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Enhancing Resilience of Dryland Agriculture Under Changing Climate

Interdisciplinary and Convergence
Approaches

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Agricultural Mechanization for Efficient Utilization of Input Resources to Improve Crop Production in Arid Region

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Abstract

Around 12% of India's geographical land is classified under arid soil where traditional rainfed farming predominates in most parts of these arid soils. It is very important to find or develop suitable techniques for agricultural mechanization in this area. In some areas of the country like Punjab and Haryana, mechanization has been increasingly fine-tuned and widely advocated by several farmers, thus enhancing the way of agricultural production with much ease and better efficiency. Agricultural mechanization plays an important role in increasing cropping intensity, precise sowing, and various crop input (seeds, chemicals, fertilizers, irrigation, water, etc.) utilization within a given time, to reduce the arduous labour of humans and animals along with permanent climate problems. Some suitable agricultural tools and techniques have been developed for the crops of this region to reduce the losses in crop production system which is very important to increase the overall productivity and production. This chapter focusses on the mechanized practices used in various farming activities from tillage to threshing and processing through efficient use of input resources for the arid region of Rajasthan. In today's era, robotics in agricultural work, Internet of Things in agricultural equipment, precision farming machinery, conservation techniques, renewable energy use in farm machines, and custom hiring centre should be given attention, so that the increase in demand for food can be met in the future and farmers can get more profit in crop production even in dry areas.

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