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Rathod AS
Department of Extension
Education, College of
Agriculture, VNMKV, Parbhani,
Maharashtra, India

Dr. PR Deshmukh
Department of Extension
Education, College of
Agriculture, VNMKV, Parbhani,
Maharashtra, India

Dr. RP Kadam
Department of Extension
Education, College of
Agriculture, VNMKV, Parbhani,
Maharashtra, India

Kadam BD
Department of Extension
Education, College of
Agriculture, VNMKV, Parbhani,
Maharashtra, India

Nakhate PS
Department of Extension
Education, College of
Agriculture, VNMKV, Parbhani,
Maharashtra, India

Corresponding Author:
Rathod AS
Department of Extension
Education, College of
Agriculture, VNMKV, Parbhani,
Maharashtra, India

Impact of eNAM portal on beneficiary famers of Marathwada

Rathod AS, Dr. PR Deshmukh, Dr. RP Kadam, Kadam BD and Nakhate PS

Abstract

Agriculture is ensuring food and nutritional security, sustainable development and for alleviation of poverty. (Kavad 2015) Farmers or producers were know about what to produce, when to produce, how much to produce but, now is time of where to sell for better price and in which form to sell their produce. The globalization of market has create an avenue to the farmers who are ready to transform themselves from mere producers cum sellers in the domestic market to a wider market to best realize the returns for their investments, risks and efforts. Moreover, the dietary preferences, consumption of more processed foods and crowding out of peri-urban area become subsequent alternative for perishable commodities. This signifies that the farmers' needs to be oriented with knowledge and skills related to market (Kaleel, *et al.* 2007).

Electronic national agriculture marketing (eNAM) is the today's need of Indian farmers it is initiative is widely admired and was regarded in the country's agricultural sector as 'a game-changer' or 'Harbinger of progress. (Bandhavya 2020).

Keywords: Impact, farmers, eNAM

Introduction

The 70.00% of Maharashtra peoples has farming business they has dip knowledge about farming and ability to produce good quality products but after production they not get the better price to their produce. Agricultural markets are as important as the actual farming itself. The low bargaining capacity of farmers and unregulated markets restricts them to get the remunerative price of their produce. (Kavad 2015) ^[5]. eNAM one of solution on that problem there is number of traders connected with eNAM in whole India and they helps farmers for gave better price to produce.

eNAM is an online trading platform for agricultural commodities in India. It was launched on 14th April 2016. The Small Farmers Agribusiness Consortium (SFAC) is the lead agency for implementing e-NAM under Ministry of Agriculture and Farmers' Welfare, Government of India with the support of all the e-NAM States/UTs, State Marketing Boards, Mandi secretaries, Supervisors, Quality Assayers, Weighment Operators, Service Providers, Farmers, FPOs, Traders and eNAM team. The purpose of e-NAM is to create a network of existing mandis on a common online market platform as 'One Nation, One Market' for agricultural commodities in India.

The aim of regulated markets are to prevent exploitation of farmers by removing the hurdles in the marketing, to improve the marketing system for getting better prices of their produce and the goods are made available to consumers at reasonable prices. Kavad (2015) ^[5].

Objective

1. To study the impact of eNAM portal on the beneficiary.

Methodology

There were two APMCs selected from each district purposively. Those APMCs registered on eNAM portal from Latur i.e. Latur and Udgir, from Parbhani i.e. Parbhani and Selu, and from Hingoli i.e. Hingoli and Basmat and from Aurangabad i.e. Aurangabad and Vaijapur for the present study it was selected on the basis of Agricultural Produce Market Committee registered on eNAM portal.

The respondents those were registered on eNAM portal that was considered for the study. The 20 respondents were selected from each selected APMC.

The total numbers of 160 respondents were selected for the present study.

In the present study, the impact of eNAM portal among the beneficiary farmers in Marathwada region was measured. In order to measure the Impact of eNAM portal, an impact scale was developed by adopting method of Summated Rating suggested by Thurstone (1946) ^[17] were followed in the

construction of scale.

Impact of eNAM Scheme was measured with the help of following six components namely Awareness impact, Economic impact, Social impact, Psychological impact, Employment impact, Technical impact.

Results and Discussion

Table 1: Statement wise analysis of the impact of eNAM portal on its Beneficiaries

Sl. No.	Statements	Before used			After used		
		SA	PA	SD	SA	PA	SD
A) Knowledge impact							
1.	The beneficiaries have knowledge about eNAM operation.	14.67 (23)	30.33 (49)	55.00 (88)	77.12 (123)	12.36 (20)	10.52 (17)
2.	They had knowledge about number of commodities sells on eNAM platform.	11.05 (18)	24.67 (40)	64.28 (102)	13.22 (20)	78.33 (124)	08.45 (13)
3.	It increases knowledge about online marketing system.	10.00 (16)	26.35 (58)	63.65 (101)	68.90 (94)	23.25 (54)	07.85 (12)
4.	It raises knowledge of basic legal rights of farmers.	09.38 (15)	38.75 (62)	51.87 (83)	69.11 (110)	24.50 (38)	06.39 (12)
5.	The beneficiaries has knowledge about transparent system of eNAM	15.36 (24)	55.29 (89)	29.35 (48)	14.64 (24)	80.00 (128)	05.36 (08)
B) Economic Impact							
1.	Annual income increased due to support of eNAM.	09.25 (14)	42.00 (68)	48.75 (78)	69.00 (110)	21.00 (34)	10.00 (16)
2.	eNAM reduce the economic loss of beneficiary due to the transparency and improve economic status of beneficiary.	17.00 (18)	50.35 (80)	33.65 (55)	65.35 (104)	18.65 (30)	15.00 (24)
3.	To avail online payment facility with ease of doing business.	20.55 (32)	39.26 (40)	40.29 (88)	70.50 (113)	15.23 (24)	14.27 (23)
4.	Beneficiary can participate directly in trading at the local mandi level, thereby reducing their intermediation costs.	19.56 (32)	38.44 (60)	42.00 (68)	36.10 (58)	50.15 (80)	13.75 (30)
5.	It helps for managing financial crises.	21.32 (32)	55.55 (88)	23.23 (40)	59.85 (96)	20.15 (32)	20.00 (32)
6.	It reduces the transportation cost of the beneficiary.	14.75 (24)	60.25 (96)	25.00 (40)	68.00 (109)	17.75 (29)	14.25 (22)
7.	e-NAM prevent the crops from damage which are the perishable commodities.	18.00 (28)	49.50 (80)	32.50 (52)	69.25 (110)	22.35 (36)	08.40 (14)
8.	It gives national market price to commodity and which is higher than the local market or any other state market.	19.55 (32)	28.25 (44)	52.20 (84)	71.65 (112)	15.75 (25)	13.70 (23)
C) Social impact							
1.	It helps to enhance the standard of living the beneficiaries.	15.25 (24)	25.00 (40)	59.75 (96)	69.00 (110)	21.00 (34)	10.00 (16)
2.	It increases the educational level of their family members.	18.75 (30)	29.25 (47)	52.00 (83)	25.20 (40)	63.75 (100)	12.05 (20)
3.	eNAM is a boon for the upliftment of the tenant, small and marginal farmers.	10.28 (17)	59.35 (95)	30.37 (48)	70.65 (113)	20.25 (32)	09.10 (15)
4.	eNAM helps to reduce the farmer's suicide.	18.00 (28)	32.50 (52)	49.50 (80)	69.25 (110)	22.35 (36)	08.40 (14)
5.	It helps to alleviate poverty of farmers.	19.56 (32)	38.44 (60)	42.00 (68)	31.15 (50)	50.10 (80)	18.75 (30)
6.	It building up the leadership among the farmers or traders.	20.00 (32)	32.44 (65)	48.56 (77)	50.15 (80)	35.10 (56)	18.75 (30)
7.	eNAM gives direction to new generation for trading or e-marketing.	15.75 (25)	55.00 (88)	29.25 (47)	63.75 (100)	25.20 (40)	12.05 (20)
D) Psychological Impact							
1.	eNAM makes the beneficiary less worried about their farm produce.	12.05 (20)	23.67 (38)	64.28 (102)	70.33 (112)	21.22 (34)	08.45 (14)
2.	The eNAM helps to increase the risk-taking ability.	21.35 (34)	24.35 (40)	54.30 (86)	59.28 (95)	29.37 (46)	12.35 (19)
3.	It save the beneficiary from hassle of market or mandi.	05.25 (24)	55.23 (88)	39.25 (64)	62.33 (100)	20.22 (32)	18.45 (28)
4.	It helps to build up their trust on online agriculture marketing system.	23.05 (39)	34.67 (54)	42.28 (67)	52.33 (82)	33.22 (54)	14.45 (24)
5.	eNAM prevent beneficiary from exploitation by middlemen.	19.72 (40)	45.28 (64)	35.00 (56)	55.25 (88)	24.46 (40)	20.29 (32)
E) Impact on Employment							
1.	It increases the self-employment opportunities.	10.42 (16)	31.23 (50)	59.35 (94)	65.35 (101)	26.42 (43)	09.23 (16)
2.	The monopoly of licence traders which gives employment opportunity to others.	18.00 (28)	49.50 (80)	32.50 (52)	58.00 (92)	18.00 (28)	24.00 (40)
3.	eNAM reduction in book keeping and reporting system as they are now generated automatically.	12.72 (20)	42.00 (68)	45.28 (72)	59.50 (96)	29.50 (48)	10.00 (16)
4.	It reduces the migration from rural to urban for employment.	21.00 (34)	49.50 (80)	29.50 (46)	52.50 (85)	28.25 (45)	19.25 (30)
5.	eNAM gives employment opportunity to trained and skillful people.	12.30 (20)	25.45 (40)	62.25 (100)	70.75 (114)	20.25 (32)	09.00 (14)
F) Technical Impact							
1.	The beneficiary getting the more knowledge about online marketing.	20.00 (32)	55.00 (88)	25.00 (40)	23.00 (38)	57.72 (90)	20.28 (32)
2.	The eNAM beneficiaries are able to handle the mobile or computer.	12.25 (20)	65.75 (105)	21.00 (35)	62.25 (100)	28.32 (43)	10.43 (17)
3.	The wi-fi is continuously available in mandi therefore famers learned the other things.	17.00 (28)	43.00 (68)	40.00 (64)	39.75 (48)	58.00 (92)	12.25 (20)
4.	Due to the online payment system farmers getting the more information about online banking	09.67 (16)	35.33 (56)	55.00 (88)	69.00 (110)	19.23 (32)	11.77 (18)

Knowledge Impact

Knowledge is an indispensable criterion for the adoption of any innovation, as it enables the respondents to understand completely and clearly the recommended technologies. The rate of adoption of an innovation is directly linked with level of knowledge of user about the same. Hence it was felt

necessary to know the knowledge level of the respondents to understand all aspects of the technologies that were taught to them. Sable (2019) ^[6].

The overall knowledge level and technology wise knowledge level of the beneficiaries were studied and the findings were presented in this section.

Table 2: Distribution of beneficiaries according to their knowledge impact

Sl. No.	Category	Score	Before used (n=160)		Score	After used (n=160)		'Z' value
			F	%		F	%	
1.	Low	Up to 6	31	19.67	Up to 10	42	26.25	15.11*
2.	Medium	7 to 10	81	50.62	11 to 12	89	55.63	
3.	High	11 & Above	48	30.71	13 & Above	29	18.12	
		Total	160	100	Total	160	100	
		Mean	8.60		Mean	9.68		
		S.D.	1.89		S.D.	1.56		

It was found from the table 2 that, before used majority (50.62%) of the eNAM beneficiaries were belongs to low level of knowledge category followed by 30.71% farmers only of medium level of knowledge and 19.67% were high knowledge category of eNAM.

After used of eNAM more than 55.63% of the farmers were belongs to high level of knowledge category followed by 26.25% were belongs to medium and 18.12% were high level of knowledge categories. It was concluded that after used of eNAM the knowledge level of beneficiaries were increase.

It is observed that knowledge impact is concern before used

average mean percentage 58.40 and after used the average mean percentage 79.86 was calculated whereas the difference between before and after was 21.46% from above it conclude that as per as knowledge impact concern 21.46% change was observed in knowledge impact.

The "Z" value (15.11) indicate theirs was higher change occurred on beneficiaries before and after used of eNAM operation.

Knowledge Impact

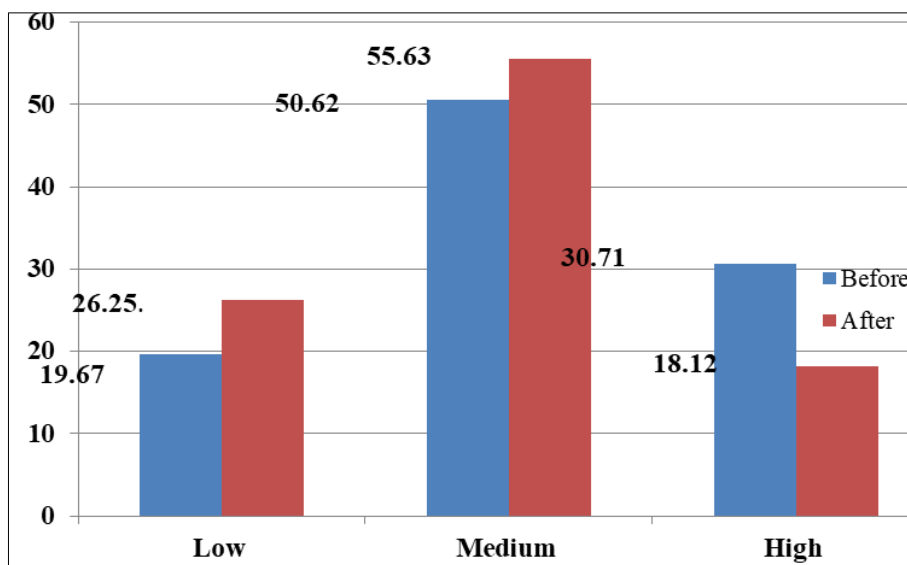


Fig 1: Distribution of beneficiaries before and after used according to their knowledge impact

Economic Impact

The government had the target doubling the farmer income up to 2022 by the support of eNAM. The use of closed bidding has a transparent approach for better price realization and thus increased income to the farmers reported by (CCSNIAM

2020) [2]. Based on change in the economic condition of the farmers due to benefits obtain from eNAM scheme, beneficiaries compared to before and after used of eNAM were grouped into three categories given below.

Table 3: Distribution of beneficiaries according to their economic impact

Sl. No.	Category	Score	Before used (n=160)		Score	After used (n=160)		'Z' value
			F	%		F	%	
1.	Low	Up to 11	40	25.16	Up to 15	24	14.83	15.86**
2.	Medium	14 to 15	94	58.72	16 to 18	104	65.00	
3.	High	16 & Above	26	17.22	21 & Above	32	20.17	
		Total	160	100	Total	160	100	
		Mean	14.08		Mean	18.49		
		S.D.	2.42		S.D.	2.56		

It was revealed from Table 3 that, before used 58.72% of the beneficiaries had medium economic impact, followed by 25.16% of the beneficiaries had low economic impact and 17.22% of the beneficiaries had high economic impact after used of eNAM.

While, the three fifth (65.00%) of the beneficiaries had medium economic impact, followed by 20.17% of the beneficiaries had high economic impact and 14.83% of the beneficiaries had low economic impact.

It was observed from above table that, most of the eNAM

beneficiaries having medium impact of eNAM portal on economic status.

It is observed that economic impact is concern before used average mean percentage 58.66 and after used the average mean percentage 77.04 was calculated whereas the difference between before and after was 18.38 percent from above it conclude that as per as economic impact concern 18.38 percent change was observed in economic impact.

The mean change in economic status scores of before and after used eNAM portal differed significantly with “Z” value (15.86) at 1% level of probability implying that there was improvement in the economic status of eNAM portal beneficiaries due to single window services provided by eNAM scheme.

Economic Impact

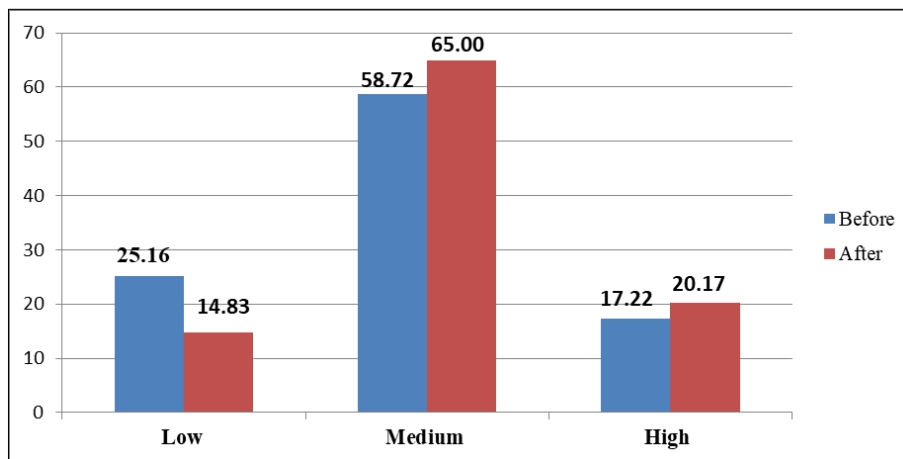


Fig 2: Distribution of beneficiaries before and after according to their economic impact

Social Impact

It refers to the changes happened in the social behavior of the

respondents in order to participate in the social activities due to eNAM beneficiaries. Kale (2012) [3]

Table 4: Distribution of beneficiaries according to their social impact

Sl. No.	Category	Score	Before used (n=160)		Score	After used (n=160)		“Z” value
			F	%		F	%	
1.	Low	Up to 9	48	30.04	Up to 11	27	17.15	13.96**
2.	Medium	10 to 13	76	47.33	12 to 15	96	59.61	
3.	High	14 & Above	36	22.63	16 & Above	37	23.24	
		Total	160	100	Total	160	100	
		Mean	11.64		Mean	13.67		
		S.D.	2.45		S.D.	2.64		

It was observed from the table 4 that, before used in eNAM, (47.33%) of the eNAM beneficiaries had medium impact category followed by 30.04% and 22.63% of the eNAM beneficiaries had high and lower social impact category.

It was observed from the table 4 that, after used of eNAM, (59.61%) of the eNAM beneficiaries had medium social impact category followed by 17.15% and 23.24% of the eNAM beneficiaries had lower and higher social impact category.

It was observed from above table that, most of the eNAM beneficiaries having medium impact of eNAM portal on social status.

It is observed that social impact is concern before used average mean percentage 55.42 and after used the average mean percentage 74.47 was calculated whereas the difference between before and after was 19.05% from above it conclude that as per as social impact concern 19.05 percent change was observed in social impact.

The mean change in social status scores of before and after used of eNAM portal differed significantly with “Z” value (13.96) at 1% level of probability implying that there was

improvement in the social status of eNAM portal beneficiaries due to single window services given by eNAM i.e. APMC related information and services, including commodity arrivals, quality assaying, competitive bid offers and electronic payment settlement directly into farmers’ accounts. This helps beneficiary to meet their basic need on time and invest in other activities which increase their social status.

It was observed from the above table that, high impact occurred on social status of beneficiaries after used.

Psychological Impact

Psychological impact refers to the change occurred in psychology of the beneficiaries about adoption of new technologies, new inventions from various research station. Kale (2012) [3].

It was revealed from Table 4 that, before used (49.33%) less than fifty percent of the beneficiaries had medium mental impact of eNAM, followed by 32.60% of the beneficiaries had low and 18.07% of the beneficiaries had high mental impact of eNAM.

Table 5: Distribution of respondents according to their psychological impact

Sl. No.	Category	Score	Before used (n=160)		Score	After used (n=160)		“Z” value
			F	%		F	%	
1.	Low	Up to 7	53	32.60	Up to 10	40	29.56	10.40**
2.	Medium	8 to 10	80	49.33	11 to 13	88	55.13	
3.	High	11 & Above	27	18.07	14 & above	32	15.31	
		Total	160	100	Total	160	100	
		Mean	9.75		Mean	12.06		
		S.D.	1.98		S.D.	2.0		

While after used more than fifty% (55.13%) of the beneficiaries had medium mental impact of eNAM, followed

by 29.56% of the beneficiaries had low and 15.31% of the beneficiaries had high mental impact of eNAM.

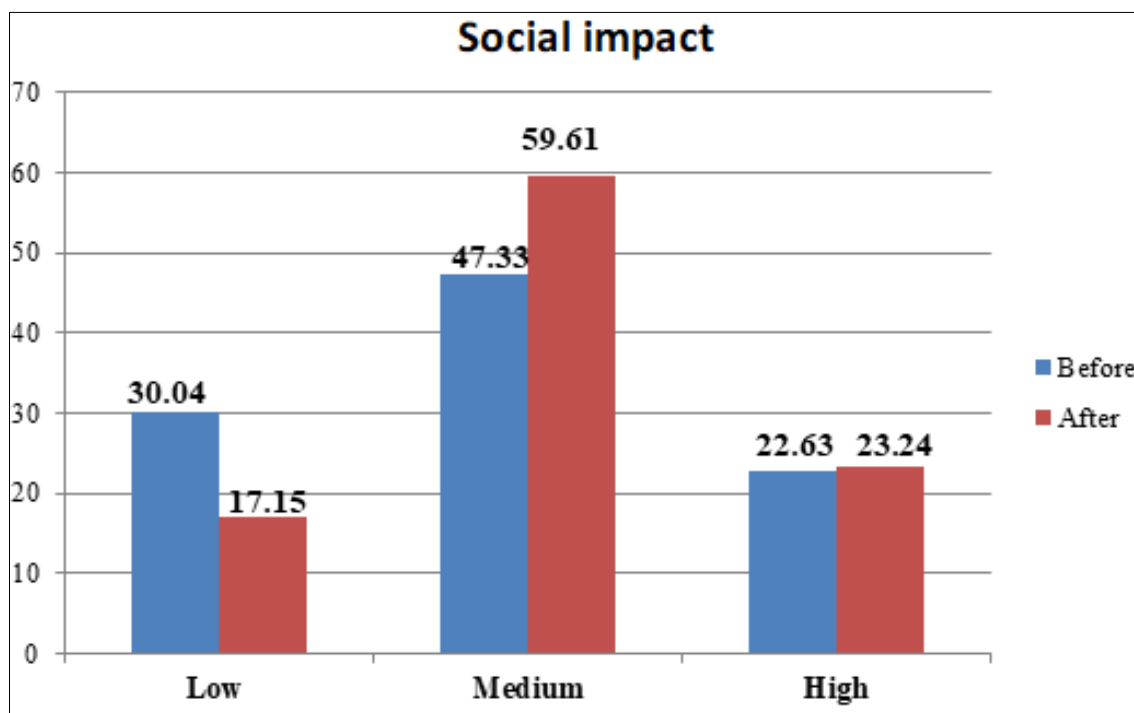


Fig 3: Distribution of beneficiaries before and after according to their social impact

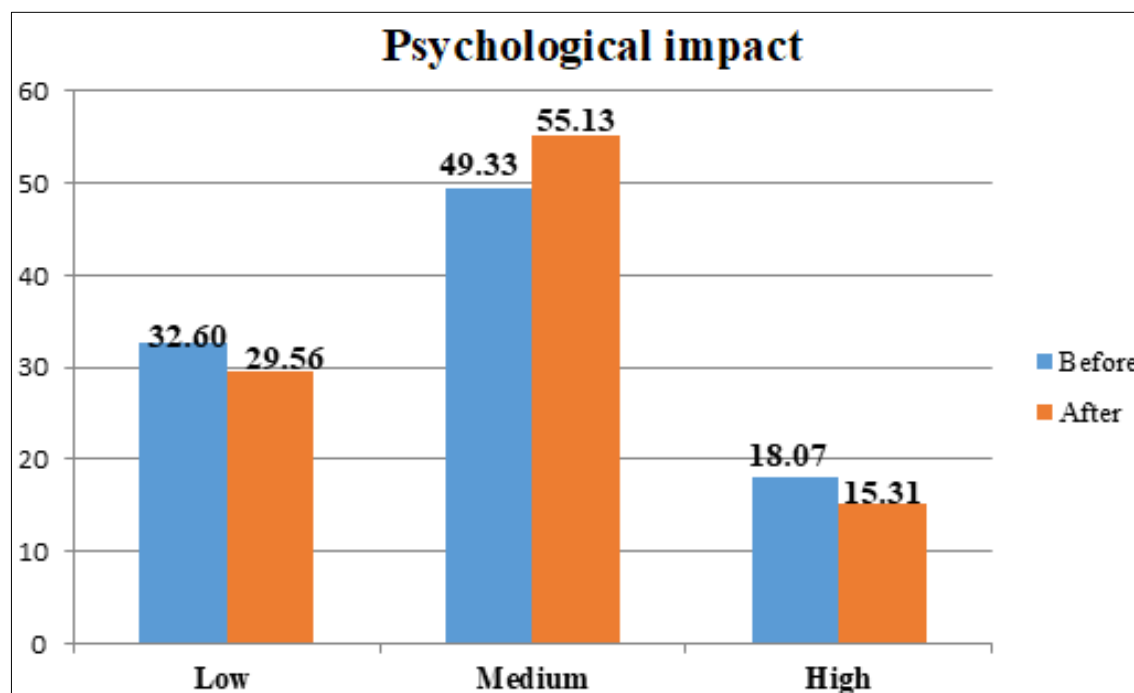


Fig 4: Distribution of respondents before and after used according to their psychological impact

It is observed that psychological impact is concern before used average mean percentage 64.66 and after used the average mean percentage 80.04 whereas the difference between before and after was 15.74 percent from above it it conclude that as per as psychological impact concern 15.74 percent change was observed on psychological impact.

It was observed from the above table that, z value (10.40) indicated improvement in mental status of eNAM beneficiaries before and after used of eNAM.

Employment Impact

The performance of the agriculture sector remains critical to growth and employment in the country. (Economics survey 2023) the eNAM gives an employment opportunity to stakeholders i.e farmers, traders, FPOs and others.

It was observed from the table 5 that, before used in eNAM majority (57.00%) of the eNAM beneficiaries had medium impact on employment status, followed by 23.17% and 20.83% of the eNAM beneficiaries had low and high impact on employment respectively.

Table 6: Distribution of beneficiaries according to their employment impact

Sl. No.	Category	Score	Before used (n=160)		Score	After used (n=160)		“Z” value
			F	%		F	%	
1.	Low	Up to 7	37	23.17	Up to 9	32	20.56	09.85**
2.	Medium	8 to 10	91	57.00	10 to 12	104	65.13	
3.	High	11 & Above	33	20.83	13 & Above	24	15.31	
		Total	160	100	Total	160	100	
		Mean	8.97		Mean	11.16		
		S.D.	1.93		S.D.	2.10		

While, after used of eNAM portal majority (65.13%) of the eNAM beneficiaries had medium impact on employment followed by 20.56% and 15.31% of the eNAM beneficiaries had low and high impact on employment respectively.

It was observed from above table that, most of the eNAM beneficiaries having medium impact of eNAM portal on employment status.

It is observed that employment impact is concern before used average mean percentage 59.00 and after used the average mean percentage was 73.86 whereas the difference between before and after was 14.86 percent from above it conclude that as per as employment impact concern 14.86 percent

change was observed on employment impact.

The mean change in employment status scores of before and after used in eNAM portal differed significantly with “Z” value (09.85) at 1% level of probability implying that there was normally improvement in the employment status of eNAM portal beneficiaries due to selling of their produce in eNAM.

It was observed from the above table that, no much drastic change in employment status observed after participation in eNAM selling.

Technical Impact

Table 7: Distribution of beneficiaries according to their technical impact

Sl. No.	Category	Score	Before used (n=160)		Score	After used (n=160)		“Z” value
			F	%		F	%	
1.	Low	Up to 5	46	32.33	Up to 7	24	25.56	14.55**
2.	Medium	6 to 7	71	42.25	8 to 10	92	62.13	
3.	High	8 & above	43	25.42	11 & above	44	13.31	
		Total	160	100	Total	160	100	
		Mean	6.59		Mean	9.46		
		S.D.	1.44		S.D.	1.58		

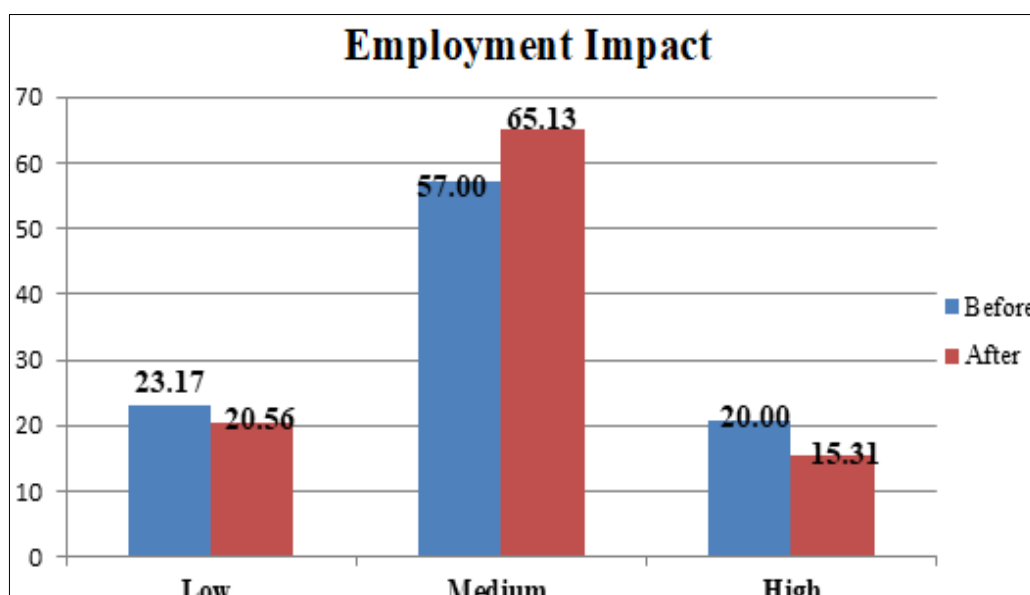


Fig 5: Distribution of beneficiaries before and after used according to their employment impact

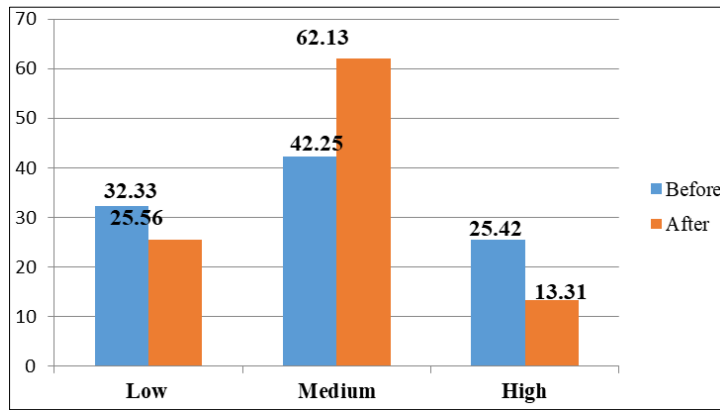


Fig 6: Distribution of beneficiaries before and after used according to their technical impact

It was revealed from Table 7 that, before used majority (42.25%) of the beneficiaries had medium psychological impact of eNAM, followed by 25.42% of the beneficiaries had high and 32.33% of the beneficiaries had low mental impact of eNAM.

While after used majority 62.13% of the beneficiaries had medium psychological impact of eNAM, followed by 25.56% of the beneficiaries had low and 13.31% of the beneficiaries had high psychological impact of eNAM.

It is observed that technical impact is concern before used

average mean percentage 54.91 and after used the average mean percentage was 74.98 calculated whereas the difference between before and after was 20.07 percent from above it conclude that as per as technical impact concern 20.07 percent change was observed on technical impact.

It was observed from the above table that, z value (14.55) indicated changed occurred in technical status of eNAM beneficiaries before and after used of eNAM.

Overall impact of eNAM portal on it beneficiaries.

Table 8: Distribution of respondents according to their overall impact

Sl. No.	Category	Score	Before used (n=160)		Score	After used (n=160)		“Z” value
			F	%		F	%	
1.	Low	Up to 53	45	28.17	Up to 72	30	19.27	26.97**
2.	Medium	54 to 64	90	56.03	73 to 83	110	68.50	
3.	High	65 and Above	25	15.80	84 and Above	20	12.23	
		Total	160	100	Total	160	100	
		Mean	59.63		Mean	78.68		
		S.D.	6.33		S.D.	6.29		

It was revealed from Table 8 that, before used 56.03% of the beneficiaries had medium overall impact of eNAM, followed by 28.17% of the beneficiaries had low overall impact of eNAM and 15.80% of the beneficiaries had high overall impact of eNAM.

While after used 68.50% of the beneficiaries had medium overall impact followed by 19.27% of the beneficiaries had low overall impact and 12.23% of the beneficiaries had high overall impact of eNAM.

It is observed that overall impact is concern before average mean percentage 58.46 and after the average mean percentage

77.13 was calculated the difference between before and after was 18.50 percent from above it conclude that as per as overall impact concern 18.50 percent change was observed on overall impact.

It was observed from the above table that, z value (26.97) indicated that the high impact of eNAM portal or platform occurred in different factors of beneficiaries before and after used.

Overall Impact of eNAM portal

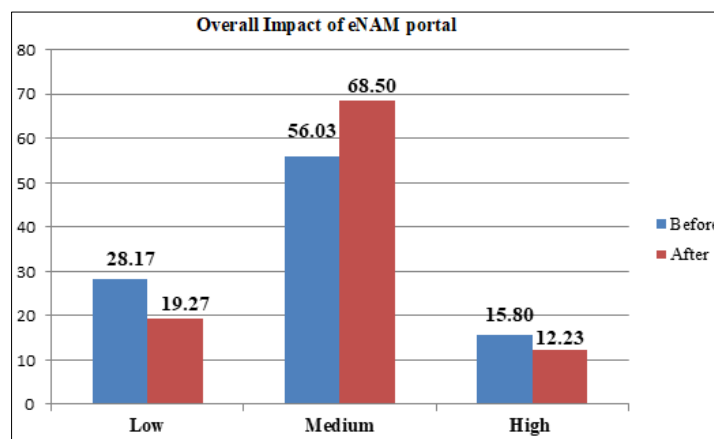


Fig 7: Distribution of eNAM portal beneficiaries according to their overall impact before and after used

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