Revolutionizing agriculture: role of agricultural mechanization and global trends in farming technology

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Agricultural mechanization plays a pivotal role in transforming the farming sector across the globe. The number of patents granted in the field of agricultural mechanization hold significance as they encourage innovation, protect intellectual property and drive technological advancements. The present study examined patents data collected from XLPAT database, wherein 500,000 records out of which 479,010 patent grants/applications were considered. Trajectory of patents during COVID pandemic showed there was an apparent downturn in both the quantity of patent applications submitted and the number of patents officially granted. Developed countries have exhibited varying trends in agricultural mechanization and patent activities. China, the United States and India stand as examples. China has rapidly adopted mechanization in its agriculture, contributing to higher yields and efficiency. The United States has a long history of mechanized farming, and its advancements in this field have greatly impacted global agriculture. The standardization of reaping and threshing offer better agricultural equipments by agricultural startups. Expansion of patents in farm mechanization has led to increased productivity, resource efficiency, equity for small and marginal holders, affordability, eco-consciousness and food security.

Keywords: Farm mechanization, IPC technologies, patents, prominent assignor, XLPAT data.