



Eco Village Development

Case Studies



Development (WAFD) along with a Finnish NGO called Aar Social Development Association RY (ASDA RY) with support from the Finnish Ministry of Foreign Affairs.

The EVD concept is an integrated 360 degree approach to sustainable development that focuses on providing low-cost, pro-poor, low-carbon renewable energy solutions to rural communities while also focusing on capacity development activities and other co-benefits.

By taking a deeply participative approach that focuses on women, we have tried to create a responsive, community led approach to energy access, sustainable livelihoods and climate adaptation and mitigation.

Today, the EVD concept is being practiced in other countries such as Bangladesh, Nepal and Sri Lanka as well through INSEDA's role as the South Asian regional coordinator of the International Network for Sustainable Energy (INFORSE).

Below, are a few stories about our most important stakeholders, the beneficiaries and co-creators of the EVD project and how their lives have improved as a result.

About the Eco Village Development Concept

The Eco Village Development Concept for building climate resilient communities has been conceived, designed and implemented by two NGOs in India, Integrated Sustainable and Ecological Development Association (INSEDA) and Women's Action For

Sarita Bahuguna



SaritaBahuguna

Sarita Bahuguna has just finished her household work, both her children are at school, and she can now spare some time to talk. For one single person, Sarita does a lot: she takes care of the house, the cooking, looks after her animals, and maintains, what has now become, a high-yielding kitchen garden. Sarita says she joined WAFD in 2011 encouraged by the senior women of her village, Ranichauri. At that time, she wasn't sure about many things. Her children were much younger, so

she herself was doubtful if she would have time for WAFD and about what she would be able to do. She now looks to be in her thirties and it is an encouraging sign to see that even the younger women are showing interest in sustainable development.

Sarita is a quiet person and it would be easy to assume that she joined WAFD simply because most women she knew were doing the same. But that couldn't be further away from the truth. In her own words, Sarita says that she joined WAFD to see "what I'll gain

from it or if I'll gain anything at all". The statement is a little surprising as most of the other women only spoke of potential benefits and she so far has been the only woman from the village of Ranichauri to voice any scepticism.

Sarita is a hard-working woman and has single-handedly turned things around for her household by adopting the various technologies she learnt from WAFD:

- 1) Organic compost basket: She learnt how to weave the bamboo basket when the women were given the training, and got one basket for herself. Like the others, she was also remunerated for the basket weaving. She then used the basket to make organic compost which was also taught to her by WAFD. Recently, her basket broke but that will not stop her from making organic compost: "I will dig a pit and use it to make the compost. If WAFD helps with the basket again, I will use it. I am willing to pay for the bamboo if it is affordable."



Sarita with her two buffaloes

- 2) Organic farming: “Earlier I used to put dried dung in the fields and the kitchen garden for soil fertilization. Now I only use the organic compost. It is lighter and mixes well with the soil ensuring that the crops will grow on arable land.” She is very happy with the results she has been getting each year- the produce has doubled in quantity, the quality too has improved. She is able to sell some of the surplus crops like cabbage, cauliflower, capsicum, brinjal, and rai(‘mustard’) from her kitchen garden and earn around Rs. 4500 annually. She also made about Rs. 3000 by selling soyabean and ‘tuvar’ that grew in her field last year.



Sarita in her kitchen garden picking out the weeds

- 3) Pickle-making training: Sarita also attended a training organised for making pickles. Here she learnt how to make pickles and chutneys using different local vegetables and even fruits: mix vegetable pickle, green chilli pickle, ‘amla’ (Indian gooseberry) pickle, lime pickle, radish pickle, pumpkin chutney, and apple chutney. By making pickle herself, Sarita saved Rs. 500 at least.



The bed of turnips in Sarita's kitchen garden

- 4) Self Help Group – Sarita is the head of WAFD’s Ranichauri SHG since its formation. The SHG has 23 members and each month they have a meeting where each member deposits Rs. 50. The SHG has been meeting regularly since its formation in 2011 and one can easily guess at the group’s savings. The money of course is deposited in the bank so that it can earn interest. The money has turned out to be a great blessing and the SHG a reliable financial support system. Any member can borrow the amount for their needs at an interest rate of 2%. They also allow non-members to borrow but at a higher rate of 3%. Sarita herself borrowed money to get a toilet built in her house.

Sarita Bahuguna is an industrious lady who has won over her circumstances and become self-sufficient. She exemplifies that women can grow and develop themselves even in an ever-changing and challenging natural environment.

Mukesh Bahuguna



MukeshBahuguna

with the awareness of the revenue-generating nature of the

Mukesh Bahuguna is the only male volunteer at WAFD in Ranichauri. That, however, is not what makes him stand apart. Right from the start he was very clear about his reasons for getting associated with WAFD.

After completing his graduation, Mukesh got a contract to work on one of the university's agricultural projects. While working there Mukesh gained a lot of knowledge about gardening, farming, and a technology that was quite new for him – greenhouse/polyhouse. Mukesh was impressed and fascinated with the idea of cultivation in a greenhouse/polyhouse. This continuing fascination combined

technology, made Mukesh desirous of having a polyhouse of his own. He soon approached the agricultural university's Horticulture department and requested them to help him build his own polyhouse. However, he was in for some disappointment as they only built large greenhouses and had a set of conditions upon which approval for construction rested. This did not do anything to discourage Mukesh and he reached out to INSEDA's Myles Sir (Mr. Raymond Myles) whom he knew through his grandfather. INSEDA has long been WAFD's technical partner and at the time of Mukesh's conversation with his Myles Sir, WAFD had already established its presence and involvement in Ranichauri and the neighbouring villages. Soon Mukesh had his first polyhouse installed by investing Rs. 5000. WAFD, on the other hand, invested a whopping Rs.30000, six times of what Mukesh had invested.



The malta saplings growing in Mukesh's polyhouse

Once the polyhouse had been constructed, Mukesh prepared the bed for cultivation and it was then sown with 'malta' (a local citrus fruit similar to an orange). Mukesh had bought 2 kg malta seeds at



Mukesh watering the lush rai growing in the polyhouse

Rs. 50 a kilo. Within 6 months the saplings were ready and Mukesh sold 8000 saplings: 3000 were bought by WAFD at Rs. 10 per sapling and distributed among the village women associate with WAFD for tree plantation. The remaining 5000 were sold to any buyer who was interested and at the same amount.

The next year Mukesh tried growing apples but did not meet success. Since sowing any other fruit would take as long a time, Mukesh decided to sow some 'rai' seeds that he had at home, rather than leave the polyhouse lying vacant. This turned out to be a wise and profitable decision as the 'rai' grew very well and he was able to sell crop worth Rs. 2500. One year later, wary of experimenting, Mukesh again sowed 'malta' seeds and sold 1600 saplings at Rs. 10 per sapling. He still has quite a lot of saplings left and hopes to sell these in the month of July, this year. In between, Mukesh had also tried to grow 'amla' and pumpkin but with no success: the amla seeds never grew into a sapling and the pumpkin that grew was rotten. Some time ago, Mukesh got a second

polyhouse built, however he has not grown anything in it yet. Like Sarita Devi, he is also interested in getting polyhouse training. The agricultural university has promised to train all those villagers who have a to use it in the right manner. Mukesh has been asked to keep the bed of the second polyhouse vacant for the training.

Mukesh's first polyhouse shows some signs of damage caused by the monkeys who jumped on it and broke/tore it in a few places. He says "If needed I will build another one. Although now I want to build a bigger one (using iron)."

When asked about the changes WAFD has brought, he looks confused at the question since the answer seems as obvious as daylight to him. After a moment he says "You can SEE the difference WAFD has made and the development it has brought about. I am very happy that WAFD is here and I want them to continue to be here."

Revati Devi



Revati Devi

narrow strips akin to steps. Revati Devi uses the stones jutting out of the wall as steps to climb down and access the different beds of the kitchen garden. These stones are not very large or flat, the

To reach Revati Devi's house, one has to walk down a steep path from the road where WAFD's storage room is located in the village of Ranichauri. One look at the house and the adjoining narrow compound, and one is forced to wonder if there really is a kitchen garden! It is while admiring the plum tree in full bloom, and chancing a look below that the existence of the kitchen garden is confirmed. To city dwellers and those new to the ways of the people who live and practise farming up in the mountains, the sight is one to inspire awe and some fear: the kitchen garden has been planted at various levels below the house. It grows on

largest being the size of a human foot! Watching her climb down, one would think it was as easy as walking in a park!



Revati Devi standing next to the plum tree (tree plantation)

Further down, on one of the levels the organic compost basket that she got from WAFD is placed; it supplies the compost for her organic farming. She uses the compost for fertilizing the soil of both the kitchen garden and the farm. Organic farming, composting, and the right method for maintaining a kitchen garden were benefits she had heard about when she first became aware of WAFD and what the NGO does. When asked what made her join WAFD, she very simply and matter-of-factly says "I joined to get some benefit and to keep myself occupied."

She claims that earlier, she would simply sow different things on the same patch of land. Whereas now she grows crops and vegetables in different beds and in an organised manner. She gives the example of how she has learnt to grow colocasia the right way.

She now plants the roots far apart allowing each plant ample space to grow in. She says that as a result, the leaves and the roots both grow much bigger than they used to. She now only uses organic compost for soil fertilization. She grows vegetables and herbs like spinach, radish, colocasia, coriander, and 'rai', and legumes like 'rajma' (kidney bean), 'tuar' (a popular variety of lentil), and soyabean. Although 'rajma' is a crop most villagers grow, soyabean is one they became aware of through WAFD and were encouraged to grow it as it is one of the richest sources of protein.



RevatiDevi on the first level of her kitchen garden

Revati Devi joined WAFD to gain benefits and she has done so, in fact she has gained three-fold benefits: (1) She saves a minimum of Rs. 600 per year by using compost instead of chemical fertilizers. (2) She now earns money by selling produce worth Rs. 2000 at least, and by selling the excess organic compost to the agricultural university worth the same amount. (3) She now gets produce that is improved in terms of both quality and quantity. This means

better and more crop and also better quality fodder for the cattle. The last one has been a combined result of using organic compost and the right techniques of planting seeds.

She is very happy about what she has learned and gained. She also shows interest in one of the other technologies WAFD promotes, solar drying. "If WAFD shoulders 50% of the cost, I will buy the solar dryer."

Krishna Bahuguna



Krishna Devi standing next to the plum tree (tree plantation)

Krishna Devi points to one coriander bed which now lies in a ravaged state with many uprooted plants. This, she says is the doing of the monkeys. Since her house is at the edge of the village, it is usually one of the first to get attacked by the monkeys. The

Krishna Devi joined the Ranichauri chapter of WAFD in 2012. She is the volunteer for the village of Sabli and also the head (adhyaksha) of Sabli's Mahila Mandal Dal. When asked how joining WAFD changed her life, she says, "After joining WAFD we have learnt the right gardening techniques for growing vegetables and herbs in our kitchen gardens. We now make separate beds for the different things we grow and we have diversified into growing more varieties of vegetables."

She grows spinach, coriander, fenugreek, mustard, onions once winter starts making way for spring. While showing her garden,

monkeys and wild boars are the greatest menace in the region and especially for the village of Sabli. Yet, Krishna Devi says, all is not lost. Despite the monkeys, we still get enough for ourselves. This has also been possible as the common water tap provided by the government (1 tap for 8-10 families) takes care of the irrigation requirements for her kitchen garden, which means that its irrigation is not dependent on the rain unlike the farm.



Krishna Devi examining the 'rai' plants in her kitchen garden

She now points to the other coriander bed and starts explaining: "The biggest change that I have witnessed is in the crops that I am growing. Earlier, the plants used to be smaller, the stems thinner and the seed/grain smaller. But now, the plants/herbs that are growing are taller, have more leaves and the seeds/grains are much bigger."



The coriander bed in the kitchen garden

While talking about her farms, she says that she manages to grow enough for her household and when the rains are on time, she even sells some of this produce. Her farm is quite far from where she lives. She helps her husband in taking care of the farm and they practice organic farming. They mostly grow wheat, ragi, kidney beans, and two varieties of pulses ('arhar'/'tuar' and 'naurangi'). Krishna Devi compares the results of organic farming with farming using chemical fertilizers. "Before WAFD, I used to put urea in the wheat fields and the wheat used to turn yellow in colour. The same thing used to happen to coriander as well. But, ever since we started practising organic farming, the wheat stays green, the leaves do not turn yellow at all. Even the coriander remains green the whole time." The second benefit of organic farming has been the increased quantity of crops. "Earlier if we got 10 kgs of wheat, now that quantity has become 15 kgs."

Krishna Devi seems quite happy and satisfied with her entire experience. This brings to mind what she had said at the beginning of the conversation: "Things have only become better."

Bimla Mamgai



Bimla Mamgai

Bimla Mamgai joined WAFD in 2011 to get benefits, learn new things, and maybe earn something. When one talks to her, one gets the feeling of receiving constructive criticism but in the reverse order. On being asked about her experience with WAFD, she says it has been fine. "We women meet every month and deposit Rs. 50 for the SHG. If a member wants to borrow, she can do that at an interest rate of 2% but for an outsider the rate is 4%. The borrower has to return the money along with the interest within 4-5 months." She gives the impression that she is done sharing her thoughts on SHG which is strange given the fact that she is the

treasurer of Jagdhar's SHG with 11 members. When challenged with the question if the SHG is really of any use, her reticence disappears and she vehemently answers "Yes!" She then goes on to explain in detail how the amount deposited each month is deposited in the bank and earns interest. All the women have been contributing money regularly, each month since the conception of their SHG. There have been no defaulters and everything has been functioning smoothly. The SHG has provided financial support to the members and some outsiders without the maltreatment that the villagers earlier had to endure at the hands of local moneylenders. The self-reliance and the boost to self-esteem has been unimaginable and means a lot to these women. Members borrow money for reasons ranging from weddings in the family or medical expenses to starting a business and financing children's higher education. She is proud of the fact that the accounts are always in order and volunteers to show the accounts book.



Wheat growing in Bimla Ji's kitchen garden

Bimla ji did not need a roof-water harvesting tank as she already has a storage tank and a tap. However, she claims to have benefited a lot from the organic farming. After her organic compost basket broke, she started buying the compost from others as it would have been foolish to go back to growing in sub-standard soil. The organic compost mixes well with the soil as it is fine and light and increases the fertility manifold. The crop now tastes much better and the quantity has more than doubled.



A patch of coriander in the kitchen garden

Since monkeys are a big menace and destroy or eat things from the kitchen garden, there is no surplus left to be sold. What does remain is enough for her household. She is one of the few who grow capsicum too in her kitchen garden. In the farms, she has stuck to the two staple choices: 'rajma' and 'jhangora'. The produce from the farm has also increased 1.5 to 2 times as a result of organic farming. As the conversation draws to a close one can see that she is very happy (after all!) with all that has come about and all the benefits she has gained because of WAFD.

Chatara Devi



Chatara Devi with her grandson in her kitchen garden

Chatara Devi is a resident of Maun and one of the first to join WAFD. Among all the villages in and around Ranichauri where WAFD has its presence, Maun is the largest, most spread out village and has the most difficult terrain. Unlike Sabli and Ranichauri, where houses are built close together, the houses in Maun are far apart. Apart from Chatara Devi's house, there are four more houses and each is on a different level and each can be reached after a steep climb. Right now she has come to the house of her sister-in-law who is away but the daughter-in-law is in the house frying something inside her tiny kitchen. Chatara Devi is keeping an eye on her grandson (her sister-in-law's grandson). That is one fact one has to get used to in the village: everyone is related, somehow!

Chatara Devi can only speak Garhwali, the language that people of the Garhwal region speak. The questions are, therefore, first

translated to Garhwali from Hindi and her answers again translated into Hindi from Garhwali, which then undergo yet another translation and are typed in English. Chatara Devi remains unperturbed by this longer communication route and easily describes her experience with WAFD. She fondly remembers how WAFD had given 'rajma' seeds to the women in 2011 and when the crop failed they were all given a compensation of Rs. 600. She also mentions how they were all remunerated for weaving bamboo baskets to make the organic compost basket. That is her self-created cue to talk about composting and organic farming. Earlier, she continues to describe, they would use dried dung for soil-fertilization. This would not mix too well with the soil, was dense, and would get washed away easily if it rained. On the other hand, the organic compost basket's product is fine, almost soil-like, and has made the soil much more fertile than it was. On learning about how earthworms aid composting and how the resultant compost makes the soil fertile and the crop grown better, she even took earthworms from the agricultural university.



Chatara Devi checking if the organic compost is ready

The produce is now 1.5 times of what it used to be and has resulted in two huge benefits:

- 1) For 5-7 months each year, she does not have to buy vegetables, for the kitchen garden supplies her everything she needs.
- 2) By selling the surplus potatoes, cabbage, onions, cucumber, 'parval', peas, and garlic, she earns about Rs. 35000 annually, which is double of what she used to earn earlier.



Garlic bed

This change in earnings is not only the result of organic farming but also because of the new crops she was introduced. Before WAFD came into the picture, she mostly grew peas and potatoes but now she grows more than ten different kinds of vegetables and herbs.

Chatara Devi was also a member of one of the first SHGs started under WAFD's umbrella. For five years, all members sincerely deposited Rs. 50 each month and consolidated savings. For the same five years, the members received financial support for their

varied needs. Recently, the SHG completed five years. Since most of the members are now senior citizens, they decided to discontinue it and distributed the entire amount equally amongst themselves: each member got a sum of Rs. 3600. Chatara Devi says that now the daughters-in-law of the village should start an SHG for they will need it more than us seniors. She is not offended at being asked what she intends to do with the money. She laughs and says that she has not decided what she will do with it, but she is happy to have it at her disposal.

Bineeta Devi



Bineeta Devi

Bineeta Devi and her mother-in-law Jatari Devi are both members of WAFD. Her mother-in-law was one of the first women in Maun to be associated with WAFD. At the time, Bineeta was new to the village and now she is a mother to two very young children. As a result, she was not a regular at the meetings but she was taught everything by her mother-in-law who could attend all the meetings and training sessions.

She then goes on to list out all that she learnt: “When to sow, what to sow and how to sow it; how to irrigate the land; when should we put the organic compost and how should it be put.... In an aside she says that earlier we would use dried buffalo/cow dung and simply throw it on the top soil which would sometimes get washed away by the rain.” She also learnt about the uses of *trichoderma* (a fungus that is used as a fungicide against other species of fungi and is organic). She adds it to the organic compost basket so that all the harmful microorganisms can be destroyed. She has learnt how to grow more crops and also sell the surplus. More importantly, she has learnt how to generate savings. She is now interested in becoming a part of an SHG. Two years ago, she had sold the surplus organic compost to the agricultural university at a rate of Rs. 700 per quintal and earned herself a tidy sum of Rs. 3500.



Organic compost basket



Garlic and onion beds in Bineeta Devi's kitchen garden

The greatest change and benefit for her has been financial independence. She now has money and can spend it on the house, on her kids, and even herself. She no longer needs to ask her husband for money and finds that very liberating. She has even managed to put away some of this money in the bank. Bineeta proves that financial independence is not the prerogative of urban women working in offices.



Figure 1 An onion plant ready with the seeds for next year's sowing

Chamani Devi



Chamani Devi

The government tap for drinking water was installed near this cluster of houses, of which one is Chamani Devi's, six months ago. The water comes twice a week and on those two days one witnesses all women queuing up to fill the water with an assortment of large vessels, cans, buckets, earthen pots and what not on display. Despite this limited availability, the tap has proved to be beneficial as the women no longer have to travel long

distances to get drinking water. Till six months ago they would have to make at least 2-3 trips every day which translates into spending around 2 hours every day to fill drinking water.

For regular water too, Chamani Devi and the other women in Guriyali, had to walk till Pantnagar university every single day. These women had to spend five hours every day single day to get water for their domestic needs. Five. Hours. Every. Day.



Chamani Devi's roof-water harvesting tank

Anyone can do the math: each woman would spend 7 hours daily to get water for all the household needs. Let it not seem that this was only a question of time: each woman walked large distances

on uneven, mountainous paths (not even roads) and returned carrying a heavy load on her head. And this is how things would have continued if not for their decision to become associated with WAFD in 2011. Speaking for herself, Chamani Devi says that when she learnt about kitchen gardens and organic compost and the benefits of both, she decided to join WAFD. She had another benefit waiting for her when WAFD proposed to construct roof-water harvesting tanks for those women who needed it and also had the space to get it installed. Additionally, WAFD also offered to bear half the cost. Chamani Devi now has time to devote to her kitchen garden and farms and no longer has to live with any water related uncertainties.



Figure 2 Chamani Devi showing her organic compost basket

Her kitchen garden is thriving and she grows a variety of herbs, vegetables, and legumes. Thanks to the training provided by WAFD, she no longer spends money on buying seeds and now preserves her own seeds after a crop ripens. With pride she states, “We now make the beds ourselves.” Pointing to the onion bulbs that now have flowers growing on top, she explains how the onion seeds will come from these flowers and will be ready and waiting to be sown. As a result of seed preservation, composting, organic farming, and practising the right method for tending a kitchen garden, Chamani Devi

has saved a lot of money and has earned some as well. She sells the ‘rai’, coriander and peas that grow in her kitchen garden for Rs. 4000 each year. The wheat growing in her farm saves her another Rs.4000 which she would have otherwise spent on buying the grain for her household.



Onion bulbs with flowers in the kitchen garden

She also grows a variety of pulses which have now improved in quality and increased in quantity thereby omitting any expense in the form of buying pulses. “Because of the compost, I get a better crop that is healthier and free from disease.” This statement is noteworthy as the village is plagued by two problems: 1) wild boars who dig up beds and fields, and 2) land that is less fertile compared to the land in the other villages. And yet, neither of the two problems have been able to prevent this change, this growth and development, and the self-sufficiency that women like Chamani Devi are exemplifying.

Prakashi Devi



Prakashi Devi filling water from the common tap

Prakashi Devi is an ASHA worker and a resident of Sabli. Though associated with WAFD and well aware of the benefits of having a kitchen garden, rain-water harvesting tank, compost basket, etc. she does not own any piece of land where she can implement these like her fellow villagers. However, that does not prevent her from bearing witness to the benefits these have brought to others' lives. She explains how everyone in the village who has used the compost for soil fertilization has reaped the benefits in the form of crop quality and quantity.

Prakashi Devi is a community healthcare worker and hence it is not surprising when she outlines some non-agricultural benefits like the following: She says organic compost basket is a clean solution as there is no bad odour nor does it attract mosquitoes or flies the way piled dung always does. As a result, it does not cause any diseases and keeps the surroundings clean. She shares another surprising piece of information at this point. According to her, the benefit of using compost has not gone unnoticed, by anyone at all. She continues and says that now even the Nepali immigrants are buying organic compost from the village women for their own farming. With a tone that implies an emotion lying somewhere between pride and satisfaction she says "Now, most people in the village are doing organic farming. We all are making people aware about it."

She is also a member of the Mahila Mandal Dal and is very happy to be a part of the discussions that take place. She says it gives her an opportunity to meet everyone and sometimes she also gets some work. "In our meetings we also discuss if the village needs anything repaired or built. For instance, if any of the village paths has overgrown bushes making it difficult for the children to walk to school, the head of the Dal and others mobilise themselves and allocate the task of clearing the bushes. This is just one

example. We basically work together whenever required; we help each other out in times of need or when someone's unwell etc.” Prakash Devi creates a clear impression that these women do not sit around waiting for someone to do something. If there's work to be done, they do it themselves. There it is — self-reliance — these women have empowered themselves without (fully) realising it.

Bhageshwari Devi



Bhageshwari Devi

Bhageshwari Devi is one of the youngest amongst Sabli's women to have become associated with WAFD. She is mother to two little girls aged 6 and 11 respectively. The older one goes to school and keeps herself occupied but the younger one still tends to stay close to her mother most of the time.

Bhageshwari Devi has learnt most of the things that WAFD taught the village women, including basket weaving (for making compost baskets); developing and maintaining a kitchen garden, growing vegetables and herbs suited to the type of soil and climate found in the region; fruit preservation, etc. With two young children to look after and a household to run, both of which she does single-handedly, there is no free time left. Whenever she gets time after finishing her chores, she devotes it to farming. She practices organic farming and has a bull, a buffalo and a calf. "I do not have a kitchen garden as there is no tillable land around this house." She continues on a wistful note, "If I had had a piece of land for developing a kitchen garden, I would have grown and sold crops." Bhageshwari Devi is waiting for her girls to grow up so she can have more time on her hands to do things. She has even decided that the first thing she is going to do is make pickles. "I went for pickle making and learnt how to make pickles and chutneys." When asked if she ever tried making them at home, this is how she answers: "No. But, I have not forgotten. It is all in here," she says pointing to her head.

When asked about how she has benefitted from WAFD, she promptly speaks about the Self Help Group (SHG) of which she is a member and a beneficiary. Every month the women meet and deposit Rs. 20 each, this money is then deposited in the bank. If a member needs monetary help, she takes a loan from the group at 1% interest rate. So when Bhageshwari Devi needed Rs. 20,000/- for her sister-in-law's wedding, she went straight to her SHG and took the loan. She got the loan at 1% interest rate and with great pride announces that she has already paid it back.

Anita Bahuguna



Anita Devi

Anita Bahuguna has been a volunteer with WAFD since 2011. On being asked what made her join WAFD and become a volunteer, she says she was curious about what WAFD would do and wanted to assess her own capability — “मुझमेंकितनासामर्थ्यहै?” Anita says that she has always been interested in the activities of both the household as well as the society at large; therefore, she enjoys her role as a volunteer for WAFD for Ranichauri. She recalls how when she joined WAFD there she faced a constant internal battle between her enthusiasm and her hesitation to speak: “I didn’t know how to speak, how to address a group. But when you are a volunteer, you have to talk to everyone. Slowly, steadily, I learnt how to talk and now I talk too much!” Anita Devi has become a well-known face in Ranichauri and the neighbouring WAFD villages. When she arranges the meetings with other women and takes us from house to house, we witness first-hand how well known and well-respected she is. In fact, some of the women who

were interviewed later wondered out loud why they were being asked about WAFD if Anita Devi had already been interviewed. Anita Devi has complete knowledge of all the technologies WAFD has brought to Ranichauri and the neighbouring villages of Sabli, Jagadhar, Maun, and Dargi. She formed the Self Help Group in her village and helped the SHG get its own bank account, and she also taught the women in the group about thrift and credit. She even taught this to the women from the other villages and helped other volunteers to create bank accounts for their respective SHGs.



Anita Devi tending the 'rai' bed

When asked about how she has incorporated the training given by WAFD in her life, she talks about organic farming and her kitchen garden. Though she does not have a buffalo, Anita Bahuguna ensures she does organic farming and has a WAFD made organic compost basket too. She gets dung for the compost basket by bartering dry grass which serves as cattle fodder. This compost, she says, is lighter and finer than dried dung and one trip to the field with a basketful of organic compost takes care of the

fertilization. This compost mixes really well with the soil and makes the soil very fertile. That is why, the crop that grows now has a bigger grain and its quantity has also doubled. Earlier, she used to add chemical fertilizers but since 2011 she has been practising organic farming and encourages others to do the same. She grows 'rai', spinach, fenugreek, coriander, carrots, turnips, colocasia, etc. In her farm she grows grains like wheat, 'jhangora', 'ragi', 'rajma' (kidney bean), etc.

The conversation lasts a good one hour during which she talks about the village kirtan mandlis, organising trips for the kirtan mandli's members to religious places. She also describes how the women work together and help each other: Due to less rainfall, the forests remain dry and forest fires have increased in frequency. One such fire spread to someone's farm and all the women gathered together to put it out. They carried buckets of water and tried to put the fire out as quickly as possible without waiting for the fire department.

This is the spirit the women of Ranichuri village live with and demonstrate: They are doers, implementers, and a hard-working lot or as Anita Devi puts it, "कर्मठ".



Sarita Bahuguna



Sarita Bahuguna

Sarita Devi joined WAFD in 2012 when she learnt of the benefits she would gain from the association. The first few benefits were the free 'rajma' (kidney bean) seeds she got for sowing in her farm,

learning the right method to grow vegetables and herbs in a kitchen garden, and knowledge about practising organic farming. Though Sarita Devi does not have any animals or a compost basket, she uses organic compost when cultivating crops, thereby improving the fertility of the soil. She gets the organic compost from those who have surplus in exchange for the dry grass meant for fodder. Bartering may sound primitive however for these women it is a fitting solution. She uses the compost primarily for the vegetables and herbs she grows in her polyhouse.



Sarita Devi's polyhouse

The polyhouse is a smaller and economical version of a greenhouse. The structure is made from bamboo and covered with plastic sheets. Sarita Devi is one of the select few who got a polyhouse made from WAFD. She has had it since February 2015 and in a single year has noticed the benefits of growing vegetables and herbs in a polyhouse.

Apart from offering protection against the elements, a polyhouse's greatest benefit is that it eliminates the dependency on seasons. Sarita Devi opens the door of the polyhouse to show how the crops growing inside it are much better.

She points to the 'rai' (mustard) growing outside in the kitchen garden and the one growing inside the polyhouse and explains the difference. The crops that are sown in the polyhouse grow faster and are better. Organic farming had already shown her the improvement in crop quantity and quality. The polyhouse has taken it a step further. Capsicum would never grow well in her kitchen garden, or if the plants did grow then they would not bear fruit. In the polyhouse however, the capsicum thrived. She has also grown coriander, spinach, brinjal, carrots, and 'rai' (mustard) in the polyhouse.

She is looking forward to the polyhouse training that will take place in the coming months to learn the right method of using a polyhouse. Though the crops in the polyhouse have been growing really well, Sarita Devi is well aware that to make use of its full potential, she needs to attend the training.



The 'rai' bed in the kitchen garden



Inside the polyhouse

Kidi Devi



Kidi Devi

Kidi Devi lives in the village of Maun, a village that is not easy to access and has a difficult, mountainous terrain. It is also the furthest away from Chamba, and even Ranichauri. It is a long way down to reach the village and an even a longer way back, city dwellers are forced to re-examine their assessment of how difficult climbing uphill can be!

Kidi Devi became a member of WAFD in 2011, and then in 2013 she became the volunteer for the village of Maun. Initially sceptical, Kidi Devi joined WAFD when she saw what the NGO was doing and thought to herself that even she would benefit from the association. Though she doesn't have much land to speak of, Kidi Devi has not let that come in the way of adopting the technologies introduced by WAFD. In 2012, she got the organic compost basket for herself and since then has been using the organic compost in her kitchen garden. She was pleasantly surprised to note that for the same amount of dung, the organic compost basket gave her three-times the compost for soil fertilization. She says that now the crops are better: the plants are bigger than they used to get, the kitchen garden now boasts more bloom; the produce has seen a two-fold increase. Kidi Devi managed to earn Rs. 15000 by selling 3-4 quintals of peas.

Looking at the earnings one would think water must be easily available, that is not so. Water is a huge problem in the village of Maun and everyday at least 3 hours are lost in getting water for the household needs. Unfortunately, for her, though WAFD was ready to build a roof-water harvesting tank for her, she did not have any space to get it installed. But one thing that she did have enough space for and did get installed was the biogas plant.



Kidi Devi standing next to her biogas plant



The inlet of the biogas plant



The slurry mixing tank of the biogas plant

The biogas plant is something any Indian with a school education is familiar with, in theory; in this mountainous village of Maun it is not just a part of a science book's chapter but an important part of Kidi Devi's everyday reality since 2015. The biogas plant was ready for use in July 2015 and Kidi Devi was now making tea, doing her daily cooking using biogas. To start the biogasification process, every day, 25 kg dung and 25L water are added to the slurry-mixing tank of the biogas plant and then mixed. She has one cow right now (she sold off her second cow a couple of months ago) and uses the cowdung for feeding the biogas plant. This tank feeds the digester where the fermentation of the slurry takes place and produces the biogas. The biogas then travels the pipeline and fuels the gas stove in Kidi Devi's kitchen. The outlet tank collects the used slurry, which is then taken out and allowed to dry. Kidi Devi uses this in her farming. The biogas plant now fulfils most of her cooking requirements. The only two things she does not use it for are making chapatis and dals like rajma. She says the chapatis made on the chulha have a different taste and we did not enjoy the chapatis made on the gas stove. Because of using the biogas plant,

her exposure to the chulha smoke has now reduced to only 90 minutes in a day. She says that with the coming of the biogas plant, her dependency on LPG cylinders has been eliminated. Earlier she would wait for the cylinder to be delivered. Quite often, she would be faced with a situation where on the day the cylinder was delivered she would not have any money in the house and would have to forego it. You can hear the sadness in her voice when she recounts this. She quickly bounces back and describes the current situation: "Now when the cylinder is delivered, I barely feel the need to use it. In fact if someone else needs a cylinder and does not have the money at the time, I give it her."

The biogas plant changed things in Kidi Devi's kitchen but it was being appointed volunteer that transformed her. She says she has learnt how to talk to people and how to carry herself when addressing others. Earlier, she would not speak much but becoming a volunteer meant she had to talk! She participates in the Mahila Mandal Dal meetings, and motivates others to adopt the technologies introduced by WAFD so that they too can benefit from it. She talks about a recent incident to explain how she has become vocal. "The men and women from the village had been hired to construct a wall by the Block Development Office. The men only had to put cement on the bricks to construct the wall, whereas the women had to do the more labour intensive task of carrying the materials required for the construction. The men were going to be paid Rs. 350, whereas the women were to get Rs. 200. When I found out about this difference in wages, I told the authorities that if you pay us Rs. 200 then we will do the work worth Rs. 200. '200 रुपये के लिए हम फिर 200 रुपये का ही काम करेंगे।'" Kidi Devi continues and says that earlier if a woman in the village spoke her mind, she was looked down upon. But now, all the village men and elders have become used to listening to our opinion and some of them welcome it too. "We now feel that yes we have a voice."

Bimla Kothari



Bimla Devi near her kitchen garden

“I liked what they wanted to start and the work they wanted to do, so I joined them.” This is Bimla Devi’s reason for becoming associated with WAFD in 2012. She lists out the different things she learnt and has done ever since this association with WAFD

began: “I made organic compost baskets, installed a solar dryer with their support, learned the method for fruit preservation and made pickles, chutneys, and squashes.” At this point she offers to make a glass of squash made from rhododendron flowers. An offer that is declined and she herself is not too surprised at that. It is winter after all and the only beverage that is welcome is tea, which is offered soon enough!



Rhododendron squash (pink liquid bottle) and other squashes made by Bimla Devi

Bimla Devi then proceeds to talk about her solar dryer. The solar dryer is made of bamboo that provides it the structural support and is then covered with plastic sheet which enables the process of drying. Its appearance is misleading and at first sight one does not expect it to yield the results it is supposed to, but it does. Bimla Devi has used her solar dryer to dry turmeric (around 10 kgs) which she then powders and stores to be used in cooking all through the year. She does the same with red chillies (5 kgs) and likewise stores the red chilli powder for the entire year. She also dries the local fruit of ‘chulu’ (this fruit resembles an apricot but is sour in taste) and then uses it to make a chutney she learnt during the fruit preservation training.



Bimla Devi's solar dryer



Bimla Devi showing her solar dryer



Dried chullu



Turmeric powder

She also used the dryer to prepare 2 kgs of 'badis', a popular dumpling like foodstuff made from black lentil and colocasia. The two ingredients are combined together to make small dumpling-like balls that are then dried and stored. These can then be used in the future to make curries and are very useful when seasonal vegetables are not available. The thing she likes most about the solar dryer is that there is no discolouration. She says that the solar dryer is very effective and does not require constant monitoring. "You can put the turmeric or whatever else in it to dry and then simply check after a few days. The turmeric and chillies retain their original colour." Here she brings out the turmeric powder she prepared as evidence. She says that another great advantage is that the vegetables/herbs inside it remain clean as dust or anything else cannot enter." She then compares it with the tedious process of drying things traditionally in the open that require one to keep constant watch. Despite that there is no guarantee that it will remain free from dust or tiny insects.

By using the solar dryer, Bimla Devi has produced some very good quality ingredients free of cost and these are ingredients that are always needed in most Indian kitchens. She even sold some of these, namely turmeric powder, red chilli powder, and dried 'chullu' for a total sum of Rs. 4000. The solar dryer is a great boon and has turned out to be an unexpected income generator for her. WAFD has helped her to get another, bigger solar dryer which is intended to be used by her and any of the other women in Jagdhar. Bimla Devi plans to use both more effectively and on a larger scale in the near future.

Indu Bahuguna



Indu Bahuguna

Indu Bahuguna joined WAFD in 2011 thinking she would increase her awareness, learn new things, maybe learn something that will enable her to contribute the family's earnings, and gain benefits from the association. When she talks about her experience with WAFD, it is clear that all four things came to fruition. She has a lot of land around her house and her husband is also a keen gardener as a result of his association with the agricultural university's horticultural. She practises organic farming and has a fertile and abundant kitchen garden. The organic compost basket she had got made from WAFD is now broken and of no use, but the practise of making organic compost has not stopped and she continues to make her own organic compost, though in a pit now, and uses it for soil fertilization. She says the organic compost gets ready faster and therefore is available when needed; this means we are guaranteed better crops and more produce each time. She grows a variety of vegetables and herbs in her kitchen garden, 'rai', coriander, fenugreek, spinach, radish, turnip, etc. to name a few.

With great satisfaction she announces that she saves upwards of Rs. 750 each month because of her kitchen garden. She could have earned much more by selling the extra produce, but doesn't. She says, "when you live in the village, in society, you share what you have. So I give some of the things to my relatives or with someone who has not been able to grow that crop of which I have surplus. 'गाँव में तो ऐसा ही होता है।'"



Indu Bahuguna in her kitchen garden

Owing to the pickle and fruit preservation training, Indu Bahuguna made a lot of things including rhododendron concentrate and rose

concentrate. “We went to the forest to collect the rhododendron flowers and brought back sackfuls. We then cleaned these and made the concentrate at home following the method exactly as were taught. The concentrate (which she and the other women call juice) came out really well and was liked by all who tasted/had it.” They even sold this and other things that we prepared at a tidy sum, which she calls her ‘pocket money’. “Because of this money I earned, I don’t have to ask my husband for money to buy things for myself.” She has been freed from the question and answer session that follows every occasion when a wife asks her husband for money. She seems extremely happy for having gained that freedom.

Indu Bahuguna is also a member and the treasurer of the Self Help Group formed by WAFD in Ranichauri. The women meet monthly and deposit Rs. 50/- each. There are 23 members in the group and each is entitled to take a loan when needed at an interest rate of 2%. For loan amounts larger than Rs. 5000, the SHG member in need would have to submit an application which would be accepted only if the entire group gave their approval. The SHG has been a great boon for the women as they do not have to depend on any external agency for funds and they have the assurance that their act of taking a loan would not be unjustly used to humiliate or manipulate them in any way which is how village moneylenders have often treated people who take loans. “गाँव में अगर किसी से मदद लें या पैसे उधार लें तो काफी बार ऐसा होता है कि आप को बातें सुननी पड़ेंगी। तानें सुनने पड़ेंगे।”