

THE HINDU

A machine for removing small stones from fields

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Indian agriculture is traditionally, to a large extent, rainfed and under dryland cultivation. Farming practices are heavily dependent on physical labour and the rising cost of cultivation and acute labour shortage for farming work make many farmers think of alternative practices for improving their farm productivity in a sustainable manner.

Particularly in hilly regions, the fields are dotted with a number of small pebbles and stones hindering farming activities such as land preparation and intercultural operations.

“In dryland during monsoon season an intense sudden downpour though for a short time leads to top soil runoff resulting in soil erosion and more number of stones getting exposed in the field,” says Dr. P. Alagesan, Programme Coordinator, Myrada (Mysore Resettlement and Development Agency) KVK.

No human labour

While unavailability of human labour for usual farm work like weed removing, harvesting etc itself poses a major problem today little can be said about removing the stones from the fields. Generally it is the women who remove the small stones and pebbles before the start of the cropping season.

While there are several machines for sowing, spraying and harvesting till date, no machinery has been developed for this small but important aspect in farming. It was left to Mr. K. Viswanathan, an innovative farmer from Kullampalayam village of Gobichettipalayam, to develop a tractor operated tipper for removing the stones.

Tractor driven power

“The device requires tractor power to run it. It consists of a conveyor chain driven gearbox, shaft connected to small spade like diggers, and a tipper.

“While operating, the conveyor chain gets rotated at the rate of 12 – 16 rotations per minute. At the same time, the diggers loosen the soils exposing the stones which are pulled into the conveyor chain and collected into a tipper.

“The machine is capable of picking both small and big stones (not boulders) from a depth of 15 – 25 cms in the soil. In a day it can be used to clear five acres,” says the innovator.

Especially in dryland farming, stone removing activity is an essential work before starting the sowing to obtain optimum productivity. Priced at Rs.1.5 lakh, the salient features of the machine are: it removes small stones and pebbles from the field, improves the structure and texture of the soil, increases the water holding capacity of the soil, and makes the soil easy for nursery preparation and other activities. “It can also be modified for harvesting tuber crops,” says Mr.S. Saravanakumar, Agronomy specialist at the institute.

In the recent past, tuber crops were fast becoming popular in the hilly regions because the crop fetches better price when compared to cereals or millet.

Tuber crops

Tapioca, potato, radish, turmeric are the major tuber crops cultivated in over 20,000 hectares in Erode district and it needs a large labour force for harvesting. Manual harvesting leads to lot damage of tubers. This particular innovation will help farmers to harvest the crops without the additional labour involvement. By using this machine a farmer can harvest 2.5 acres in a day.

Development of agricultural sector is driven by innovations at all levels and in keeping pace with it, Myrada KVK for the last three years has been actively involved in identifying and documenting farm innovations like that of K. Viswanathan in a farmer participatory mode.

Documentation

“Though our stress all through the years has been on sustainable and organic system of farming apart from conducting training sessions, exposure visits etc, we realized that identifying innovations and documenting them are also important. Simple inventions by farmers themselves ensure operational convenience and income generation for them,” says Dr. Alagesan.

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