Securing Water and Livelihoods in Changing Climate through Community-led Watershed Development in Semi-Arid Drought-Prone Region of Maharashtra

The Public-Private-Civil-Partnership (PPCP) project that aims to increase water availability for poverty alleviation through empowering the village communities is in its fifth year. It brings together the Government, private sector, NGOs and local communities to help communities in Jalna District to tackle drought and become resilient. In the seventh volume of the PPCP newsletter there are stories of communities who are dealing with challenging situation of drought.

Key Activities accomplished during April 2018–March 2019

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<tr>
<th>Activity</th>
<th>Unit</th>
<th>Number</th>
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<tbody>
<tr>
<td>Number of persons who have undergone capacity-building measures including exposure visit/training</td>
<td>Nos</td>
<td>3305</td>
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<td>Area treated and stabilized due to enhanced rainwater harvesting and conservation</td>
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<tr>
<td>Construction of Water Harvesting structures</td>
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<td>Construction of Minor Structure</td>
<td>Nos</td>
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<td>Construction of Farm Ponds</td>
<td>Nos</td>
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<td>Person days generated due to the project works</td>
<td>Nos</td>
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<td>Agriculture Training</td>
<td>Nos</td>
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<tr>
<td>Farmer’s field Schools – Soybean, Cotton, Maize</td>
<td>Villages</td>
<td>55</td>
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<td>Vermicompost units</td>
<td>Nos</td>
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<td>Crop Demonstrations (Organic formulations, Fodder Cultivation, Composting)</td>
<td>Nos</td>
<td>186</td>
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<td>Soil Sample Analysis and Report Distribution</td>
<td>Nos</td>
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<tr>
<td>Application of water saving Devices</td>
<td>Nos</td>
<td>208</td>
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<tr>
<td>Number of Women members benefitted</td>
<td>Nos</td>
<td>1304</td>
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<tr>
<td>No. of household benefitted due to project work</td>
<td>Nos</td>
<td>1706</td>
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Pagirwadi is a small village in Ambad taluka of Jalna district. The green patch in the village was surprising element for me in this parched area of Marathwada.

Hrishikesh Pagire, a 2nd year commerce student, is practicing the organic farming methods since 2018 on his agriculture land. In his very first attempt of practicing organic farming he has earned a profit of Rs. 60,000 on cotton crop against an investment of Rs. 10,000 on 2 acres land. Hrishikesh is very much concerned about his own farmland and the fertility of soil, hence decided to adopt the organic farming practices to win the battle against the severe drought conditions.

His strong wish of learning organic farming methods has finally found its way with the strong support of WOTR. WOTR is actively working in the drought prone areas spreading awareness about organic farming. WOTR has sent a small group of budding farmers to an agriculture training session by Subhash Palekar at Shirdi. During this 4 day agricultural training session, Hrishikesh got to know the detailed information about the organic farming practices. Hrishikesh narrated his experience at the training session with conviction. “It was really worth to stay there and so many things about agriculture for 4 days. Subhash Palekar sir had skillfully conducted this workshop. I believe, he is the best trainer I have ever met in my life. I completed the
session successfully. This session motivated me to become a successful farmer.

In Hrishikesh’s family, it was his grandfather who truly held the reins in the matter of agriculture. However, as Hrishikesh has shown the keen interest in farming and now he is taking informed decisions related to agriculture and his grandfather is proud of him.

At the age of 21, Hrishikesh is clear in his mind about what he wants to do in his life. He has already decided to live in his own village and to take up farming as a full-time career. He is not interested in seeking job after completing his education. A young visionary farmer has identified the future challenges of farming due to an acute scarcity of water and took the decision of building farm pond (Shet tale) in half acre of land that cost Rs. 60,000 out of which Hrishikesh has paid Rs. 15,000 and the rest of the amount of Rs. 45,000 was contributed by the project. Farm pond increases the water storage capacity which can play a vital role in keeping his farm intact even in the severe drought conditions.

He has adopted the mix cropping pattern. In which he prefers to have cotton soybean, onion and wheat as main crops and successfully attempted to grow drumsticks, moong as the side crops.

“WOTR has played a major role in my success. Their timely guidance and simple methods have always given me assured returns with less investment. Farming Techniques of vermicomposting, mulching, Jeevamrut, Dashparni Ark, Amrutpani have always shown an excellent results. It helps in increasing the soil fertility and protects the crops with external attacks.” admitted Hrishikesh.

He gave an instance where he used ‘Agniastr’ solution for his pomegranate orchard. His pomegranate crop suffered from an attack from insects. He asked many farmers about the pesticides to save his crop from this attack. But no one could give him the exact solution. Lastly he used ‘Agniasta’ to control the attack and saved his crop. ‘Agniasta’ was taught in the workshop organised by WOTR.

“Saving water and environment is the need of the hour. And we must protect our own environment. We must try different methods of organic farming to get more agriculture production by using less water.” Hrishikesh concluded on the positive note.
An acute shortage of water in the Marathwada region in Maharashtra is making availability of fodder for domestic animals difficult with every passing year.

A large population of the villages of Maharashtra are dependent solely on farming. The buffalos, cows, goats and hens are their extended family. Villagers make sure their animals receive their meals on time as these domesticated animals can't ask for food.

Drought prone areas also have an extreme shortage animal fodder apart from water scarcity. Fortunately farmers are aware that they must make necessary provisions for their own animals. However, many times it becomes a financial liability when they have no option other than to buy fodder from market for their animals. This aggravates their already precarious financial situation.

Chandrakant Teple is a young farmer of 21 from the village Chandai Tepli in Bhokardan taluka of Jalna district has come up with an ultimate permanent solution for providing green fodder for animals even in drought like conditions. Chandrakant is an arts graduate who has made a sincere effort of producing the animal grass at home with low investment. The farming technique that he is using for the production of grass is known as ‘Hydroponic Farming’.
The science of soil less gardening is called hydroponic. It basically involves growing the healthy plants without the use of traditional soil medium. By using a nutrient like mineral rich water solution instead. The plant just needs selective nutrients, some water and sunlight to grow. Not only do plants grow without soil they often grow a lot better with their roots in water instead.

Process of Hydroponic Farming: soak 5 kg corn in water for 24 hours. After 24 hours take the content out and tie it into the cotton cloth and keep it for next 48 hours. Later, distribute it into the 5 trays and keep those in the particularly designed hydroponic rack. This hydroponic rack is designed in such a way that it does not permit the sunlight to enter in the hydroponic structure and helps nourishing the sprouted corns. The hydroponic structure has a particular set of sprinklers which are set on the automatic motor which is attached to the water tank. The motor has set for 90 minutes. It automatically supplies water to the hydroponic structure after every 90 minutes and sprinkles water for 1 minute. It helps the wet sprouted corn to grow at its fullest in the next 8 days. The animal grass gets readily available in those 8 days. This same process can be done with wheat, pearl millet and sorghum. Now the whole family is involved in Hyrdoponic Farming.

This hydroponic structure has total 48 trays. Which are systematically managed with the hydroponic animal grass in 8 days. The green lush animal grass is a rare thing to be found in the drought prone districts of Maharashtra. Hence, this unique effort of Chandrakant has its own importance in the current agricultural scenario of the Bhokardan Taluka.

“I had been through the dreadful situation when there was rarely available green animal grass for my animals. I saw this Hydroponic farming structure on Television and decided to try it for my animals. Eventually it successfully came out. My each tray of hydroponic farm produces 10 kg of animal food on a daily basis. It helps in increasing the productivity of milk of the cows and buffalos and also sustains the energy levels of my beloved animals.” Said Chandrakant. He did not forget to mention the support of WOTR in achieving this feat and added, “WOTR has always motivated me to take up this new experiment and being very supportive throughout the process. The total cost of my hydroponic structure is Rs. 32,000 out of which we had to pay Rs. 12,000 and WOTR has contributed Rs. 20,000.” Chandrakant has also been practicing organic farming and preparing and using organic formulations such as Jeevamrut, Dashparni Ark, Nimboi Ark and Agniastra.

Another nutritious animal food that he is making on a regular basis is called Murghas or the silage. The silage is made up of the mixture of the wet animal grass with the nutritious salt water and jaggery water. This mixture takes 50 days to make it a nutritious animal food. This is a scented grass specially made for the animals. Murghas increases the milk productivity of the animal.

“Every farmer should try the hydroponic farming method for producing the healthy food for their own animals. It will help them saving money on animal food,” said the proud hydroponic farmer Mr. Chandrakant Tiple.
It takes courage and consistency to prove oneself. ‘Meena Atmaram Hazare’ is a courageous, strong and confident woman from Pimparkhed village of Ambad block in Jalna district. She is an epitome of a courage and perseverance. She has installed vermicompost bed in her farm with the guidance of WOTR team.

Wasundhara Sevikas of WOTR Pratibha has encouraged Meena to start vermicomposting at her place. She also explained Meena how vermicompost bed would benefit her and she could get it at subsidized rate of Rs.1200 for organic manure in the form of vermicompost for enhancing agriculture production. However, Meena refused to buy the bed due to lack of money.

Meena said, “After seeing my inability to buy vermicompost bed, Pratibha Madam had suggested me to try a home-made bed made up of the old fertilizer bags which I had plenty. So, I decided to make vermicompost bed with the bags available.” When asked about her family’s response to this decision, she added, “When I discussed the idea of using vermicompost for our crops with my husband and son, my husband strongly opposed it. He said what was the need to make and use vermicompost which could cause loss for us. He believed that it would take long to harvest our crops compared to the use of regular chemical fertilisers. He asked me to buy a bag of chemical fertilisers.”
However, Meena resolutely decided to make vermicompost bed on her own after facing resistance from her own family. She was convinced by the benefits of using vermicomposting for the crops. She started working on the vermicompost bed in 2018. She herself stitched the bed. Pratibha gave Meena healthy earthworms from her own bed. Meena used to water the bed once a day or sometimes once in 2 days. With proper care, she was successful in preparing six bags of fertilizers in her first attempt.

Meena used vermicompost on an acre of land for growing organic maize. She earned a neat profit to the tune of Rs. 5,000 without buying any chemical fertilizers. She had also harvested around 800 quintals of jowar (sorghum) in rabi season on the same plot.

Meena said, “The cost of using chemical fertilizers on an acre of land can reach upto Rs. 15,000, depending on the crop; whereas organic fertilizers costs nothing and compost can be derived from organic waste.”

The experience of making the first batch of vermicompost boosted Meena’s confidence and made her repeat the procedure. She got 5 bags of vermicompost from the second batch. After seeing the results, her husband and son had started helping her in for growing crop organically.

Atmaram Hazare husband of Meena said, “I was surprised to see the positive results of this organic manure. I have never imagined profit of such a magnitude without investing any money on chemical fertilizer. This was made possible only because of Meena’s hard work.”

Meena Hazare has produced more than 10 quintals of vermicompost. Now she is planning to step-up the production of vermicompost to the next level so that vermicompost could be applied on more land and said “Now, I feel if the whole family contributes to the process of vermicompost preparation, it can be hugely beneficial to agriculture.”
High temperature, dry farmlands due to the acute water-scarcity, low crop production and no profit from agriculture was the apt description of a village named Borkhedi Gayaki located in Jafrabad Taluka of Jalna district.

“There was no certain income for us till 2014. As we were solely dependent on agriculture and it was very difficult to get a desirable profit due to an increased occurrence of drought conditions. However, as WOTR started its operations in our taluka through PPCP project with the support of HUF, there has been a remarkable change in our lives.” Shrimant Gayaki a Wasundhara Sevak started telling the story of Borkhedi Gayaki.

He said while looking at villagers digging the soil for completing the work of compartment bunding, “It all started in 2014. WOTR has taken an initiative for completing the watershed management works under the government scheme of MGNREGA. WOTR has actively involved the villagers in this work. MNREGA scheme is a great financial help for the villagers. In the month of March, 300 daily wage labourers are working daily under this scheme.”

Earlier the things were not easy and everyone was not ready to work for this project. I literally had convinced them to join this work. Villagers were reluctant to join the MNREGA scheme

Employment Guarantee Scheme gives livelihood opportunity to villagers in Borkhedi Gayaki
mainly because they did not know if they would receive their payment on time. Bhagwan Shinde, Rojgar Sevak, of Borkhedi Gayaki explained the challenges to promote this scheme in which villagers were not only paid for their work even they benefit from the work done. “Earlier villagers were involved mainly in agriculture and they were not very much interested this work. However unpredictable rainfall pattern in the last couple of years and severe drought conditions prevailing made agriculture uncertain. Under such circumstances villagers found it beneficial to work on soil and water conservation measures for increasing water availability as well as getting paid for the work done through MGNREGA. A labourer gets Rs. 230 per day. Though, they work as a daily wage workers but they do not get their payments on daily basis, instead, the amount for the work done in the month is transferred in their respective bank accounts. Every labourer is happy with this payment structure as it turns into saving the substantial amount.”

The MGNREGA work has started in January and will go on till May just before the arrival of monsoon. MGNREGA is a very useful option of livelihood generation for the villagers. Villagers with little or no land, this proves to be very important source of earning money.

Nanda Gayaki, a labourer of MGNREGA scheme said, “This work of MGNREGA has changed our lives in many ways. It has given us the much needed work that brings a sort of stability in our uncertain lives. We can look forward to giving our children a head start for achieving their dreams. We thank PPCP project for such a great initiative and wish they would continue this work in future.”

Village Development officer Shri. V.R. Deshmukh who monitors and evaluates the work of Rojgar Sevak of Borkhedi Gayaki added to what Bhagwan Shinde, “Since 2016, I have witnessed this developmental work of MGNREGA. This initiative of WOTR is definitely appreciable, as it gives
a concrete work to many unemployed hands which leads the village towards the sustainable development.”

Sarala Pashte, Wasundhara Sevika has witnessed the transformation since beginning and said, “I am working more closely with farmers and I have seen tremendous changes in women farmers and labourers after they started working here with MGNREGA. Women have become more confident as they get the certain amount in their own bank account. They get the opportunity to decide their own expenditures. Though, they give priority for utilising their savings for their children, they have become independent and making choices themselves. Earning has surely changed women for better.”

With the work available in the village itself, the migration rate of has come down. People choose to stay in their own village as they get a sustainable source of income. Borkhedi Gayaki is becoming a self-sufficient village.
We would be happy to know your thoughts on the project and the newsletter. Send your feedback at publications@wotr.org/hindustanunilever.foundation@unilever.com

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MGNREGA beneficiaries of Borkhedi Gayaki at work