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Impact of e-NAM on arrival & prices of major commodities and change in income & expenditure of selected APMC: A case study of Kawardha APMC in Chhattisgarh, India

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Abstract

Honourable Prime Minister of India Mr. Narendra Modi launched the electronic trading portal for National Agriculture Market (e-NAM) on 14th April 2016. The objectives of e-NAM have multi dimensions like to establish a national e-market platform for transparent sale transactions and price discovery initially in regulated markets, to provide liberal licensing of traders/buyers and commission agents by state authorities without any pre-condition of physical presence or possession of shop/premises in the market yard, to create one license for a trader valid across all markets in the state, harmonization of quality standards of agricultural produce and provision for assaying infrastructure in every market to enable informed bidding by buyers etc. Looking to the new intervention in marketing through e-NAM and its impact on price discovery, trade and marketing of agricultural produces in these selected APMCs, so far no study has been conducted in Chhattisgarh about the impact of e-NAM on the farmers hence the present study was taken. Chhattisgarh state was selected purposively for present study. Kawardha APMC in Kabirdham district was selected purposively as it was among the 5 APMCs which was integrated with e-NAM system in the first phase. 50 farmers and 25 traders from Kawardha APMC were selected randomly and primary data were collected from them. It was seen from the present study that there were 45 commodities notified under regulation and the APMC had 5 storage facilities each of 1000 metric ton capacity. Public address system and electronic display boards were available in Kawardha APMC. It can be noted that the arrival of paddy was the highest in Kawardha APMC. It was observed that a reduction of 7.50 per cent and 6.13 per cent in quantity arrival had occurred over last year in soybean and Paddy respectively (Fig. 4.5). Although increase in quantity arrival was observed in gram (28.36 per cent) and red gram (9.23 per cent) over last year. The total quantity arrival of 4 major commodities based on quantum of arrival had overall decreased by 4.95 per cent after enforcement of e-NAM. It can be seen that a huge decrease in price of gram (31.22 per cent) had noticed post enforcement of e-NAM. Increase in price of Paddy (26.64 per cent) and red gram (1.29 per cent) was noticed post-unification which helped the producers to fetch better income. After the enforcement of e-NAM Bhatapara APMC had witnessed an increase in total income of 15,01,361 Rs i.e. an increase of 2.70 per cent over the previous year which shows the positive effect of implementation of e-NAM. After the enforcement of e-NAM Kawardha APMC had witnessed a decrease in expenditure of 47,09,753 Rs i.e. 7.79 per cent of decrease over the previous year.

Keywords: Kawardha, e-NAM, Chhattisgarh, income, expenditure

1. Introduction

India is mainly an agriculture based country. Along with diversified production, efficient marketing is essential in harnessing the potential of agriculture. In this context direct marketing of farm produce by farmers to consumers was viewed as one efficient alternative and initiatives were taken in this direction in some states. Honourable Prime Minister of India Mr. Narendra Modi launched the electronic trading portal for National Agriculture Market (e-NAM) on 14th April 2016 (Chand, 2016) [1]. Electronic trading portal for National Agriculture Market (e-NAM) have multi-dimensional objectives like to establish a national e-market platform for transparent sale transactions and price discovery initially in regulated markets, to provide liberal licensing of traders/buyers and commission agents by state authorities without any pre-condition of physical presence or possession of shop/premises in the market yard, to create one license for a trader valid across all markets in the state, harmonization of quality standards of agricultural produce and provision for assaying infrastructure in every market to enable informed bidding by buyers etc.

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In Chhattisgarh, marketing and trading of the agricultural produces is done by the state APMCs. The state consists of total 69 APMCs (Mishra, 2011) ^[4] out of which only 5 APMCs were integrated with e-NAM in the first phase *viz.*, Bhatapara APMC (Baloda Bazaar), Kurud APMC (Dhamtari), Kawardha APMC (Kabirdham), Rajnandgaon (Rajnandgaon) and Nawapara APMC (Raipur). Looking to the new intervention in marketing through e-NAM and its impact on price discovery, trade and marketing of agricultural produces in these selected APMCs, so far no study has been conducted in Chhattisgarh about the impact of e- NAM on the farmers. That is why it is imperative to investigate the impact of e-NAM on income of farmers and traders in the state. Accordingly, this study is being under taken with the some specific objectives.

2. Objectives of the Study

1. To study the market profile and assess the status of e-NAM of Kawardha APMC.
2. To examine the arrival and prices of major commodities

before and after e-NAM in Kawardha APMC.

3. To examine change in income and expenditure of Kawardha APMC before and post-unification.

3. Material & Method

Chhattisgarh state was selected purposively for present study. Kawardha APMC in Kabirdham district was selected purposively as it was among the 5 APMCs which was integrated with e-NAM system in the first phase. 50 farmers and 25 traders from Bhatapara APMC were selected randomly and primary data were collected from them for the years 2014 to 2018. Secondary data were collected from review of literatures, various government sources and from the officials of Kawardha APMC. Specifically designed schedules were prepared separately for farmers, traders and APMC officials to collect data.

4. Results and Discussions

4.1 The general information of Kawardha APMC

Table 1: General information of Kawardha APMC

SL. No	Title	Information
1	City	Kawardha
2	Full Postal Address	Krishi Upaj Mandi Samiti kawardha, Kabirdham, Chhattisgarh
3	Email	Mandi-kwd@cg.nic.in
4	Telephone No. with STD Code	07741-298105
5	Year of establishment	1968
6	Population Served	62000
7	Geographical area served by Market	120 villages
8	Name of Chairman/Administrator	Mr. N.L. Pandey
9	Name of Secretary	Mr. Arun Kumar Pathak
10	Telephone No. of Secretary	9425542048
11	Name of Officer-in-Charge of Market Information	Mr. Ashok Gupta

Source: Market Profile, Kawardha APMC, Chhattisgarh, 2017

The nearest railway station from Kawardha APMC is Raipur railway station which is 120 Km away from the APMC. The nearest national highway from Kawardha APMC is Raipur-Jabalpur national road 12/A. Kawardha APMC had 17 permanent staffs for supervisory purpose. The daily working period was of 12 hours. Sale in the APMC used to start from morning 8 AM and ends at night 7.30 PM. The peak trading hours in the APMC used to be from 9 AM to 11 AM. The APMC served 120 villages. The important traditional markets to which produces were sent from Kawardha APMC were Bilaspur, Raipur, Bhatapara, Rajnandgaon, Durg, Katni, Shahdol, Indore, Maharashtra and Jharkhand. There were 32 rice processing mills, 2 pulse processing mills and 1 sugar processing unit in the market area. There was no cold storage infrastructure available in Kawardha APMC, though 5 warehouses each of 1000 metric ton capacity were available in the APMC. There were 45 commodities notified under

regulation in Kawardha APMC *viz.*, paddy, soybean, gram, red gram etc. General modes of transport adopted for bringing the commodities to the APMC were tractors and same were used to transport the sold commodities to various stations from the APMC. No farmer level grading practiced in the APMC. Electronic weighment facility was available in Kawardha APMC. The common methods of payment were cash, cheque, RTGS and NEFT. Digital Projector and loudspeakers were available in the APMC to address the public. There were 2 open platforms and 4 covered shades in Kawardha APMC. Kawardha APMC had electricity supply round the clock. The APMC had 5,56,82,613 rupees of income; 6,04,51,660 rupees of expenditure; 47,69,047 rupees of surplus and 7,44,19,052 rupees of reserves as on 31st March 2017.

4.2 Market Profile of Kawardha APMCs

Table 2: Market Profile of Kawardha APMCs

Sl. No.	Particulars	Units	Bhatapara APMC
1	District		Kabirdham
2	City		Kawardha
3	Year of establishment		1968
4	Population served		62000
5	Geographical area served by APMC	Village	120
6	No of Staffs		17
7	Name nearest railway station		Raipur
8	Distance from railway station	Km	120
9	Nearest national /state highway		NH 12/A

10	No. of Cold storages available		5
11	No. of commodities notified		45
12	Avg. daily dispatches to outside markets during the season	QTL	400
14	Sale begins in APMC	AM	8.00
15	Sale ends in APMC	PM	7.30
16	Peak trading hours	AM	9.00-11.00
17	Farmer level grading in practice		No
18	System of weighment		Electronic weighing machine
19	System of payment		Cash, Cheque, RTGS, NEFT
22	Electronic display board		Yes
23	Public address system		Yes
24	Open platform		2
25	Covered platform		4

Source: Market Profile, Krishi Upaj Mandi, Chhattisgarh, 2017

The basic information and characteristics of Kawardha APMCs is presented in Table 2. Bhatapara APMC was the oldest APMC which established in 1964 followed by Kawardha APMC (1968) and Rajnandgaon APMC (1971). Kawardha APMC had a high number of commodities notified under regulation i.e. 45 commodities. Farmer level grading was not in practice in Kawardha APMC. The APMC had electronic weighing facility and the prevailing modes of payment were cash payment, cheque payment, RTGS and NEFT system. Kawardha APMC had storage capacity of 5

warehouses each of 1000 Metric Ton. Electronic display boards and public address facilities were present in the selected APMC. Adequate supply of electricity and water was present in the APMC. The rest house facilities for the farmers were in poor condition and needs urgent attention to improve. The canteens present in the selected APMC was in name sake and need to be improved.

4.3 Yearly arrival information of major commodities in Kawardha APMC

Table 3: Yearly arrival of major commodities in Kawardha APMC

SL. No.	Commodity	2014-2015 (QTL)	2015-2016 (QTL)	2016-2017 (QTL)	2017-2018 (QTL)
1	Soybean	57597 (3.84)	23983 (1.52)	59078(3.31)	54645 (3.22)
2	Gram	140879 (8.51)	77778 (4.92)	52591 (2.95)	67507 (3.98)
3	Red Gram	23270 (1.41)	17621 (1.11)	24537 (1.37)	26801 (1.58)
4	Paddy	1433555 (86.60)	1461892 (92.45)	1648381 (92.37)	1547271 (91.22)
Total		1655301 (100.00)	1581274 (100.00)	1784587 (100.00)	1696224 (100.00)

Source: Kawardha APMC

Note: Figures in the bracket indicate the percentage to the total

Year wise (2014-2018) arrival of 4 major commodities based on quantum arrivals is presented in Tale 3. It can be noted that the arrival of paddy was the highest in Kawardha APMC (86.60 per cent in 2014-2015, 92.45 per cent in 2015-2016, 92.37 per cent in 2016-2017 and 91.22 per cent in 2017-2018)

as most of the farmers used to cultivate paddy.

4.4 Change in arrival of major commodities in Kawardha APMC post-unification

Table 4: Change in arrival post-unification in Kawardha APMC of major commodities

SL. No.	Commodity	2016-2017 (QTL)	2017-2018 (QTL)	Absolute Change (QTL)	Percentage Change (%)
1	Paddy	4020601(96.79)	3698449(95.74)	-322152	-8.01
2	Wheat	22213(0.53)	23937(0.62)	1724	7.76
3	Red Gram	6782(0.16)	15239(0.39)	8457	124.70
4	Gram	82155(1.98)	94146(2.44)	11991	14.60
5	Lentil	11587(0.28)	19430(0.50)	7843	67.69
6	Soybean	9512(0.23)	8372(0.22)	-1140	-11.98
7	Mustard	1015(0.02)	3374(0.09)	2359	232.41
Total		4153865(100.00)	3862947(100.00)	-290918	-7.00

Source: Kawardha APMC

Note: Figures in the bracket indicate the percentage to the total

Absolute change as well as the percentage change in arrival in Kawardha APMC post-unification is presented in table 4. It was observed that a reduction of 7.50 per cent and 6.13 per cent in quantity arrival had occurred over last year in soybean and Paddy respectively (Fig 2). Although increase in quantity arrival was observed in gram (28.36 per cent) and red gram (9.23 per cent) over last year. The total quantity arrival of 4

major commodities based on quantum of arrival had overall decreased by 4.95 per cent after enforcement of e-NAM. The change in arrival may not entirely be due to implementation of e-NAM but also due to a loss of other reasons such as increase or decrease in production, sale to nearby markets, change in cropping pattern etc.

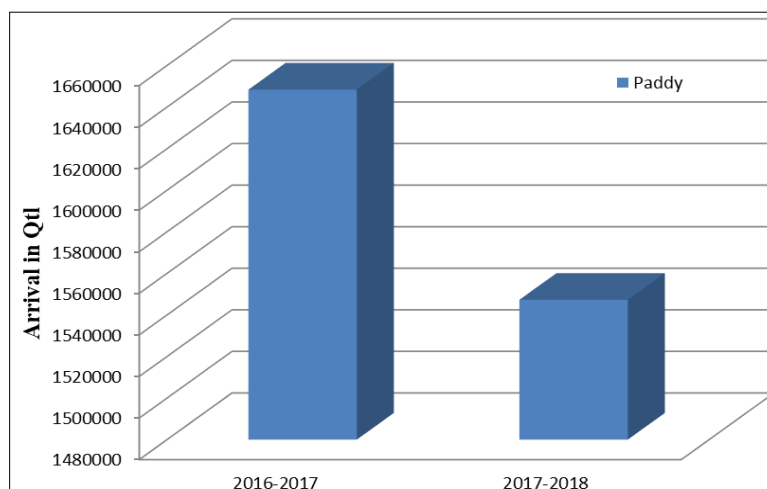


Fig 1: Change in arrival of paddy post-unification in Kawardha APMC

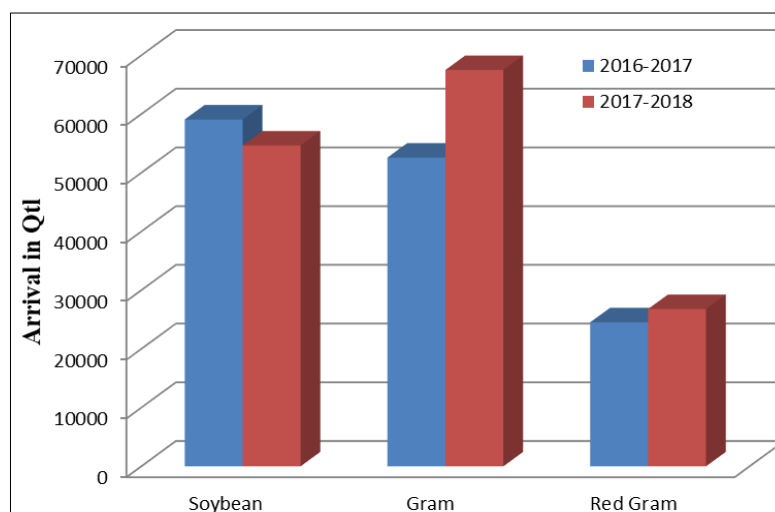


Fig 2: Change in arrival of major commodities except paddy post-unification in Kawardha APMC

4.5 Yearly price information of major commodities in Kawardha APMC

Table 5: Yearly price information of major commodities in Kawardha APMC

SL. No.	Commodity	2014-2015(Rs/ QTL)	2015-2016 (Rs/ QTL)	2016-2017 (Rs/ QTL)	2017-2018 (Rs/ QTL)
1	Soybean	3704	2952	3600	3470
2	Gram	2285	3375	4795	3298
3	Red Gram	4175	2952	3950	4001
4	Paddy	1260	1224	1145	1450

Source: Kawardha APMC

Year wise (2014-2018) price of 4 major commodities based on quantum arrivals is presented in Table 5.

4.6 Change in price of major commodities in Kawardha APMC post-unification

Table 6: Change in price of major commodities in Kawardha APMC post-unification

SL. No.	Commodity	2016-2017(Rs)	2017-2018(Rs)	Absolute Change (Rs)	Percentage Change (%)
1	Soybean	3600	3470	-130	-3.61
2	Gram	4795	3298	-1497	-31.22
3	Red Gram	3950	4001	51	1.29
4	Paddy	1145	1450	305	26.64

Source: Kawardha APMC

Change in price of major commodities based on quantum of arrival of Kawardha APMC is presented in table 6. It can be seen that a huge decrease in price of gram (31.22 per cent) had noticed post enforcement of e-NAM (Fig 4). The main reason behind it was bumper production of gram in Kawardha

district in 2017-2018 which increased the quantity supply of gram (shown in table 4.9) which decreased the price of gram in the market. Increase in price of Paddy (26.64 per cent) and red gram (1.29 per cent) was noticed post-unification which helped the producers to fetch better income (Fig 3).

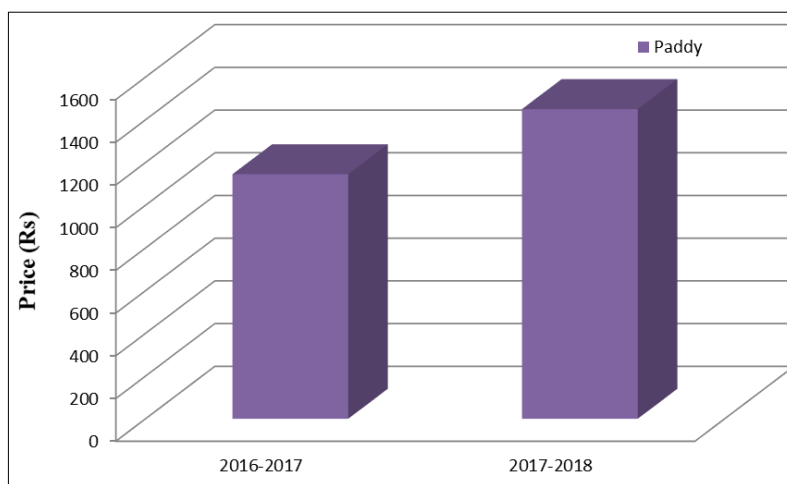


Fig 3: Change in price of paddy post-unification in Kawardha APMC

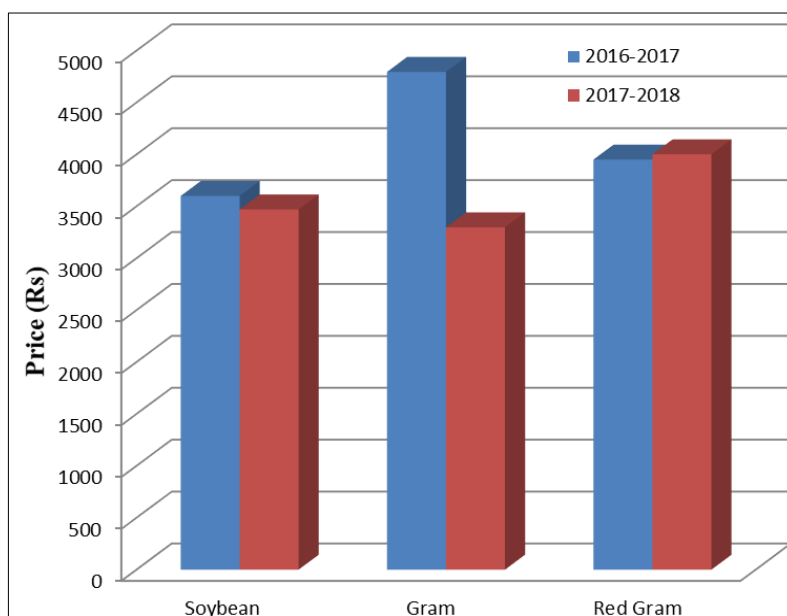


Fig 4: Change in price of major commodities except paddy in Kawardha APMC

4.7 Yearly income and change in income post-unification of Kawardha APMC

Table 7: Yearly income and change in income post-unification of Kawardha APMC

SL. No.	Year	Income (Rs)	Yearly Absolute change in income(Rs)	Yearly Percentage change in income (%)
1	2014-2015	51531456		
2	2015-2016	81400010	29868554	57.96
3	2016-2017	55682613	-25717397	-31.59
4	2017-2018	57183974	1501361	2.70

Source: Kawardha APMC

Yearly income of Kawardha APMC and absolute change as well as percentage change in income of Kawardha APMC post-unification is presented in Table 7. After the enforcement of e-NAM Bhatapara APMC had witnessed an increase in total income of 15,01,361 Rs i.e. an increase of 2.70 per cent

over the previous year which shows the positive effect of implementation of e-NAM.

4.8 Yearly expenditure and change in expenditure post-unification of Kawardha APMC

Table 8: Yearly expenditure and change in expenditure post-unification of Kawardha APMC

SL. No.	Year	Expenditure (Rs)	Absolute change in expenditure post-unification (Rs)	Percentage change in expenditure post-unification (%)
1	2014-2015	45092276		
2	2015-2016	67086327	21994051	48.78
3	2016-2017	60451660	-6634667	-9.89
4	2017-2018	55741907	-4709753	-7.79

Source: Kawardha APMC

Yearly expenditure of Kawardha APMC and absolute change as well as percentage change in expenditure of Kawardha APMC post-unification is presented in Table 8. After the enforcement of e-NAM Kawardha APMC had witnessed a decrease in expenditure of 47,09,753 Rs i.e. 7.79 per cent of decrease over the previous year.

5. Summary and Conclusion

The major findings of the present study are as follows:

1. There were 45 commodities notified under regulation in Kawardha APMC.
2. The APMC had 5 storage facilities each of 1000 metric ton capacity.
3. Public address system and electronic display boards were available in Kawardha APMC.
4. It was noted that the arrival of paddy was the highest in Kawardha APMC (86.60 per cent in 2014-2015, 92.45 per cent in 2015-2016, 92.37 per cent in 2016-2017 and 91.22 per cent in 2017-2018) as most of the farmers used to cultivate paddy.
5. A reduction of 7.50 per cent and 6.13 per cent in quantity arrival had occurred over last year in soybean and Paddy respectively.
6. Increase in quantity arrival was observed in gram (28.36 per cent) and red gram (9.23 per cent) over last year.
7. The total quantity arrival of 4 major commodities based on quantum of arrival had overall decreased by 4.95 per cent after enforcement of e-NAM.
8. Huge decrease in price of gram (31.22 per cent) had noticed post enforcement of e-NAM (Fig 4.8).
9. Increase in price of Paddy (26.64 per cent) and red gram (1.29 per cent) was noticed post-unification which helped the producers to fetch better income (Fig 4.7).
10. After the enforcement of e-NAM Bhatapara APMC had witnessed an increase in total income of 15,01,361 Rs i.e. an increase of 2.70 per cent over the previous year which shows the positive effect of implementation of e-NAM.
11. After the enforcement of e-NAM Kawardha APMC had witnessed a decrease in expenditure of 47,09,753 Rs i.e. 7.79 per cent of decrease over the previous year.

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