



## TECHNOLOGICAL IMPROVEMENTS IN SMALL-SCALE AGRICULTURAL MACHINERY

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### DESCRIPTION

Smallholder farmers offer the muse for meals safety in South Asia. However, growing seasonal hard work shortage resulting from rural out-migration has ended in developing agricultural hard work prices, supplying demanding situations to cash-limited smallholder farmers that lease guide hard work for land preparation, sowing, harvest and post-harvest operations. Technological improvements in small-scale agricultural equipment suitable for the small subject sizes and constrained aid endowments of South Asia's farmers were proposed as an ability method to this problem. An growing quantity of improvement tasks additionally sell rural entrepreneurial procedures to mechanization, wherein smallholder farmers can get entry to and use equipment of their very own fields on an less expensive fee-for-provider foundation provided with the aid of using equipment owners.

This technique reduces capital constraints for smallholder farmers even as allowing marketers who can manage to pay for device to go into into enterprise serving stallholder farmers as clients. This technique is now broadly practiced in Bangladesh, wherein equipment marketers play an essential function in presenting get entry to efficient technology for smallholder farmers who couldn't in any other case manage to pay for direct buy of hard work- and cost-saving equipment. In order to preserve low equipment buy prices for rising but capital limited rural marketers, even

as additionally assuring excessive great requirements, cost-powerful home manufacturing of agricultural equipment is more and more more championed as an critical long-time period country wide improvement objective. With no protection requirements or suggestions for high-satisfactory manufacturing practices, the few production workshops that exist inside Bangladesh function inefficiently and without clean clarification of producing processes.

Small-scale, two-wheel 'hand tractors' and related 8–sixteen horsepower engines had been well-known Bangladesh for the reason that mid-1990s, and are reachable to smallholders *via* provider provision. The maximum not unusual place use of agricultural equipment – maximum of that's imported from China – has been for powering irrigation pumps or number one land education the use of strength tillers that may be connected to two-wheel tractors. Work performed *via* way of means of the Bangladesh Agricultural Research Institute (BARI), the International Maize and Wheat Improvement Center (CIMMYT), and Cornell University for the reason that mid-2000s has conversely centered on growing scale-suitable agricultural equipment that improves the precision and pace of crop status quo, further to land education, and that may be connected to two-wheel tractors (2WTs). Because of those efforts, a collection of 2WT attachable land-education and crop status quo implements had been engineered, together with zero-tillage seed drills, strength tiller operated seeders and planters.

### CONCLUSION

The steps consist of iterative interactions with the producer to apprehend the issue strategies utilized in production and assembling the mattress planter product, accompanied with the aid of using the willpower of progressed fabrication and meeting operations required to make the additives and bring

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Received on: September 02, 2021

Accepted after revision: September 16, 2021

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together them, and then opportunity workshop format alternatives have been advanced with the participation of JE staff. These designs have been primarily based totally upon issues of significance to workshop workers, such as places of enterprise operations, fabrication, meeting and testing, stock garage, area for taking breaks, and garage for the employees' assets for the duration of hours. Four opportunity format designs for the fabrication and

meeting place have been generated, which have been finally analyzed the use of tour charts and thru recognition organization assessment with JE staff. This system is beneficial for the layout and optimization of small-scale agricultural equipment workshops in Bangladesh and may be implemented to enhance agricultural equipment production in comparable growing United States of America contexts.