

RESEARCH PAPER

Participation of different stakeholders in electronic national agriculture market : An assessment

G. M. HIREMATH¹, D. M. CHANDARGI², S. M. JAINUDDIN³ AND D. G. SATIHAL⁴

¹Assistant Professor of Agril. Economics, CoA, Raichur, UAS, Raichur

²Director of Extension, UAS, Raichur

³Assistant Professor of Agril. Economics, CoA, Kalaburagi, UAS, Raichur

⁴Sr. Farm Superintendent, ARS, Bheemarayanagudi

E-mail: gmhiremath41@gmail.com

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Abstract: In a country like India, wherein more than 83 per cent of the farmers are small and marginal with small marketable surplus is a major constraint for market accessibility and thereby deprived off getting remunerative prices for their produce. In this direction, National Agriculture Market (eNAM) is a pan-India electronic trading portal which networks the existing APMC *mandis* to create a unified national market for agricultural commodities. The main aim of eNAM is to integrate the APMCs across the country through a common online market platform to facilitate pan-India trade in agriculture commodities, providing better price discovery through transparent auction process based on quality of produce along with timely online payment. The integration of markets help in removing information asymmetry between buyers and sellers and promoting real time price discovery based on actual demand and supply. The present paper is an attempt to know the functioning of e-NAM. The e-NAM was introduced in 1000 APMCs spread over in 21 states across the country. The data were collected from the e-NAM portal to know the participation of different stakeholders' viz., farmers, traders, commission agents, FPOs, APMCs and *mandi* board in different states. At present, 1.69 crores of farmers, 1.55 lakh traders, 0.88 lakh of commission agents and 1836 FPOs are participating in eNAM *mandies* for the country as a whole. There exists interstate variation among these stakeholders in using the eNAM portal. This needs to be reduced to enable transparent and hassle free trade environment for the farming community.

Key words: Distribution, Interstate variation, Registration, Stakeholders

Introduction

Agricultural marketing plays an important role not only in stimulating production and consumption, but in accelerating the pace of economic development. Its dynamic functions are of primary importance in promoting economic development. In a country like India, wherein more than 83 per cent of the farmers are small and marginal with small marketable surplus is a major constraint for market accessibility and thereby deprived off getting remunerative prices for their produce.

Sale of crops produced in the area notified under the market committee can be done only under the aegis of the APMC, through the licensed commission agents. To break the trade cartels and ensure farmers get the right price, there is need for a pan-India electronic platform for agriculture commodities. Today, many primary markets across the country do not even have *pucca* roads and electronic weighing machines. A 2011 Planning Commission report also indicated that only 7 per cent of the total produce sold by farmers is graded before sale and that the storage capacity is only 30 per cent of what is required. But if an electronic platform is built, it will bring all basic infrastructure including assaying and grading machines, as these are absolute necessities in an online market where two parties from different corners of the country trade.

In this direction, National Agriculture Market (eNAM) is a pan-India electronic trading portal which networks the existing APMC *mandis* to create a unified national market for agricultural commodities. eNAM is a device to create a national network of physical *mandis* which can be accessed online. It seeks to

leverage the physical infrastructure of the *mandis* through an online trading portal, enabling buyers situated even outside the State to participate in trading at the local level.

The eNAM launched on April 14th 2016, it is driving agricultural trade towards the objective of remunerative prices for farmers by plugging the rampant trade malpractices in *mandis*. The main aim of eNAM is to integrate the APMCs across the country through a common online market platform to facilitate pan-India trade in agriculture commodities, providing better price discovery through transparent auction process based on quality of produce along with timely online payment. The integration of markets help in removing information asymmetry between buyers and sellers and promoting real time price discovery based on actual demand and supply.

Benefits of e-NAM

e-NAM is a win-win solution for all stakeholders. For the farmers, NAM promises more options for sale of his produce at nearest *mandi*. For the traders, NAM offers the opportunity to access a larger national market. Bulk buyers, processors, exporters etc. benefit from being able to participate directly in trading at the local *mandi* level through the NAM platform, thereby reducing their intermediation costs.

The gradual integration of all the major *mandis* in the States into NAM will ensure common procedures for issue of licenses, levy of fee and movement of produce. In future, we can expect

significant benefits through higher returns to farmers, lower transaction costs to buyers and stable prices and availability to consumers. With this backdrop, an attempt has been made in the present paper to assess the participation of different stakeholders in the eNAM market with the following objectives.

- To know the extent of participation of different stakeholders across different states and at all India level.
- To assess the popularization of e-NAM in different states among the different stakeholders and
- To suggest policy measures related to usage of eNAM portal.

Materials and methods

The necessary data were collected from the different secondary sources like eNAM portal, agriculture census. The data from eNAM portal was collected to know the participation of different stakeholders viz., farmers, traders, commission agents, FPOs, APMCs and *mandi* board in different states. The data from was accessed in the month of March 2021 to collect the state-wise registration of number of stakeholders. Further, the data were also used from All India Report on Agriculture Census 2015-16 published by Ministry of Agriculture, Cooperation and Farmers' Welfare to know the extent of coverage of farmers. Descriptive statistics were used to analyse the data and draw the conclusions.

Results and discussion

The participation of number of stakeholders, state-wise distribution and interstate variation in the distribution of stakeholders helps in assessing the reasons for such variation and to suggest possible measures to overcome such variation.

State-wise distribution of registered stakeholders

The state-wise distribution of registered stakeholders operating in the e-NAM market is presented in Table 1. It is observed from the table that the number of farmers' participation was more in all the states compared to other stakeholders. The highest number of farmers participation was observed in Uttarpradesh with 33 lakh farmers followed by Madhapradesh (30.20 lakhs), Haryana (27.24 lakhs), Telangana (18.22 lakhs) and Andhrapradesh (14.41 lakhs). Presently, at all India level, nearly 1.72 crore farmers are participating in e-NAM. It was interesting to note that though electronic markets and Unified Market Platform was first initiated in Karnataka, the participation of farmers was very less with just 1,393 farmers as only two markets are covered under e-NAM and rest of the *mandies* are under *Rashtriya e-marketing Service* (ReMS). These facts indicated that the participation of farmers in e-NAM not only depends on the geographical area of the state but also on the type of commodity, number of markets involved in e-NAM and willingness of the farmers.

The number of traders' participation was also highest in Uttarpradesh with 34170 traders followed by Rajasthan (25136), Madhyapradesh (21327) and Maharashtra (19765). The small state like Haryana has 11986 traders with almost 150 traders participation from each market. In other states, the participation of traders varied between 78 and 9302. It was interesting to note that the highest number of commission agents were participating in Haryana (23705) followed by Maharashtra (16104), Rajasthan (13481), Uttarpradesh (8524) and Punjab (8376). In all, 1.58 lakhs of traders and 0.89 lakh commission agents were operating in eNAM in India. With respect to FPOs participation, the top three states are Maharashtra (257), Haryana (225) and Uttarpradesh (216). Though geographically,

Table 1. Distribution of different stakeholders operating in the e-NAM as on March 2021

State	Traders	Commission Agents (CAs)	Service Provider	FPOs	Farmer	Total
Andhra Pradesh	3288	2258	0	160	1441454	1447160
Chandigarh	78	73	0	0	7,106	7,257
Chhattisgarh	3,076	229	0	22	1,35,127	1,38,454
Gujarat	9,302	6,755	0	86	8,67,707	8,83,850
Haryana	11,986	23,705	0	225	27,24,420	27,60,336
Himachal Pradesh	1,963	1,099	0	50	1,21,759	1,24,871
Jharkhand	2,006	0	0	71	2,13,411	2,15,488
Karnataka	575	696	0	0	1,393	2,664
Kerala	180	0	0	2	1,197	1,379
Madhya Pradesh	21,327	0	0	72	30,20,742	30,42,141
Maharashtra	19,765	16,104	0	257	11,94,045	12,30,171
Odisha	4,981	0	0	156	1,60,121	1,65,258
Puducherry	152	0	0	1	13,481	13,634
Punjab	2,288	8,376	0	6	2,16,837	2,27,507
Rajasthan	25,136	13,481	0	146	13,92,955	14,31,718
Tamil Nadu	3,476	33	0	106	2,72,088	2,75,703
Telangana	5,696	4,650	0	54	18,22,885	18,33,285
Uttar Pradesh	34,710	8,524	0	216	33,00,174	33,43,624
Uttarakhand	4,677	2,592	0	43	53,861	61,173
West Bengal	3,048	123	0	147	25,579	28,897
All India	1,57,710	88,698	0	1820	1,69,86,342	1,72,34,570

Participation of different stakeholders in electronic

Haryana is the small State, the participation of almost all stakeholders was found to be the highest which may be due to coverage of higher number of *mandies* under e-NAM. The distribution of different stakeholders' participation in e-NAM for the nation as a whole is given in Fig.1 which indicated higher participation of farmers compared to others. There was no participation of commission agents in e-NAM in some of the state. In all the states, there was no participation of Service Providers in e-NAM.

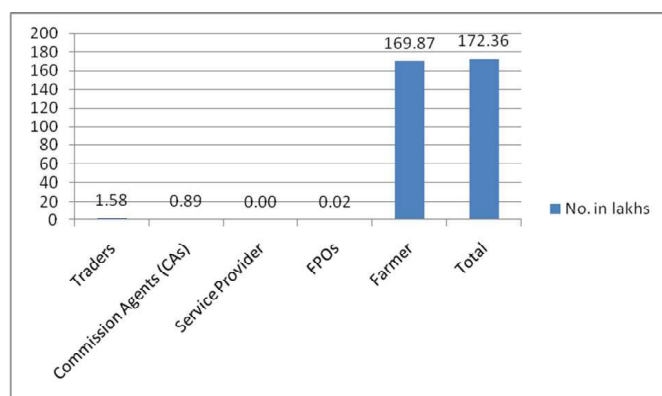


Fig.1: Number of stakeholders in e-NAM at national level

Percent share of different states in the participation of stakeholders in e-NAM

The share of different states in the participation of stakeholders in e-NAM is depicted in Table 2. It is observed from the table that among the different stakeholders the share of farmers was found to be the highest compared to others in all the states and for the country as a whole was discussed in the earlier table. The percent contribution of each state in the total number of stakeholders is concerned, the highest share in

the country's total number of farmers (19.40%) and traders (22.01%) was observed in Uttarpradesh state. The participation of Commission Agents was concerned, Haryana state accounted highest share of 26.73 per cent followed by Maharashtra (18.16 %), Rajasthan (15.26%), Uttarpradesh (9.61%) and Punjab (9.44%).

The participation of FPOs are concerned, the highest participation of FPOs was from Maharashtra with 14.12 percent followed by Haryana (12.36%) and Uttarpradesh (11.87%). In rest of the states, the contribution of states in the total FPOs participation in eNAM varied from 0.05 per cent in Puducherry to to 8.79 per cent in Andhrapradesh. No participation of FPOs in eNAM was observed from Chandigarh and Karnataka. The participation of FPOs is imperative as it is going to strongly influence on the farmers and other stakeholders. The study conducted by NIAM (2019) recommended various sensitization methods for different functionaries for creating, conducive and executing the sensitization programmes for better connectivity of farmers (sellers) and traders (Buyers) in the e-trading platform.

Interstate Variation in the registration of stakeholders in e NAM

The Table 3 presents the interstate variation in the operation of stakeholders in eNAM. It can be observed from the table that the interstate variation was found to be higher in all the category of stakeholders which was quite obvious due to variation in the inclusion of markets in eNAM. The interstate variation was found to be less in FPOs (89.92%) compared to other categories indicating increased participation of FPOs in marketing activities in all these states/UTs. This is a welcome measure as Farmers Producers Organization (FPO) is collective movement for selling of the farm produce and purchase of

Table 2. State-wise share of different stakeholders operating in e-NAM

State	Traders	Commission Agents (CAs)	Service Provider	FPOs	Farmer	Total
Uttar Pradesh	22.01	9.61	0.00	11.87	19.43	19.40
Madhya Pradesh	13.52	0.00	0.00	3.96	17.78	17.65
Haryana	7.60	26.73	0.00	12.36	16.04	16.02
Telangana	3.61	5.24	0.00	2.97	10.73	10.64
Andhra Pradesh	2.08	2.55	0.00	8.79	8.49	8.40
Rajasthan	15.94	15.20	0.00	8.02	8.20	8.31
Maharashtra	12.53	18.16	0.00	14.12	7.03	7.14
Gujarat	5.90	7.62	0.00	4.73	5.11	5.13
Tamil Nadu	2.20	0.04	0.00	5.82	1.60	1.60
Punjab	1.45	9.44	0.00	0.33	1.28	1.32
Jharkhand	1.27	0.00	0.00	3.90	1.26	1.25
Odisha	3.16	0.00	0.00	8.57	0.94	0.96
Chhattisgarh	1.95	0.26	0.00	1.21	0.80	0.80
Himachal Pradesh	1.24	1.24	0.00	2.75	0.72	0.72
Uttarakhand	2.97	2.92	0.00	2.36	0.32	0.35
West Bengal	1.93	0.14	0.00	8.08	0.15	0.17
Puducherry	0.10	0.00	0.00	0.05	0.08	0.08
Chandigarh	0.05	0.08	0.00	0.00	0.04	0.04
Karnataka	0.36	0.78	0.00	0.00	0.01	0.02
Kerala	0.11	0.00	0.00	0.11	0.01	0.01
All India	100	100	0.00	100	100	100

Table 3. Interstate Variation in the operation of stakeholders in e-NAM

Particulars	Mean	Stdev.	CV (%)
Traders	7885.50	9741.25	123.53
Commission Agents (CAs)	4434.90	6622.48	149.33
Service Provider	0.00	0.00	0.00
FPOs	91.00	81.83	89.92
Farmer	849317.10	1094495.67	128.87
Total	861728.50	1106036.45	128.35

Table 4. Classification of states based on the number of participants in e-NAM

Category	No. of states/UTs	States /UTs
High (≥ 1331794)	6	Andhra Pradesh Haryana Madhya Pradesh Rajasthan Telangana Uttar Pradesh
Medium (> 391663 but < 1331794)	2	Gujarat Maharashtra
Low (≤ 391663)	12	Chandigarh Chhattisgarh Himachal Pradesh Jharkhand Karnataka Kerala Odisha Puducherry Punjab Tamil Nadu Uttarakhand West Bengal

requisite input and thus helps in reaching the benefits to larger section of the farmers.

Classification of States based on the number of stakeholders' participation in e-NAM

The states and Union Territories have been classified based on the number of stakeholders' participation and the results are presented in Table 4. At present, 18 states and two Union territories took part in e-NAM, of them six states have been grouped under the high participation category, two under medium participation category and 12 states were grouped under low category. These results indicated that majority of the states were grouped under low participation category and hence there is a need to sensitize the benefits of e-NAM in all the category of stakeholders. According to NIAM (2020), the e-NAM has its positive impacts on the institution and physical environment, balanced development across the states, competitiveness, farmer's participation, better price, price transparency, reduction in number of intermediaries and creation of new markets.

Percent distribution of farmers' registration to total number of operational holdings

The number of farmers' registration in e-NAM depends on the geographical size of the state and the number of farmers and hence percentage of farmers to the total number of operational holdings was the true indicator to judge the popularity among the farming community (Table 5). The number of farmer's registration to the total number of operational holdings was found to be the highest in the states /UTs like Puducherry (39.65%), Telangana (30.65%), Madhyapradesh (30.20%), Punjab (19.84%), Rajasthan (18.20%), Andhrapradesh (16.91%), Gujarat (16.31%), Uttarpradesh (13.85%) and Himachalpradesh (12.21%). In some of the states like Kerala, Karnataka and West Bengal the registration of farmers to e-NAM market was found to be less than one percent of total number of farmers in their respective states. In the other states, the percentage of farmers to the total number of operational holdings is less than 10 percent. A study conducted by NIAM

Table 5. State-wise percent distribution of farmers registration to total number of operational holdings

State	No. of operational land holdings ('000)	Farmers participation ('000)	Per cent of farmers to total no. of operational holdings
Andhra Pradesh	8524	1441.45	16.91
Chhattisgarh	4011	135.13	3.37
Gujarat	5321	867.71	16.31
Himachal Pradesh	997	121.76	12.21
Jharkhand	2803	213.41	7.61
Karnataka	8681	1.39	0.02
Kerala	7583	1.20	0.02
Madhya Pradesh	10003	3020.74	30.20
Maharashtra	15285	1194.05	7.81
Odisha	4866	160.12	3.29
Puducherry	34	13.48	39.65
Punjab	1093	216.84	19.84
Rajasthan	7655	1392.96	18.20
Tamil Nadu	7938	272.09	3.43
Telangana	5948	1822.89	30.65
Uttar Pradesh	23822	3300.17	13.85
Uttarakhand	881	53.86	6.11
West Bengal	7243	25.58	0.35

(2019) revealed that 32.68 percent farmers are still unaware about e-NAM process which shows that there is an urgent need to strengthen the capacity building programs specially trainings and exposure visits for better understanding of farmers with respect to e-NAM process and its benefits. These results further substantiated that the number of farmers registration depend not on the higher number of farmers and geographical area of the state, it is the willingness of the farmers and the awareness among the farmers in respective states. However, it is emphasized that the awareness programmes need to be carried in most of the states for all the stakeholders in general and farmers in particular.

Conclusions

The high interstate variation in registration of different stakeholders may be due to variation in involvement of mandies, lack of awareness and willingness of the stakeholders. This needs to be reduced to enable transparent and hassle free trade environment for the farming community. The e-NAM portal is providing information related to trade transactions, prices and also about agri. logistics. There is a need to make use of this information by the extension functionaries to educate about the advantages of e-NAM for all the stakeholders in general and farmers in particular

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