



REVIEW OF RESEARCH

ISSN: 2249-894X

IMPACT FACTOR : 5.7631 (UIF)

VOLUME - 10 | ISSUE - 11 | AUGUST - 2021



A STUDY OF INCREASING USE OF NEW EQUIPMENTS IN AGRICULTURE SECTOR

Murlikar K. P.¹ and Prof. Dr. Legare K. B. ²

¹Research student, Dept. of Commerce, S. C. S. College Omerga.

² M.Phil, Ph.D. Professor, Shri Chhatrapati Shivaji College, Omerga, Tq. Omerga Dist. Osmanabad, Maharashtra.

ABSTRACT

This study is focus on the Increasing use of equipments in agriculture sector. Agriculture needs effective utilization of technology to accelerate production and employability of individuals. The main purpose of this research paper is to understand, how to make effective use of technologies in the agricultural sector. These technologies, when utilized in an appropriate manner, would prove to be beneficial in improving productivity and profitability. Usage of technology would enhance in sustaining livelihood opportunities for the farmers.



KEYWORDS : Technology, Agriculture, Crop, Increase, production.

INTRODUCTION

Agriculture is regarded as a primary occupation of the individuals in rural areas. To feed the increasing population, it is essential to introduce modern and innovative techniques in the agricultural sector. New technologies are required to encourage the yield frontiers to an advanced stage, make use of the inputs resourcefully and diversify to a more sustainable and higher value cropping patterns. These are all knowledge intensive technologies that require both a strong research and extension system and skilled farmers. In addition, it also requires a strengthened interface, where emphasis is put on communal exchange of information, bringing advantages to all. Making use of resources in an effective manner is stated as the driving force behind the use of agricultural technologies. Several resource conservation technologies are, green manure, crop rotations etc. In order to increase productivity, it is essential to make use of technologies and what is required is the extension of these developed systems. Agriculture extension that has been combined with infrastructure is regarded as the key aspect towards agricultural growth. Involvement of the private sector would help in the absorption of technologies in this sector in a rapid way. Demand of the farmers has led to an increase in the adoption of technologies. Farmers have always looked to new technologies as a way to decrease the costs.

TYPES OF TECHNOLOGIES:

Technologies are often classified into three types; these are software, hardware and org-ware. In understanding usage of technology in the agricultural sector, it is important to understand the

differences between technology types and their synergies and complementarities. Hardware refers to physical tools, software refers to the processes, skills, knowledge and information required in making use of technologies and org-ware means organizational technologies, it refers to the ownership and institutional arrangements pertaining to technologies.

OBJECTIVES:

1. To identify the role of new technology in the agriculture sector.
2. To emphasize the importance of mechanization in agriculture sector.
3. To provide basic knowledge of use to new technology in the agriculture sector.

RESEARCH METHODOLOGY:

All the data use for the study has been collected from secondary data sources. This study is depending on secondary data. For the purpose of the secondary data has been collected by the sources, such as Books, journals, Reports, Magazines, News paper, Thesis, Dissertation and government and Non government publication related to the topic of the study. In relation to secondary data collection the e-media also helped, like; internet, web sites, email etc, these are facilitate to finding the secondary data.

REVIEW OF LITERATURE:

Anil Dongre and Rahul Wagh (2016), these include growth in household income and consumption, expansion in the food processing sector and increase in agricultural exports. Rising private participation in Indian agriculture, growing organic farming and use of information technology are some of the key trends in the agriculture industry. **M S V. Prasad, G. Chaitanya Eswara Naidu and B. Sandyasri (2019)**, found in their study that, Commodity market has shown tremendous development in the last decade and also has a long history in our country. The futures contracts available on a wide spectrum of commodities like gold, silver, steel, etc; provide excellent opportunities for hedging the risks of the investors, importers, exporters, traders and large-scale consumer. **P. Karthikesan (2017)**, the present study concludes that, the necessary reforms coupled with paper price discovery mechanism through regulated market system will help streamline and strengthen agricultural marketing. Marketing of agriculture can be made effective if it is looked from the collective and integrative efforts the various quarters by addressing to farmers, middleman, researchers and administrators.

Technologies used in the Agricultural Sector:

The main purpose of making use of technologies in the agricultural sector is to lead to an increase in production, so that sufficient food is available to the individuals. Various technologies have been stated as follows:

- **Biotechnology:**

Use of biotechnological tools in agriculture could make food crops high yielding and more vigorous to biotic and a biotic problems. This could soothe and increase food supplies, which is important against the background of increasing food requirements, climate change and land and water scarcity. Biotechnology cotton has positively increased the profitability of the farmers and simultaneously reduced the use of chemical pesticides in this crop significantly.

- **Nanotechnology:**

Nanotechnology can be used in agriculture in numerous ways. It can help in promoting soil fertility and balanced crop nutrition, effective weed control, enhancing seed emergence using carbon Nano tubes, delivery of agriculture chemicals, field sensing systems to scrutinize the environmental stresses and crop conditions and improvement of plant traits against environmental pressures and diseases. Nanotechnology makes available significant opportunities for the development of innovative

products and applications for agriculture, water treatment, food production, processing, preservation and packaging.

- **Protected Cultivation:**

Protected cultivation or greenhouse cultivation is the area where production of horticultural crops has improved qualitatively and quantitatively. In India, the area under protected cultivation is presently 25,000 hectares. While the green house vegetable cultivation area is about 2000 hectares. Having restraints of land holdings, rapid urbanization, decreasing crop production, decreasing biodiversity and ever-increasing population, demand for food, specifically vegetables has increased multiple and protected cultivation. These factors have offered a new dimension to produce more in a limited area. Poly-houses can also be utilized for rain water harvesting.

Value Chain and Equipment use:

The agriculture sector value chain includes all the steps involved from preparation of soil to harvesting and post-harvest processing. For every step in the production lifecycle, use of equipment enhances the efficiency of the unit involved. Farm mechanization not just reduces labour time and post-harvest loss but also helps to cut down production cost in the long term.

The agriculture sector in India has witnessed a considerable decline in the use of animal and human power in agriculture related activities. The trend has paved a way for a range of agricultural tools. A large number of these are driven by fossil fuel operated vehicles such as tractors, diesel engines. This has resulted in a shift from the traditional agriculture process to a more mechanized process. Though the level of mechanization in India is lower as compared to other developed countries, it is certainly on growing. The role of tractors in the Indian agriculture sector reflects the growing trend of tractor-inaction in the country. Custom hiring of farm equipment is a prevalent practice in India, especially among small land owners who find ownership of large farm machines expensive and uneconomical.

Benefits of farm mechanization:

Farm mechanization has been known to provide a number of economic and social benefits to farmers. Primary among the economic benefits is the improved yield that comes as a result of greater level of mechanization. Looming water scarcity crisis along with the need to ensure food security in the country, the benefits of farm mechanization makes it a crucial component of shaping the future of Indian agriculture.

Input savings:

Studies have shown a direct relationship between farm mechanization (farm power availability) and farm yield. Farm mechanization is said to provide a number of input savings:

- Seeds (approximately 15-20 percent).
- Fertilizers (approximately 15-20 percent).
- Increased cropping intensity (approximately 5-20 percent).

Increase in efficiency:

Aside from the above stated inputs, farm machinery also helps in increasing the efficiency of farm labour and reducing drudgery and workloads. It is estimated that farm mechanization can help reduce time by approximately 15-20 percent. Additionally, it helps in improving the harvest and reducing the post-harvest losses and improving the quality of cultivation. These benefits and the savings in inputs help in the reduction of production costs and allow farmers to earn more income.

CONCLUSION:

The significance of usage of technology in the agricultural sector has been recognized with the main purpose of meeting the food requirements of the individuals. India has made progress in

agriculture, but productivity of the major agricultural and horticultural crops is low in comparison to other countries. There are still deficits in the usage of technology. Yields per hectare of food grains, fruits and vegetables within the country are far the below global averages. Even India's most productive states are behind the global average. Similarly, the productivity of pulses and oilseeds can be increased, through giving consideration to the seeds, soil health, pest management, crop life-saving irrigation methods and post-harvest technology. There are numerous technologies and individuals employed in the agricultural sector and farming practices need to possess knowledge and information, how to make best use of them.

REFERENCES

1. Anil Dongre and Rahul Wagh, (2016), 'Agricultural sector; Status, challenges and it role in Indian economy', Article- Vol: 7-2, JCMT.
2. Brian Sims, (2016), 'Agriculture Mechanization-Integrated Crop Management', F. A. O. ISBN: 978-92-5-109381-8.
3. Farmer Handbook on Basic Agriculture, (2016), Pub. By Desai Fruits & Vegetables Pvt. Ltd. Gujrat, India.
4. Karthikesan P., (Sup 2017), Agricultural Marketing in India-An Overview, Asia Specific Journal of Research. Pp. 08-10.
5. Radhika Kapur, (2018), Usage of Technology in the Agriculture sector, ISSN: 2581365 x, New Delhi, India.
6. Prasad M. S. V. and G. Chaitanya Eswara Naidu, (Feb 2019), Assessing Investors Knowledge About Commodity Trading in India. Pp- 03-04.
7. www.ibef.org.in
8. www.agricoop.nic.in
9. www.fao.org



Prof. Dr. Legare K. B.
M.Phil, Ph.D. Professor, Shri Chhatrapati Shivaji College, Omerga,
Tq. Omerga Dist. Osmanabad, Maharashtra.