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RESEARCH ARTICLE

Procedural Impediments in e-NAM System Faced by Stakeholders in Guntur Mandi of Andhra Pradesh

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ABSTRACT

The study was conducted on the e-NAM (online marketing platform) to study the perceived impediments faced by stakeholders of e-NAM of Guntur mandi in Andhra Pradesh in 2019-20. Data were collected from 100 respondents, of which 30 were farmers, 30 traders, 5 FPOs, 25 commission agents, and 10 e-NAM officials from the market using a specially designed interview schedule. Later constraints were prioritized through Garrett's ranking technique. The findings highlighted that the lack of awareness, depending on the commission agent for money, and the complicated, time-consuming sale process were the significant critical constraints for farmers; difficulty in paying on the same day of trade, not satisfied with the quality assaying report given by e-NAM and lack of infrastructure were the crucial constraints for traders; weighing of produce only after declaring winners list of bids is critical constraints for commission agents; lack of commission agents and traders co-operation to promote e-NAM is the major constraint for e-NAM officials. The study concluded that the bottom-up approach should be followed before framing policies because, theoretically, e-NAM looks excellent but at the ground level, there are many constraints. "Individual produce, common marketing policy" should be followed by farmers, the authenticated body should replace the role of commission agents, sale process should be made simple and quick. Stringent laws should control malpractices by traders and commission agents. The state government should encourage e-NAM even if it reduces state income by removing multiple levies with the one nation, one market, and one levy policy. The e-NAM awareness programs for the farmers are quintessential to boosting the performance of e-NAM.

Key words : Constraints; e-NAM; Guntur mandi; Online marketing; Stakeholders.

The term 'Impediments' literally refers to a hindrance or obstruction or constraint in doing something. A constraint limits a system from reaching its goal (Goyal *et al.*, 2014). Constraints could be physical (equipment, facilities, material, people) or policies (laws, regulations) that may hinder an organization's effective and efficient performance. The e-NAM is an online marketing platform; however, at the back end, there is a physical market that provides comprehensive support services to different stakeholders like farmers, traders, FPOs, commission agents, and e-NAM officials. The e-NAM process includes gate entry, quality assaying, online trading, weighing and invoicing online payment, and gate

exit, as shown in Fig. 1. Constraints may occur to stakeholders at any stage of the e-NAM process. The e-NAM cannot afford the stakeholders' dissatisfaction as it would adversely affect its operations about successful marketing. Therefore, the present study was carried out to know the constraints perceived by different stakeholders of e-NAM concerning e-NAM performance.

METHODOLOGY

The study was conducted to investigate the various constraints faced by different stakeholders of e-NAM under the Guntur mandi of Andhra Pradesh during 2019-20. The researcher conducted a pilot survey

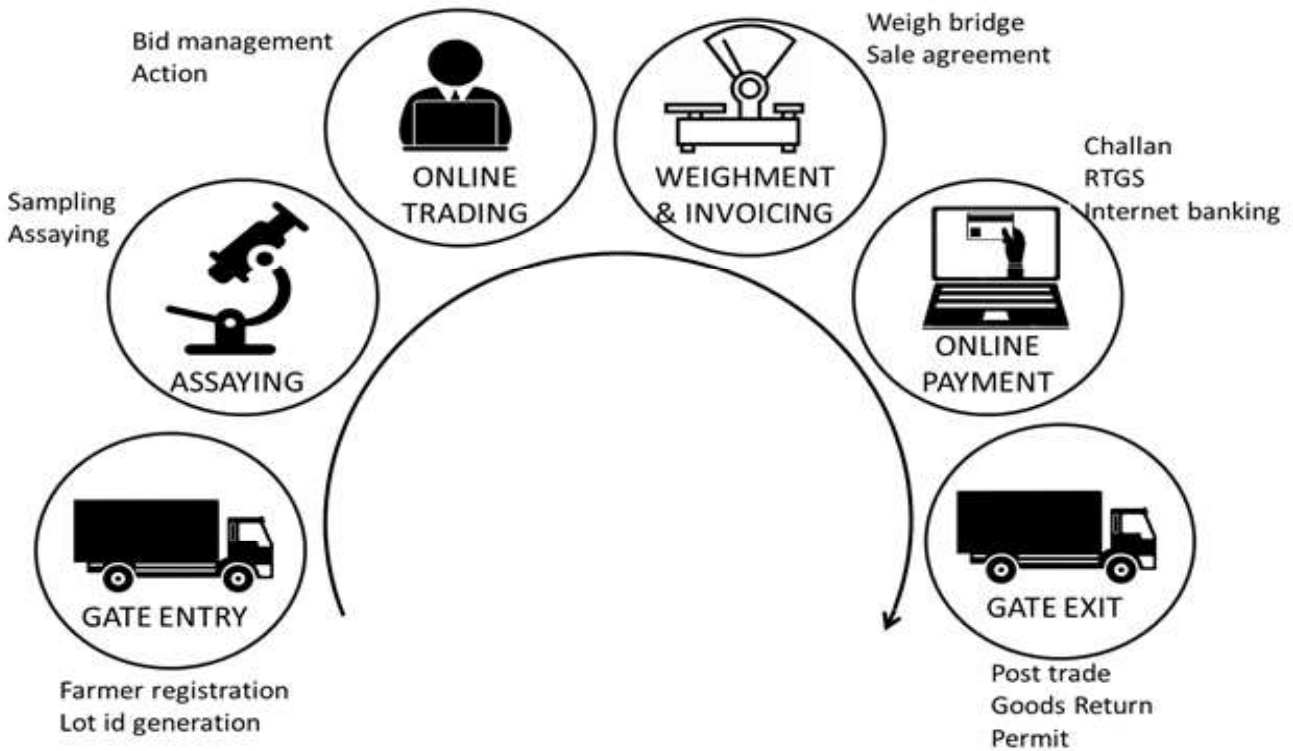


Fig. 1. e-NAM process

in non-sampled areas to understand the population and the obstacles. Based on the outcome of the pilot survey, heterogeneity in the population was observed as it involved different stakeholders. So, a total sample of 100 respondents was selected with the help of a disproportionate stratified random sampling method: 5,48,247 farmers, 663 traders, 679 commission agents, 5 FPOs, and 50 e-NAM officials. Data were collected from 100 respondents, out of which 30 were farmers, 30 traders, 5 FPOs, 25 commission agents, and ten e-NAM officials. Identified respondents were personally interviewed to get first-hand information apropos various constraints in using specially designed e-marketing platform for agricultural produces.

Considering such a divergent population, an exhaustive study of literature, and expert suggestions, a semi-structured interview schedule was constructed for each group of stakeholders. Each respondent was personally interviewed and asked to rank each relevant constraint according to their perceived degree of difficulty. Although all the respondents did not assign ranks to all schedule items, the method of combining incomplete order of merit ratings, as suggested by Garrett (1979), was followed by Goyal and Goyal (2022) and Bhaskar et al. (2020). This method is popularly known as the “Garrett’s Ranking Method.”

It is used to analyse the data collected at the ordinal level and explore the valuable inferences regarding problems stakeholders face while trading through e-NAM.

So, the respondents were first asked to rank the particular constraint. The order of merit thus given by the respondents was converted into percent position by using the formula as used by Lal et al. (2016):

$$\% \text{ position} = \frac{100 (R_{ij} - 0.50)}{N_j}$$

Where,

R_{ij} refers to the rank given for the i^{th} constraints by the j^{th} individual, and N_j refers to several constraints ranked by the j^{th} individual.

Individual respondent scores were added together for each factor and divided by the total number of respondents whose scores were added. As a result, each factor's mean score was ranked by placing them in ascending order. By referring to Garrett's (1979) table, the percent position for each rank was converted into scores.

RESULTS AND DISCUSSION

Research targeted the diverse population, categorized as Farmers, Traders, Commission Agents, FPOs, and e-NAM officials. Data collected from

different stakeholders were categorized and analyzed separately for each stakeholder group. The findings of the study are encapsulated as follows:

Constraints perceived by farmers : Farmers are the key stakeholders in the e-NAM marketing system. The farmers' constraints while following e-NAM activities are presented in Table 1; "Lack of awareness (mean score 79.93)" was rated as the most severe constraint by most respondents. It was concluded that farmers had a low level of awareness regarding e-NAM. This may be because; farmers were not visiting the market. They directly send their produce to commission agents in the market by tractor or lorry without their presence, as they have to look after remaining field operations at home. So, the e-NAM procedure was done by the commission agents mostly, which made farmers unaware and had less knowledge of the e-NAM process. According to *Raju et al. (2022)*, most farmers had a medium level of knowledge of the e-NAM functioning. A solution they can use is "Individual produce, common marketing policy," as mentioned by (*Lal et al. 2014, 2015*). Generally speaking, it's a deal between local farmers that one farmer goes to the market to sell the crop. Another looks after the fields, which helps them avoid intermediaries. This result is consistent with *Geethavani (2019)* findings. It contradicts *Tyngkan (2018)*, who said that a significant problem faced by the farmers was due to time-consuming trading in the e-NAM system. The next in order of priority is "Dependency on the commission agents for money (mean score 73.53)", as most farmers have tenant land. The banks provide loans to tenant farmers only by keeping collaterals or tenant certificates given by the owner. Generally, tenant farmers won't have collateral properties and owners were not offering tenant certificates due to insecurity. So, they often depend on commission agents for timely money. Whether negative or positive, commission agents played a role that needed to be replaced by the authenticated body to prevent farmers from exploitation by commission agents. "Lengthy, complicated, and time-consuming sale process (mean score 72.27)" was received as the third important constraint by the farmers. The sale process through e-NAM has many steps like gate entry, lot id generation, quality assaying, bidding, payment, and gate exit, where they have to submit certain documents (such as farmers' Aadhar xerox, details of produce, etc.) which made it too lengthy,

complicated and time-consuming when compared to manual marketing. If there are any technical issues at any step, it leads to delay. Lot ID is only valid for one week. So, after gate entry, if it is delayed more than one week, they have to undergo again with specific other procedures. So, sale process should be made simple and quick. The other remaining constraints are also critical which were mentioned in Table 1.

Constraints perceived by traders : Table 2 denotes that the respondents perceived "Online payment on the same day of trade are difficult, (mean score 73)" as the censorious issue among all the constraints in this group. As traders used to buy a massive quantity of produce daily, they usually failed to pay all the sellers on the same day, and they required at least 15 days to arrange money. Thus, Commission agents would pay money to farmers on the same day of the trade, whereas traders pay that money to commission agents after 15 days of the trade. So, Payment time for traders should be increased from trade+1 day to Trade+15 days. The next in order of importance is "Unsatisfactory e-NAM quality assaying report (mean score 73)". It means traders were satisfied only with manually checking of produce instead of auto-generated quality assaying reports. According to them e-NAM report is not exactly representing the produce quality i.e., just like online shopping. Generally, to get a representative sample produce has to be made into a single heap on the floor, and sampling should be done; but goods like chilli, and cotton cannot be heaped on the floor as they get damaged; so they have to collect the sample from all bags which is almost impossible and time consuming in large markets like Guntur without latest infrastructure. So, they are collecting samples only from few bags and they don't have infrastructure to test chemical quality. That is why the e-NAM report is not representing exact quality of produce. The "Lack of Infrastructure (mean score 62)" was perceived as the third most crucial constraint by the traders. During the visit, it was found that there was no equipment available for chemical analysis of produce in Guntur mandi. Without chemical analysis, the e-NAM report is incomplete for traders to buy and as Guntur mandi is largest chilli mandi in Andhra Pradesh many farmers come for sale from different places. So there is need to improve and install latest infrastructure in Guntur mandi. The fourth critical constraint is the "Lengthy marketing process" as traders need to follow many procedures at every stage of e-NAM.

Table 1. Ranking of constraints as faced by farmers in e-NAM system while marketing farm -produce in Guntur Mandi of Andhra Pradesh

Constraints	Garrett's Mean Score (\bar{x})	Rank
<i>Ranking of constraints as faced by farmers</i>		
Lack of awareness	79.93	I
Dependency on commission agent for money	73.53	II
Lengthy, complicated, and time-consuming sale process	72.27	III
Lack of technical literacy	67.33	IV
Marketing is becoming delayed due to e-NAM than the traditional method	67.13	V
Lack of basic Infrastructure	61.87	VI
If produce is of substandard quality, all though it is good no one buys through e-NAM	57.33	VII
Stringent quality parameters	56.47	VIII
Trade malpractices	53.00	IX
Unsatisfactory bidding system	51.80	X
No guidance or help desk	49.80	XI
Delay in online payment	47.93	XII
Poor net connectivity	44.67	XIII
Traders' monopoly	40.80	XIV
Corruption issue	39.53	XV
Lower price for produce than traditional marketing	35.80	XVI
Higher marketing costs than traditional marketing	31.73	XVII
Labour problem	27.67	XVIII
Poor transportation facility	25.33	XIX
Unstable power supply	17.07	XX
<i>The possible score for above 20 statements could be from 87 to 13.</i>		
<i>Constraints perceived by traders</i>		
Online payment on the same day of trade is difficult	73	I
Unsatisfactory e-NAM quality assaying report	73	II
Lack of Infrastructure	62	III
Lengthy marketing process	57	IV
Difficulty in getting the license	52	V
Labour scarcity for loading/unloading	51	VI

Poor net connectivity	42	VII
Paying a higher price than pre-e-NAM	41	VIII
Insufficient computer systems	27	IX
Corruption issues	21	X
<i>The possible score for above ten statements could be from 81 to 18.</i>		
<i>Constraints perceived by FPOs</i>		
Lack of Infrastructure	74.2	I
Lack of value addition proposition	60.6	II
Lack of expert guidance	49.0	III
Certification problems for organic products and marketing	43.0	IV
Lack of awareness	41.2	V
FPO registration is costly, time consuming and cumbersome process	32.0	VI
<i>The possible score for above six statements could be 77 to 23.</i>		
<i>Constraints as perceived by commission agents</i>		
Weighing of produce only after declaring winners list of bidding	61.68	I
Payment on the same day of the trade	55.28	II
Lengthy process	45.60	III
Maintaining accountants in the offseason	39.44	IV
<i>The possible score for above four statements could be from 73 to 27.</i>		
<i>Constraints as perceived by e-NAM officials</i>		
Lack of co-operation between commission agents and traders to promote e-NAM	75	I
Unavailability of instruments for chemical analysis of produce	70	II
Server problem	64	III
Lack of Infrastructure	58	IV
The types of equipment are not technically advanced	56	V
Technical issues in the e-NAM portal	52	VI
Lack of awareness among farmers	51	VII
Sampling is difficult	50	VIII
Trade malpractices by commission agents and traders	48	IX
Irregular power supply	31	X
Fewer number computers	28	XI
Low internet speed	21	XII
<i>The possible score for above 12 statements could be 83 to 17.</i>		

Constraints perceived by FPOs : From Table 3, it is inferred that “Lack of Infrastructure” (mean score 74.2) turns out to be the most crucial constraint among all the constraints faced by FPOs which is contradicting with *Srikar et al. (2022)*, who reported that Lack of awareness and social linkages, geographical barriers to resource availability and lack of finance were the major constraints faced by the tribal FPO farmers. The next in order of importance was “Lack of value addition proposition (mean score 60.6)”. “Lack of expert guidance” was considered a third important constraint (mean score 49). Experts can be attached to FPOs so that they can guide FPOs in planning and framing of market strategies.

Constraints as perceived by commission agents : From Table 4, it is inferred that “Weighing the produce only after declaring winners list of bidding” (mean score 64.6), which turns out to be the most important constraints for the commission agents. As many farmers bring produce to commission agent shops, delay in weighing leads to a shortage of space for storing produce. So, they want to weigh the produce before declaring winner of bid to reduce the delay. The next critical constraint was “payment on the same day of transaction (mean score 55.2)”. As traders buy a lot of produce daily, they would not have a large amount of money in their account to pay on the same day; they need at least 15 days for the arrangement of money. So, Commission agents pay that money to farmers on the same day of the trade, whereas traders pay that money to commission agents after 15 days of the trade. So, commission agents are found to take OD from the bank by keeping their property as security. A trader could not take OD by keeping his property in the bank for an unknown farmer but a commission agent can do that as he had good contact with farmers. So, farmers and traders are often found dependent on the commission agent. The third most crucial constraint is the “Lengthy process” (mean score 45.6), as commission agents often carry the e-NAM process instead of some farmers.

Constraints as perceived by e-NAM officials : Table 6 indicates that “Lack of cooperation between commission agents and traders to promote e-NAM (mean score 75)” was perceived as the most critical constraint among all the constraints faced by e-NAM officials. As most traders also act as commission agents, commission agents and traders working as a syndicate and not cooperating to implement e-NAM

strictly. So, stringent laws should control malpractices by traders and commission agents. The next constraint in order of importance is “Unavailability of instruments for chemical analysis of produce, (mean score 70)” also the third most crucial constraint is “Server problem, (mean score 64)”, sometimes the server gets very slow, which leads to delay in all steps of e-NAM. Even the state government is not encouraging e-NAM as it is reducing state’s income by removing levy with the policy of the one nation one market one levy. Power cuts and server problems should be rectified.

The study concluded that the bottom-up approach should be followed before framing policies because, theoretically, e-NAM looks excellent. Still, at the ground level, there are many constraints and challenges by reducing which improve performance of e-NAM. The state government should encourage e-NAM even if it reduces state income by removing multiple levies with the one nation, one market, and one levy policy. Awareness programs for the farmers regarding e-NAM are quintessential to improving the performance of e-NAM

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CONCLUSION

The findings highlighted the critical constraints perceived by different stakeholders of e-NAM. According to farmers the lack of awareness, depending on the commission agent for money, and the sale process being lengthy, complicated, and time-consuming were the critical constraints; payment on the same day is difficult, not satisfying with automatically generated e-NAM quality assaying report, lack of infrastructure were the crucial constraints for traders; lack of infrastructure for FPOs, weighing of produce only after declaring winners list of bidding, payment on the same day of the transaction, lengthy process were critical constraints for commission agents; lack

of commission agents and traders co-operation to promote e-NAM, no equipment for chemical analysis, and server problems were the major constraint for e-NAM officials in performing their duty. These findings shed light on the impediments that e-NAM faces in terms of performance. It also gives administrators and policymakers advice on how to strengthen the e-NAM and online marketing. Addressing the significant constraints described above would go a long way toward boosting e-NAM's performance.

CONFLICTS OF INTEREST

The authors have no conflicts of interest.

REFERENCES

- Bhaskar, M.U.; Rao, M.S., and Gopal, P.S. (2020). Analysis of constraints faced by commercial floriculture nursery owners in Kadiyam of Andhra Pradesh–Suggestions to overcome them. *Bull. Env. Pharma. Life Sci.*, **9**: 49-52.
- Garrett, H.E. (1979). *Statistics in psychology and education*. 6th edition, Vakils, Feffer and Simons Ltd., Mumbai, India.
- Geethavani, T. (2019). Impact of eNAM on enhancement of farm income in Andhra Pradesh-An Analytical Study. Doctoral dissertation. ANGRAU, Guntur.
- Goyal, J.; Singh, K.; Tiwari, M.; Datt, R.; Lal, S.P. (2014). Constraints perceived by veterinary surgeons of Haryana. *J. Commu. Studies*. **32**(4):112-117.
- Goyal, N. and Goyal S.K. (2022). Major constraints in production and marketing of onion in Haryana. *Indian Res. J. Ext. Edu.*, **22** (2), 38-48
- Lal, S.P.; Kadian, K.S.; Wodajo, W. and Shruti, A. (2016). Is that environmental factor affected the distressed farmers' most!? - An exploratory factor analysis of constraint and amelioration strategies in national calamity hit region of India. *Current World Envir.* **11**(3).
- Lal, S.P.; Kadian, K.S.; Jha, S.K.; Sharma, A.K.; Goyal, J.; Kumar, R.S.; Chauhan, A.K.; Singh, S.R.K. and Singh, S.P. (2015). Change in livestock holdings, adaptation strategies and livelihood security of the farmers affected by national calamity in Bihar, India. *Indian J. Dairy Sci.*, **68** (1): 83-90.
- Lal, S.P. (2014). Assessment of livelihood security and resilience among farmers affected by national calamity in Bihar. *M. Sc. (Ag.) Thesis. National Dairy Research Institute, Karnal.*
- Raju, M.S., Devy, M. R. and Gopal, P. V. S. (2022). Knowledge of Farmers on Functioning of e-NAM. *Indian J. Ext. Edu.*, **58**(2) : 26-29.
- Srikar, K., Asokhan, M., & Karthikeyan, C. (2022). Impact of farmer producer groups (FPGs) on upliftment of tribal farmers in Andhra Pradesh Katiki. *Indian Res. J. Ext. Edu.*, **22**(2) : 176-180.
- Tyngkan, H. (2018). Impact of electronic-national agriculture market (e-NAM) on the income of farmers in Raipur and Dhamtari Agricultural Produce Market Committees (APMCs) of Chhattisgarh. Doctoral dissertation. Indra Gandhi Krishi Vishwavidyalay, Raipur.

