

# Digital technology for collective vegetable farming

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This practitioner case example was developed out of the *Use of Digital Technology as an Enabling Strategy for Empowering Women Micro-entrepreneurs for Marginalized Communities in the Context of COVID-19 in Nepal* project. Their intended purpose is to serve as illustrative and educational materials for others working in the promotion of gender equality, digital technology, and micro-entrepreneurship within agriculture support as part of their development practice.

## Inception of Business

Ms. Sunita Bote is a 33-year-old agri-entrepreneur from Padampur, Kalika municipality. She along with her family were resettled by the government program in Padampur about 23 years back and moved from their original village in Bhimpur located across Rapti river. Her family has about 3 Katha<sup>1</sup> of land and make their living from farming and labor work. Sunita along with other Bote women learned about vegetable and banana farming while working as farm labors on a commercial farm in their area. They tried vegetable farming in their own home garden and found it profitable when they sold the produce to nearby villages on their bicycles.

Realizing the potential of vegetable farming as additional cash income for the family, about 5 years back, she along with other members of the Parijat Bote women's group, initiated collective vegetable farming on about 25 katha of rented land nearby. The Parijat Bote women's group is a savings and credit group within the Deep Social enterprise women's cooperative of which Sunita is an executive committee member.

Sunita explained, “we took risk by starting at big scale with 25 katha land. It was very challenging in the first two years as we had a high investment in drip irrigation systems and had a problem selling our vegetables. We didn't know the price rate of our vegetables. The traders fixed the price, and we didn't calculate profit or loss. We had taken a loan from the cooperative and had a hard time paying monthly interest. Some of our sisters left the collective farming as they got scolding at their homes since we couldn't get any benefits during this time”.

During the COVID-19 pandemic, they had more difficulty selling their produce due to restrictions in mobility. They had good production but couldn't sell 50% of their produce. More women left the collective farming, and they reduced the farmland to 8 katha in the third year.

## Current Challenges

Sunita and her group's collective farm are doing better now. Since the 3<sup>rd</sup> year, they have been able to purchase some groceries for their family from the farm income. Sunita is also the treasurer of this group and manages the record of the group's account with the help of her husband. She is

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<sup>1</sup> 1 Katha = 1,361.25 ft<sup>2</sup> = 126.464 m<sup>2</sup>



trusted by the group. Though she hasn't calculated the total cost of production of the vegetables, she expressed that the higher interest rate on the loan, land rent, cost of seeds, fertilizers, mulching plastic, and lack of irrigation water has made the production costs go high. The weather adds to the uncertainty in harvest.

She says, “we had been cultivating vegetables from our grandparent's time in our previous village. We used to have cows, buffaloes, rice harvest, vegetable farming, everything used to be good. Now here environment is different. We realized that we need to add different types of fertilizers here. We need to cultivate different varieties.”

Working in a nearby vegetable and banana farm in Padampur for 2-3 years gave Sunita and her colleagues a good learning opportunity on the basic ways of farming vegetables and bananas. Yet, they are facing difficulties in making their farm thrive financially. They have a loan of 106,000 rupees in the cooperative. Marketing was highlighted as one of their major challenges. “We got contact numbers of vegetable traders from the farm owners with whom we worked previously. We call them to take our produce. They come to our farm with their vehicle. We sell them our produce in the price they offer. We didn't know the market price and had no choice but believe what they say. We went into loss”, Sunita explained.

In addition to the price of their produce they shared having less information about the price of inputs such as fertilizers, good quality seeds, and government support available to them.

### **Use of digital technology for agribusiness**

She has two smartphones in her house, one is for her husband and the other one was bought during COVID-19 pandemic for her children to do online classes. Her children mostly use the smartphone when they are at home. She is busy with household and farm chores almost all day. After dinner, she spends 1-2 hours using the smartphone to watch songs and movies, use social media such as TikTok, communicate with her relatives, and more. Before the training on digital technology, her major sources of information for her farming were the agrovet, other entrepreneurs and neighbors, family, and cooperatives. She had heard about the GeoKrishi app but didn't know the details. She didn't know that useful information such as market price, weather, disease and fertilizer management, farming techniques could be found easily on digital apps such as GeoKrishi.

During the two days of training given in her own village by women digital facilitators, she and her daughter learned about the usefulness of their smartphone for increasing farm production and income. They got to know that some of the women farmers in their community were already using GeoKrishi, YouTube, and Facebook to get information related to weather, new crops, improved farming techniques, and better livestock management practices. At first, she was reluctant to use the smartphone but with the assistance of the facilitator and her daughter, she gained confidence to download the GeoKrishi app, explore the videos about vegetable farming inside the app, have conversations with experts about farming issues, and keep record of the cost of production.



Now Sunita uses her smartphone not just for entertainment and communication, but also to get information about vegetable and banana farming. "We used to roughly estimate the amount of seed, fertilizer, pesticide needed in our crops. I could now make more accurate calculations in GeoKrishi app", Sunita enthusiastically explained. She checks the market price in the GeoKrishi app and negotiates with the traders while selling the vegetables. She also suggests the price of bananas to her husband and in-laws by referring to the market price shown in the app. She asks for help from her daughter whenever she is confused while using the application.

## Conclusion

Sunita's group, Parijat Bote women's group, has recently received 500,000 rupees from the local government to install boring irrigation in their farm. The members have also received training on vegetable farming from the cooperative. They are planning to grow tomatoes in the next season and hope that this year they will be able to pay back their loan. Sunita expects that applications such as GeoKrishi will provide more market information and help her connect with traders that will give her a better price for her produce as well as better quality inputs (seeds, fertilizers, mulching plastics, grants, subsidized loans, etc). She is also exploring support from different organizations to buy farm equipment such as a hand tractor. "These technologies are new to us. But if we try, we can learn to use it. When we try using it, it becomes an easier task...Since we didn't get educated, it's more difficult for us. So, we are working hard to educate our children. My eldest daughter is at class 10 and all my children go to school", says Sunita with a smile on her face.

