International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Spatial Distribution of Density of Tractors in Rajasthan: 1970 - 71 to 2018 - 19

Dr. Shivjeet Kaur[1], Alka Rani[2]

[1]Assistant Professor, Punjabi University, Patiala, India

[2]Research Scholar at Punjabi University, Patiala, India

Abstract: ***Due to the country's strict inheritance rules and increased population density, over two - thirds of Indians live in rural regions, this contributes to the country's agriculture being characterised by excessively tiny holdings. The estimated 142 m ha area is rain fed to a degree of over 62 per cent. Both living (people and draught animals) and inanimate (diesel engines, tractors, and electric motors) sources are significant sources of farm power. In the middle of the 1960s, India launched its carefully choreographed Green Revolution. It was brought about by the prompt government involvement as well as the adoption of larger and balanced amounts of biological, chemical, and mechanical inputs.***

Keywords: Agriculture, Green Revolution, Holdings, Region, Farm Power

1. Introduction

Machines are useful in agriculture because they can do tasks that would take many humans a long time to complete in a shorter amount of time, according to a research on agricultural mechanisation by Ghosal et al. published in 2021. This may lower labour expenses and boost productivity. Tractors can be used to sow seeds, plough fields, and harvest crops, for instance. Compared to doing it by hand, this can be completed lot more quickly. Furthermore, machinery may be programmed to administer the right quantity of pesticides and fertiliser, increasing agricultural yields. According to Senthil et al. in 2017, machines are employed in agriculture to assist with a number of chores including plough, plant, and harvest crops. Tractors are among the equipment that are used in agriculture the most frequently, according to a 2010 analysis by Dhakane et al. Ploughs, cultivators, and seed drills are just a few of the tools they can pull. The time and labour needed to prepare fields for planting may be lessened as a result. Tractors may also be used to pull combine harvesters to harvest crops like maize and wheat. This may assist to lower labour expenses and boost productivity. In general, machines assist to enhance agricultural output by making it quicker, more cost - effective, and more efficient.

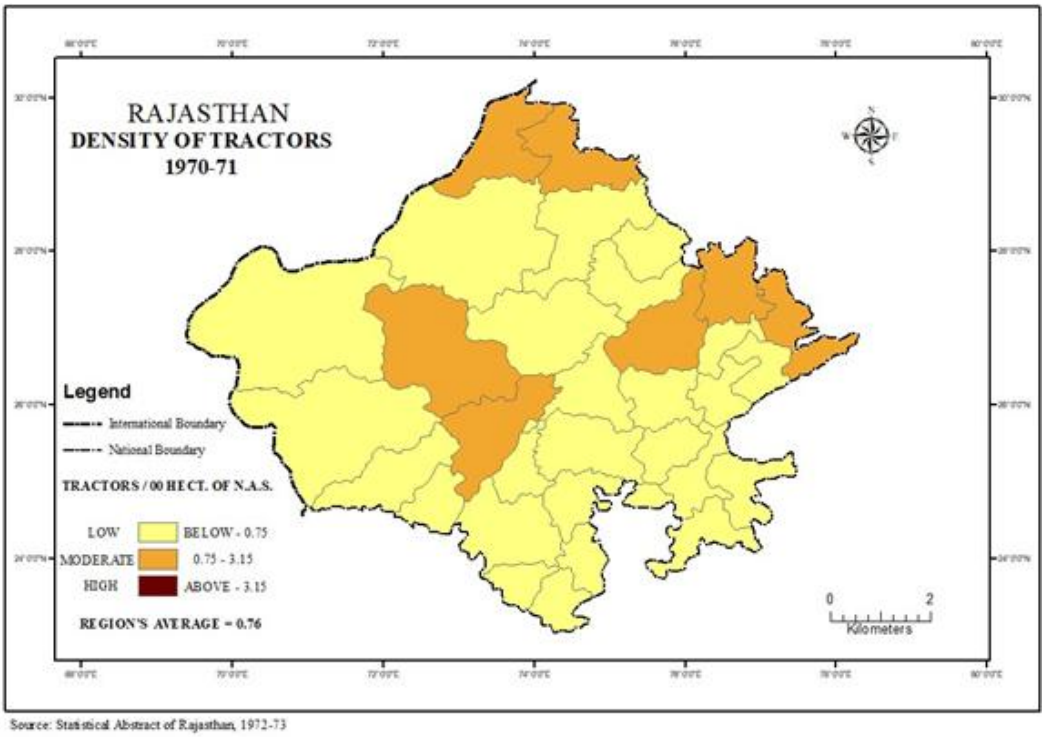
In desert areas like Rajasthan, machines can be used to help with the production of crops in a number of ways. For example, drip irrigation systems can be used to deliver water and nutrients directly to the roots of plants. This can help to conserve water and reduce the amount of water needed for irrigation. Additionally, in 2016 Ramya and Murunganandham observed that machines can be used to plow fields, plant seeds, and harvest crops. This can be done much faster than if it were done by hand. Furthermore, machines can be programmed to apply the correct amount of fertilizer and pesticides, which can help to improve crop yields. Overall, machines are helping to improve agricultural production in desert areas by making it faster, more efficient, and more cost - effective. Machines are helping agricultural production in many ways. They can help to reduce labor costs, increase efficiency, and improve crop yields. According to a study conducted by the Food and Agriculture Organization (FAO) of the United Nations, the use of machines in agriculture can increase crop yields by up to 300%. This is because machines can help to plant seeds at the correct depth and spacing, apply the correct amount of fertilizer and pesticides, and harvest crops at the optimal time. Machines can also help to reduce labor costs by doing the work of many people in a shorter amount of time. For example, tractors can be used to plow fields, plant seeds, and harvest crops. This can be done much faster than if it were done by hand. Additionally, machines can be programmed to apply the correct amount of fertilizer and pesticides, which can help to reduce waste and improve crop yields.

Furthermore, machines can help to increase efficiency in agriculture by reducing the amount of time and resources required to produce crops. For example, drip irrigation systems can be used to deliver water and nutrients directly to the roots of plants. This can help to conserve water and reduce the amount of water needed for irrigation. Additionally, machines can be used to plow fields, plant seeds, and harvest crops. This can be done much faster than if it were done by hand.

2. Methodology

The present study is based on the secondary data. The data is collected from the various issues of Statistical Abstract of Rajasthan and Agricultural Statistic at a Glance. For comparing the spatial distribution of density of tractors maps are also prepared.

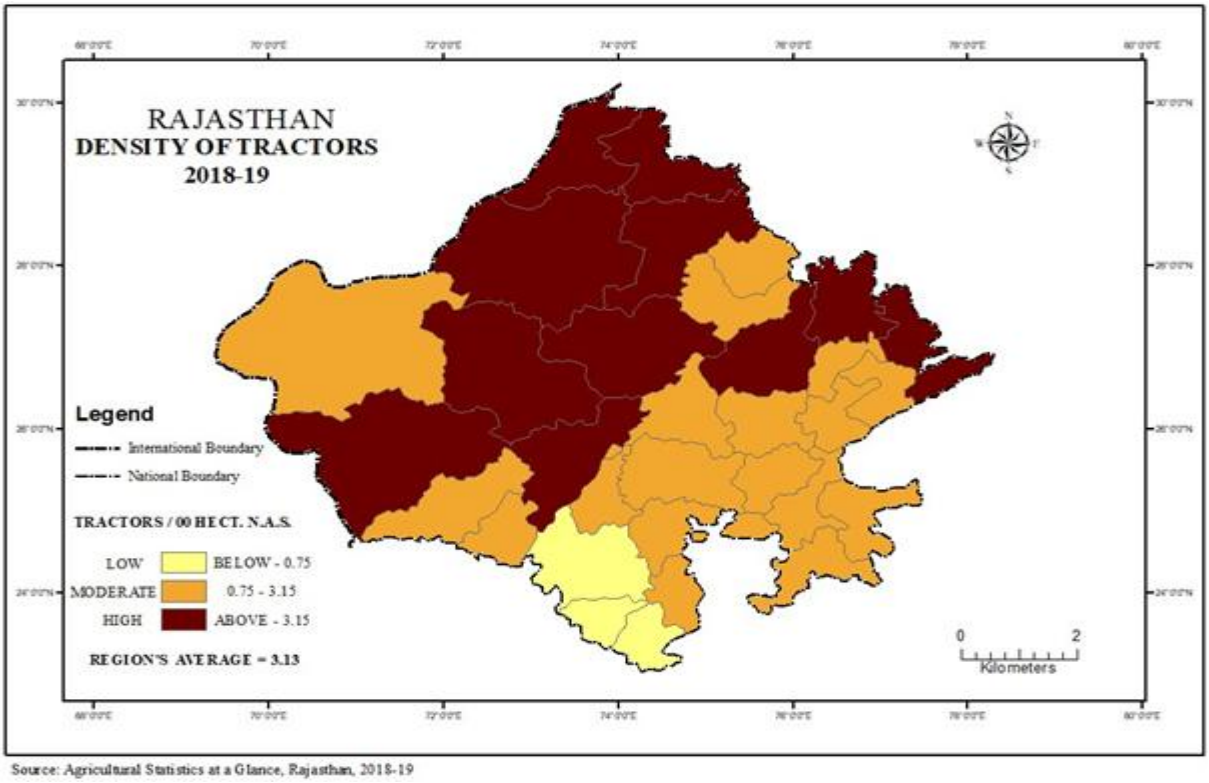
3. Discussion



Source: Statistical Abstract of Rajasthan, 1972-73

Map 1

Overall, machines are helping to improve agricultural production by making it faster, more efficient, and more cost - effective. They can help to increase crop yields, reduce labor costs, and conserve resources. In the districts excepts Ganganagar, Hanumangarh, Jodhpur, pali, Jaipur, Alwar, Bharatpur, and Dhaulpur, the density of tractors was very low in 1970 - 71 due to a lack of infrastructure and resources. These areas are located in the arid and semi - arid regions of Rajasthan, where water is scarce and the soil is often infertile. As a result, agriculture in these areas is very challenging, and farmers often face significant obstacles in trying to grow crops. Additionally, the lack of infrastructure and resources in these areas made it difficult for farmers to access the tools and equipment they needed to improve agricultural production. For example, tractors were not widely available in these areas in the 1970s, and farmers often had to rely on traditional methods of farming, such as using oxen to plow fields.



Source: Agricultural Statistics at a Glance, Rajasthan, 2018-19

Map 2

However, in recent years, the government of Rajasthan has made significant investments in infrastructure and resources to help farmers in these areas improve agricultural production. For example, the government has provided subsidies to farmers to purchase tractors and other modern farming equipment. Additionally, the government has invested in irrigation systems and other infrastructure to help farmers access the water and other resources they need to grow crops. As a result, the density of tractors and other modern farming equipment has increased significantly in these areas in recent years, and farmers are now able to grow crops more efficiently and cost - density of tractors in Udaipur, Dungarpur, and Banswara. However, the density of tractors in these areas may be related to factors such as the availability of resources and infrastructure, as well as the types of crops that are grown in the region. For example, if the terrain in these areas is hilly or rocky, it may be more difficult to use tractors for farming.

In general, the density of tractors and other modern farming equipment is an important indicator of the level of agricultural development in a region. According to a study by the International Food Policy Research Institute (IFPRI), the use of modern farming equipment such as tractors, harvesters, and irrigation systems can significantly improve agricultural productivity and reduce poverty in rural areas. However, the study also notes that the benefits of modern farming equipment are often concentrated among larger, wealthier farmers, which can exacerbate inequality in rural areas. Therefore, it is important for policymakers to ensure that smallholder farmers have access to the resources and infrastructure they need to improve agricultural productivity. This can include providing subsidies for the purchase of modern farming equipment, investing in irrigation systems and other infrastructure, and providing training and extension services to help farmers learn how to use modern farming equipment effectively. By doing so, policymakers can help to promote inclusive and sustainable agricultural development in rural areas.

4. Conclusion

The density of tractors in Udaipur, Dungarpur, and Banswara was low may be related to factors such as the availability of resources and infrastructure, as well as the types of crops that are grown in the region. For example, if the terrain in these areas is hilly or rocky, it may be more difficult to use tractors for farming. Additionally, if the soil is not fertile or if there is a lack of water, farmers may not be able to grow crops that require the use of tractors. In general, the density of tractors and other modern farming equipment is an important indicator of the level of agricultural development in a region. According to a study by the International Food Policy Research Institute (IFPRI), the use of modern farming equipment such as tractors, harvesters, and irrigation systems can significantly improve agricultural productivity and reduce poverty in rural areas. However, the study also notes that the benefits of modern farming equipment are often concentrated among larger, wealthier farmers, which can exacerbate inequality in rural areas. Therefore, it is important for policymakers to ensure that smallholder farmers have access to the resources and infrastructure they need to improve agricultural productivity. This can include providing subsidies for the purchase of modern farming equipment, investing in irrigation systems and other infrastructure, and providing training and extension services to help farmers learn how to use modern farming equipment effectively. By doing so, policymakers can help to promote inclusive and sustainable agricultural development in rural areas.

References

[1] Agricultural Statistics At A Glance. (2018 - 19). *Commissionerate of Rajasthan, Jaipur.*
[2] Dhakane. et. al. (2010). "The Field Perormance Evaluation of Tractors Operated Combination Tillage Implement, " *International Journal of Agricultural Engineering.* Vol.3. No.1. pp.138 - 141.
[3] Economic and Statistical Abstract of Rajasthan (1970 - 71), *Directorate of Economic &Statistics, Department of Planning Rajasthan, Jaipur.*
[4] Ghosal. et. al. (2021). "Farm Mechanization: It's Status in the State of Odisha, India", *International Journal of Chemical Studiees.* SP. - 9 (2). pp.87 - 92.
[5] Ramya and Muruganandham. (2016). "Impact of Agricultural Mechanization on Production, Productivity, and Employent of Labour", *ShanlexInternationaal Journal of Commerce.* Vol.4. Issue.3. pp.216 - 222.
[6] Senthilkumar. et. al. (2017). "Trends of Tractorization in Indian Agriculture", *Agricultural Mechanization in Asia, Africa, and Latin America.* Vol.48, No.2. pp.50 - 59.