A case study on the successful experience of the

Integrated Farming, Masine Handikhola

Makwanpur District

Members of

Small Farmers Agro Cooperative Limited (SFACL), Handikhola, Makwanpur
### List of Acronyms

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<td>Small Farmers Agriculture Cooperative Ltd</td>
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Introduction

1. Summary

Federal Democratic Republic of Nepal is a sovereign land lock state located in South Asia surrounded in North by China and East, West and South by India. It is 93rd largest county by area and 41st most populous country in world. 76 percent of population is employed by the agriculture sector. Though majority of the population are involved in farming but its contribution to the GDP is only 36.1 percent. Because of this problem youth are more attracted towards foreign employment.

Most of the farmers are involved in farming employing subsistence farming techniques. Very few have scaled up their farming activities to commercial farming but these farmers are far from making their ventures a sustainable one. Excessive use of chemical fertilizers and pesticides are growing problems in farming sector. Change in cropping patterns due to climate change is also one of the problems in Nepal. Years of unmanaged exploitation of natural resources has forced majority of population to migrate from their original land or brought changes in their livelihood.

Amidst these highly significant problems, there is a silver lining though. Some people are continuing agriculture system by diversifying their activities through proper management of natural resources. Banjan family, are the significant few who are involved in such innovative agriculture activities. The family is a member of Small farmers Agriculture Cooperative Hadikhola, and located in Masine Village. They had migrated to this place on 2021 B.S (1969 A.D) and started farming. They were even forced to stop agriculture activities due to heavy loss and started working as labor for contractors.

Presently the Banajan family have diversified their farming by engaging in activities such as fish, piggeries, chicken, banana and vegetable farming and integrating these all activities in one place they are able to uplift their financial and social status. This has not only supported Banjan family in income generation, but also in sustainable management of natural resources. With the encouragement of Banjan family, other people around 20 other people are currently working in similar types of activities.

This case was identified by PROCASUR and NACCFL to document and promote learning from farmers to farmers in NACCFL network. The basic idea was to document the best practices and use it as a learning platform for nation and international level.

2. Objective

The main objective of this case is to demonstrate how people can diversify their activities and conduct income generation activities through sustainable use of natural resources and women leadership.
1. Natural Resource Management

- How to make the use of natural resource sustainable in our place and use for income generation
- How to carry out activities using natural resources

2. Women Participation in income generation activities

- How to promote women in income generation?
- How to develop the decision making and leadership capacity of Women?
- What are the changes brought from meaningful participation of Women?

3. Diversification in farming

- What types of problem can arise and how can they be solved in farm diversification?
- Various methods to be used for diversification of farming.
- How can youth be involved in agriculture?

3. Map of Actor

Different organizations have played a crucial role in development of integrated farming. MDI Nepal, organized farmers into groups and played a crucial role in increasing access to funds through saving and credit facility. Other organizations namely District Agriculture Development Office, Chure Agriculture Cooperative Ltd, Fishery Development Center, Small Farmers Cooperative Ltd, Agriculture Development Bank, Rampur Agriculture College, and Local Market have played a role in development of integrated farming including promotion of fish, vegetables, fruits, pigs and poultry.
4. Case Study

4.1. Background
Masine is located in Handikhola VDC ward no 7 Makwanpur district. It is 10 km from district headquarter west and 6 km from Mahendra Highway and surrounded by hills on east and west part. Settlement in this place started when government started to settle people from hill area to mid hills and terai during 1969/70 A.D. This place is densely populated by Tamang and Chepangs.

The place has abundance of natural resources and people depend mainly on traditional subsistence farming practices which has made difficult for farmers to sustain their livelihood. Youth are migrating to other places in search of better opportunities. Bamjan family, who had also migrated in this place during 1969/70 A.D, continued this traditional practice of farming for long time. In the 1970s Government provided land ownership certificate to the family which enabled them to take loan from Agriculture Development Bank and construct a irrigation canal for farming. They started doing vegetable farming but stopped it due to heavy loss incurred. The Family was forced to change its source of livelihood to wage labor.

4.2. Process of change
MDI Nepal started group formation for the first time. MOI Nepal NGO started a research in fishery in coordination with some local people which brought new knowledge regarding farming practices in the area. This research clearly showed that fish gives more income to farmers as compared to other farm products. This research worked as a strong pull factor for Bamjan and other family in the area to start fishery. With technical and advisory support from District Agriculture Development Office and Agriculture Campus Rampur provides, the family started vegetable farming also.

Integration into group was motivating factor for this family to restart the agriculture activities. They made a dam in their land and started the production activities. With support from government agencies they started fisheries as fisheries had comparative advantage in the place. There is no need to refill the ponds once they are constructed because water from lower level fills the ponds. After fisheries, whole family members looked for other farming activities and diversified their farming activities by including piggery, poultry, livestock (cow), and banana in the land where other crops were difficult. Involvement in diversified farming activities enabled them to use their time productively and also provided economic cushion such that losses from one farming activities was recovered from profits from other. This enabled the family to withstand economic shocks. The family have increase the number of fish ponds from initial 5 to 13 and they have 3000 chicken currently in two poultry farm, they have pigs in side of fish ponds.

Various organizations have supported the family in agriculture business providing financial to technical support. Manohari Development center has supported this family from identification of fishery as feasible business in this area, training on vegetable farming, financial support on ponds construction, and organized various visits in different places. District Agriculture Development Office (DADO) has supported financially in increasing the number of ponds, training on fishery and support in buying generator for electricity. Churya Agri Cooperative have supported in coordination with various agencies. Fishery Development Center (FDC) has provided technical support to introduce new technology in the farm, and fish from hatchery. SFACL is providing different vocational training, empowerment, and access to soft loan. Agriculture Development Bank is supporting in linkage with other producers, knowledge in feasibility empowerment and financial literacy. Rampur Agriculture Campus has provided training in fishery and veterinary. With support from these agencies Bamjan family is gaining expertise in various sectors and they are also supporting other people in surrounding areas. Strength of this farm is integrated farming, involvement of family members, and coordination with government and other agencies.

Under developed physical infrastructure like roads, bridges, electricity are major problems in this village. It is difficult for the farmers to transport their products to market during rainy season. This sometime leads to the problem of markets to the farmers.

There is abundance of natural resources like water, forests and land. land can be irrigated for whole year with small investment. There is opportunity to increase the intensity of farming activities. Farmers can develop their own fish hatchery reducing dependence on outside agencies for fisheries. Beside Banana other fruits can also be planted. The area is placed suitably between two larger cities of Nepal, i.e.
Chitwan and Hetauda so there is ample opportunity to increase the accessibility to market and also can be extended to Kathmandu.

The demonstration effect of the integrated farming can be clearly observed in surrounding areas. With increased production, new markets should be developed or new products should be introduced in the same markets. We have also observed a big change in climate pattern so the people in this village should have some concrete management and adaptation plan for future sustainability.

4.3 MAP

During the information collection, past, present and future map tools of PROCASUR were used by conducting discussion among team members who were there for collecting story, family members and other people from community. Maps were prepared by community based on changes on social, natural resource and infrastructures.

This place was populated on 1964 A.D. when government started planned settlement in Terai region. People from various parts of Makwanpur and surrounding area settled in this place. At first there were around 400 HHs with 900 females and 800 males. Of these 25 HHs were Dalit families. Tamangs and Chepangs were the majority of the population. First health post was established in 1984, and school in 2032, and other two schools were established in 1982 and 2009. Some trial roads were made and deforestation started with unplanned cutting. Subsistence farming was the only source of income and food insecurity was recurring. People used livestock manure and HHs energy purposes. Large areas of land were damaged by river and families can use only some parts of land. Production of land was also not sufficient for families' subsistence.

Today population of the area has increased and we can find people from various caste and ethnicity in this area. People living in this area started managing the river flow and utilizing land for various agricultural purposes. Farm area has increased and Bamjan family has constructed number of fish ponds, poultry farm and pig shed. Integrated farming practices have brought significant changes. They have started planting banana in earlier unused land. Member of this families are also involved in other social organizations and supporting neighbors.

In the future, this family is planning to complete management of land. They are planning to plant various trees around the land. That will be more environment friendly and support in management of natural resources. They also aim to start organic vegetable farming in land, increase area and number of fish ponds, introduce duck farming, fruits plantation in other land, strengthen the linkage to the market, construction of shed in the farm and use it as learning center for people from different area of Nepal. This will supports farmer to farmer learning.

Different organizations have supported this family in farming through training and exposure visits. Introduction of farm level experiment by Manohari Development Organization gave them a lot of lesson
on ways to start business and other people in the area were also able to learn from that pilot testing. Training on Fishery by Fish Development Center in Hetauda, disease and control mechanism, pond construction, nutrition, and training in fishery in Bangladesh has supported this family in the integrated farming. Different organizations regularly bring people to this farm for learning and many such visitors have already learned from them.

This family has started integrated farming in 4 bighas of land. There are 13 fish ponds, 2 poultry farm, pig shed, banana farming and vegetable farming. They are making income of one hundred fifty thousand rupees after paying loan and interest to various financing agencies and other costs.

Women members of family play crucial role by making decision in all the farm activities. Male members of family respect their inputs. Resource person for this farm is also a women. Women participation, leadership and support can be clearly observed in this farm.

This farm has incorporated knowledge management. Learning from initial activities related for fish farming, diversifying other farming activities, identifying markets and building social relations with outside agencies are prime examples of knowledge management by this farm. The knowledge from experiences of fish farming have been used in identification of market opportunities in vegetable farming. Positive attitude in the family and its members and their capacity to coordinate with various agencies shows that there is lot of opportunities to increase the area of farming in future. Family members are also ensured that now they are in correct path and want to manage this in more planned and sustained manner. Most training for farmers are conducted in closed rooms and this doesnot create real life situations for farmers to learn. If we are able to develop farms like this as learning centers then this will surely change the practice of farming in Nepal.

4.4. Future Plan

The farm provided lots of learning points regarding usage of natural resources in sustainable manner for income generation during this case study. It is difficult to find a place in Nepal where we can see people using natural resources in sustainable manner for income generation. Lands like those are either filled and used to plant crops or used as construction sites. There is a practice of mono culture or performing activities in small scale. Even small mistake leads to failure and further push farmers in debt. Young people prefer to go to foreign employment despite having no saleable skills. Foereign employment is a high risk low return investment for unskilled workers. Examples of young peoples' involvement in integrated farming are very rare in Nepal. This case can be example to farmers to learn how family can work together in integrated farming and support in income generation.

If this farm can be further managed properly and developed as a learning center in future, then family members can take more benefits and also benefits a society as a whole. They should start supporting other farmers who are trying to diversify their farm. Community as a whole should start working in development of infrastructure like bridge, road and electricity. They should further strengthen the
relationship with traders and search for new market as whole area is involve in similar type of commodity production.

This case will be used as learning for other farmers. This will not only promote farmers from other places but also enhance knowledge and experience sharing among visitors and host families. Analysis and input from farmers from other place will support in increasing the capacity of the farm.

SFACLs Handikhola will continue monitor the change in the farm. Information achieved from the data will support the family to understand the situation of the farm.

4.5. Conclusion

Majority of farmers in Nepal are involved in subsistence farming although opportunities for commercial scale farming abound in Nepal. Destruction of lands for purposes other than agriculture is a looming threats for majority of natural resources endowed land areas in Nepal. Amidst this scenario, this farm shows ways to use natural resources for livelihood generation. The female members have crucial role in deciding farming activities as against the general trend where women role is limited to labour contribution only. The farm maintained by Bamjan family can be great learning center for people. The family is continuing the integrated farming despite problems they encounter. They have provided a respectable space for women members. They are not only focusing in farm activities but also in skill development of family members and developed strong coordination with outside agencies.

Currently, this family is involved in fishery, pig farm, poultry, Banana and vegetable. They are planning to increase the number of ponds in near future and also increase number and variety of fruit trees, open the hatchery center and develop this farm into learning center in future.