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Success story of an innovative organic farmer from Sikar district of Rajasthan

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Abstract

This is a success story of an innovative organic farmer. Keshar Dev (58) from Athwas village in Fatehpur-Shekhawati Block in Sikar district has set himself as a role model for farmers and braved to make a fortune in such situation through adoption of integrated organic farming. The main factors that have contributed to his success are his interest and passion towards advanced technologies. He is a hard worker who was self-motivated to take up a new initiative for profitable agriculture and allowed other farmers to visit his field from surrounding villages Alafsar, Bagroda, Rinau, Kashwali, Swaroopsar, Hirna and Garinda of Fatehpur and Lakshmangarh Block. He is an example of a successful farmer and has proved that wonders can be done in agriculture if investments are made in the right direction and farmers are equipped with the latest knowledge. Mr. Keshar Dev net income for each hectare is approximately Rs. 1, 87,000 per annum.

Keywords: Integrated organic farming, innovative, adoption and success

1. Introduction

Shri Keshar Dev is a farmer from Athwas village of Sikar district, Rajasthan. Athwas village is located 42 kilometers far from district headquarter. The total area of the village is 624 hectare out of which the cultivated area is 479 hectare. The main soil types in the village are sandy loams with patches of saline soils. The main crops in the village are pearl millet, cluster bean, green gram, wheat and vegetables like tomato, chilly, brinjal etc. Wheat and vegetables area is under with bore well irrigation. Water availability in these bore wells depends on monsoonal rainfall. He studied upto matric and is involved in farming. He is from an agrarian family. He has a family that includes two sons. He owns 2.0 hectare of land including rainfed and irrigated condition. He grows pearl millet, green gram and vegetables in the *Kharif* season. Immediately after harvest of the *Kharif* crops, he takes up Chilli and tomato vegetables for the *Rabi*. Mr. Keshar Dev has been farming since 28 years. The farmer, tired of chemical farming, started organic farming in year 2017. For many years he was engaged in mono-cropping of pearl millet. Pearl millet was main crop and he occasionally cultivated green gram, wheat and vegetable crops. Even if he has 2 ha of land, he used to purchase food grain, vegetable and milk from market. The success model adopted by Mr. Keshar Dev was integrated organic farming. He has four cows and two buffalos whose dung and urine is converted into Jeevamrut, which is used as a fertilizer for the plants. He never uses chemical fertilisers or pesticides; he follows only natural methods of agriculture from last three years, he noticed his crops getting better and developed an interest in continuation of integrated organic farming (Agriculture + Horticulture + Dairy) in a contemporary situation, where loss in one crop can be substituted with the other enterprise. He has good contact with fellow farmers and input dealers, facilitating a healthy exchange of information. He has considerable mass media exposure as he listens to the radio, watches the television and reads newspapers regularly. Mr. Keshar Dev believes that the beauty of the integrated organic farming is that he gets most of the ration from his own farm. According to him, the supplementary and complementary relationship between the enterprises generates more income for farmers. He has been recognized as a progressive farmer and he is well known for his rich knowledge of organic farming. He does not hesitate in sharing his experience with farmers and other senior officers in agriculture and allied departments. He uses the knowledge gained in the meetings to raise crops in his field. He also received timely technical support from the KVK, Fatehpur-Shekhawati, helped him shore up and integrate his organic farming through the use of water saving technologies, improved varieties/hybrids of agriculture and horticulture crops. Mr. Keshar Dev is known as innovative and progressive farmer in Sikar district.

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Large number of farmers visits his farm and seeks advice from him regarding applicable and refined crop technologies. Agriculture allied departments, farmers invite him as an resource person for discussion on agriculture issues and advise.

2. Technologies adopted in organic farming

The farmer uses cow urine, neem oil, green manures, farm yard manure, panchagavya, waste decomposer, Neemastra, neem khal, ghanajeevamrut and improved irrigation techniques.

2.1 Farm yard manure

Prepared by decomposing dung and urine of farm animals and other organic residues such as kitchen wastes, crop residues, animal wastes and uniformly spread 5 tones of FYM over the soil surface and mixed thoroughly. He applied 15-20 days before sowing or transplanting so that manure goes under the ammonification and nitrification process.

2.2 Neem oil

This works as an insecticide and fungicide. Unlike chemical pesticide Neem oil doesn't work immediately but slowly reduces the growth and reproduction of pests. He used Neemastra for control of leaf curling insects in vegetables crops.

2.3 Pheromone traps

He was installed pheromone traps @ 20/ha in tomato and chilli crop for regular monitoring of pest incidence.

2.4 Traps crops for control of pests

Chilli trap cropped with marigold and tomato will reduce the incidence of sucking pests and fruit borers.

2.5 Ghana Jeevamrut

He collected 100kg of desi cow dung + 1kg Jaggery + 1 Kg dicot flour and mixed well and made into heaps. This heap is covered with rug sack to maintain good temperature for the growth of micro-organisms. Once it is completely dried it is stored in bags. This is enough for an acre. An acre of land requires 10 kg of local cow dung per month. Since an average cow gives 11 kg of dung a day, dung from one cow can help fertilize 12 ha of land.

2.6 Waste Decomposer

It is purchased from outside. This helps in quick composting of organic waste, soil health improvement and as a plant protection agent. One bottle of waste decomposer is mixed with 2 kg jaggery in 200 liter of water in a plastic drum. After 5 days the solution of the drum turns creamy. This is applied on the standing crop for 4 times at 10 days interval.



Bio-pesticides and manures

Biogas Plant

2.7 Green manures

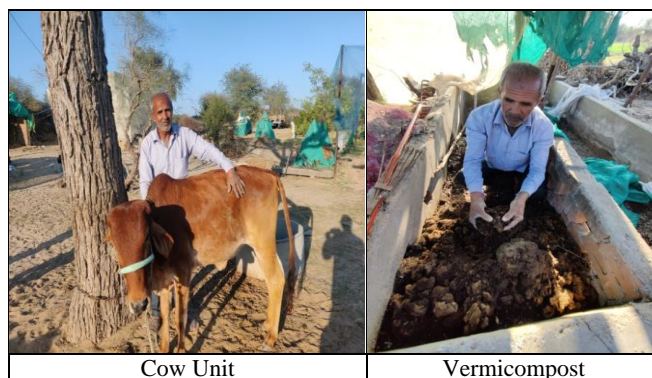
Nine types of grains are grown and incorporated in soil. (one kg dhaincha, 0.25 green gram, 0.25 kg black gram, 0.25 kg phaseolus, 0.25 kg cowpea, 0.25 kg sesamum 0.25 kg, 0.25 kg Mustard). Cassia, Neem and *Calotropis* leaves are spread and incorporated in the field. He also used 13 leaves concoction (*Ipomea carnea*, Bougainvillea, Peepal, Cassia, Custrard Apple, Teak, *Calotropis* etc.) for control of pest and diseases in green gram, tomato and chilli crops.

2.8. Panchagavya

It plays the role of promoting growth and providing immunity in plant system. Panchagavya consists of nine products viz. cow dung, cow urine, milk, curd, jiggery, ghee, banana, tender coconut and water. He used three liters of panchagavya to every 100 liters of water for green gram, tomato and chilli crops. It was applied at 10, 15 and 30th days after transplanting of vegetables crops.

2.9. Cow urine

The farmer collects cow urine in a tank of 50 litres capacity. He uses the urine to spray on to the crops in order to protect them from the attack of pests and diseases. He also used fermented *Ipomea carnea* + cow urine for control of sucking pests in vegetable field.

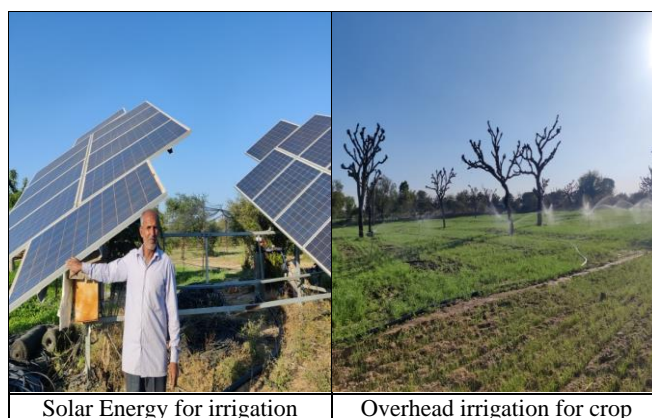


Cow Unit

Vermicompost

2.10 Irrigation technique

He practiced overhead method of irrigation in pearl millet, green gram and wheat and drip irrigation in tomato and Chilli.



Solar Energy for irrigation

Overhead irrigation for crop

3. Results achieved

There was yield reduction in all the crops initially during the first year due to the adoption of organic farming but yields were stabilized in the crops by the end of 3rd year. The reduction in cost of cultivation with the adoption of organic farming was to the tune of Rs 10,000; Rs. 6,000; Rs 10,000

and Rs. 7,500 per ha in the crops wheat, green gram, tomato and chilli respectively thereby increasing the net returns achieved compared to the conventional chemical farming being practiced by fellow farmers. In addition to the practice of organic farming, the farmer has adopted other improved technologies suggested by KVK, Fatehpur Shekhawati such as low tunnel in winter season to protect the vegetables from

frost injury, drip irrigation in tomato and chilli resulting in improved water use efficiency in terms of water saving of 24 and 27 per cent respectively which can be utilized for further increase in the acreage of respective crops with the same amount of available water, thereby increased returns to the farmer.



Low tunnel for vegetables during winter

Venturi for bio-pesticide application

While his neighbours do not make profits from agriculture, Mr. Keshar Dev gets profits because of proper crop planning based on limitations of soil and water resources, personal involvement in all field operations and following modern practices clubbed with traditional intelligence. He is an

example of a successful farmer and has proved that wonders can be done in agriculture if investments are made in the right direction and farmers are equipped with the latest knowledge. Mr. Keshar Dev net income for each ha. is approximately Rs. 187,500 per annum.

Components	Production (qtl/ha)	Price (Rs/qtl)	Expenditure (Rs/ha)	Gross income (Rs.)	Net income (Rs.)
Pearl millet	14	2200	7000	30,800	23800
Wheat	42	2600	20000	109,200	89200
Green gram	8.5	7200	18000	61,200	43200
Tomato	225	2000	200,000	450,000	250,000
Chilly	85	2500	212,500	105,000	107,500

4. Awards and Recognition

1. Got prestigious award in National level Farmers meet of commercial cultivation of medicinal plants and organic farming held at Jaipur, Rajasthan in 2022.
2. District level “Best Organic Farmer Award” by Agriculture Department (Govt. of Rajasthan) in 2021.
3. Honored with the different District level appreciation award.



Awards and Recognition

5. Uptake and Spread of the technologies

Mr. Keshar Dev believes that if other farmers follow the organic farming method he has practiced all these years, it will greatly benefit them in maintaining sustainable

agriculture and getting remunerative income from agriculture operations under uncertain and unpredictable rain fed conditions. He is the only farmer in the village to take up integrated organic farming in 2 ha of land. The main factors that have contributed to his success are his interest in and passion towards advanced technologies. He is a hard worker who was self-motivated to take up a new initiative for profitable agriculture and allowed other farmers to visit his field from surrounding villages Swaroopsar, Hirna, Alafsar, Garinda and Rinau in Fatehpur Shekhawati area. Shri Keshar Dev is a ray of hope for many farmers of region and became a respected man in farmer’s community. He proved that when improve knowledge and hard working works together than we can achieve our desired goals. Shri Keshar Dev set an example of doing farming as a business point of view instead of regular farming that we are doing since our ancestors. Daily, 15-20 farmers come to his farm to learn about organic cultivation.

6. Benefit and Feedback of the farmer

The farmer proudly says that the milk, organic vegetable, farm yard manure, panchagavya, dairy support their livelihood expenses including their children education. He explored sustainable agriculture using locally available natural resources with compost, local seed material. By adopting this method of organic farming, he has been able to achieve better crop productivity per acre of land under rainfed conditions of Rajasthan. Also, the culinary value and shelf life

of the end produce is good and retains its original nutrient contents on storage. He believes every farmer should follow the integrated way of organic farming as this result in complementary and supplementary methods that enhance the productivity of crops.

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