

# EVOLUTION OF INDIAN AGRICULTURE MARKETING AND E-NAM: A NEW AGE AGRICULTURE STRATEGY

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## Abstract

Indian farmer has always been vulnerable to the uncertainties of price mechanism of his agriculture produce. But the major issue for the farmer is to fetch adequate price for his produce and major impediment in getting fair price is the absence of proper marketing. This paper examines the role of various marketing reforms and how they evolved affecting the Indian agriculture with special reference to the recently launched Electronic National Agricultural Market (E-NAM). E-NAM is platform for a unified national electronic market bringing interconnectivity between sellers and buyers of different *mandis*/market yards across country. This paper attempts to understand the benefits and challenges of E-NAM and the current status of the 13 enrolled states, which have taken lead in integration of markets, especially the case of Haryana state.

**Keywords:** Agriculture Marketing, E-NAM, *Mandi* reforms.

## 1. INTRODUCTION

India's agricultural sector is a driving force behind the country's thriving economy. The agricultural sector accounts for about 17% of the country's GDP (current price 2015-16, 2011-12 series, CSO 2017) and employs about 54.6% of the labour force (census 2011). For inclusive economic growth in India, the agriculture sector has immense potential. With 157.35 million hectares, India has the second most farmable land in the world. All 15 of the world's major climates can be found in India. India is a global leader in agriculture (World Bank 2012). It is the leading producer of milk, tea, spices, legumes, and jute, and the second-leading producer of fruits, vegetables, wheat, rice, sugarcane, etc. Total food grains in India reached an all-time high 275.68 million ton (MT) in FY 2017, which is 8.89% increase in total production from previous year (as per 4<sup>th</sup> Advance estimates, CSO 2017).

Given that nearly more than half of the population continues to rely on agriculture for subsistence, the importance of this sector to India's rising economy cannot be denied. The key to advancement is increasing the productivity and incomes of smallholder family farmers (FAO). In fact, it has been observed that agriculture is around four times more effective at raising incomes among the poor than other sectors (World Bank 2008). A high agricultural growth rate is essential for rural prosperity and the eradication of rural poverty. It was believed that a doubling of the agricultural growth rate from 2% to 4%, coupled with an economic growth rate of 9%, would minimise income gaps between the agricultural and non-agricultural sectors (Planning Commission 2006). Thus, agriculture is considered to be the backbone of Indian economy.

## 2. MARKETING ISSUES IN INDIAN AGRICULTURE

Agriculture is highly vulnerable to the uncertainties of nature that impact the crop enterprise at its production (Yadav 2017). But the major issue for the farmer is to fetch adequate price for his produce and main impediment in getting required price is improper marketing of the agricultural products. Indian farmers often face problem of marketing of their produce due to lack of education, marketing and bargaining skills which leads to their exploitation in economic terms. In a narrow sense, the role of agricultural markets is limited to the transportation of goods from producers to consumers. In a broader sense, however, it encompasses providing incentives to producers to achieve the desired growth in agri-food output, enhancing the welfare of producers and consumers, balancing supply and demand, and promoting the efficient use of resources within the production and distribution networks (Chand 2012). Since the implementation of economic reforms in 1991, the discrepancy between agricultural and non-agricultural output growth rates has increased. It has been observed that the average annual growth rate for agriculture over the past five years has hovered around a long-term growth trend of 3%, whereas the growth rate of the non-agriculture sector has steadily increased from 6% during the early 1990s to 10% between 2004-05 and 2008-09, and 7.5% over the past five years. A key reason for this is that the price incentive supplied by the country's agricultural market did not improve, since these marketplaces remained fragmented, inefficient, and dominated by small-scale and numerous middlemen (Chand 2016). Consequently, agricultural market policies have always been considered an intrinsic aspect of development plans, and their operation has always been crucial to the Indian economy.

## 3. EVOLUTION OF AGRICULTURE MARKETING SCHEMES

Since India's independence in 1947, the Essential Commodities Act (ECA) of 1955 and the Agricultural Produce Marketing Committee Act have governed agricultural commodity transactions (APMC Act). The purpose of the ECA was to safeguard

consumers by placing limits on the storage and movement of "essential" commodities by private parties. The APMC Act requires the procurement of certain agricultural commodities through government-regulated markets (commonly known as "Mandis") and the payment of specified commissions and marketing fees (Aggarwal 2016). The lack of supportive institutional structures and physical facilities left farmers reliant on middlemen for essential services like as financing, information, commodity sales, etc (Acharaya, 2004). This dependence occasionally became exploitative. Several analysts argue that the APMC Act and the ECA have likely overreached and shifted the market equilibrium in favour of traders and intermediaries (Gulati, 2012). During the 1960s and 1970s, certain states also implemented the Agricultural Produce Marketing (Regulation) Act (APMR Act) (Chand 2012). The APMRA made major reforms and significant enhancements to nearly all elements of farm produce marketing (Acharya 2004). The APMR Act has been a significant factor in the Green Revolution. However, as time passed, the benefits of the APMR Act to increase the competitiveness of agricultural markets were eroded, and market infrastructure could not keep up with the volume of market arrivals (Chand 2016). Due to these concerns, in 2003 the Model Agricultural Produce Marketing Committee (Model APMC) Act was enacted in an effort to ease some of the restrictions of the old APMC Act by opening the markets to the private sector, cooperatives, direct farm sales, and contract farming. The Act also envisioned the use of technical infrastructure for marketing and online trading of agricultural products in order to increase transparency, efficiency, and give farmers the flexibility to sell their products through agents of their choosing. However, even after a number of years since its development, states' acceptance of the Model Act remains at best variable (Purohit 2016; Chand 2016). The Model APMC Act of 2003 had commendable objectives, but was limited to state-level improvements. Even within a state, the Act went short of providing for a single market (Aggarwal 2016). Consequently, the lack of physical and financial infrastructure in agricultural marketing resulted in high transaction costs and a significant disparity between the prices paid by producers and those paid by consumers (GOI 2013; Mukherjee 2016). Thus, the Model APMC Act of 2003 failed to usher in any significant agricultural marketing reforms.

#### 4. INTRODUCTION OF E-NAM IN INDIAN AGRICULTURE

Existing agricultural policy issues have shifted the emphasis to upgrading the post-harvest supply chain infrastructure of agricultural marketing, which has a direct impact on income realisation. This prompted the notion of integrating agricultural markets across India using information and communication technology (ICT). In the 11th Five Year Plan, the concept of a national unified market was proposed in an effort to reduce state-by-state agricultural market obstacles (2007-2012). In the 12th Five Year Plan (2012-2017), a task force stated the necessity for a National Agriculture Market (NAM) in specific terms (Aggarwal 2016). The Department of Agriculture and Cooperation established the Central sector programme for promotion of the National Agriculture Market (NAM) through the Agri Tech Infrastructure Fund (ATIF) in response to the 2014 and 2015 budget announcements (NAM 2016). National Agriculture Market is a pan-Indian electronic trading system that connects the existing APMC mandis to form a unified national market for agricultural products (enam.gov.in). E-NAM was officially launched as a pilot project in April 2016 in 21 mandis across 8 States with pilot trading of 24 Commodities, including Apples, Potatoes, Onions, Green Peas, Mahua Flowers, Arhar whole (Red gram), Moong whole (green gram), Masor whole (lentil), Urad whole (black gram), Wheat, Maize, Chana whole, Bajra, Barley, Jowar, Paddy, Castor Seed, Must (enam.gov.in). By August 2017, 13 states and 455 markets have already joined E-NAM. The long-term objective is to connect 585 markets by May 2018. E-NAM seeks to achieve the integration of the marketing process and the flow of commodities by facilitating the interconnection of markets via the use of information technology (Yadav 2016).

#### 5. E-NAM MODEL FRAMEWORK

Among all Indian states, Karnataka has been the leader in market reforms and the development of new techniques to strengthen the agriculture market and its competitiveness (Chand, 2016). It has also pioneered extensive reforms of its mandis and serves as a model for E-NAM. Karnataka's implementation of unified online agricultural market efforts, Unified Market Platform (UMP), in 2014 served as a precursor to the next level of technology innovation in the public domain, namely E-NAM. In its discussion of E-NAM, the Economic Survey 2014-2015 grants a prominent role to what is known as the "Karnataka Model" (GOI 2015). It is a virtual market composed primarily of physical markets. These physical markets are equipped with the technology infrastructure necessary to keep track of the arrival of new goods and the selling of existing supplies. Through electronic trade, the web platform enables online auctions and bidding and eliminates the necessity for physical presence at the point of sale. It enables traders to observe price disparities between markets and trade accordingly.

The NAM is to be implemented over a period of 3 years from 2015-16 to 2017-18 covering 535 regulated market yards. A total of Rs 200 crore has been allocated for the provision of customized software and the subsidization of essential infrastructure. The Small Farmer's Agribusiness Consortium (SFAC) is the principal promoter of E-NAM. SFAC is a registered body of the Department of Agriculture, Cooperation, and Farmers' Welfare (DAC&FW), which falls under the Ministry of Agriculture and Farmer Welfare. SFAC operates and maintain the NAM platform with the help of a Strategic partner selected through open tender. DAC&FW provides a grant of up to Rs 30 lakhs per mandi (excluding private mandis) for the establishment of the e-platform (Yadav 2016). The stated objectives are:

- To establish, first in regulated marketplaces, a national e-market platform for transparent sale transactions and price discovery. To encourage State Agricultural Marketing Boards/APMCs to promote e-commerce by the enactment of appropriate provisions in their respective APMC Acts.
- To establish and promote the liberal licencing of traders/buyers and commission agents by state authorities without the requirement of physical presence or ownership of shop/premises in the market yard.
- To have a single licence that is valid for all marketplaces in the state.

- To harmonise quality standards for agricultural products and provide infrastructure for assaying (quality testing) in every market to enable informed bidding by purchasers. Common specifications for 69 tradable commodities have been created thus far.
- To impose market fees at a single point, i.e., on the first wholesale purchase from the farmer.
- To ensure the availability of Soil Testing Laboratories in/near the designated mandi in order to allow visiting farmers access to this facility in the mandi itself.

Prior to requesting assistance for a single license valid across the State, (ii) a single point of market fee, and (iii) the provision for electronic auction as a mode for price discovery, the states must undertake reforms to their APMC Acts in order to unify the state markets within the national market (enam.gov.in). Agriculture being a state topic, inequalities in agriculture production, regulations, and marketing environment are evident between the States of the country; hence, these reforms in APMC Acts of the states are essential for pan-Indian market connectivity. A national approach to NAM has been created inclusively, with farmers and other players in the marketing of agricultural products represented.

## 6. BENEFITS OF E-NAM STRATEGY

The inter linking of sellers and buyers of different markets will not only evolve markets to ensure better returns to both sellers and buyers but will also increase their participation. Sellers and buyers are to be incentivized in order to improve their ability to participate in the emerging markets driven by information technology. It will provide the farmers an easy access to finance and information along with adequate and efficient infrastructure to store and transport their produce at a reasonable price. To the indigenous traders it offers an opportunity to access a national market for higher level trading. The direct link between buyers and sellers will reduce intermediation costs and will improve the earnings of the seller.

Producer organizations including agricultural co-operatives play an important role in supporting farmers to trade in the market place and to understand the trends in marketing (ccsniam 2016). Farmer Producer Organizations (FPOs) can help farmers to understand the changes in the market system of the agriculture commodities and how the farmers can benefit from it. FPO through collective action can bring awareness and enhance farmers' competitiveness and increase their advantage in the new electronic market system of E-NAM. FPO and Private sector can help each other and can work together on their shared interest in order to achieve market power leading to integration of farmers and markets. The current status of E-NAM in the 13 enrolled states of India, can be understood from the following table 1, as on August 2017:

Table 1: Status of E-NAM in various Indian states, as on August 2017

State	No. of Enrolled Mandis	No. of Buyers	No. of Commission Agents	No. of Sellers	Total Traded Quantity ('000 Ton)	Total Traded Value (Rs. Crore)
Himachal Pradesh	19	1829	1064	40199	35.52	128.14
Uttarakhand	5	1615	1340	3894	25.34	34.68
Haryana	54	7488	17785	1088975	7441.70	14117.05
Uttar Pradesh	100	39559	8255	2387426	935.71	1301.98
Rajasthan	25	11253	4839	182764	69.38	237.73
Madhya Pradesh	58	18440	1	177992	85.41	365.31
Chhattisgarh	14	2693	211	42345	94.58	195.40
Odisha	10	629	0	23318	1.95	5.01
Andhra Pradesh	22	2212	2168	72342	293.10	563.02
Telangana	44	5028	3823	641128	1480.26	10777.14
Maharashtra	45	6964	6485	103387	1.55	4.32
Jharkhand	19	1049	0	4385	0.63	1.11
Gujarat	40	7399	5155	308346	907.05	3693.16
TOTAL	455	96118	51126	5076501	11371.72	31424.04

Source: enam.gov.in

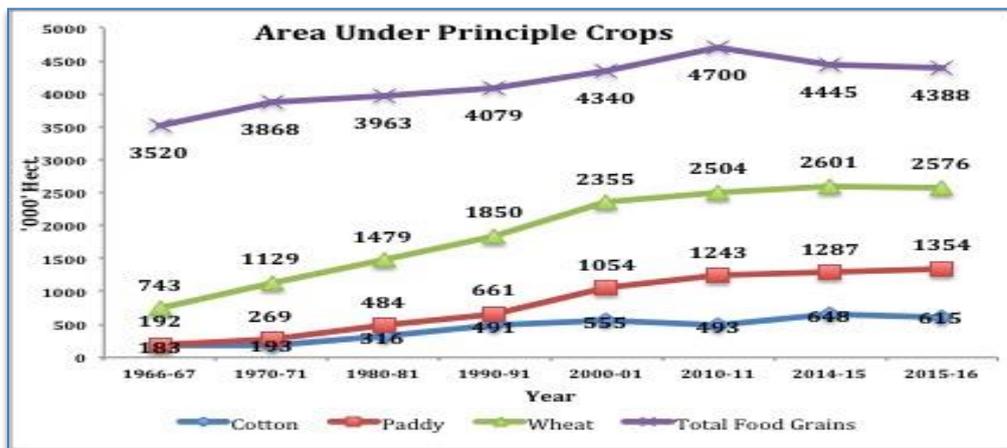
The total quantity of agriculture produce traded through E-NAM has increased from initial 1059.91 thousand ton in October, 2016 to 11371.72 thousand ton by August 2017 in all the 13 states registered on E-NAM. Out of total 455 enrolled *mandis*, maximum are in Uttar Pradesh 100 followed by Madhya Pradesh 58 and Haryana 54. The number of sellers, buyers and commission agents indicates that all the stakeholders are taking interest in E-NAM as a new market platform.

## 7. HARYANA: THE LEADER STATE

Haryana, which came into existence after separation from Punjab State in 1966, has been the leading state in electronic marketing of agriculture produce since the inception of E-NAM. Till August 2017, Haryana has done the trading of total 7441.70 thousand ton, and has received the value of Rs 14117.05 crore, of total traded agriculture produce, which are highest among all the registered states respectively.

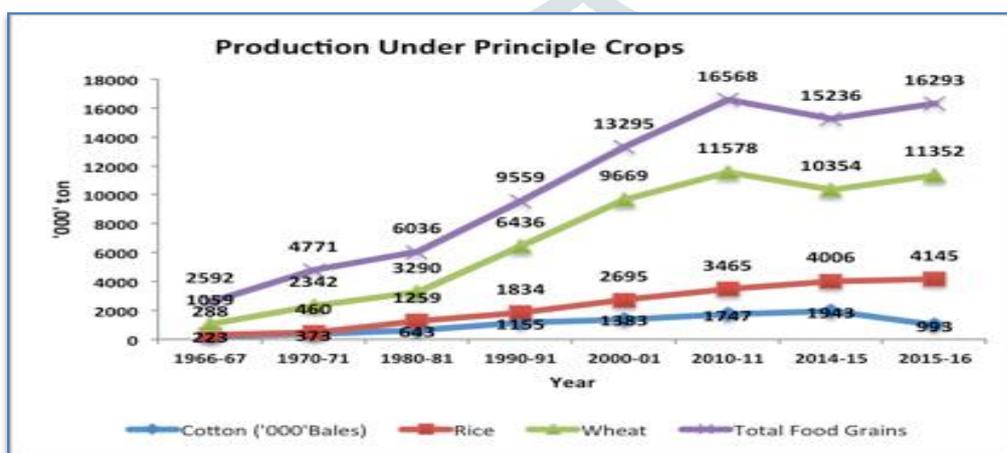
Haryana along with Punjab and Western Uttar Pradesh is among the first green revolution states, which began in 1960s. Since 1960s, the area and production of principle crops in Haryana have increased manifolds. The following fig.1 (a) and (b) show the trend of increase of area and production.

Fig1. (a) Area Under Principle Crops in Haryana (1966-67 to 2015-16)



Source: Statistical Abstract of Haryana (Various Issues)

Fig.1 (b) Production Under Principle Crops in Haryana (1966-67 to 2015-16)



Source: Statistical Abstract of Haryana (Various Issues)

With the success of green revolution, Haryana became the second State having large agriculture surplus. The rapid increase in area under principal crops and their production within span of four decades gave required impetus to Haryana to enhance its agriculture marketing system to sustain agriculture growth of the state. Thus, it was imperative that a strong and efficient marketing structure is created by setting up modern and efficient marketing system in the State, which led to constitution of Haryana State Agricultural Marketing Board in August 1969. The primary objective of Marketing Board was to set up a marketing infrastructure for better regulation on the purchase, sale, storage, processing and regulating of agriculture produce of the State along with promotion of farmers interest and facilitating buyers. With the rapid development of ICT and digitalisation, the Board has been restructured many a times to meet the dynamics of agri-business world and the rising expectation of the modern farming practices.

This reflects the increased pace of agricultural growth and digitalisation in Haryana which lead to easy and fast adoption of E-NAM. There are 107 Principal Market Yards or *mandis*, 174 Sub yards and 195 Purchase Centres in the State. Haryana has already interlinked around 54 out of 107 Principal Market Yards or *mandis* with E-NAM. Thus, Haryana despite being a small state stands out to be the most adaptive to this new market strategy i.e., E-NAM.

## 8. CHALLENGES WITHIN E-NAM

In the 7<sup>th</sup> Schedule of Indian Constitution, Agriculture, Trade & Commerce within state and Markets & fairs are placed in the State List (List II), among 58 items fall under the state governments power, thus putting restriction on the central government to impose any laws on this matter under normal circumstances. Because of these issues some of states through their APMC Acts do not fulfill the three basic requirements for creation of NAM of single license, single point market fee and provision of electronic auction. Barriers hampering interstate transfer of agricultural commodities such as high taxes and levies set by some states on agricultural commodities need to be removed in order to boost interstate trade and farmers' income. The implementation of Goods and Services Tax (GST) as on 1<sup>st</sup> July 2017 brought certain changes in the taxation system of state, interstate and national level with respect to trade and commerce through the Constitutional (One Hundred and First Amendment) Act 2016 of Indian Constitution. The unification of the taxation system of the country will have a positive impact on trading of agriculture produce by reducing the tax disparities within and among states.

The success of E-NAM in improving competitiveness and integrating pan India market will require assaying facilities in various markets to ascertain quality traits (Chand 2016). The major challenge is the establishment of standardizing and grading system, which can be understood by farmers and is fair and transparent enough to be reliable. There is need of maintaining quality standards of agriculture produce which requires adequate assaying infrastructure in every grain market or *mandi*. Imparting knowledge about

the importance of maintaining high standards of their produce and sensitizing them about the economic and thrifty use of fertilizers and pesticides/weedicides is imperative, not only for success of E-NAM, but for increase in farmers' income by cutting costs and increasing benefits of different agricultural practices.

The role of ICT has increased manifolds in agriculture from production to marketing. Technology can contribute in creating the system of synchronizing value chain activities into layer-wise process (Dey 2015). E-NAM is perceived as a marketing system that will facilitate the post-production supply chain of farm produce. It is required to work for the inclusion of farming communities and farm operations into other segments of the marketing chain like storage and logistics so that the large share of the final value realized is captured by them (Yadav 2016). Integration of value chain system also includes secondary activities such as research, development, front-line demo, extension work and market information through which the role of each stakeholder is defined in appropriate manner.

For optimal outcomes of E-NAM there is need of synergy between network organization and market agencies like warehousing and collateral management agencies and extension organizations. As markets are transforming towards digital phase diverse groups of clientele, public and private organization needs to be integrated to provide customized services (Yadav 2016). These services include assaying and grading of the produce, price poling and information, dissemination, warehousing and disposal and commodity-based structure financing (Dey 2016).

There is need of capacity building of different stakeholders and Institutions of agri-value chain. The farmers rich in terms of human capital are more likely to participate in new emerging chains (World Bank 2006). The role of each of the stakeholder has to be defined in arrangement to the working of the market for optimal outcomes of capacity building.

## 9. IMPLEMENTATION OF E-NAM IN PHASES

E-NAM has to be implemented in a phased manner in order to achieve full integration of the market. The various components of the market are to be achieved over a different period of time which is depicted in the table below:

Table 2: Manner of Implementation of E-NAM

PHASES	PHASE I	PHASE II	PHASE III
<b>COMPONENTS</b>	0-2 years	3-6 years	7-12 years
ENABLING ENVIRONMENT	Legal (single and unified license, e-trade etc.)	Complete Reforms	Facilitating role
INFRASTRUCTURE	Hardware and Software	Up-gradation of <i>Mandies</i>	Creation of physical delivery centres and collection centre
GRADING PRODUCTS	Selected Commodities	Comprehensive coverage	All Commodities
FUNCTIONS	e-price discovery	Bank settlement and logistics	Promotion, Demand creation
FARMERS PARTICIPATION	Individuals/groups	Farmers groups/FPO	Producer company
SKILL DEVELOPMENT	Mass awareness	Specialized	As per global requirements
INSTITUTIONS	Establishing national level agencies, identification of Special Purpose Vehicle (SPV)	For functions like training, research, defining grades and international trade	
PROMOTION	NAM Portal	Product	Branding
FINANCE AND INSURANCE	Direct Payment	Payment and Credit	Complete risk coverage
INPUT AND EXTENSION	Information dissemination	Advisory	Delivery of physical and technical inputs
FOCUS	Regional	National	Global
AGRI ECOSYSTEM	Post harvest Management	Sanitary and Phytosanitary	Zero Carbon footprint

Source: www.ccsinam.gov.in

## 10. CONCLUSION

Agricultural Marketing in India has evolved from being restricted to catering to local demand by having market yards within the range of farms to one which now aims to have interconnectivity with the markets of other states to have a value dispersion between farmers and consumers. The information technology has evolved and changed the paradigm of marketing of the agricultural commodities in India through formation of E-NAM. While the *mandi* system is central to agricultural marketing in the country, for several crops like sugarcane, *mandi*-based trade is of limited importance because of the strong ties to processing industries and direct marketing facilities which have emerged as alternates to *mandi*. This makes it imperative for the government to look beyond the *mandi* as a site for trade, while preserving its place in the marketing ecosystem and provide similar platforms for ease of selling

and buying of agricultural produce. There is a need to standardize the assaying facilities in all the markets in order to keep all markets at par with each other in terms of quality of agriculture produce.

Though E-NAM will provide more options to the farmers for sale of the produce and accessibility to markets and opportunity to the traders for bulk purchase at minimum intermediation costs, still it has to address some vital issues regarding the conduct and performance of market. The major areas of reform, which are not part of E-NAM are related to direct sales of produce by farmer to buyers without entering into *mandi*, removal of legal barriers to entry of modern capital and investment into agricultural marketing, rationalization of taxes and fees along with establishment of private markets at par with APMC should also be focused in order to develop agriculture marketing system in holistic sense. Issues of transportation and logistics problem of handling produce especially in case of small and marginal farmers should be considered in the policy framework of E-NAM. Thus the success of E-NAM will be measured only when it will become fully operational throughout the country and achieving its holistic goal of 'One Nation One Market'. Such changes of marketing strategies along with the use of ICT would help in strengthening the rural economy but will also help in achieving the goal of inclusive growth along with food security in the country and meeting the challenges posed by global markets.

## REFERENCE

1. Acharya S (2004). Agricultural Marketing in India, volume 17 of State of the Indian Farmer: A Millennium Study. Academic Foundation, New Delhi and Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India.
2. Aggarwal, Nidhi, Sargam Jain & Sudha Narayan,(2016), "The long road to transformation of agricultural markets in India: Lessons from Karnataka", WorkingPaper-2016-026, Indira Gandhi Institute of Development Research, Mumbai (IGIDR).
3. Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation, Govt. of India.
4. Chand, Ramesh (2012): "Development Policies and Agricultural Markets," *Economic & Political Weekly*, 47(52), 53–63.
5. Chand, Ramesh (2016), "e-Platform for National Agricultural Market", *Economic and Political Weekly*, 51(28),15-18.
6. Dey, K (2015): Why Electronic Spot Market Is a Better Bet for Commodities?, *BusinessLine*, 4 February.
7. Directorate of Economics & Statistics, Department of Agriculture, Cooperation & Farmers Welfare
8. Draftreport Doubling Farmers? Income? VolumeIII Post-productionAgri-logistics:maximising gains for farmer
9. FAO (2016): "E-Agriculture Strategy Guide: Piloted in Asia-Pacific countries".
10. Government of India (2013). "Final Report of the Committee of State Ministers Incharge of Agricultural Marketing Reforms." Ministry of Agriculture, Department of Agriculture and Co-operation.
11. Government of India (2015). "The Economic Survey 2014-15." Ministry of Finance.
12. Gulati A (2012). "Reforming Agriculture." Seminar: India 2011: A symposium on the year that was.
13. Mookherjee D (17 Jan, 2016). "Agriculture: A Revolution Waiting to Happen Beyond the Mandis." *Business Today*.
14. Planning Commission (2006): "Towards Faster and More Inclusive Growth: An Approach to the 11<sup>th</sup> Five Year Plan," Planning Commission of India.
15. Purohit P (2016). "Measurement of Regulations of the Agricultural Produce Markets." *Economic and Political Weekly*, 51(28), 36–45.
16. Statistical Abstract of Harayana (various issues).
17. Yadav,J.P. and Abhishek Sharma (2017), "National Agriculture Market: The Game Changer for Indian Farming Community", *International Journal of Scientific Research and Management*, 5(7), 5810-5815.
18. Yadav, Hema, et al, "Linking Farmers to Electronic Markets (E-NAM): Current Scenario and a Way Forward", Status Paper, CCS National Institute of Agricultural Marketing.
19. World Bank (2012): "India: Issues and Priorities for Agriculture"
20. World Bank (2006), "Enhancing Agricultural Innovation: How to Go Beyond the Strengthening of Research Systems", Agriculture and Rural Development.
21. www.enam.gov.in
22. www.ccsniam.gov.in