



An Initiative to make Farmer's Life Easier

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Abstract: A Farmer with an average income has to work a lot every day. They have to spend hours on the field and then in the market. Our motive is to provide solutions to farmers' day to day problems by allowing them to buy their equipment online and by also allowing them to sell their crops online. This in result will reduce their working hours and will give them more time to focus on their field work. This paper focuses on the different aspects of agriculture and the impact of technology on it.

Keywords: Farmer, Crops, Agriculture

1. INTRODUCTION

Agriculture is the basic reason for production of food and raw material, which eventually is a reason for survival of the population in India. Retailers purchase goods from a manufacturer or a wholesaler and sell these goods to consumers in small quantities with high prices. Mobile and web application plays a major assistance to serve digital marketing for the entire society with different services. There is limited access to the digital market for small farmers/producers to sell their products. This paper addresses e-trading of agriculture related products. Technology, the manufacturing market, The automobile industry, wireless networking, and so on are all Fields rapidly expanding, but agriculture is one field where technology has not reached every Farmer. They are unaware of the infrastructure of the agriculture sector, as well as any reforms. Although its contribution in the gross domestic product (GDP) has reduced to less than 20 per cent and contribution of other sectors increased at a faster rate, agricultural production has grown. This has made us self-sufficient and taken us from being a begging bowl for food after independence to a net exporter of agriculture and allied products.

Total foodgrain production in the country is estimated to be a record 291.95 million tonnes, according to the second advance estimates for 2019-20. This is news to be happy about but as per the estimates of Indian Council for Agricultural Research (ICAR), demand for foodgrain would increase to 345 million tonnes by 2030.

Increasing population, increasing average income and globalization effects in India will increase demand for quantity, quality and nutritious food, and variety of food.

India is blessed with large arable land with 15 agro-climatic zones as defined by ICAR, having almost all types of weather conditions, soil types and capable of growing a variety of crops. India is the top producer of milk, spices, pulses, tea, cashew and jute, and the second-largest producer of rice, wheat, oilseeds, fruits and vegetables, sugarcane and cotton.

2. PROBLEMS

Even after over seven decades of planning since independence, the majority of the farmers are still facing problems of poor production and/or poor returns. Major constraints in Indian agriculture are:

1. According to the 2010-11 Agriculture Census, the total number of operational holdings was 138.35 million with an average size of 1.15 hectares (ha). Of the total holdings, 85 per cent are in marginal and small farm categories of less than 2 ha [GOI, 2014].
2. Farming for subsistence which makes the scale of the economy in question with the majority of small holdings.[4]
3. Low-access of credit and prominent role of unorganized creditors affecting decisions of farmers in purchasing of inputs and selling of outputs.[5]
4. Less use of technology, mechanization and poor productivity for which the first two points are of major concern.[3]
5. Very less value addition as compared to developed countries and negligible primary-level processing at farmers level.[9]
6. Poor infrastructure for farming makes more dependence on weather, marketing and supply chain suitable for high value crops.[9]

Future of agriculture is a very important question for the planners and all other stakeholders. Government and other organizations are trying to address the key challenges of agriculture in India, including small holdings of farmers,



primary and secondary processing, supplychain, infrastructure supporting the efficient use of resources and marketing, and reducing intermediaries in the market. There is a need for work on cost-effective technologies with environmental protection and on conserving our natural resources.

The reforms towards privatization, liberalization and globalization affected the input market at a faster pace. Agricultural marketing reforms after 2003 made changes in marketing of agricultural outputs by permitting private investment in developing markets, contract farming and futures trading, etc. These amendments in marketing acts have brought about some changes but the rate is less.

3. OBSERVATION

The information technology revolution in India, new technologies in agriculture, private investments especially in research and development, government efforts to rejuvenate the cooperative movement to address the problems of small holdings and small produce etc are changing the face of agriculture in India.

Many startups in agriculture by highly educated young ones show that they are able to understand the high potential of putting money and effort into this sector. Cumulative effects of technology over the next decade will change the face of agriculture.

All the constraints in agriculture make the productivity and returns complex but still a high untapped potential is there in India's agriculture sector.

More competition will be there among private companies giving innovative products, better seeds, fertilizers, plant protection chemicals, customized farm machinery and feed for animals etc in cost effective ways at competitive prices giving more returns on investment by farmers. Use of biotechnology and breeding will be very important in developing eco-friendly and disease resistant, climate resilient, more nutritious and tastier crop varieties.

more niche marketers in operations, area, and crop specific small equipment which will make operations even at small farms easier and efficient.

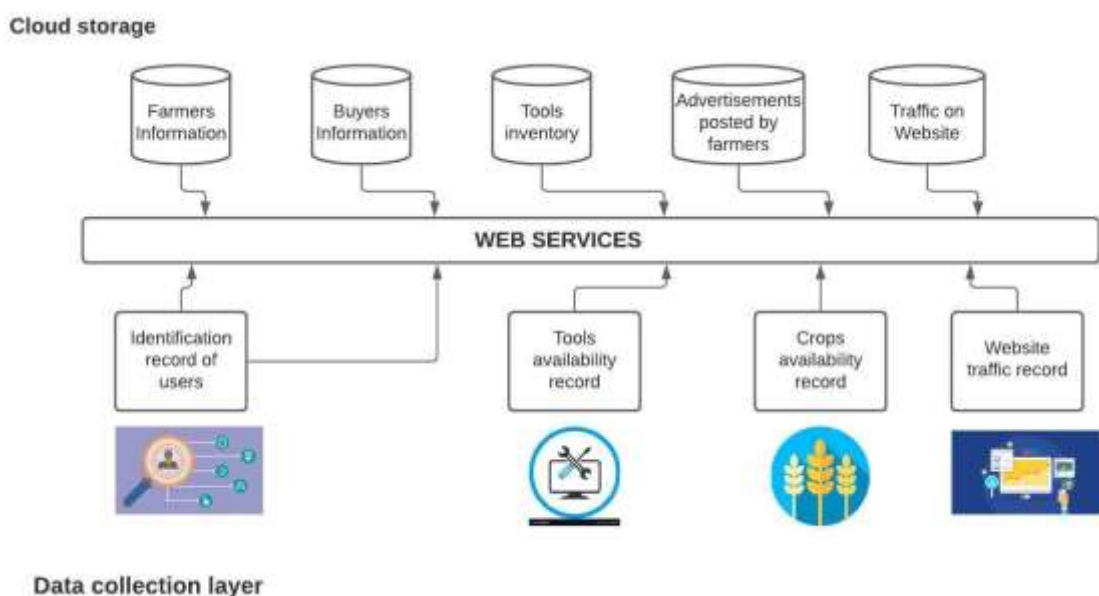
Retailing in agriculture will largely be digitalised. A study estimates that over 90 per cent of kirana stores across the country will be digitized by 2025 with modern traceable logistics and transparent supply chain. Many players have already taken kirana stores to the door steps of consumers like Amazon and Jio Mart.

There will certainly be more work by government, village communities, agri startups and private players in conserving sharply depleting water resources. Use of digital technology can make revolution in this direction. There will be use of satellites, IoT, drones for better collection of data regarding soil health, crop area and yield which will make cost for insurers less with better estimations and the system will be more exact and effective.

Actor	Work	Before applying DG	After applying DG
Farmers	Time consumed in farming, buying fertilizers, equipments for crops,	Work about 40hr a week. Inconvenience during harvest season to sell crops. Delay in the process.	Very convenient to sell crops and buy fertilizers and equipments Timely completion of process
Buyers/Distributors	Buying of product/crops	Middlemen No transparency in price	No middlemen Transparent process
Seller	Sell agriculture Equipments	Less customers	More customers
Entire process		Less efficient system Difficult Delay in work	More efficient Seamless and transparent process from start to end



Approach:



4. CONCLUSION

Digitalization will change every part of the agrifood chain. Management of resources throughout the system can become highly optimized, individualized, intelligent and anticipatory. It will function in real time in a hyper-connected way, driven by data. Value chains will become traceable and coordinated at the most detailed level whilst different fields, crops and animals can be accurately managed with their own optimal prescriptions. Digital agriculture will create systems that are highly productive, anticipatory and adaptable to changes such as those caused by climate change. This, in turn, could lead to greater food security, profitability and sustainability.

There will need to be work to address this disparity and to facilitate smartphone ownership and use in areas where it is currently lacking. Vast data collection will drive the use of machine learning and AI and new models will need to be developed to make the data useful. So far, the information gathered is often insufficient to inform the comprehensive solutions and partnerships needed to transform smallholder farming into viable, sustainable digital businesses.

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