



Use of Digitization in Agriculture Sector

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ABSTRACT

The Indian Agriculture sector provides employment to about 65% of labour force, accounts for 27% for GDP, contributes 21% for total exports and raw materials to serve industries. Researcher show that 68% of the entire population of Indian is covered by the rural area 58% people depends on agriculture as the main source of livelihood. the fast growing population demands 50% of the increase the production of the food to feed all . at the same time, the traditional in efficient practice, water scarcity for the irrigation, less productive lands, double cropping, lack of crop rotation, and lack of time for soil recreation are putting a pressure on fertility and yields followed by the exploitation of the middle man preventing the farmers from getting the best price of their product. Under such circumstance the concept of the digitalization of agriculture sector becomes more vital. There is necessity of empowering the rural community by creating digital infrastructure, providing the various digital services, and promoting the digital literacy. Digitalization in agriculture can be defined as ICT and data eco system to support the development and delivery of timely, targeted information and services make forming profitable and sustainable. The district vision of our Prime Minister assures regarding several initiatives take to provide “Protective shield” the farmer to increase the production, improve the storage and connectivity with the consumer for better supply and profit.

KEYWORD: *Digital infrastructure, rural empowerment, agriculture, ICT, Smart analysis, data ecosystem, protective shield.*

Objective:

- To identify the problems existing in the agriculture economy in India.
- To analyze the impact on digitalization on agriculture.
- To study the digital initiatives by the government to address former problems
- To study the future impact on digitalization of agriculture.

Methodology:

The methodology used for the research paper is based on secondary information collected from journal books research paper and websites.

INTRODUCTION

“No Race can prosper till it learns there is as much dignity in tilling a field as in a writing a poem”- Broker T. Washington. Agriculture service as the backbone or one of the important pillars of Indian economy. It not only feed the entire population but also provides the employment opportunities to million people of India. It is also one major ways to earn foreign currency. According to S Mahendra Devi (2011) India introduce many structural reforms and stabilization policies in 1991 which mostly focused on industry, tax reforms, foreign trade and investment, banking and capital market. This economic reform does not include any specific package for the agriculture of the country. It seems as on the major lacunae in the reforms and policies. This part need to analyzed in the order to meet the upcoming challenges as well as expectations and requirement of the nations. India exported \$39 billion agriculture product in 2013.making it the 7th largest agriculture exporter worldwide and the 6th largest net exporter. Indian

agriculture proceeds foods are exported to the more than 100 countries. Primarily in the Middle East Southeast Asia SAARC country and EU as the United States.

Digitalization Agriculture contributes to the Indian economy in several ways:

- **Largest employment providing sector** -1.21 billion populations of the entire nations depends on agricultural output for the fulfilment of their food requirements. India produces a lot of food grains such as millets, cereals, pulses, etc.
- **Feeds the expanding populations**- a major portion of the foodstuffs produces is consumed within the country. Agriculture continue to play a dominate part of the overall economic scenario of the India.
- **Major role in GDP**- Indian agriculture contributes to the country's GDP. To Jan 2014 4210.9 Jul-2014 3584.82, Jan 2015 36230.99, Jul-2015 5223.29, Jan 2016 5110.02, Jul 2016 3788.47, Jan 2017 5418.51 GDP Increase to it.
- **Contributes in national economy**- India exports the agricultural products, such as a tea, Tobacco, Coffee, Spices and Sugar. It helps in increasing the foreign exchange. India is a ranked 7th in terms of agriculture export. The contribution of agriculture to the nation's foreign exchange reserve is also quite significant.
- **Provide the raw material to industries**- A number of industries agro based industries such as a cotton, sugar, tobacco etc. raw material for such industries are supplied from agriculture produce. Industries are regularly fed by agriculture producers.
- **Important in national trade** – There are three agriculture based on exports of Indian- Cotton textiles, Jute and Tea Account for more than 50% export earning of the country.

Identify the problem in the agriculture sector.

Agriculture, in spite of having a great significance to the Indian economy, the share of agriculture and its allied activity in India GDP is continuously declining over the year. 2009-10 it was 14.06% which declining to 13.09% in 2013-14. Indian agriculture is high risk activity. The risk is again can be seen several ways. Agricultural risk emphasizes the entire problem associated with farming which demands to identify to find the proper solution.

Some of the identify problems are follows:

Agriculture risk can be broadly divided in to 4 major areas.

1. Production Risk- It mainly emphasizes on the various problems associated with the area of producing the food materials.

- Whether or Climatic Condition. – The complete depends on rain creates the problem. Moreover, unavailability of the proper information regarding a natural disasters makes the situations worst.
- Lack of infrastructure in agriculture in traditional techniques used in agriculture fail to maximize production. Lack of storage system, newly developed machinery knowledge regarding their usage.
- Lack of farm labor- Industrial sectors that provides more employment or mostly prepared by the people lose interest utilizing their time and labor in tilling the land which does not have a promising wage.
- Irrigation problem- The problem here is proper management of water or lack of it.
- Lack of financial stability- Lack of required investment in farming fail to give the farmer expected results.
- Illiteracy – Lack of awareness in the current technological advances, the proper quality to use the fertilizers and pesticides sometimes results negatively in destroying entire cultivation.
- Seed problem – Farmers depends upon the seeds available in the market which claim high yields which sometimes prove to be falsity.

2. Post Harvest Risk- It emphasizes upon the problem that the farmers faced after harvesting food grain.

- Lack of cold Storage system – Improper storage channel leads to poor agriculture export and wastage of the product comes around the thousand and crore of rupee where millions spend their life empty stomach with hunger strived life.

3. Market risk- This is area focus the difficulties that the farmer encounter wild selling their product in the market.

- Lack of proper marketing channel – The farmer fail to rich there consumers directly as the major profit is eaten by the middle men due to lack of infrastructure which makes farmer suffer in the hands of the middle men. And unable to get the reserve price for the hard toil. Small and marginal farmers suffer due to small tradable quantities and

socio economic condition, which force them to deal with the multiple layers of middle men.

- Lack of transportation- Indian has very poor rural role affecting the timely supply of inputs and timely transfer of out puts form the Indian farms.
- 4. Ecological Risk- It is associated with the lack of availability of the resources which is needed and utilize in forming.**
- Lack of fertile Land – Soil erosion and small land holding are the problem areas which restrict the farmer using the modern techniques.
- Limited land access – Farmers have fewer acres of land cultivation and reputation of multi cropping along with use of fertilizer and pesticides make soil less fertile.

Government initiatives for digitalization of Agriculture sector.

Government initiatives are the rescue point for the farmers for there upliftment and strengthen is the back bone of Indian Economy through development of agriculture sector. The vision of Prime Minister Narendra Modi Clearly define that the changes and development of India somehow lies in the development of agriculture sector. With the underline vision of doubling the income of farmers by 2022 the 75 independence of the country Modi said “Form this land of Uttar Pradesh, I urge all the states give priority to agriculture and then see the things”. He intends to focus on the overall development of the rural economy by setting brodal goals. According to Ran Maidan, Drip Irrigation has help farmers minimize the time they spend on fields which turn they invest in their personal developments, learning new skills participation in village activity and those forums, and take care of their family in better way. The government has expended it is digital Indian program, launching a new initiatives and boarding the scope to touch the agriculture sector too. Dr. P. K Joshi (2014) emphasized that both the central and state government need to take appropriate initiatives to increase the investment in agriculture research and to create favorable business environment through enabling policies towards high-value agriculture.

- 1. Virtual agricultural market-** The government wants to make a common electronic platform which will allow farmer to sell their produce buyers, anywhere in the country.
- 2. Rashtriya Krishi Vikas Yojana** it is intended to encourage the states to allocate more funds and

agriculture and allied sector to incentivize the states to generate additional growth agriculture and allied sector by planning under taking appropriate growth oriented project.

- 3. Crop insurance scheme –** The government has approved the Pradhan mantra Fasal Bima Yojana. In this scheme, a premium of 2% of the sum insured will be charged form farmer for all kharif crops 1.5% for all Rabi crops.
- 4. Prime Minister Krishi Sinchai Yojana-** The government also had plans to expend irrigation in order to reduce dependency on the monsoon, The governments had approved a sum of rupees 50,000 cores the spend on the setting of irrigations projecting rural area .The major objective of Pradhan Mantra Krishi Sincchai Yojana achieve the convergence of investment in irrigation at the field level.
- 5. Use of modern technology and equipment –** The use of modern eccupment and improvised machines would show the better results in production and storage.
- 6. Increase the soil fertility-** The regular information through mobile phone regarding the type of techniques’ needed to maintain the fertility of the soil and increase the production proved the beneficial.
- 7. Mobile apps and internet facility to farmers-** The mobile phone is the preferred delivery medium under digital India with focus on m Governments and m Services. The greatest needs to deliver the targeted and timely information farmer based on their needs. The empowerment that comes to providing to farmers with informs options is transformational. Mobile devices and the internet facility keep the farmers updated with all the relevant information related to farming.
- 8. Other initiatives –**
 - A. The government has put in operation 3 portals farmer portal, kisan cell center, and mkisan portal to help the farmers take informed decision for efficiency faming under varying agro-climatic condition.
 - B. National Bank agriculture and rural development has also designed agriculture portal for farmers.

Involvement of the entrepreneurs in the revaluation of digitalizing Agriculture.

In the current drown of digitalization, the Indian government has vision to keep the sun shining under the digital Indian Imitative, the government indene to

provide digital infrastructure to empower the citizens by using it has a tool. Remarkable contribution can also visualized within the entrepreneurs who have come forward and started to implore opportunity in the agriculture sector.

The future of Indian agriculture

Reihem Roy, VP-Omnivore a partner seems to be extremely hopeful regarding the future of Agri-Tech in India has he said “The world is an Oyster in terms of opportunity. Either you can moan and groan or choose to take it up and built solution.

Conclusion-

Therefore, It can be concluded that in the upcoming years Indian farmers would be feel the compulsion of improving the food and nutritional security along with the keeping in the mind all other aspects discussed earlier. “The digital India” Is all set to trasper the interface of the country socio economic dynamics. The synario opens the skop for new innovations and opportunities as the country is no doubt going to witness a change leading to transformation in the next 10/ 20 years. And they have seen in the last 60 year.

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