



Mobile groundnut thresher cum collector

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After digging, the harvested groundnut crop is left to dry in the field. Using conventional threshers, a lot of manpower is needed to collect the harvested groundnut crop at one location. Mohanbhai (53) faced scarcity of labour, which resulted in delay in the collection of the dried crop and ultimately loss in yield. To overcome these problems, he developed a tractor mounted PTO powered mobile thresher, which has a separate chamber for collection of groundnut pods and stalk.

Born in a farming family, Mohanbhai could only study till class five. He has his wife and three sons in his family, while one helps him in his work; two others deal in drip irrigation products. Due to water shortage and other issues, his family had to relocate to their present place, from their ancestral place in Sabarkantha. Here he owns about thirty acre of land, where he grows cumin, potato, groundnut, wheat, watermelon, pomegranate, etc. Since childhood

Mohanbhai had ideas of machines and gadgets, which were innovative but could not convert those ideas into prototypes due to financial constraints.

Genesis of the innovation

Once during groundnut harvesting season, Mohanbhai faced labor scarcity, meanwhile rain arrived and spoilt his entire crop resulting in huge losses. For groundnut threshing large manpower is required and time is required. He then decided to develop a thresher, which can thresh and collect the waste simultaneously. He started working on the machine in 2009-10 and developed his first model in a few months' time. While the work on refining the technology was going on, he had to stop it due to his ill health. For the development of his first model, his villagers pooled in money and funded the development of the machine as they strongly believed that this

would be helpful for the entire village. Later NIF also supported further development of the machine.

The mobile groundnut thresher cum collector
The machine is a tractor mounted, PTO powered, mobile thresher, which can thresh groundnut and collect the waste as well.

It has a separate chamber for collection of groundnut pods and stalk for ease of collection. The crop is harvested and dried in the field for a week. Then the dried crop is fed to the inlet. The lifting mechanism guides the harvested crop to the cutter where the crop is threshed. The cutter detaches the groundnut from the stalk, after which they fall over a sieve and are separated. The groundnut is collected at the bottom of

the sieve and is transferred to the groundnut collecting chamber through the conveyor system. The stalk is separated with the help of blower and collected in a separate chamber. It is powered by tractor PTO (size of tractor 35 HP or above) and has a field capacity of 0.5 acre/h (approximately 0.5 ton of crop) consuming 3.5 liters of diesel per hour. Six persons are required for threshing 4 tons of crop in a day using this machine as compared to 20-22 persons for threshing using conventional machines. NIF has filed patent application in his name for the machine (3141/MUM/2012). The initial test results of conducted at CAET, JAU Junagadh have been quite encouraging. The present machine can only do threshing of groundnuts. Presently, Mohanbhai is trying to modify the thresher to enable it thresh other crops as well.

