

Transportation in Agriculture: A Case of Kisan Rath App

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Abstract

Transport is regarded as a key factor in improving agricultural development all over the world. It is also important for making agricultural marketing efficient as it is required at each stage of marketing. Considering the importance of transport, the Government of India launched Kisan Rath Mobile Application to facilitate farmers and traders in getting linked with the appropriate mode of transportation for movement of farm produce. The App failed to maintain the interest generated among different stakeholders initially as suggested by the declining downloads over time. According, a study was undertaken by MANAGE in collaboration with the Ministry of Agriculture and Farmers Welfare to analyze different aspects of Kisan Rath App. The study revealed that level of awareness was more among the market players like traders, wholesalers and logistic service providers having better understanding of market and easy access to market information. More than half of the users are relying on locally available transportation facility which makes it important to integrate such service providers with the App. to bring in more efficiency in the delivery of service. The use of application may be enhanced by improving literacy of farmers on ICT, providing better information technology infrastructure and making the App. more user friendly and comprehensive by integrating others services like market information.

Keywords: Agricultural marketing, Transportation, Mobile app, Kisan Rath, India.

Introduction

Agriculture for its importance in national output and employment has always received special attention in policy making process (Chand, 2008). Though, the emphasis of policy

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makers kept on changing from keeping food prices low to macro-level food security to household and individual food security which subsequently shifted to sustainable use of natural resources and equity between rural and urban population (Acharya, 2009). Such shift in focus overtime along with market liberalization and globalization are causing a transformation in agriculture and agri-food markets in India (Birthal et al, 2007). These changes required evolution of agricultural marketing, new institutional mechanisms and liberation of agriculture sectors (Chand, 2019). Accordingly, a number of reform measures have been introduced by the Government to strengthen agricultural marketing system in the country in recent past (Paty et al, 2017). A snapshot of these reforms is provided in Table-1.

Table 1. Agri-marketing reforms in India

S. No	Reforms Initiated	Provision	Influence
1.	Model State Agricultural Produce Marketing (Development and Regulation) Act, 2003	● Establishment of private/cooperative markets ● Direct marketing ● Establishing farmer/consumers market ● Single point levy of market fee	State
2.	Model State/UTs Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act, 2017	● Declaration of whole state/UT as one unified market ● APMCs to regulate practices only in respective principal market yards and sub-yards ● Warehouses to operate as sub-market yards	State

S. No	Reforms Initiated	Provision	Influence
3.	Warehouse Development and Regulation Act, 2007	● Negotiability of warehouse receipt	National
4.	National Agricultural Market	● Integration of whole sale markets ● Integration of other services like warehouses, banks, grading and assaying, etc	State (Subsequently National)
5.	The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020	● Barrier free inter and intra state trade across the country ● Freedom of trade in farming produce outside APMC Market Yards	National
6.	The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act 2020	● National framework for farming agreements ● Safeguarding the interest of farmers ● Protection of agricultural land	National
7.	Essential Commodities (Amendment) Act, 2020	● Removal of commodities like cereals, pulses, oilseeds, edible oils, onion and potatoes from the list of essential commodities ● Encourage investment by private players	National

These measures are expected to improve agricultural marketing infrastructure and gradually help evolve a national market for agricultural commodities. Improving physical infrastructure is important but price formation in agricultural markets will be influenced by linkage among market centers facilitated through transportation and communication network (Acharya, 1998). Though, agricultural marketing system performs wide range of functions including assembling, handling, storage, processing, transportation, wholesaling, retailing and export along with support services like market information, grade and standards, commodity trade, financing and price risk management and also the institutions involved in performing above functions (NITI, 2007), the importance of transportation in improving efficiency, diversification, development of integrated agri value chains and achieving a national common market has been highlighted by various reports and studies (NFC, 2006; NITI, 2007; Acharya, 1998; Sharma and Chauhan, 2013 and FICCI, 2017).

Importance of transportation

Transport is regarded as a key factor in improving agricultural development all over the world. Transport creates place utility and opportunities for better marketing, enhances interaction among geographic and economic regions. An efficient transportation system offering cost, time and reliability advantage; permits goods to be transported quickly (Rodrigue, 2006; Tunde and Adeniyi, 2012). Though, Government of India in consonance with the state governments has taken numerous initiatives to strengthen agricultural markets and facilitate integration of farmers with market farmers are not able to market their entire harvest successfully. They are unable to sell 34 per cent of fruits and 44.6 percent of vegetables (DFI, 2017a). This translates into loss of around Rs 63,000 crore for not being able to sell their produces for which investment has already been made by the farmers. In the absence of robust and sustainable logistics mechanisms, more than half of fruits and vegetable produce end up as waste even before they reach the market (NHB). Transport is considered to be an important aspect in improving agricultural marketing efficiency. It is required at each stage of marketing (Table 2).

Table 2. Means of transportation used at different stages of agricultural marketing in India

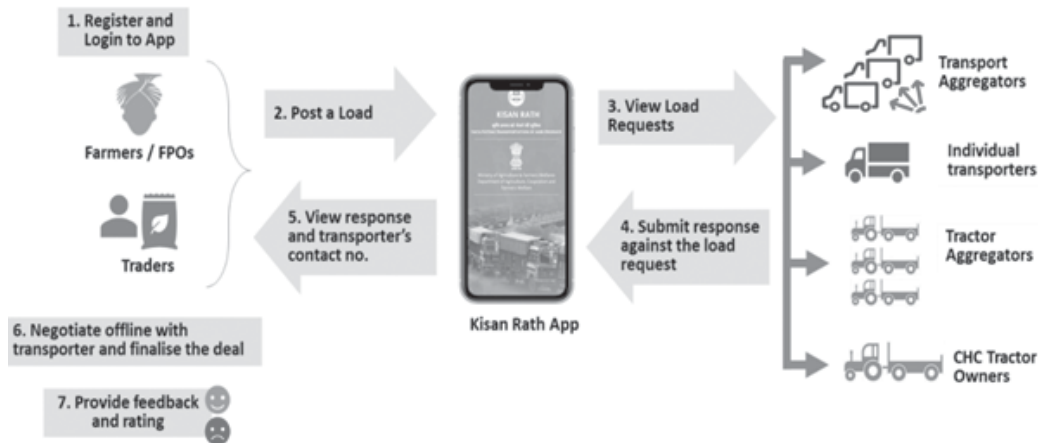
Stages of marketing	Agencies involved	Means of transport used
From farm gate to the village market or primary market	Farmers and Local/Village traders	By bullock or truck or tractor
From primary market to secondary wholesale market and processor	Traders/ Processors	By trucks, railways
From wholesale markets and processor to retailer	Processors/Wholesalers/ Retailers	By trucks, railways, tractor
From retailer to consumer	Consumers	By hand and any other means of transport used by the consumer
For export and import	Exporters and Importers	By air or ship

India has availability of huge rail and road transport network throughout the country. However, road transport is important for agriculture mainly for horticultural crops. In case of major agricultural produce, 67.75 percent of rice, 70.46 percent of wheat and wheat flour and 75.92 percent of the sugar and khandsari is moving through roads. Whereas, in case of horticultural crops, 97.38 percent of fruits and vegetables are moving through road transport and only 1.89 percent is using rail transport (DFI, 2017b). In case of road transport, it is very important to improve access of farmers and other service seekers to easy and economical mean of transport. Government of India has taken various steps in this direction. One such initiative is the introduction of Kisan Rath Mobile Application to facilitate farmers and other stakeholders from throughout the country to have easy access to transport facilities by connecting them with transporters.

Kisan Rath App

Kisan Rath Mobile Application was launched on 17th April 2020 by the Ministry of Agriculture and Farmers Welfare to facilitate farmers and traders in getting linked with the appropriate mode of transportation for movement of farm produce ranging from food grains (cereals and pulses) to fruits and vegetables, oilseeds, spices, fiber crops, flowers,

bamboo, forest produce, coconuts, etc. This App facilitates interface with leading transport aggregators and individual transporters for providing a wide range of transport vehicles at required date and place, in a quick and easy way (Figure-1).



Source: <https://kisanrath.nic.in>

The App allows posting the requirements of part load as well as full load. The transporter can register using the application and view the posted loads and respond back with their availability and quotes. The farmers and traders can view the responses to their posted loads, communicate with the transporters to finalize the deal and can provide a rating for the transporter once the trip is completed. The application was able to generate lot of interest among the users during the first month of its launch with more than 1.5 lakh registered users. The Application could not maintain the same level of interest in subsequent months among stakeholders as suggested by the number of downloads, average user rating of 3.5 on a scale of five and low level of transport executed through the Application. The portal has received only 8550 request for a load amounting to 22247 tonnes.

With this background, a study was taken up by MANAGE in association with the Ministry of Agriculture and Farmers Welfare (GoI) to analyse factors responsible for the limited use of Kisan Rath App by framers and other players.

Methodology

The study is based mainly on the primary information collected from existing Kisan Rath Mobile Application users and Kisan Call Centre (KCC) users. The information was

collected from a total of 5919 respondents including 3199 existing users and 2716 KCC users spread across 31 states/UTs. The information was collected in the month of September 2020 by administering a well-structured Schedule designed specifically for the study using KCC network with the help of Extension Division of the Ministry of Agriculture and Farmers Welfare (GoI). The farmers were selected randomly from a list provided by National Informatics Centre (NIC) of existing users and KCC users as available with the Ministry. Simple descriptive statistical techniques were employed to analyse the information collected and draw logical inferences.

Result and Discussion

The information under the study was collected on various aspects covering level of awareness, source of information, major mean of transport, availability of smartphone for using application based services and level of use of Kisan Rath Mobile Application. Attempt was also made to compile information on limited use of the Kisan Rath App. though transportation is considered to be an important mean to improve market access by farmers. The component-wise analysis is provided in this section.

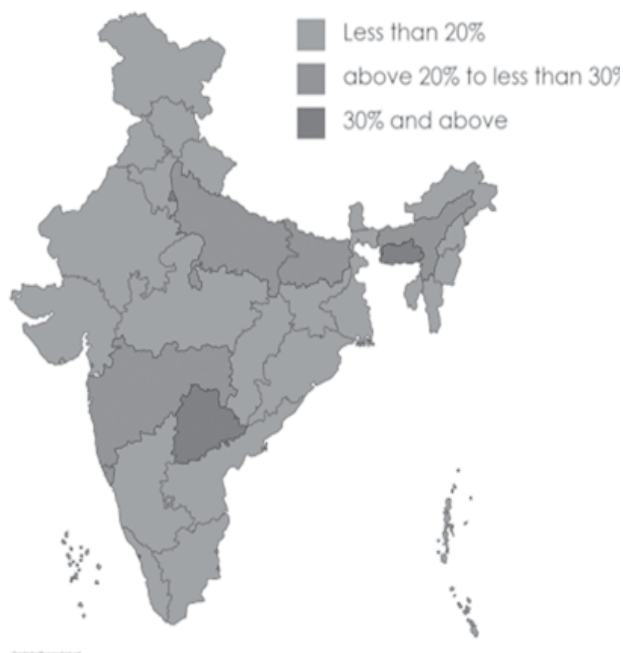


Figure 2. State-wise level of awareness (%)

Level of Awareness

Awareness level was analyzed mainly in the non-existing user group. Only 17.14 percent of the respondents from non-existing user group were found to be aware about the Kisan Rath App. The level of awareness is again not uniform across the states (Figure-2). Response is observed to be better from states like Rajasthan, Gujarat and Maharashtra. It may be in tune with the diversification of crops and enterprises prevailing in the respective states.

Source of Information

KCC respondents primarily farmers are relying mainly on traditional sources like Department and TV/Radio for information, whereas, major proportion of respondents in case of existing users relied on social media and internet. In the existing user group, more than 55 percent respondents came to know about the App from internet and social media (Figure-3). It appears that there is a category of farmers who are information technology (IT) literate and relying on such sources for their information requirements. Hence, there is need to concentrate on such farmers to popularize the use of Kisan Rath App.

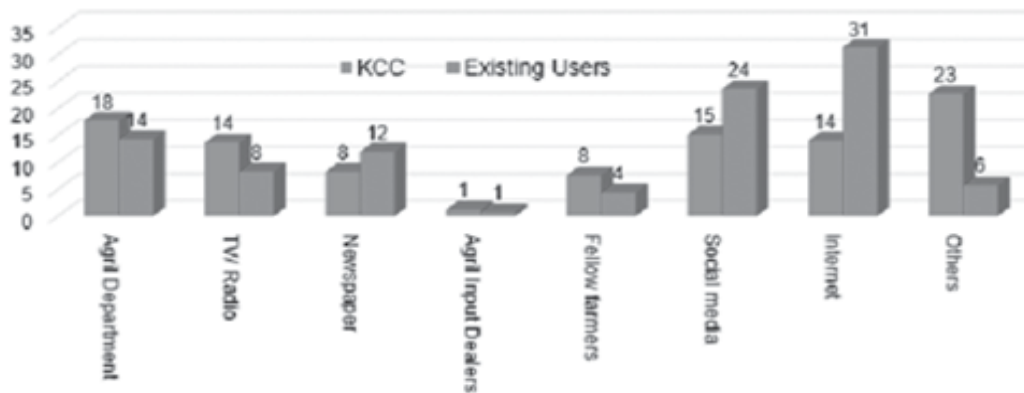


Figure 3. Source of Information

Availability of smart phone and download

The availability of smart phones with farmers is encouraging. About 59 percent of the farmers are having smart phones across both categories, whereas, this percentage is 80 percent in the case of other players. Of those, who are having smart phone, only 16 percent of the farmers downloaded the application, while this proportion was 25 percent in the case of traders/wholesalers and 50 percent in the case of transporter. Lack of IT literacy may be limiting the use of the App by the farmers, in-spite of having good download rate.

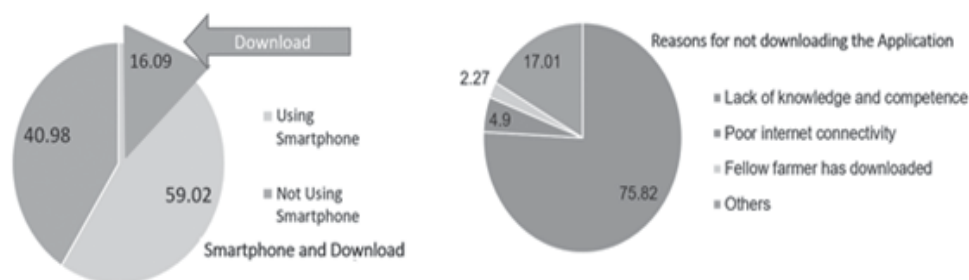


Figure 4. Availability of Smartphone and Download

Popular Means of Transportation

Local transport and own transport are the major mode used by farmers for transporting their produce. About three-fourth under both the categories of respondents are either having their own transport or availing local transport available and therefore did not use transport facilities through the App. This may be due to availability of limited surplus with farmers for marketing and therefore, aggregation may have a role to play in facilitating farmers integration with distant markets.

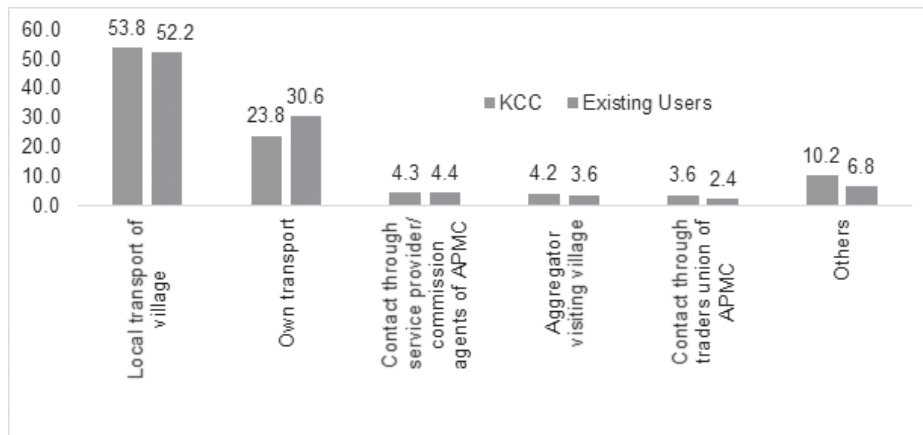


Figure 5. Popular means of transporation

Level of use of App

The level of use of Kisan Rath App is presented in Figure-6. The figure reveals that about 40 percent of the KCC Respondents having downloaded the mobile Application have never used it whereas, 45 percent are using occasionally. Only 15 percent of such respondents are using the App regularly. In case of existing users, 37 percent have never used the application whereas about 53 percent are using occasionally. Only 15 percent KCC respondents and 10 percent existing users are availing the transportation services using App on regular basis.

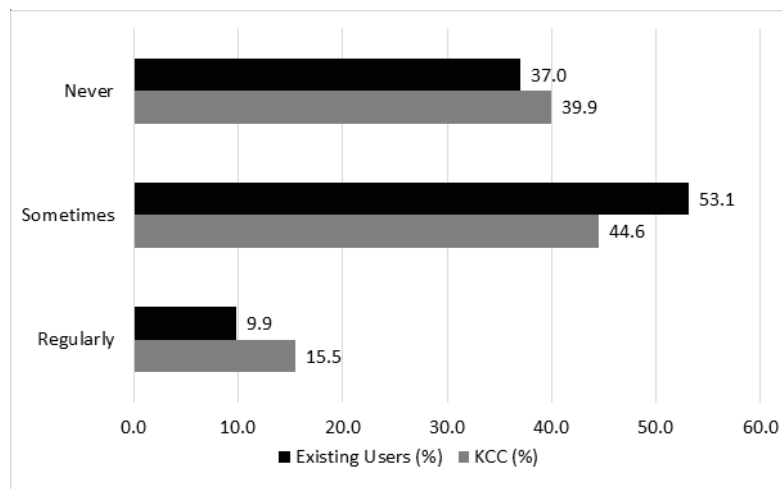


Figure 6. Level of Use of Application

The figure also suggest that more than one-third of the respondents across both the categories have downloaded the App but never used which suggest either the application is difficult for them to follow or is not able to offer services as per their expectations. However, about 70 percent of the respondents feel that the Kisan Rath App is beneficial. The Farmer Producer Organizations are more able to foresee the benefits offered by the App. in changed agri-trade environment (Figure-7).

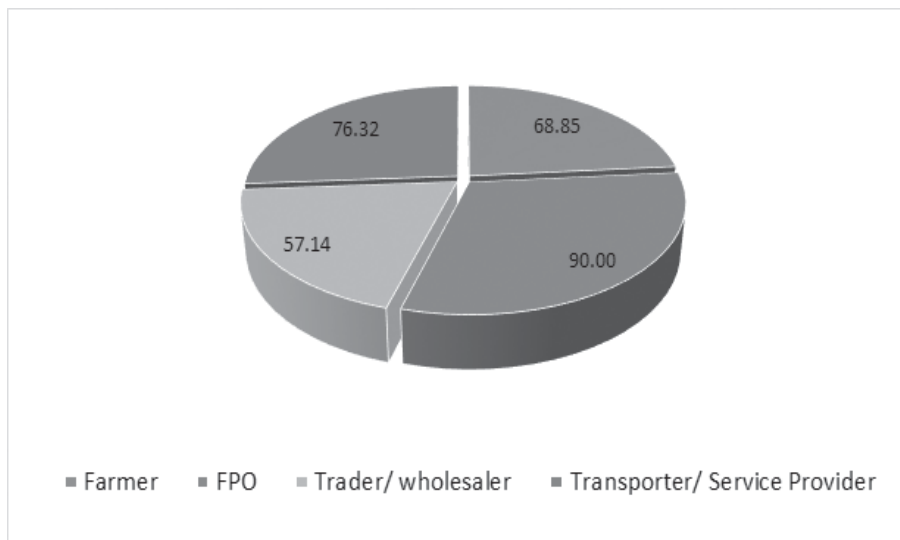


Figure 7. Percent of Respondents who feel that the Kisan Rath App. is beneficial

Reasons for Poor Acceptability of App

The major limitations as suggested by the farmers and other stakeholders have been depicted in Figure-8 considering the limited use of application. The major limitation as expressed by respondents are non-availability of service providers, poor internet connectivity and lack of booking being honored. Some of the respondents have also expressed the issue of rate not being competitive mainly the KCC Respondents.

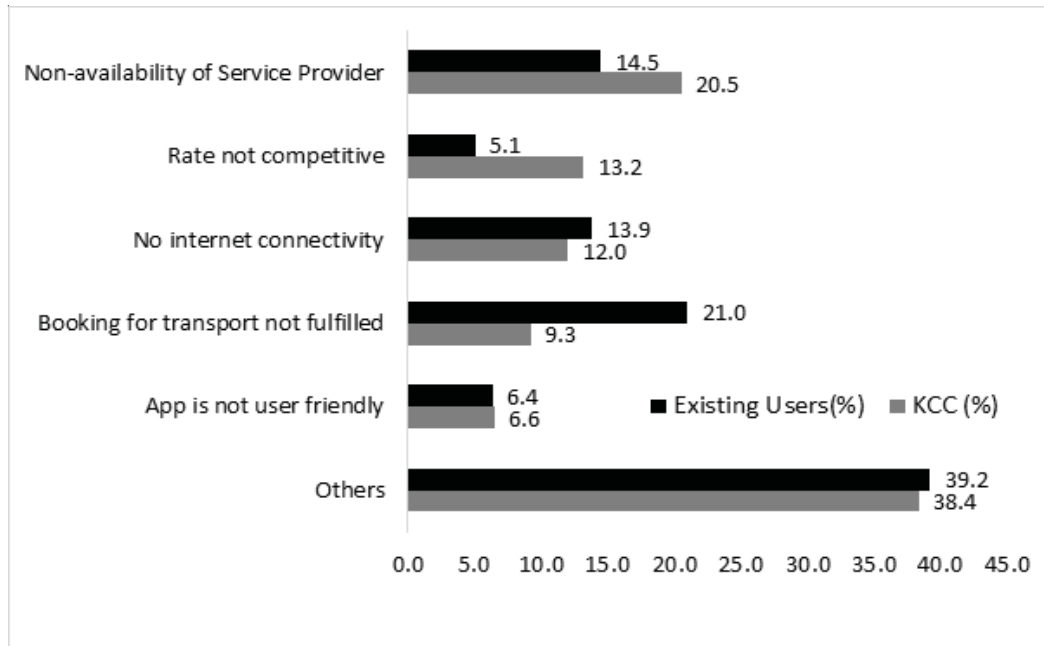


Figure 8. Reasons for Poor Acceptability of App

Besides Kisan Rath, the Government is also implementing schemes like Transport and Marketing Assistance (TMA) Yojana and Pradhan Mantri Gram Sadak Yojana. The TMA Scheme covers freight and marketing assistance for export by air as well as by sea (both normal and refrigerated cargo) whereas Pradhan Mantri Gram Sadak Yojana is a nationwide plan in India to provide good all-weather road connectivity to unconnected villages.

Conclusion and Suggestions

The market players like traders, wholesalers and logistic service providers who are well versed with the market and have access to market information seem to be proportionately more aware about the app in comparison to farmers. Application seems to be more useful for traders, wholesaler and service provider as suggested by the higher percentage of download to Smartphone availability ratio. As more than 50 percent of the users are relying on locally available transportation facility, it is important to integrate such service providers to bring in more efficiency in the delivery of service. Better awareness among farmers group may enhance the usages of Kisan Rath App as suggested by the ability of FPOs to foresee the benefits offered by the App. The states practicing diversified agriculture

and even allied enterprises seem to have more potential to transport the produce to distant markets and hence more downloads of Kisan Rath App are effected. Poor use of application may be due to farmers having low ICT literacy leading to inability to understand the full benefits of the service. IT infrastructure may also need strengthening as internet-connectivity has been suggested as one of the major limiting factors by many respondents. There is need to make the App more user friendly and wider in terms of integration of other services like market information and registration from different kinds of service providers mainly from local environment so as to make it more comprehensive for the end user.

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