



**Building Adaptive Capacity and Climate
Resilience of Tribal and Marginalized Communities
in Gunupur, Odisha**

WOTR & Bread for the World Partnership in Odisha
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Building Adaptive Capacity and Climate Resilience of Tribal and Marginalized Communities in Gunupur, Odisha

"The science is clear, we must act quickly to address the threat of climate change, and adapt successfully and build our resilience".

Watershed Organisation Trust (WOTR) implemented the project "Building adaptive capacities and resilient to climate change of tribal and marginalised communities in Odisha," with the support of Bread for the World. The project began in August 2018 to improve and expand livelihood possibilities for residents in 11 villages in the Gunupur block of Odisha's Rayagada district.

In this briefing pack, a series of case studies aims to highlight the issue of migration by enhancing irrigation capacity, boosting agriculture by promoting climate-resilient agriculture practises, technical advice on organic agriculture and better agricultural techniques. Non-farm activities like goat farming, masonry, wheat milling, and sewing machines are promoted in these villages, especially for landless and small-scale farmers.

The project benefited about 1209 households with a total population of around 5000 in Gunupur's 11 project villages. The project's primary accomplishment has been to increase cultivable areas in the region. Between 2018 and 2021, a remarkable growth of on an average 25% in annual income of 1,209 households. There is also an increase of 115 hectares in the area under irrigated crops. This has been made possible through construction of ring-well, check-dams, farm ponds & diversion-based irrigation systems along with 914 farmers following climate resilient practices. Due to our interventions, 131.28 ha of upland has been converted into cultivable agricultural land benefitting 439 farmers. The bunds are constructed on 131.28 ha area harvesting 82,706,400 litres of water per year. Livelihood support (through poultry, goatery, carpentry, mason, pulveriser, tailor, refreshment

unit, broom making, grocery & cycle mart) has been provided to 285 marginalised families. All this is achieved by participation of the community ensuring transparency at every step.

Increased farmer income due to Climate Resilient Agriculture interventions, increased irrigation area, enhancement of various non-farm activities with adequate support and monitoring in the project villages, reduced migration pattern, increased awareness about children's health, and

community mobilisation and capacity building for all stakeholders to ensure long-term viability of the good practices are some of the key changes observed.

We're excited to share some of the impact stories with you to demonstrate the changes that have occurred and the improved quality of life in Tribal and Marginalized Communities in Gunupur, Odisha.





Enabling improved child health and nutrition in Gunupur

WOTR is promoting children's health and nutrition as an activity of the project supported by the Bread for the World. Clementina is an example of a child whose growth has been monitored and improved with the child growth monitoring initiative. Clementina is from Sindrising hamlet of Kadasi village of Gunupur in Rayagada district of Odisha. While carrying out the agriculture and livelihood activities, it was discovered that a large portion of the money produced by the farmer is spent on the farmer's child's health. According to the HUNGaMA (Hunger and Malnutrition) Survey, almost one in every five children in 112 districts is at risk of malnutrition.

According to the survey, 60 percent of the youngsters in the Rayagada district are malnourished. As a result, WOTR began the initiative with the goal of ensuring 100 percent participation of 0-5 year olds in the Growth Monitoring Program. The following assumptions underpin this programme:

- A single malnourished child in the hamlet is the responsibility of all the women in the community. This will give everyone an equal share of the responsibility for ensuring that no child in the village goes hungry.
- There is a need to adjust the behaviour of a child's parents, such as exclusive breastfeeding, food habits, personal hygiene, and so on.

Child Growth Monitoring programme

Renuka Sabar, Mahila Pravartak (Health Promoter), discusses how WOTR employees helped her prepare for this programme. "Before the lockdown, WOTR conducted a three-day training programme for Mahila Pravartaks in this village. It explained how to use the Growth Monitoring Chart to obtain measurements and determine a baby's colour zone. Each child's measurement is plotted, and the category is shown to the child's mother.

Green represents a healthy child, yellow colour represents little deviation, orange color is a step before a child is categorized as malnourished and placed in red colour. WOTR staff takes

up counselling sessions and organizes food demonstrations as well.

“WOTR conducted entry point meetings with mothers of 0-5-year-old infants in project villages in Gunupur block, Rayagada district, Odisha, to promote awareness about the child growth monitoring programme,” Kasturi Samal, WOTR Officer, explains how WOTR’s Child Growth Monitoring System works.

To ensure their children’s appropriate development, mothers are advised to actively participate in the programme. The dates for the monthly measurement, which will be undertaken at the Anganwadi centre with the assistance of Anganwadi personnel and WOTR staff, have been set. On the third Sunday of each month, Clementina pays a visit to the Anganwadi centre in Kadasi. Information about children’s health, hygiene, and adequate food intake is also given.”

Awareness creation about health

Women were given cooking demonstrations using locally accessible foods such as ragi, rice, and vegetables from the kitchen garden. All mothers are educated on the necessity of vaccination and complete vaccination is ensured. Use of Mother and child protection card (MCP) is encouraged to ensure that they take iron and calcium tablets and follow the healthy diet recommended on the card.

Story of Clementina

Tesnati Sabar (27) is married to Siba Sabar (35) of Kadasi village’s Sindrising hamlet. Clementina is Tesnati’s only child. In project communities, child growth monitoring is carried out for children aged 0 to 5. Every month, each child’s height, weight, and MUAC (Middle Upper Arm Circumference) are measured and recorded in the register. In September 2020, Clementina was underweight and classified as orange (in the borderline of yellow) on the Growth Monitoring Chart. In December, Clementina’s weight was

measured as 7 kg against the expected weight of <9.5 kg. When there is no drastic improvement seen in the weight of a child, our Social Officer Kasturi Samal met counsellor NRC and found out what could be done. The Auxiliary nurse midwife (ANM) recommended Nutritional Rehabilitation Centre (NRC) Gunupur for further treatment.



Clementina and Tesnati at NRC Gunupur

In the first week of February, Rashtriya Bal Swasthya Karyakram (RBSK) Team took Tesnati and Clementina to NRC at Gunupur, about 18 km from Kadasi. NRC is an initiative to take care of severe cases of malnourished children. The child with acute malnutrition is transferred to NRC for intensive feeding to gain weight, provide emotional & physical support through counselling and provide a nutritious diet to the child and the primary caregiver- the mother. Its objective is to promote children’s physical, mental & social growth with acute malnutrition by providing institutional care. It also aims to give necessary training to primary care givers to manage malnourished children at home.

While Clementina’s primary caregiver, Tesnati, was provided three healthy meals that contained milk, green vegetables, and other nutritious foods. Clementina made significant progress during her first ten days at NRC, gaining 0.9 kg. Clementina, on the other hand, suffered dysentery and lost weight once more. Tesnati has learned a few essential dietary lessons. She began purchasing cow’s milk for Clementina and began feeding

her eggs as a source of essential minerals such as iron, calcium, phosphorus, copper, and zinc. Clementina has benefited from WOTR's Child Growth Monitoring System programme. Tesnati

is grateful to WOTR for assisting her in improving her daughter's nutritional status through the Child Growth Monitoring programme.



Table of height and weight of Clementina

Age (months)	18	19	20	21	22	23	24
Height (cm)	70	70	70	70	70	70	70
Weight (kg)	9.1	9	8.5	8.9	7.2	8	9.2



Goatery to secure the livelihood of villagers

Jiban Badraitto used to migrate every year in the not so distant past. With the goatery as a livelihood option in his village itself, his life has changed for the better. Jiban is from Anjarbasing hamlet of Tarda village of Gunupur in Rayagada district of Odisha. WOTR is implementing the project “Building adaptive capacities and resilient to climate change of tribal and marginalised communities in Odisha, with the support of Bread for the World. The project began in August 2018 with the goal of improving and expanding livelihood possibilities for residents in 11 villages in the Gunupur block of Odisha’s Rayagada district.

Jiban Badraitto is a small hand holder from Anjarbasing hamlet of Tarda village in Gunupur. The geography of most of the villages is such that cultivable land in the watershed is less as most of the land area is hilly. Now, with a nuclear family, the cultivable land per household has also decreased. So most of the farmers are small landholders. Jiban got an acre of rainfed agricultural land as his share after the death of his father. On this land, he grows paddy. The paddy grown and the food ration received under the Public Distribution System (PDS) prove to be sufficient for household consumption for a family of three members. He also has half an acre of land in an upland region where there are some cashew plantations. He also grows pigeon pea on

some part of the land.

Unemployed post kharif season

Jiban used to do farming on his acres of land in the kharif season. He used to migrate to cities like Chennai, Mumbai for 3-4 months before 2019. Migration was the only option available for him. WOTR started a livelihood project in August 2018 and started work with the formation of Village Development Committee (VDC). Jiban and his wife, Ainoti soon became regular attendants at the VDC meetings.

In 2019, he expressed his desire to start goat rearing as it doesn’t require big pasture land. He asked for a goatery as one livelihood option that

he and a small landholder like him could pursue with limited resources. WOTR had a provision of promoting goatery among landless and small landholders in the project. The VDC approved the goater to Jeeban in September 2019.

Training on goat rearing

The beneficiaries were selected for goat rearing activities in all project villages. The training on goat rearing was given to all the beneficiaries of the project in September 2019 at Kadasi village. This day-long training was divided into two sessions. In the first session, a veterinary expert (Livestock Inspector (LI) of The Lanjia Soura Development Agency (LSDA) gave detailed information on how to take care of the health of the animals. Keeping the animals healthy through proper care was the aim of this session. The information on how to use herbal remedies to prevent and cure the animals of some common ailments such as deworming goats. Jiban's wife Ainoti Badraito (30) attended this training and explained to Jiban on things to do.

The second session involved the construction of a demo house for goats and the details about the contribution required from the beneficiaries. WOTR would provide five female goats to each beneficiary and 1 male goat for four beneficiaries

in the villages. Four packets of cement and four asbestos sheets would also provide for the construction of the shed. The beneficiary would contribute bricks required for the shed construction, door, wooden platform and would bear the labour cost of the construction as well. Wooden platform raised to 3 ft from the ground level was constructed to help insulate goats from the cold floors. The platform also makes the cleaning of excreta and urine easy to avoid diseases. Excreta is used as excellent land manure. The demo in Kadasi village was shown as a sample to explain the requisite dimensions (12 X 9 ft). This demo with two sessions had broadly two purposes. The first one to let the beneficiaries learn how to take care of animals and the second one to tell them about their clearly defined roles. In the second session, beneficiaries were explained about the dos and don'ts to make this initiative a success. The rationale behind their contribution and how their goatery management skills would be responsible for earning profits were explained. The main purpose to construct a demo goat shed and then show it to other beneficiaries was that they would get an actual idea of the goat shed they needed to construct. And also, to make sure all the units would be uniform. The remarkable thing was the rest 30 units were constructed within a month of



this training.

Jiban's total contribution was Rs. 14,900 and the project contribution was Rs. 24,968 with a total project cost of Rs. 39,868. The rationale behind beneficiary contributions was to make him realise the importance of efficient and diligent goatery management to ensure first the investment is recovered and then to earn profits sustainably. Currently, there are 19 animals (from the 10) between both of them. They have goats worth Rs. 95,000 in assets. Till now they have sold two female goats at Rs.9000. Goatery will help them to earn money primarily by selling them as a source of meat.

Change in Jiban's life

Now, Jiban hasn't migrated since he started goat rearing in 2019. He could spend time with his family, especially son Rahul (7). His day begins

at 6 am. He comes to his shed and clean goat shelter. He takes goats for grazing at 9 am in the nearby jungle. He returns around 2 pm for lunch and keeps the animals back in the closure by 5 pm. He follows all the instructions given while managing the goat and goat shed. He has also made a wooden platform which shield goats from the cold flooring of the shed at night. The temperature in this hilly region drops to less than 5 degrees Celsius in winters. To protect animals from Peste des petits ruminants (PPR) in goats, the flock of goats is vaccinated every three months.

Jiban's plan for future

Jiban would sell big animals for 8-10,000 Rs. and small animals for around 5,000 Rs. He would send Rahul to Gunupur for his studies. Right now Rahul is in 2nd standard.

"I will sell some of my goats and get new ones. This will help me further in expanding my business. Now I feel that I will be able to continue this work and earn a good amount of money. The best thing is now I can afford to give my son a good education. I have bought my own house. I feel proud about my accomplishments. I am extremely grateful to WOTR and Bread for the World for implementing this project and providing me the necessary know-how and support for the goatery unit and changed the course of my life for better."





Grocery stores as a non-farm occupation for the family of Pachuna Sabar

Pachuna Sabar of Targising village, Gunupur earns steady income through his grocery shop. Pachuna is from Anjarbasing hamlet of Tarda village of Gunupur in Rayagada district of Odisha. WOTR is implementing the project "Building adaptive capacities and resilient to climate change of tribal and marginalised communities in Odisha, with the support of Bread for the World. The project began in August 2018 with the goal of improving and expanding livelihood possibilities for residents in 11 villages in the Gunupur block of Odisha's Rayagada district.

Rayagada is a district in the southern part of Odisha. Its population consists mainly of Tribes, primarily the Khonds and the Soras who reside here since ages. Rayagada consists of 11 blocks and 2 NAC out of which Gunupur is one of the NAC areas. There are 19 gram panchayats in Gunupur block, out of which WOTR is working in 4 gram panchayats i.e. Kulusing, Jaltar, Tolana and Putasing. Targising is a remote village in Tolna gram panchayat, and it is at a distance of 36 kilometres from Gunupur town. It comprises 3 hamlet villages i.e., Sargiasing, Aredul and Targising. The road to reach Targising from Gunupur is full of ghats and the last five kilometre travel is inaccessible during the monsoon season. Eighty five households are residing in that village

out of which approximately 40 households are categorized as poor and landless families. People of that village depend upon Gunupur for hospital, bank and other market services.

The primary source of livelihood for the households is agriculture which is dependent upon rainfall and the secondary source is labour. The families having very little land depend upon labour throughout the year. For labour work, the families of the village visit other states or visit Gunupur on a daily basis.

Pachuna Sabar (40) is a landless person who is living with a family of seven members in Targising village. At a very young age Pachuna's father

passed away, leaving him with the responsibility of his family on his shoulders. He couldn't attend school as he would be out for labour work to feed his family at a young age. The only thing his father had left behind was 5 acres of upland. In the upland, Panchuna planted cashew and made good earnings for five years and since then the production has declined. In August 2018 WOTR started a project named "Building Adaptive Capacities and Resilience to Climate Change of Tribal and Marginalized Communities in Odisha" to provide sustainable livelihood and a better living standard to the villagers.

After the formation of the village development committee (VDC) in their village, the work of WOTR started through the VDC. After initial capacity building programs, the VDC was assigned with a task to select a beneficiary who would be supported with a grocery shop. The VDC analysed the situation of various households and found that Panchuna was in absolute need as he had no agricultural land.



WOTR has provided Panchuna with grocery items worth Rs.15000. While providing the groceries, WOTR Wasundhara Sevak Elisaya Sabar trained Panchuna with the sales price and cost price of each item. In October 2018, he constructed a shop of his own and now successfully runs it on a daily basis. W. Since then Panchuna earns a handsome amount of Rs.2500 - Rs.3000 per month as profit. The daily sales, profit of each good, and the return on investment is also calculated in an income

tracking register which is maintained by WOTR's Wasundhara sevak for each activity.

Panchuna has also started wall painting for the last 1.5 year and this also adds to his livelihood. The only son of Panchuna now studies in class 8 in a hostel school and he aims to give him the facilities of higher education.

The last time Pachuna went outside Rayagada district for work was in Tamil Nadu in 2017. Now, he has found a balance in working on painting walls and managing his grocery shop. His wife Esmeni Sabar (40) manages home as well as shop skilfully when he is away for work.

"Earlier I used to earn 200-250 Rs. per month from my shop. However, ever since I got a supply of goods from WOTR to boost my business, I've started earning around 2500-3000 Rs per month."



He is thankful for the support he received from WOTR and says, "I would like to expand grocery business more and use my income for my family. I will also be able to provide higher education to all my children."



Diversion Based Irrigation (DBI) system enables farmers to grow the second crop

Water from a perennial stream is made available to farmers using the DBI system. Amina Sabar one of the farmers benefitted from this initiative. He is from Bubarsing hamlet of Kadasi village of Gunupur in Rayagada district of Odisha. WOTR is implementing the project "Building adaptive capacities and resilient to climate change of tribal and marginalised communities in Odisha, with the support of Bread for the World. The project began in August 2018 with the goal of improving and expanding livelihood possibilities for residents in 11 villages in the Gunupur block of Odisha's Rayagada district.

Amina Sabar is a 55 years old farmer living with his family of nine in Bubarsing hamlet of Kadasi village. Bubarsing is a remote hamlet with an extremely difficult road to reach. We met him in the village as he was on his way to Gunupur for some work. When he saw us coming, he accompanied us to his hamlet, where he narrated an intriguing tale of the efforts taken by the WOTR team, especially Anshuman Panda and Jalandar Parida, for introducing a Gravity Feed Diversion Based Irrigation.

In this irrigation system, pipelines are used for irrigation from the source, usually a perennial stream, to the target land. These streams flow throughout the year with sufficient runoff to

irrigate the cultivable land. The issue remains that the streams are at a depth of more than 4m from the cultivable land. So, for irrigation, mechanical means such as a pump set will be required, which is very costly. An intake chamber is constructed at the opening of the spring, and pipes are fitted to overcome this. By levelling the pipes, it ends at the collection tank in such a way that the collection tank is at a height above the cultivable land. This pipeline fills the collection tank from where the channel is distributed throughout the land. The term diversion is defined here as the stream which would have flown directly and would have fallen into the river is diverted by constructing an obstruction in its way and the runoff is diverted through pipes.

There are mainly three parts in the project:

1. Intake chamber
2. Storage tank
3. Sluice chambers

Intake Chamber:

The intake chamber is constructed at the opening of the stream where the runoff gets collected. The source where the runoff velocity is significantly less, a small check-dam is needed to collect and store the runoff flow through the pipe. But in the case of a source where the runoff velocity is very high, there is no need for any obstruction wall, the pipe is laid, and concrete is poured so as the pipe doesn't move. The pipe diameter is calculated by square root of 4 times the flow rate divided by pi times velocity. And subsequently, the pressure head of the pipe is calculated.

Storage tank:

After constructing the intake chamber and laying pipe off in it, a suitable site is selected at an elevation above the command area and a tank is constructed. The tank size will vary depending

upon the crop to be taken & irrigated through the tank and by the number of fill it gets from the source within a specific period. It is to be calculated by the site engineer in charge. It is to be calculated by the site engineer in charge.

Sluice chambers:

Subsequently, the pipes are fitted at the bottom of the storage tank to deliver the water for irrigation. Depending upon the pressure inside the pipe & the geography of the spread of the command area, the number of openings for irrigation are set and in each opening gate, valves are set and a chamber is made up of brick masonry and called a sluice valve.

The idea was to stop the water from a perennial stream by building an obstruction wall that would act as a storage and collection chamber. And then, from the collection chamber through pipes, the water is stored in a tank of 89107 litres. And again, from the tank through pipes, the irrigation system was distributed throughout the command area.



This project would help cultivate up to 10 acres of land in the Rabi season & provide assured irrigation for 15 acres during the Kharif season as the region is prone to erratic rainfall. The idea was discussed with the group of farmers through several village meetings. In this process,

the farmers were informed about the concept of community contribution. Through community contribution before the beginning of the project, the beneficiaries were asked to construct two numbers stone bunds just above the intake storage so as to avoid siltation.



The survey was completed in January 2020. It was done with the help of an auto level as it is always important to know that the height of the storage tank where the pipe will be fitted should be below the level of the collection tank. This was a totally new experience for the villagers as they have never seen such a type of survey and, were very curious to know about it. As a result of their curiosity, they were also practically trained to measure the two-point level through an auto-level.

“The remarkable thing about this work was everyone was paid the same amount regardless of gender. Rs. 200 was paid and my family earned around 6,000 Rs during its construction. Now, thanks to the water availability in this storage tank, I am taking a rabi crop for the first time. This was also useful to irrigate my paddy field during a dry spell in July in Kharif season 2020”.

This Diversion Based Irrigation system benefits six farmers and an area of 10 acres could be irrigated through this system. Even though this has benefitted Amina Sabar to ensure irrigation for his paddy and growing his first-ever rabi crop, this activity witnessed several challenges. The first challenge was to ensure that the system would work and provide water to the outposts/pipelines. It was taken care of by the technical team at WOTR and planned meticulously by considering

many factors that would ensure water would reach farmers’ fields after storing it in the tank first. It involved numerous calculations. After the planning stage is over, there comes a challenging part of the execution. The road leading to Bubarsing was in precarious condition that the tractor used to carry half a load of pipeline and cement to avoid the possibility of being toppled over onto its side. The other challenge was posed by the lockdown in which their strict restrictions were in place for coming together and following norms of physical distancing.

Amina has grown sunflowers on 1 acre for the first time and expects the harvest in the last week of March. WOTR provided 2 kg seeds. Amina got his 0.6 acres of land into cultivable land through the land development initiative in this project. He grew cotton on this patch of land and earned Rs. 3,000 by selling 60 kg of cotton. He has an optimistic outlook on the future. He plans to grow vegetables next year or grow short-duration crops, or practice zero tillage farming.

The labourers earned Rs.94200 during the lockdown period, where they would have to struggle for their livelihood.





Organic inputs for Climate Resilient Agriculture

Pitar Sabar, a farmer of Targising village, is a champion in promoting organic formulations to maintain soil health and increase agricultural yield. Pitar is from Targising village of Gunupur in Rayagada district of Odisha. WOTR is implementing the project "Building adaptive capacities and resilient to climate change of tribal and marginalised communities in Odisha, with the support of Bread for the World. The project began in August 2018 with the goal of improving and expanding livelihood possibilities for residents in 11 villages in the Gunupur block of Odisha's Rayagada district.

One of the tribal farmers named Pitar Sabar (40) is a small farmer, an inhabitant of Targising village of Jaltar GP, Gunupur block dependent on agriculture and some allied agricultural activities for his livelihood. He lives with his wife Sanjanita Sabar (35), and they have no child. He owns 7 acres of land, out of which 1 acre is cultivable land, and the rest 6 acres is pasture land where he has planted cashew. The cashew is a forest breed and is an old plant, so its income is significantly less. The agricultural land he owns is rainfed, so he only cultivates during the rainy season and left the land without cultivation during the winter season. The primary agriculture done during the rainy season is paddy, and it is used for its own consumption. Other household expenses are

borne by the amount gained by selling cashew and local labour work. Earlier, farmers were dependent on chemical fertilisers and pesticides to improve agricultural productivity. Many people migrate for about four to six months after the Kharif season seeking livelihood as no work is available in the village. They work as labourers in nearby cities or cities like Chennai, Hyderabad etc for their livelihood. Till 2018, Pitar used to migrate after the Kharif season to work as a labourer to Arunachal Pradesh, Tamilnadu and Pune.

Agriculture initiative

Climate Resilient Agriculture is one of the components implemented in the project. This component aims to promote adaptive, sustainable

agriculture practices such as System of Crop Intensification (SCI) and improved agriculture practices. Promotion of organic formulations, encouraging farmers to cultivate vegetables, and reducing agricultural input costs are the key activities of this initiative.

Pitar participated in four agricultural trainings organised by WOTR. Pitar describes how this training benefited him.

"We were taught improved agriculture techniques from seed selection to harvesting the crop. In the first training, we were shown how to select seeds, seed treatment and the preparation of seedbeds. In the second training, we were told about SCI and how to transplant using line method to ensure optimum sunlight and other nutrients for the crop for the maximum crop yield."

Pitar mentions the third training, which involved nutrition management and intercultural operations. Some of the activities taught in this training are pursued enthusiastically by Pitar and proved to be beneficial. Pitar says, "A demonstration was given on nutrition management and how to prepare organic formulations such as dashparni ark, jeevamrut, neemastra etc. These formulations are used as organic fertilizer or organic pesticides." Pitar swears by the methods of preparing organic

formulations and the benefits they bring. In the fourth training, harvesting, crop cutting was discussed and demonstrated. Post-harvest management - for preserving seeds and proper storage.

Transformation in Pitar's life

Wasundhara Sevak and WOTR staff played an important role in organizing these training programmes and hand-holding each farmer throughout the cropping season. With the guidance received, Pitar grew tomatoes for the first time in 2019. He earned Rs. 8,000 by selling tomatoes. These organically grown tomatoes, with the use of dashparni ark, neemastra and amritpani are chemical free and taste delicious. In the year 2020 when the entire district was hit by the pandemic situation of COVID-19, Pitar was busy selling his products such as tomato & onions from his field. He eventually earned a profit of Rs. 5740 by selling it in his village for marriage function. Pitar also practiced System of Rice Intensification (SRI) in the Kharif season of 2020-21 and he was supported with an automatic sprayer, mandua weeder, seed treatment materials etc. Along with that he also was trained to execute the process. The end result was quite remarkable as in his control patch the yield was 1700 kg per acre and in the command or demo patch the yield was 2000 kg per acre. The increase in yield of almost 18% is excellent. In the Rabi season



Pitar was supported with a set of sprinklers as it was observed that the irrigation available is not sufficient. Pitar contributed a sum of Rs. 2000 towards cash contribution for the sprinkler set. He then started cultivating onion & tomato in his land and earned a profit of Rs.8530. So a farmers who never grown any crop in Rabi is now earning on an average Rs. 8000 in Rabi season.

Pitar also sells dashparni ark to other farmers for paddy, tomato or any other crop. Pitar also started using the stacking method for his tomato crops in which individual plants are tied to sticks just tight enough to stay up. Staking helps plants grow vertically without a direct contact with soil, reducing loss from fruit rot, bringing additional income to Pitar. Pitar believes in sharing what he has learnt by conducting demonstrations for whoever is willing to learn. He taught the technique of preparing organic formulations to his acquaintances and relatives in nearby villages. Pitar is grateful for this intervention by WOTR,

“Now, I no longer migrate to other cities in search of livelihood. I am growing tomatoes, onions and other vegetables. My day starts early depending on the season. I work in my paddy field, collecting mahua seeds, cashews, and working in the field. I also sell surplus organic formulations to other

farmers. I am glad that WOTR is implementing the project in our village and would want to continue the good work in future too.”

Way forward

Pitar is looking forward to growing a second crop such as sunflower, sweetcorn and growing vegetables such as chilli, cauliflower, brinjal, bitter gourd, bottle gourd, onion etc. WOTR has kept detailed records of plant growth, maturation, pinnacle formation etc. and showed how to calculate the yield. WOTR supports farmers to have a demo plot in which all the recommended methods are applied to compare with the control plot on which traditional farming methods are applied. The difference between the two plots is self-evident. Pitar says, “Keeping a detailed record allows us to learn what goes into every stage of the crop. Analysing the data of the demo plot with the control plot helps us realise quantitative benefits of the methods we use over the traditional methods.”

Pitar has a great demand in the nearby villages to train others to formulate organic formulations. So WOTR has decided to promote Pitar as trainers to other tribal villages. It is indeed a great achievement for Pitar from being a migrant to being an organic formulation maker trainer.





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