

**EFFICIENT AND SAFE DESIGN OF FARM EQUIPMENT USING
ANTHROPOMETRIC AND STRENGTH DATA OF
AGRICULTURAL WORKERS**

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ABSTRACT : Anthropometric data (79 parameters) and strength data (16 parameters) of total 1026 Agricultural workers have been taken from Konkan region of Maharashtra under ICAR Ad-hoc project. Based on this data, necessary design modifications in case of four tools/equipments viz. vaibhav sickle, conoweeder, paddy seeder and paddy thresher have been suggested. **Vaibhav sickle (DrBSKKV) :** It is suggested to decrease the handle diameter up to 2.7 cm; **Paddy seeder (TNAU) :** 5 % of total female population of this region can not operate the four row paddy seeder in the puddled field. However, about 50 percent female working population can operate four raw paddy seeder in the puddled field; **Paddy thresher (ASPEE) :** It is observed while operating the thresher the operator's knee touches the front metal sheet of the thresher. This problem may be overcome by bending the front metallic sheet of the thresher in a curve form, as per the path of knee motion develops while peddling the thresher. Also, the operator has to bend while operating the thresher. This bending problem can be overcome by increasing the height of thresher and **Cono weeder (DrBSKKV) :** Cono weeder is suitable for almost all female workers of this region. 46 cm handle length is not comfortable to the whole population of this region which needs to be increased.

Key Words: Anthropometric data, agricultural worker, farm equipment.