	21.64

1.5. Fund assistance:

The central and state governments share the cost of the Midday Meal Scheme, with the centre providing 60 percent and the state government contributing 40 percent. The central government provides grains and financing for other food. Costs for facilities, transportation, and labour are shared by the federal and state governments. In 2018, Rs. 60,339.97 crore has been released in the union budget for the programme. The interim budget for 2019-20 has allocated Rs 11,000 crore additionally for the national programme of mid-day meals in schools. Similarly, the Annual allocation of Central Assistance for Tamil Nadu is Rs. 44417.06 lakh.

The Government of Tamil Nadu is providing sufficient funds in the State Budget and distribute to Districts and from Districts to Block Development Officer who in turn distributes to Noon Meal Centers (Organizers bank account through ECS) well in advance without waiting for release of central assistance, in order to ensure timely and uninterrupted supply of Mid Day Meals to children.

1.6. Meal Cost fixed by GOI for per beneficiary / per day (excluding labour and administrative charges):

Table.1.4: Contributions of State and Central government in provision of nutritious meal

Class	MDM Norms (60:40) (Rs.)	Centre 60% (Rs.)	State 40% (Rs.)	Additional State contribution (Rs.)	Total (Rs.)
Primary (1-5 Std)	4.13	2.48	1.65	2.81	6.94
Upper Primary (6-8 Std)	6.18	3.71	2.47	0.86	7.04
9th & 10th	-	-	100% contribution by State Government		8.61

1.7. Source of procurement:

The raw materials required for providing food to the students were sourced from different destinations. In this regard, Rice, Pulses, Oil and Salt are being provided by the government at free of cost. Tamil Nadu State Civil Supplies Corporation supplies the indented quantity of each commodity by the Noon Meal Organizer available at each school. Nutritious Meal Organizers are authorized to draw money provided by the government required for Vegetables, banana, spices, condiments and fuel charges to incur the expenditure. These are procured by the Noon Meal Organizers in the local market

Paddy:

- Producer → DPC → District TNSCSC → NMC → Consumption

Pulses, Oil, Egg and salt:

- Producer → FCI → TNSCSC (State level) → District CSC → NMC → Consumption

Vegetables, Banana, Spices and Condiments and Fuel:

- Producer → Market → Noon meal organizer → NMC → Consumption

1.8. Monthly Menu:

Table.1.5: Monthly menu of the food provided in the school

Days	1 st and 3 rd week	2 nd and 4 th week
Monday	Vegetable Briyani + Pepper Egg	Bisibalabath + Onion Tomato Masala Egg
Tuesday	Black gram pulav + Tomato Masala Egg	Mixed Meal Maker & Vegetables Rice + Pepper Egg
Wednesday	Tomato Rice + Pepper Egg	Tamarind Rice + Tomato Masala Egg
Thursday	Rice + Sambar + Boiled Egg	Lemon Rice + Bengal gram + Tomato Egg
Friday	Curry Leaf Rice / Palak rice + Masala Egg & Fried Potato	Rice + Sambar + Boiled Egg and Fried Potato

1.9. Research problem:

On the other hand, farmers sell their produce to markets through a long marketing channel. From the markets, Food Corporation of India (FCI) procures it and sells the required quantity of food grains to the schools through Public Distribution System (PDS). In this process, the crops

CHAPTER II

Description of study area

2.1 General particulars of the village:

For the specified purpose, the performance and current status of Government Higher Secondary School, Paalamadai, Tirunelveli district, Tamil Nadu was studied. Palamadai is a Village in Manur Block in Tirunelveli District of Tamil Nadu State, India. It is located 14 KM towards East from District head quarters Tirunelveli, 13 km from Manur. It is an agriculture dependent village with nearly 300 farmers.

Table 2.1: Population details of the village

Census Parameter	Census Data
Total Population	3688
Total No of Houses	994
Female Population %	50.7 % (1870)
Total Literacy rate %	66.5 % (2452)
Female Literacy rate	31.0 % (1145)
Scheduled Tribes Population %	0.0 % (0)
Scheduled Caste Population %	32.9 % (1215)
Working Population %	43.5 %
Child(0 -6) Population by 2011	428
Girl Child(0 -6) Population % by 2011	48.1% (206)

2.2. Agricultural status of the village (2017-18):

Table 2.2: Land use pattern of the village

Particulars	Area (Ha)
Wet land	172.30
Garden land	156.34
Uncultivable land	6.84
Miscellaneous area	210.72
Total land area	546.20
Irrigated land area	353.085

2.2.1. Area, Production and Productivity of major crops cultivated in the village:

Table 2.3: Area, Production productivity of major crops

Crops	Area(Ha)	Production (MT)	Productivity (MT/ha)
Paddy	158.47	665.6	4.2
Black gram	273.1	47.42	0.2
Okra	115.75	1215.375	10.5
Others	48.872	-	-

2.3. General particulars of the school:

GHSS, Paalamadai was established in 1972 and it is managed by the Department of Education. It is located in Manur block of Tirunelveli district of Tamil Nadu. The school consists of grades from 1 to 12. The school is co-educational and it does not have an attached pre-primary section. It provides education to 164 boys and 133 girl children. The total strength of the school is

297. Tamil is the medium of instructions in this school. The school is providing mid-day meal prepared in school premises. For the year, 2018-19, 120 children have been approved by the government for providing mid day meal. There are no specialized storage facilities available in the godown and only a part of the cooking area is being used as storage godown.

CHAPTER III

Methodology

The assessment was done based on primary data collected from the 20 local farmers using the formulated structured interview schedule. Simple random sampling was used in selecting sample respondents. The performance of the mid day meal programme was collected from Noon meal organizer in the school. Also, Tamil Nadu State Civil Supplies Corporation (TNSCSC) was investigated regarding the method of distribution of rice, pulse, oil and salt to the schools. To get detailed information about the procurement of produce from the farmers, Modern rice mill (an integrated part of the TNSCSC) was also studied.

Using the collected primary data, the cost of providing food to the students for the existing system of MDMS and for the proposed system of direct linkage between farmers and the school was calculated. Besides, the profit that farmers receive in the current and proposed mode of marketing was calculated. Finally, the decreased cost of providing food for the government and the additional profit that the farmers gain through the proposed linkage were determined.

3.1 Henry Garrett's ranking technique:

This technique is used to evaluate the most significant factor which influences the respondent. As per this method, respondents have been asked to assign ranks for all factors and the outcomes of such ranking have been converted into score value with the help of the following formula:

$$\text{Per cent position} = 100 (R_{ij} - 0.5) / N_j$$

Where, R_{ij} = Rank given for the i th variable by j th respondents

N_j = Number of variable ranked by j th respondents

With the help of Garrett's Table, the per cent position estimated is converted into scores. Then for each factor, the scores of each individual are added and then total value of scores and mean values of score is calculated. The factors having highest mean value is considered to be the most important factor.

For the current study, the respondents were asked to rank from 1 to 7 for the problems they may face if any direct linkage between the farmers and the schools were established. Also they

have been asked to rank from 1 to 9 for the factors that have to be established for the successful launch of linking farmers to the MDMS. These scores were manipulated mathematically and each factor has been assigned a rank based on its importance and influence over the farmers.

CHAPTER IV

Results and Discussion

The findings of the present study as well as relevant discussion have been presented under following heads:

4.1. Reduction in cost of provision of food for the government:

The following table shows the cost of providing food to the students under MDMS for the current system and the proposed direct linkage between farmers and schools and the estimated deduction in provision cost.

The cost of providing 1kg of rice for the government is Rs.28.435. And if the local farmers are linked directly to the schools, it will cost Rs.26 per kg of rice. This will save Rs. 2.435 per kg of rice for the government. Ultimately, the government saves Rs.8835.862 per year for a school providing food to 120 students. The major cause for this reduced cost is because of reduction in transportation cost and lower procurement price. Similarly, procuring okra and black gram from the local farmers will reduce the cost by Rs.13.435 and Rs.1.635 per kg of the produce respectively. Ultimately, if the proposed linkage of the schools and local farmers under MDMS is implemented the government can save, Rs.73.632 for rice, Rs.60.198 for Okra and Rs. 5.390 for Black gram for a student per year. These results are shown briefly in the following table

Table 4.1: Comparison between cost of providing food in the current system and proposed direct linkage system

Commodity	Particulars	Existing System (Rs./Kg)	Direct linkage (Rs./Kg)	Decreased cost (Rs./Kg)	Decreased cost / day (Rs)	Decreased cost / year (Rs.)
Paddy	Procurement cost	18	16	2	41.097	8835.862
	Processing cost (Rs./kg)	10	10	0		
	Transportation cost (PU to schools)	0.435	0	0.435		
	Total	28.435	26	2.435		
Okra	Procurement cost	38	25	13	33.585	7221.313
	Processing cost (Rs./kg)	0	0	0		
	Transportation cost (PU to schools)	0.435	0	0.435		
	Total	38.435	25	13.435		
Black gram	Procurement cost	46.2	45	1.2	3.008	646.806
	Processing cost (Rs./kg)	20	20	0		
	Transportation cost (PU to schools)	0.435	0	0.435		
	Total	66.635	65	1.635		

4.2 Enhancement in the profit of the farmers:

The following table shows the sale price of the produce under current marketing channel and the proposed direct linkage between farmers and schools and the estimated increase in profit of the farmer.

Table 4.2.1: Comparison between profits received by the farmers in the current and proposed direct linkage system

Commodity	Particulars	Existing System	Direct linkage	Increased profit (Rs./Kg)	Total increased profit (Rs./ac)
Paddy	Sale price (Rs/Kg)	15	16	1	742.5
	Transportation cost (Field to PU) (Rs./kg)	0	0.67	-0.67	
	Processing cost (Rs./kg)	10	10	0	
	Total	25	26.67	0.33	
Okra	Sale price (Rs/Kg)	20	25	5	43300
	Transportation cost (Field to PU) (Rs./kg)	0	0.67	-0.67	
	Processing cost (Rs./kg)	0	0	0	
	Total	20	25.67	4.33	
Black gram	Sale price (Rs/Kg)	43.3	45	1.7	206
	Transportation cost (Field to PU) (Rs./kg)	0	0.67	-0.67	
	Processing cost (Rs./kg)	20	20	0	
	Total	63.3	65.67	1.03	

From the above table, it was found that when the producer sells his produce through the current marketing channel, the price received for the produce is Rs. 15 kg of paddy. And if the farmer intends to sell his produce to the school for MDMS he can sell his produce at Rs.16 per kg of produce. But in case of the current marketing channel, the farmers need not pay for the transportation cost and if the proposed direct linkage channel is implemented the farmers need to bear an additional transportation cost of Rs.0.67 per kg of the produce. Despite the inclusion of transportation cost, the the farmers will get an additional profit of Rs.0.33 per kg of paddy. Finally, the farmer will have an additional profit of Rs.742.5 per acre for paddy. Similarly, the farmer can earn Rs. 43300 and Rs. 206 per acre of okra and black gram crops respectively. The following table shows the total gains that can be obtained by linking the farmers to the MDMS directly and the reduction in cost of providing the food for a student per year.

Table 4.2.2: Estimated Total gains and decrease in cost of providing food for a student per year

Commodity	Farmers gains (Rs./ac)	Decreased cost (Rs./yr/scl)	Total gains	Decreased cost/student/yr
Paddy	742.500	8835.862	9578.362	73.632
Okra	43300.000	7221.313	50521.313	60.178
Black gram	206.000	646.806	852.806	5.390

4.3. Challenges alleged by the farmers:

The farmers were asked to list down the problems in the proposed system of linking farmers to the school under MDMS directly and each of the problem statement was ranked from 1 to 7 based on the importance of each factor by the farmers itself. Garrett's Ranking Technique was employed to analyze the ranked data and is presented as follows.

Table 4.3.1: Preferences and ranking of problems alleged by the farmers

S.No	Particulars	Rank given by the respondents						
		1 st	2 nd	3 rd	4 th	5 th	6 th	7 th
1	Delayed payment	14	5	1	0	0	0	0
2	Lesser price	4	5	1	4	6	0	0
3	Lack of storage facilities	1	2	4	1	8	4	0
4	Transportation cost	0	5	6	8	0	0	1
5	Seasonal supply	1	1	0	1	5	7	5
6	No assurance for procurement by govt.	0	2	8	6	1	2	1
7	Processing	0	0	0	0	0	7	13

The table shows the preference and ranking of problems anticipated by the respondents in linking farmers directly to the school under MDMS. Among the 20 farmers, delayed payment was ranked as first by 14 respondent, second ranked by 5 respondents. Similarly, lesser price was ranked as first by 4 respondent, second ranked by 5 respondents.

The Garrett's ranks were calculated by using appropriate Garrett's Ranking formula. The based on the Garrett's ranks, the Garrett's value was calculated. The Garrett's tables and scores of problem listed in above table, and multiplied to records scores in table 2, finally by adding each row, the total Garrett's score were obtained

$$\text{Per cent position} = 100 (R_{ij} - 0.5) / N_j$$

Where, R_{ij} = Rank given for the i th variable by j th respondents

N_j = Number of variable ranked by j th respondents

Table 4.3.2: Percent Position and Garrett's Value

S. No.	$100 (R_{ij} - 0.5) / N_j$	Percent position	Garrett's score
1	$100 (1-0.5) / 7$	7.14	79
2	$100 (2-0.5) / 7$	21.43	66
3	$100 (3-0.5) / 7$	35.71	57
4	$100 (4-0.5) / 7$	50.00	50
5	$100 (5-0.5) / 7$	64.29	43
6	$100 (6-0.5) / 7$	78.57	35
7	$100 (7-0.5) / 7$	92.86	21

4.3.1. Problems listed by the farmers:

The major challenges listed out by the farmers are

- Delayed payment of the produce
- Comparatively lesser price than selling at local markets
- Lack of storage and processing facilities to maintain a stock of the produce
- Transportation cost has to be borne by the farmers
- Seasonal supply of the produce
- No assurance for the procurement of the produce by the government

Table 4.3.3: Calculation of Garrett's score and Ranking for the problems listed by the sample respondents

Particulars	Garrett's score							Average	Rank
	1	2	3	4	5	6	7		
Delayed payment	1106	330	57	0	0	0	0	74.65	1
Lesser price	316	330	57	200	258	0	0	58.05	2
Lack of storage facilities	79	132	228	50	344	140	0	48.65	5
Transportation cost	0	330	342	400	0	0	21	54.65	3
Seasonal supply	79	66	0	50	215	245	105	38	6
No assurance for procurement by govt.	0	132	456	300	43	70	21	51.1	4
Processing	0	0	0	0	0	245	273	25.9	7

From the above table, the most important problem that the farmers expect to arise from the linkage of farmers to school under MDMS is that, they receive delayed payment for their produce from the government. Another major factor they assume is that, they may get lower price in the new linkage programme than the existing system. But, the farmers tend to get more profit if they are willing to sell their produce to the government than the existing system. So, the farmers had to be made aware of the market information.

Following these factors is that, the farmers have to abide the transportation cost from the field to the Direct Procurement Centres (DPC) in the alternative method of procurement. But in case of the existing marketing channel, the brokers or commission agents themselves take the produce from the field to the processing unit. So, farmers find it difficult to bourn the transportation cost. The others problems alleged by the farmers are lack of assured procurement of the produce by the school for MDMS, Lack of storage facilities in the school, seasonal production of crops and lack of processing facilities.

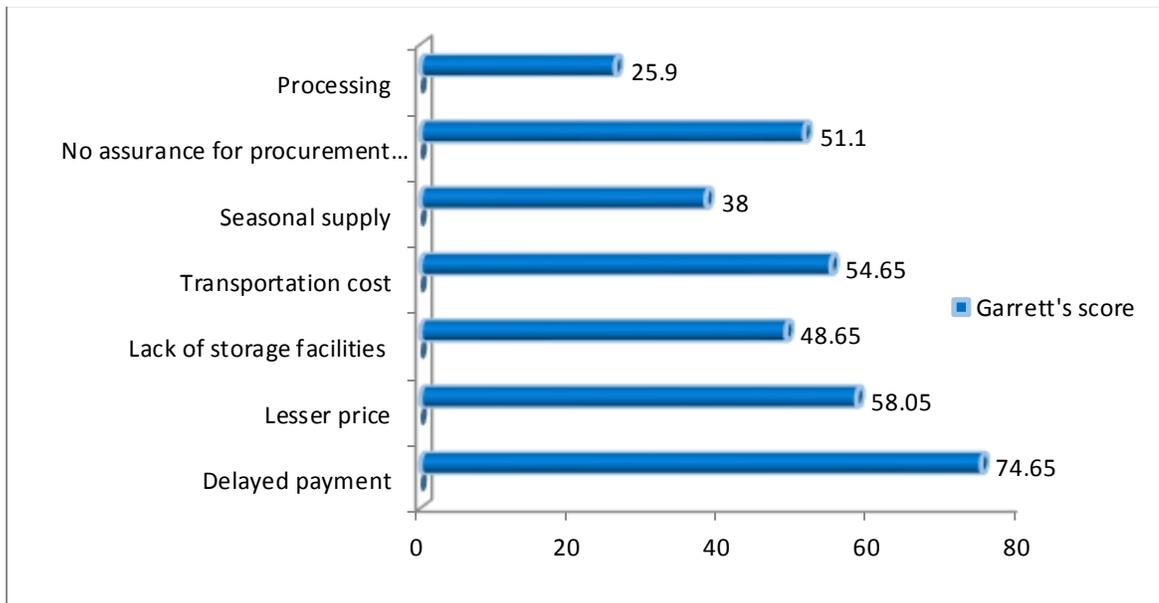


Fig. 4.1: Average Garrett's scores of problems expected to arise in the process of linking farmers and schools.

Similarly, the farmers are asked to list out their suggestions for establishing the linkage and they were asked to rank from 1 to 9 the steps to be taken by the government for successful implementation of the proposed marketing channel. These ranks were analyzed using the Henry Garrett's ranking technique. The factor with more Average Garrett's score is found to be the most important factor that influences the linkage between farmers and school. The results of Garrett's ranking for the possibilities are as follows.

Table 4.3.4: Calculation of Garrett's score and Ranking for the suggestions listed by the respondents

Particulars	Garrett's score									Average	Rank
	1	2	3	4	5	6	7	8	9		
OTC payment	729	560	183	0	0	0	0	0	0	163.56	1
Mandatory procurement	0	420	366	440	0	0	0	0	0	136.22	3
PPP	162	0	122	110	550	135	0	0	0	119.89	5
Fair price shops	0	0	0	0	0	90	342	217	38	76.33	7
Co-op. Societies	729	420	61	220	0	0	0	0	0	158.89	2
FPO	0	0	488	330	300	0	0	0	0	124.22	4
Contract basis	0	0	0	0	150	630	114	0	0	99.33	6
Establish Storage facilities	0	0	0	0	0	45	304	217	76	71.33	8
Create seperate channel	0	0	0	0	0	0	0	186	266	50.22	9

From the above table, it has been concluded that making immediate cash payment to the farmers for the produce is the important way to make farmers sell their produce directly to the school under MDMS. The second most important way to implement the project is to make Co-operative societies as an intermediary between the schools and the farmers. In this method of linkage, the government shall pay the farmers for their produce through the co-operative societies operating at the local level.

Another issue quoted by the respondents is that, they don't have any assurance for procurement of their produce by the government. So, the suggestion given by the farmers is to make mandatory procurement of the produce from the local farmers for MDMS by the noon meal organizers. Followed by this, operating as a group of farmers (FPO) has been ranked fourth among the other suggestions.

Establishing Public Private Partnership (PPP) has been ranked as fifth by the sampled respondents. Sometimes, the government institutions may not perform efficiently and in such cases, engaging with private parties will help in increasing the efficiency. Purchasing the produce from the local farmers for MDMS can be initiated on a contractual basis with a group of farmers or with a FPO is a suggestion given by the respondents and has been ranked sixth among other factors. Followed by these proposals, making village level Fair price shops as an intermediary, establishing sufficient storage facilities in the school and in the village and establishing adequate processing units for converting paddy into rice in the vicinity have been ranked from seventh to ninth respectively, among the other suggestions alleged by the farmers.

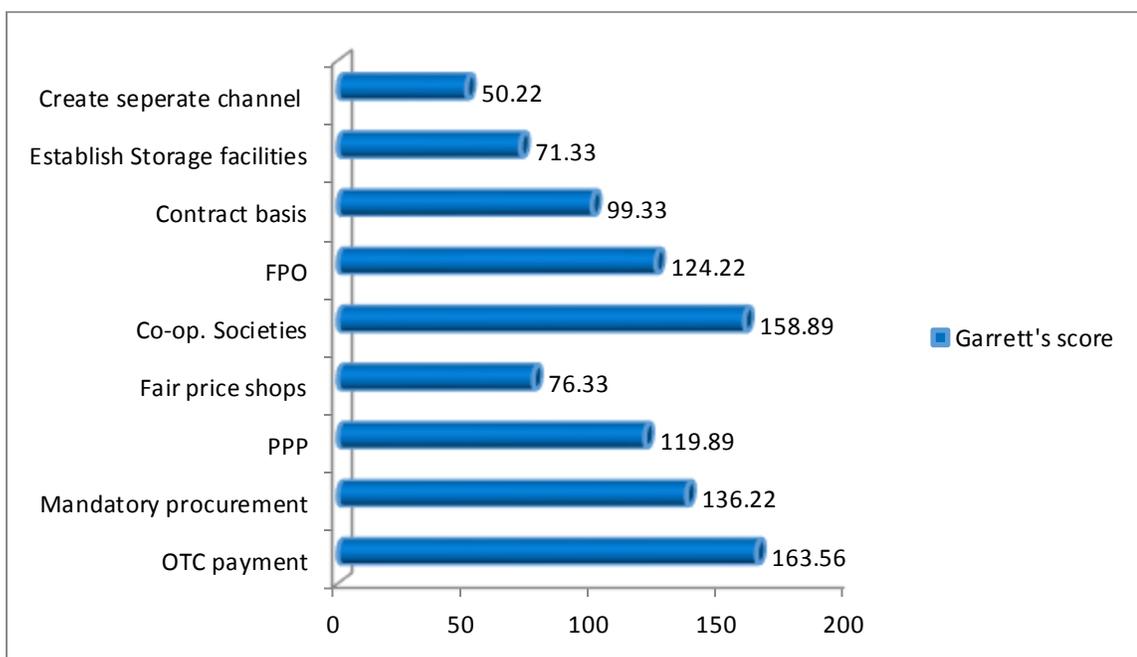


Fig. 4.2: Average Garrett's scores of suggestions proposed by the respondents to link farmers and schools under MDMS.

4.4. Challenges faced by NMO :

Currently, the other ingredients that are not being provided by the Civil Supplies Corporation are being procured directly from the local market with the fund provided by the State and Central government. From the study it has been observed that the cost provided for the purchase of these commodities are very meager and insufficient. Only, Rs.0.82 and Rs.0.92 for a student per day is being provided for the purchase of vegetables for primary and upper primary

students. With this allocation, the noon meal organizer himself purchases the required ingredients in the local market.

In this regard, vegetable whichever has lower price will be purchased from the market. Given the circumstances, if the proposed method of connecting local farmers to local schools under MDMS has to be implemented, it would be difficult for the NMO to purchase the required quantity of vegetables within the allocated budget. NMO cannot get the vegetables at the least cost unless he compares with other vegetables in the market.

Another serious issue addressed by the NMO is that neither the schools nor the village has any storage facilities and it is impossible to store the produce procured from the farmers. Hence, if the proposed system of linking farmers to the schools has to be established, the most important requirement is adequate storage facilities at grass root level.

CHAPTER V

Summary and Conclusion

The study shows that, the cost of providing 1kg of rice for the government is Rs.28.435. And if the local farmers are linked directly to the schools, it will cost Rs.26 per kg of rice. This will save Rs.2.435 per kg of rice for the government. Ultimately, the government saves Rs. 8835.862 per year for a school providing food to 120 students. The major cause for this reduced cost is because of reduction in transportation cost and lower procurement price. Similarly, procuring okra and black gram from the local farmers will reduce the cost by Rs. 13.435 and Rs. 1.635 per kg of the produce respectively. Ultimately, if the proposed linkage of the schools and local farmers under MDMS is implemented the government can save, Rs. 73.632 for rice, Rs. 60.198 for Okra and Rs. 5.390 for Black gram for a student per year.

It was found from the study, that when the producer sells his produce through the current marketing channel, the price received for the produce is Rs. 15 kg of paddy. And if the farmer intends to sell his produce to the school for MDMS he can sell his produce at Rs. 16 per kg of produce. But in case of the current marketing channel, the farmers need not pay for the transportation cost and if the proposed direct linkage channel is implemented the farmers need to bear an additional transportation cost of Rs.0.67 per kg of the produce. Despite the inclusion of transportation cost, the the farmers will get an additional profit of Rs.0.33 per kg of paddy. Finally, the farmer will have an additional profit of Rs.742.5 per acre for paddy. Similarly, the farmer can earn Rs.43300 and Rs.206 per acre of okra and black gram crops respectively.

The employment of Henry Garrett's Ranking technique to analyze the rankings given by the farmers to the problems listed by themselves implies that the most important problem that the farmers expect to arise from the linkage of farmers to school under MDMS is that, they receive delayed payment for their produce from the government and they may get lower price in the new linkage programme than the existing system. But, the farmers tend to get more profit if they are willing to sell their produce to the government than the existing system. So, there is an emerging need to make the farmers aware of the system clearly. Following these factors is that, the farmers have to abide the transportation cost from the field to the Direct Procurement Centres (DPC) in the alternative method of procurement. So, the farmers find it difficult to borne the

transportation cost. The other problems alleged by the farmers are lack of assured procurement of the produce by the school for MDMS, Lack of storage facilities in the school and at village level, seasonal production of crops and lack of processing facilities.

Similarly, upon analyzing the rankings given by the farmers to the suggestions listed by them, it has been concluded that making immediate cash payment to the farmers for the produce is an important way to make farmers sell their produce directly to the school under MDMS. The second most important way is to make Co-operative societies as an intermediary between the schools and the farmers. The suggestion with third rank is to make mandatory procurement of the produce from the local farmers for MDMS by the noon meal organizers. Followed by these suggestions, operating as a group of farmers (FPO), establishing Public Private Partnership (PPP), Purchasing the produce on a contractual basis from a group of farmers or with a FPO, linking with village level Fair price shops, establishing sufficient storage facilities and establishing adequate processing units has been ranked from fourth to ninth respectively, among the other suggestions alleged by the farmers.

On the part of in charge of mid day meal scheme in schools, provided with minimal amount of fund assistance for the purchase of required commodities limits the possibility of purchasing the produce from the local farmers. An inadequate storage godown in the school restricts the storage of produce produced from the local farmers. Hence, storage facilities must be established upon assessing the requirements.

5.1. Policy Suggestions:

The following policy implications may be considered for further research and development based on above results.

The study clearly shows that the farmers earn more profit when linked to the school under MDMS than the existing marketing channel. But the farmers presume that they would get lower prices in the alternative channel. This indicates the deficit awareness about the market information among the farmers. So, there is a pressing need to promote awareness among the farmers about the benefits of the proposed system.

Lack of adequate storage and processing facilities in the school and at the local village level is a major shortcoming in the system. So, sufficient storage and processing facilities must be established in appropriate conditions at grass root levels also.

As proposed by the farmers, the existing Co-operative societies must be made more efficient and linkage between the local farmers and schools can be initiated through these co-operative societies. Promotion of Public Private Partnership (PPP) can also make the process more proficient.

Farmer Producer Organizations (FPOs) are very less in number and the existing ones are also less competent. Even farmers are ignorant of the existence of FPOs. It is high time that we should have thought of ascertaining many numbers of FPOs.

Garrett's ranking table

Percentage	Score	Percentage	Score	Percentage	Score
0.09	99	20.93	66	80.61	33
0.2	98	22.32	65	81.99	32
0.32	97	23.88	64	83.31	31
0.45	96	25.48	63	84.56	30
0.61	95	27.15	62	85.75	29
0.78	94	28.86	61	86.89	28
0.97	93	30.61	60	87.96	27
1.18	92	32.42	59	88.97	26
1.42	91	34.25	58	89.94	25
1.68	90	36.15	57	90.83	24
1.96	89	38.06	56	91.67	23
2.28	88	40.01	55	92.45	22
2.63	87	41.97	54	93.19	21
3.01	86	43.97	53	93.86	20
3.43	85	45.97	52	94.49	19
3.89	84	47.98	51	95.08	18
4.38	83	50	50	95.62	17
4.92	82	52.02	49	96.11	16
5.51	81	54.03	48	96.57	15
6.14	80	56.03	47	96.99	14
6.81	79	58.03	46	97.37	13
7.55	78	59.99	45	98.72	12
8.33	77	61.94	44	98.04	11
9.17	76	63.85	43	98.32	10
10.16	75	65.75	42	98.58	9
11.03	74	67.48	41	99.82	8
12.04	73	69.39	40	99.30	7
13.11	72	71.14	39	99.22	6
14.25	71	72.85	38	99.39	5
15.44	70	74.52	37	99.55	4
18.69	69	76.12	36	99.68	3
18.01	68	77.68	35	99.80	2
19.39	67	79.12	34	99.91	1
				100	0

E.Garrett's statistics in Psychology and Education, Feffer and Simans Private Limited, 21969, p.329.

Farmers Interview schedule

General Particulars:

1. Name of the Farmer: _____ Age: _____ Contact No: _____

2. Address: _____

3. Educational Qualifications:

i) Below matric ii) Matric iii) Graduate iv) Others

4. Annual Household Income (Gross in Rs.):

i) Below 1.5 lakh ii) 1.5 - 3 lakh iii) 3 - 5 lakh iv) Above 5 lakh

5. Land Resources:

S.No	Land	Area (ac)			
		Owned	Leased in	Leased out	Total Operated Area
1.	Wet Land				
2.	Garden Land				
3.	Dry Land				

6. Farming Experience (in years): _____

7. Total no of members in the family: _____

8. Particulars of agriculture allied activities:

Particulars	Numbers	Total production	Total cost	Value of output	Net income
Poultry					
Dairy					
Goat					

9. Crop Details:

Crop I:

Name of the crop:

Season:

Mode of marketing:

To whom do you sell your produce?

Particulars	2018	2017	2016
Area cultivated			
Total production			
Total cost of cultivation			
Price received for the produce (Rs./quintal)			
Transaction cost incurred by the farmer			
Actual market Price of the produce (Rs./qntl)			
MSP of the crop as announced(Rs./qntl)			
Gross revenue received from the crop			
Net revenue from the crop			

Crop II:**Name of the crop:****Season:****Mode of marketing:**

To whom do you sell your produce?

Particulars	2018	2017	2016
Area cultivated			
Total production			
Total cost of cultivation			
Price received for the produce (Rs./quintal)			
Transaction cost incurred by the farmer			
Actual market Price of the produce (Rs./qntl)			
MSP of the crop as announced(Rs./qntl)			
Gross revenue received from the crop			
Net revenue from the crop			

Crop III:

Name of the crop:

Season:

Mode of marketing:

To whom do you sell your produce?

Particulars	2018	2017	2016
Area cultivated			
Total production			
Total cost of cultivation			
Price received for the produce (Rs./quintal)			
Transaction cost incurred by the farmer			
Actual market Price of the produce (Rs./qntl)			
MSP of the crop as announced(Rs./qntl)			
Gross revenue received from the crop			
Net revenue from the crop			

10. Instead of selling your produce to the markets, would you like to sell anywhere else?

11. Would you like to sell your produce to MDMS?

12. Is it possible to sell your produce directly to the school for MDMS?

a) If yes, will you sell all your produce to the MDMS or only a part of it?

b) If no, what will be the problem in the process?

13. At what price will you give your produce?
14. Can you increase your area under cultivation and production if the system requires?
 - a) If yes, how much?
 - b) If no, why?
15. Are you ready to cultivate other crops if demanded by the school?
 - a. If yes, what are all the crops that can be cultivated locally? And how much can you produce with the available resources?
 - b. If no, why?
16. Do you think this process will be profitable?
 - a) If yes, is that more than your current net revenue?
 - b) If no, why?
17. Are you a member of any FPO?
 - a) If yes, what is the FPO? Is it working actively?
 - b) If no, why? If required are you ready to join FPO?
18. Can you suggest any other way of selling your produce to the local school?
19. Any suggestions regarding the process?



Government Hr. Sec. School, Paalamadai



Storage godown available in the school



Cooking area



Interaction with NMO



Interaction with TNSCSC (Procurement



Meeting with TNSCSC (Distribution



TNSCSC Warehouse



Primary data collection from farmers

