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ANDROID APPLICATION ON AGRICULTURAL MARKETING

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Abstract - *Agricultural marketing is a process which begins with the production of saleable agricultural commodities and it also involves pre and post operations with economic consideration. Agricultural marketing is one of the problems, which has direct bearing upon the prosperity of the cultivator. This marketing comprises all the operations involved in the movement of goods and raw materials from the field to the final consumer. It includes handling of product at the farm, initial processing, grading and packing in order to maintain and enhance quality and avoid wastage. Unfortunately , the present system of marketing of agricultural goods in India is extremely defective and needs a thorough overhauling. In spite of developed agricultural marketing with respect to highly sophisticated means of transport facilities, improved form of standardization and grading, advanced communication system, scientific method of storage and warehousing, the Indian agriculture is still far behind.*

Agricultural commodities mostly markets under the law of demand and supply. Governments encourages and protects the farmer's interest to increase the rate to productions by affixing mandi prices for all the commodities to secure profit for the farmers. Therefore, it is required that wide and effective distribution channels should be used for different types of marketing, which exercise different functions in the marketing of agricultural goods. The small-scale production of farm products further leads to concentration, equalization and dispersion. As a result, these agricultural goods necessarily move through some important wholesale markets such as– jobbing market and secondary market.

***Key Words*: Agricultural Marketing, Digital Marketing, Android application, warehousing, Mandi prices.**

1.INTRODUCTION

Agriculture is the backbone of Indian Economy. About 58.14% of Indian population relies on agriculture for its primary source of livelihood. Even though Farming is a profession which serves the country, majority of the farmers are economically backwards because of more involvement of 3rd party in deciding the price of the products. Since farmers don't know the daily prices of products in the market they are getting cheated by fraud agents. Hence to over come these kinds of problems, an application providing the information of current market prices in detail through internet will give a rough idea about the prices, the chances of a farmer being exploited and cheated are minimized. The increasing penetration of mobile networks and handsets in India therefore present an opportunity to make useful information more widely available. This could help agricultural markets operate more efficiently, and overcome some of the other challenges faced by this sector.

This Application will bring a positive effect on farmers by digitizing the day to day ups and downs of the agricultural products. Farmers can get indirect contact with the warehouse owners, the wholesalers and the nearest local markets hub.

The application may constitutes features that display price details of commodities at different price details of different places. It not only displays the details but also provides an opportunity for the farmers to sell their products directly.

2. LITERATURE SURVEY

The profitable aspects to the farmer by the sale of agricultural products in a market varies from area to area because of wide variation in the spread of regulated markets over the regions and the existence of required infrastructure amenities in these markets. This is being designed based on the references of the following previous years IEEE papers:

Warehouse Receipt System

Proposed by Mrs. Ambhita Sukuma, R and D of Human Resources, Indonesia

Warehouse Receipt System (WRS) is one of government programs that aims to increase farmers' income and support national food security. The basic concept of WRS is

(1)Producer delivers his items to the Warehouse.

(2)Then the warehouse will give receipt to the producer.

(3)Producer mortgage the receipt to the lenders.

(4)Lenders will provide the needed loan to Producers.

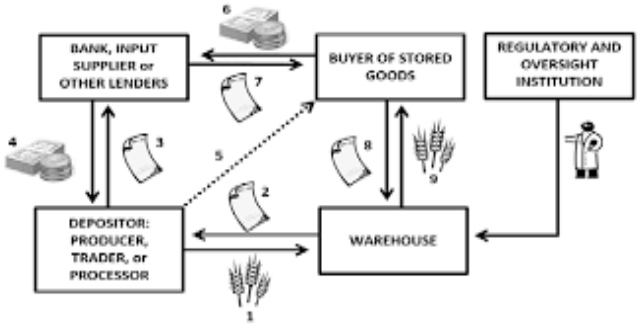
(5)Producer will sell the commodity to Buyer, and based on the agreement between Producer and Buyer.

(6)Buyer can pay the loan directly to the Lender.

(7)Buyer will receive the receipt that has been pledged.

(8)Buyer gives receipt to Warehouse.

(9)Warehouse gives commodity to Buyer.



The disadvantage of the this warehouse receipt system is that producers will not be able to find the appropriate buyers within the given amount of time this will increase loan interest of the producer, the quality of the commodities will not be the same till the time its sold which will not a proper food safety measure.

ICT Solution in Indian Agriculture

Proposed by Arpit Narechania, IIT, Himachal Pradesh

Kisan-Vikas is android application developed for farmers using Information and Communication Technology (ICT). The government supported this application so that it would improve the technology of e-farming in India. The mobile application also connects to an Aurdino based wireless sensor network (WSN) comprising soil moisture, pH and temperature sensors to control water pumps for watering small fields, irrigation over the Global System for Mobile communication (GSM) and Bluetooth networks. The services provided by Kisan-Vikas application are:

(1) Language support: The application is offered in 8 regional Indian languages namely Hindi, English, Marathi, Bengali, Urdu, Kannada, Tamil and Telugu. The user has to choose his preferred language.

(2) Sign in and Registration: This application requires sign in and registration using their mobile number, a 4 digit numerical password. The user is verified by sending a SMS to this number and detecting it. So that only verified and authenticated users can use this app.

(3) Weather Forecast: User can search based on current GPS location or directly by city name; the 16 days forecast includes information about – weather type, image, min-max temperature, pressure, wind speed, humidity, clouds. These data will enable the farmer to better plan his actions during the agricultural cycle.

(4) Commodity Market Prices: Agricultural commodities are traded in mandis(markets) at the district level. contains information about market (district name), arrival quantity, origin, variety, grade, minimum price, maximum price, and modal price. With a rough idea about the prices, the chances of a farmer being exploited and cheated are minimized.

(5)Inventory management.

(6)FarmerHelplines.

The disadvantage of this application is most of the farmers are not educated they are not able to access some of its features, I.e the weather information and other related details.

Virtual Fruit Market: An application for farmer

Proposed by Kalyani Khodaskar, Nagpur, India

Virtual fruit market is an android application developed for farmer, the main aim of this application is to provide a consistent price for the farmer commodities(fruits). This will increase the profit of the farmers and also end users can get good quality product in less price as they will directly buy from farmers. Initially farmer has to register and login into the app and provide details of his own farms and fruits. Similarly the consumer has to give his details and then login into the app. Consumer can see various range of fruits and they can select the fruit of their choice & get the price & location of farm from their current location. This application will be used to connect farmers & consumers & also pin point farmer's products shop or farm within 1km range with the message with location, name & distance from current location of the purchaser. Buyer will get the road map along with farm location. The main disadvantage of this application is that there was no kind of language support for the users to choose the preferred languages which was very difficult for the farmers to access.

An Android agricultural commodity price information application

Proposed by Viska Mutiawani, Indonesia

This application was mainly proposed to provide the information of the commodity prices. Commodity prices are unprocessed which may be different in buying and selling it. The agriculture information price is collected, processed and disseminated to public through agriculture market information system. This android application views all commodity prices instate by state, districts by districts and also comparison of the prices between states and districts. It provides graphical bar representation of the individual commodity prices with the previous result. It also contains the commodities data of average sale information in the market, which helps the farmer to sell his commodities in preferred location with a consistent price.

Digital Market: E-Commerce Application For Farmers

Proposed by Mrs.Manisha Bhende, DYPIEMR, Pune, India

The term digital market means a platform that is dedicated to integrate farmer, Merchant/Markets, government and end user and bridge the gap between them. System is providing platform such as android app and website app at government level where in farmer can sell his crop products directly to the end users or market. This platform will help farmers to findout nearest markets, its current stock details and its demand for particular product within less time & with less effort. This analysis will thereby help to determine which market will be more profitable for his crop or product. Government module has the authority to set minimum price for minimum quality of crop/product. This application can help reduce the over head price setup by the middlemen on the crop or products. This web based application will provide the information like market detail, list of merchants, list of

farmers, list of endusers, list of complaints etc. This will leads to a better management for government in agricultural field.

Gram Sandesh Transmission

Proposed by Parvgupta, Amity School of Engineering, Delhi, India

Gram Sandesh Transmission is application developed in both IOS and android to target large amount of users. Basically this system provides weather information to the farmers so that he can plan is harvesting cycle according to that. The system also warns if there is a disaster related information. One of the important feature of this system is it provides the market price with the help of "Sarkari Mandi Bhaav"and thus reduces the chances of fraud prices quoted by middleman to farmers. System for farmers had been developed which is solely web based. The prototype of the system was tested, which provided successful results and legitimate information as per the farmer's need. The disadvantage ofthis system is that it does not provide feature of regional language, since it main is to target large number of users this system was developed in IOS but there not even 10% of farmers using a mobile with IOS operating system which is a wrong assumption.

3. CONCLUSIONS

Smart phones can be a true breakthrough for farmers where applications are used for agricultural marketing. This application concentrates on overcoming the limitation that were prevailing in the previously designed systems. Farmers can sell commodities to any market Hub of his desire. Keeping the farmers updated with the commodities price decided by the respective government is a new feature that is being implemented. This application is designed to bring the warehouse owners in touch with farmers in order to keep the commodities safe. Designing of the application is planned keeping in consideration of illiterate framers as well.

Sl no	Technology Used	Pros	Cons
1	Warehouse Receipt System.	Increases the overall profit for the farmers. Supports the notional food security. Helps Farmers to store commodities in a warehouse. Buyers can buy with a Receipt.	The producer may not be able to find a appropriate buyers within the given amount of time.
2	Information and communication technology Solution in Indian Agriculture	This System Improves the technology of e-farming by providing various features or supports to the farmers i.e weather forecast. It provides better agricultural plans for harvesting cycles.	Illiterate farmers were not able to access new features.
3	Virtual Fruit Market: An application for farmer	This system connects the producers and the consumers. It has GPRS features that shows farmers and shops within 1km radius.	This system does not provide language option, its accessible only in a standard language.
4	An Android agricultural commodity price information application	It provides market rates for every commodities state wise and district wise.	There was no proper language support for the farmer which made it difficult to access.
5	Digital Market: ECommerce Application For Farmers	Bridges the gap between markets, government and end user and helps the farmer to sell their products in nearby markets.	There will be overhead of prices of the commodities since the prices will be set by the market ones not the farmer.
6	Gram Sandesh Transmission	Provides weather information to the farmers so that they can plan their harvesting cycle according to it.	This system did not provides the translation feature to regional languages. Since the system is designed in IOT and only a reasonable percent of farmers used IOT.

REFERENCES

[1] Digital Market- https://ieeexplore.ieee.org/document/8697615
[2] Virtual Fruits Market- https://ieeexplore.ieee.org/document/7280143
[3] An Android agricultural commodity price information application- https://ieeexplore.ieee.org/document/8253249
[4] Gram Sandesh Transmission- https://ieeexplore.ieee.org/document/7359246
[5] Warehouse Receipt System- https://ieeexplore.ieee.org/document/8706870
[6] Multi Lingual Machine Translation- https://ieeexplore.ieee.org/document/8566588
[7] Kisan Vikas- https://www.semanticscholar.org/paper/KisanVikas-Android-Based-ICT-Solution-in-IndiantoNarechania/abb134b389e0471c2d4125b61b332dc90ab05d01