

## Vermiwash Enhanced Agricultural Production

### A Case Study

Shri Mava Ram Meena (son of Bhera Meena) is a marginalized farmer residing in Karmal Village of Kurabad Gram Panchayat of Udaipur District of Rajasthan. It is since 1 year the farmer who had 3 quintal of production of wheat and maize from 0.12 ha land is harvesting 5 quintal of the grains which has supported his livelihood.



Thanks to Promotion of Organic Agriculture program implemented by Prayatna Samiti, Udaipur with the support of Consumer Unity and Trust Society (CUTS), Jaipur. The program supported the marginalized farmer in manufacturing of vermiwash, a biofertilizer and utilizing the land for economy based agriculture.

Mava Ram has 5 members in his family. With almost unfertile land and 10 small ruminants it was difficult for him to satisfy the daily needs of the family members. Use of chemical fertilizers like Urea and DAP had degraded the land extensively. Low ground water level in the area also doubled his problems. An income of Rs 2,000 per months was unable to sustain the life of family members, which also caused his elder son to migrate to Ahmedabad in search of job. Through Organic Agriculture Program he changed his agriculture pattern towards money making deal.



The objective of the program was to promote organic agriculture for income enhancement of marginalized farmers and to impart skills for promoting productive agriculture in the poverty hit remote areas.

Mava Ram approached the Prayatna Samiti through the Self Help Group, facilitated by Prayatna Samiti, in which his wife is a member. He came to know the training on Vermiwash to be organized by the organization. Training dealt with method of preparation of vermiwash and its applications.

Immediately after receiving the training he purchased a 20 liter plastic bucket to start with. The process started with putting a 15 cm thick layer of gravel to the bottom; above it 30 cm thick layer of sand; and on the top a 15 cm thick layer of decomposed material in which he introduced 20 to 30 *Eisenia foetida* (red worms). A small amount of water was sprayed to start the process of manufacturing vermiwash. After 1 week he collected first sample of the fertilizer through the tap provided at the bottom of bucket.

Vermiwash is the liquid fertilizer collected after the passage of water through a column of worm culture. It is very useful as a foliar spray. It is a collection of excretory products and excess secretions of earthworms along with micronutrients from soil organic molecules.

He sprayed the fertilizer on indigenous wheat by mixing 1 liter into 10 liter of water. In 2015 he almost increased 2 quintal of wheat and maize. Vermiwash contains plant growth hormones like auxins and cytokinin apart from nitrogen, phosphorus, potash and other micro nutrients. It contains nitrogen fixing bacteria like *Azotobacter spp.*, *Arobactericum spp.* and *Rhizobium spp.* and some phosphate solublizing bacteria. It acts as a plant tonic and helps to reduce many plant diseases. He collects 4 liter of vermiwash at every week continuing the practice of spraying water drops over the top at after every 2 days.



Knowing the importance of vermiwash he completely replaced chemical fertilizers with organic manure. Encouraged by the practice he used an extra of 0.12 ha for vegetable production. He used indigenous seeds of cabbage, radish, spinach, cauliflower and green chilly to grow vegetables. He also sprayed the vermiwash on vegetables to enhance their growth and production. In 2015 he harvested 50 kg of vegetables which he sold in village market. In this way organic farming raised his income from Rs 2,000 to Rs 5,000 per month. As people are coming to know his secret of success he is promoting the use and preparation of vermiwash. He further plans for double cropping to reduce the risk and earn more from single season.

