Growth of e-mandi in India- A Review

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Abstract
India is an agriculture dominant economy with about 54.6% of total workforce engaged in agriculture. The role of agriculture marketing is crucial as it involves the monetary aspects and returns to the farmer. The agriculture market faces issues like price volatility, dominance of middlemen, high price spread, cartel formation, inadequate infrastructure, postharvest losses, high transportation cost etc. The issue pertaining to the dominance of middle men was solved with the introduction of electronic National Agriculture Market (eNAM). This paper tries to understand the concept of eNAM and its growth in India since its inception through literature review. It links the farmers at a national platform and enables him to sell his produce to buyer/trader of any state who quotes the highest price. Thus enables better price discovery. The target of covering 585 mandi has been achieved and all that is required now is to ensure proper functioning, infrastructure development, grading provision and maximum participation of farmers in e-trading.

Keywords: APMC, e-NAM, e-marketing, e-tendering.

1. Introduction
India is an agriculture dominant economy with about 54.6% of total workforce engaged in agriculture (Census 2011) and about 52% of the net sown area is rainfed (Agricultural Statistics at a Glance 2018). Agricultural marketing on the other hand involves the transactions of exchange of agricultural and related products. The role of agriculture marketing is more crucial as it involves the monetary aspects and returns to the farmer. Good and efficient market ensures that farmers receive remunerative price for their produce. The regulation of agricultural products began in 1886 by creating Karanjia cotton market in Hyderabad. At present, Agriculture marketing is overseeing by the States according to their agriculture marketing regulations, under which, the State is divided into different market areas, each of which is regulated by separate Agricultural Produce Market Committee (APMC) which forces its own market regulation. Apart from this there are concepts of direct marketing, grameen rural agriculture markets (GrAMs). The agriculture market faces issues like price volatility, dominance of middlemen, high price spread, cartel formation, inadequate infrastructure, postharvest losses, high transportation cost etc. The issue pertaining to the dominance of middle men was solved with the introduction of electronic National Agriculture Market (eNAM).

Integration of agriculture markets the nation over through e-platform is viewed as a critical measure for control the challenges posed by the present agricultural marketing system such as fragmenting of State into different market areas, each regulated by separate (Agricultural Product Marketing Committee), multiple levy of mandi charge, requirement for multiple license for trading in different APMCs, licensing hurdle leading to situation of monopoly, poor quality of infrastructure and low use of technology, lack of information, way of price discovery, high level of market charges, movement regulation and so forth. The need of unifying the markets both at State and National level will work out as a solution. This paper tries to understand the concept of eNAM and its growth in India since its inception.

2. Methodology
The study is based on secondary data collected from government websites, eNAM portal and other published literature.

3. Results
eNAM
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.gov.in). To promote uniformity in agriculture marketing by streamlining of procedures
across the integrated markets, removing information asymmetry between buyers and sellers and promoting real time price discovery based on actual demand and supply (enam.gov.in).

3.1 Process of e-tendering system followed in agricultural marketing of Pahariya e-mandi is depicted in figure 1. A KIOSK is installed at the entrance gate of the APMC where the produce brought by the farmer is registered. At this point the details like name, address of the farmer, name and variety of the produce, number of bags, name of the commission agent etc. are recorded. A unique lot number is generated and the official at the entry gate issues an entry slip with all the above details. The farmer receives a message as soon as the code is generated. Farmers are free to choose any commission agent who arranges for display along with entry slip. The traders after examining the lots can quote their bids in online only within the specified time provided either by using their own infrastructure or can make use of the internet local area network established in yard for this purpose. There is a provision for the traders to change their bids before final submission. However, the trader is permitted to increase the bid price and no provision for reduction. After completion of the cut- off time highest bidder will be given the lot if and only if the farmer the farmer accepts or satisfies with the price. The bid winner is declared with the help of the software that generates lot-wise bid winners’ list and price quotations. Finally the result is declared through an electronic display, loud speaker announcements in the market yard, SMS and printouts, which marks the completion of transaction. In case of the commodity kept in the ware house need not to be brought to the yard. The information related to the commodity like name of the farmer, name and variety of the commodity, moisture percentage, grain quality and quantity, texture etc. are uploaded in the portal and hence can be procured online. The flow chart of the e-trading system is presented in figure 1 below-

![Flowchart under the e-trading system.](image)

3.2 Growth of e mandi in India
eNAM was launched in April 2016 with a target covering 200 mandis within five months of launch and 585 mandis till 2018. It is evident from the table 1 that total 551 APMC have been declared as e-NAM within a short span of time i.e. April 2015 to March 2018. After that till date 585 mandis have been linked through e-NAM. The target at the time of launch was has been achieved and now the focus is on improving the quality and efficiency of the trade done through the linked mandis.

<table>
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<th>No. of Integrated Markets 2020</th>
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<td>Odisha</td>
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</tbody>
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Table 1: State-wise Numbers of Integrated Markets Electronic- National Agriculture Market (e-NAM) in India (As on 19.03.2018 and 19.03.2020)
The advantages that a farmer get from trading through eNAM are as follows -

- Improvement in Market Integration
- Reduction in Price Volatility
- Reduction in Post harvest Losses
- Improvement in agricultural marketing efficiency in agril marketing system
- Increase in Producer’s Share in Consumer’s Rupee
- Best price discovery
- Freedom from local cartels by traders

4. Discussion

Agriculture encompasses a majority of population’s livelihood yet there are issues like dominance of small and marginal farmers, price volatility and the situation of farmers is not very dignified. One of the issue that comes up is small share of producer in consumer’s money due to dominance of middlemen. The middle men increase the price spread and consume the major share of profit. The concept of direct marketing has the maximum efficiency and both buyer and seller are in profit. In order to curtail the role of middlemen and make direct selling of produce to the trader the concept of e tendering proves a milestone. It links the farmers at a national platform and enables him to sell his produce to buyer/trader of any state who quotes the highest price. Thus enables better price discovery.

5. Conclusion

The regulated market model of agricultural produce marketing in India will keep on existing alongside the emerging alternative formats. The need to enhance efficiency in the working of the regulated markets has been pointed out by several studies. Improving efficiency in the system with suitable application of IT such as e-tendering system led to development of eNam. Maintaining gate entry records has been found to be one of the crucial steps since the actual quantity of arrivals into the market can be known only at this point. In order to take up mandatory gate entry electronically, there is need to train the APMC staff and positive enforcement strategies to improve the overall system efficiency. All that is required at this time when the target has been achieved to ensure proper functioning, infrastructure development, grading provision and maximum participation of farmers in e-trading. This will ensure that the vision of creating e tendering system is realized and the maximum benefit is shared by the farmers and role of middlemen is minimized.

6. Acknowledgement

The authors are thankful to anonymous referee for corrections in earlier version of this paper.

7. References

4. eNam overview weblink https://www.enam.gov.in/web/.