



Strategic Plan for the Conservation and Sustainable Use of Farm and Forest Resources

Jiri Municipality
June 2021



Strategic Plan for the Conservation and Sustainable Use of Farm and Forest Resources

Prepared by
Jiri Municipality with Technical Support from ANSAB
June 2021





I am pleased to know that Jiri municipality has developed a strategic plan for the conservation and sustainable use of farm and forest resources.

Jiri municipality, with its unique mountain ecosystem, is rich in biodiversity, forest area and farm lands. Over the years, several innovative and model programs on farm and forestry sector, such as community-based sustainable forests management, development of forest-based economic activities at local level, establishment of agriculture technical school, and operation of model dairy industry, have been initiated in this area. Building on such successful and replicable examples of the past and considering the potential in the farm and forestry sector, while focusing on the geographical specificity of the Jiri region, I have found that this strategic plan has been prepared. I am confident that this document will be an important basis for achieving the overall development goal of Jiri municipality by linking the important natural resources of this region, mainly the farm and forest with their conservation, sustainable management and utilization for livelihood and economic opportunities to the rural community.

It was my pleasure to be involved during various stages of preparing this strategic plan. I have found this strategic plan has covered very relevant actions, especially towards i) establishment of Jiri as an organic mountain village, ii) sustainable community development promoting local level entrepreneurship and sustainable natural resource management, and iii) demonstration of the sustainable local economic development model for up/out scaling to other parts of the country. The plans, programs and associated activities are developed in line with the spirit of the public, private and community alliance (PPCA) developed recently and being adopted by the Jiri municipality.

I believe that it will remain as an important document for achieving the overall goal of the farm and forestry sectors at the municipality level with agreed plans and associated activities. Also, since implementation of such plans of activities have been indicated with short-term, medium-term and long-term time-frames, I hope that this strategic plan will support in the development of annual plan and program of the municipality.

Honorable Parbat Gurung
Federal Member of Parliament
Dolakha



पत्र संख्या: २०७८/०७९
चलानी नं.

जिरी नगरपालिका

नगर कार्यपालिकाको कार्यालय



बागमती, प्रदेश नेपाल

मिति:

Jiri municipality has developed this strategic plan to contribute to the overall economic development of the municipality through the conservation, management and sustainable use of farm and forest resources. This document presents the plan at the municipality level by analyzing the opportunities and challenges of the farm and forestry sector, and identifying existing efforts, support and services. Relevant activities are presented considering the current political context, past efforts on sustainable farm and forest management in the region, and the overall scenario of 'Clean Jiri, Green Jiri, Organic Jiri' envisaged by the municipality.

With the settlement of the long political transition and devolution of power to the local government, Jiri municipality has initiated Public-Private-Community Alliance (PPCA) in close collaboration with ANSAB that brings various actors and stakeholders (government, private sector, local community, NGOs and development partners) together who could contribute to develop plans, implement the development activities and achieve the desired development goal. In this spirit, this strategic plan has been prepared with the participation of all stakeholders in the municipality. During the preparation of this strategic plan, two planning meetings and series of discussions were organized. In this process, the Members of federal and provincial parliaments, the elected members of Jiri and surrounding municipalities, government officials, representatives of chamber of commerce and industry, farmer groups, cooperatives and forest users groups, Jiri technical school and development programs, and the local and national level entrepreneurs and service providers provided their valuable inputs and feedbacks. In addition, series of ward level discussions were held with the local communities on conservation and sustainable utilization of farm and forestry sector.

Jiri municipality has developed this strategic document with technical assistance of ANSAB (Asia Network for Sustainable Agriculture and Bioresources). For the preparation of this document, Dr. Bishma P. Subedi - ANSAB's Executive Director provided overall guidance, Mr. Puspa L. Ghimire - ANSAB's Programs Director and Mr. Sudarshan C. Khanal - ANSAB's Research, Planning and Communication Manager prepared and edited the document, and Mr. Chandika Amgain - ANSAB's Program Officer coordinated local level activities and information. During the preparation of this document, we have received invaluable support, goodwill, ideas and advice from the dignitaries, especially the Federal Members of Parliament Hon'ble Parbat Gurung and Hon'ble Shanti Pakhrin, Provincial Assembly Members Hon'ble Late Pashupati Chaulagain, and Hon'ble Bishal Khadka and the Chairperson the Dolakha District Coordination Committee Mr. Dabal Pandey, and I am extremely grateful for their support. I would also like to express my heartfelt thanks to Krishna Maya Budhathoki, Deputy Mayor, Jagdish Chandra Siwakoti, Chief Administrative Officer, Chairpersons of all 9 Wards, agricultural technicians and all the concerned personnel who were directly or indirectly involved during the preparation of this document.

The municipality will develop and implement agriculture and forest sector policies and programs based on this strategic plan in the coming days. We will make every effort to coordinate and cooperate with the federal and provincial level governments as well as the stakeholders at the municipality to implement the program and activities envisioned in this strategic document in a timely manner.

Tanka Bahadur Jirel
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जिरी नगरपालिका नगर कार्यपालिकाको कार्यालय



पत्र संख्या: २०७७/०७८
चलानी नं.

बागमती, प्रदेश नेपाल

मिति: २०७७।१२।२४

Jiri municipality has prepared this 'Strategic Plan for the Conservation and Sustainable Use of Farm and Forest Resources' for the proper management of the farm and forest resources within the municipality. This will support its overall mission of "Clean Jiri, Green Jiri and Organic Jiri". This strategic plan presents clear guidelines regarding the possibility and opportunity within the farm and forest sector of the municipality. This strategic plan has been prepared with detailed discussion with local communities of all the wards within the municipality and will be used as a key document to implement any activities related to farm and forest sector in the municipality.

We have anticipated this strategic plan will support the municipality to work in synergy and close coordination with all the stakeholders in the farm and forestry sectors to meet the overall development objective of the municipality. I would like to express my thanks to all the elected representatives of the Jiri municipality and all the concerned stakeholders, including ANSAB Nepal who have worked tirelessly and helped us prepare this strategic plan.

Krishna Maya Budhathoki
Deputy Mayor
Jiri municipality



जिरी नगरपालिका

नगर कार्यपालिकाको कार्यालय

पत्र संख्या: २०७८/०७९
चलानी नं.



बागमती, प्रदेश नेपाल

मिति:

Jiri municipality has prepared this strategic plan to make a significant contribution to its overall economic development through the management and sustainable use of agriculture and forest resources.

Jiri is a potential site for improving local livelihood and economic development through wise and sustainable utilization of farm and forest resources. There are already some exemplary works within the municipality. Based on such experiences and in the spirit of the municipality's mission of 'Clean Jiri, Green Jiri, Organic Jiri', this strategic plan has been prepared. I am happy to be involved during the development process of this strategic document, and I am confident that the design and implementation of farm and forest-based programs and activities at the local level will make a significant contribution towards the overall development goal of the municipality. I hope that this is probably the first such document at the local government level, and it will provide valuable learning and experience to other local governments in the country.

I would like to express my heartfelt gratitude to ANSAB for the technical assistance to develop this strategic plan and also bring it to this form. I also thank to the elected representatives of the municipality and all the personnel who have been directly or indirectly involved during the development of this strategic document.

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ANSAB has been implementing community-based enterprise-oriented solutions for conservation and sustainable use of natural resources in Dolakha district incl. Jiri municipality for over two and half decades. As a result of such organized programs, natural resource-based enterprises have been established and economic activities have been initiated at the community level; and unique and useful lessons and experiences of long-term implications have been generated in the farm and forestry sectors. In the due course of time, realizing the opportunities and challenges that have emerged in the farm and forestry sector, ANSAB has been working closely with the local governments, community organizations and other stakeholders for supporting to enhance local livelihoods and community welfare through sustainable management and use of farm and forest resources.

ANSAB has been collaborating with Jiri municipality for the promotion of farm and forest-based production and marketing practices, which also complements to its recently formulated mission of “Clean Jiri, Green Jiri, Organic Jiri”. Public-Private-Community Alliance (PPCA), as a common approach, has been established at the municipal level by bringing various actors and stakeholders in a common platform that will help in bringing new knowledge and ideas, developing and executing plan in a coordinated way and creating synergy of the work in order to achieve the overall development goal of the people. The municipality has promulgated ‘Jiri Declaration: PPCA for sustainable natural and organic products-based enterprises and local economic development’ on November 27, 2018. The Declaration provides common understanding and agreement among the public, private and community actors and stakeholders at the municipality level for the delivery of services in the farm and forestry sector. In line with the spirit of this Declaration, Jiri municipality has prepared this “Strategic Plan for the Conservation and Sustainable Use of Farm and Forest Resources” in order to improve the livelihoods and economic development at the local level by expansion of the farm and forest area and development of enterprises.

This strategic plan presents a roadmap for achieving the development goal of the municipality by analyzing the current situation, opportunities and challenges in the farm and forestry sector. With the overall vision of local level economic development with the socially and environmentally responsible practices, we believe that the plan of actions presented in this strategic document will guide the municipality to formulate and implement annual development programs and budget in the farm and forestry sector. In addition, it will also provide guideline for the development and operation of programs for federal and provincial level government bodies and development partners who want to work within the municipality.

During the preparation of this strategic plan, we have received invaluable support, goodwill, ideas and advise from dignified personnel and representatives of different organizations. We are grateful to the Honorable Members of Federal Parliament Mr. Parbat Gurung and Ms. Shanti Pakhrin, Honorable Members of Provincial Assembly Late Mr. Pashupati Chaulagain and Mr. Bishal Khadka, and the Chairman of the Dolakha District Coordination Committee Mr. Dabal Pandey for their gracious presence and useful suggestions during the promulgation of the Jiri declaration.





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We are indebted for the roles played by the representatives of Jiri municipality, namely leadership from Mayor Tank Jirel and support from Deputy Mayor Krishna Maya Budhathoki, Ward Chairpersons and Ward Members of all the nine wards, and the Chief Administrative Officer Jagadish Chandra Siwakoti during the preparation of this strategic document. Our thanks are also due to the agricultural technicians and other officials of Jiri municipality for their regular cooperation in this process. We are grateful to the chiefs of local governments adjoining to Jiri, representatives of Jiri Chamber of Commerce and Industry, cooperatives, farmers' groups, and community forest user groups and federation, instructors from Jiri Technical School, entrepreneurs at local and national levels, private sector service providers and other individuals for their useful suggestions during various meetings and interactions held at different times during the preparation of this plan.

I would like to thank ANSAB's Programs Director Mr. Puspa Lal Ghimire, Research, Planning and Communication Manager Mr. Sudarshan Chandra Khanal, and Program Officers Mr. Chandika Amgain and Ms. Aakriti Poudel for their tireless effort in bringing this document in this form. Similarly, we are grateful to Mr. Sudarshan Prasad Singh for designing of the book. Last but not the least, we are highly grateful to Aveda Corporation for the financial support to ANSAB to implement the program in Jiri municipality.

This strategic plan encompasses common spirit and aspirations of all stakeholders. We hope fostering goodwill, cooperation and collaboration of the stakeholders Jiri municipality will be able for its successful implementation and achieve its desired goal, this is our best wishes !

Dr. Bishma P. Subedi
Executive Director



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CHAPTER-1

INTRODUCTION

BACKGROUND AND CONTEXT

Jiri municipality is located in Dolakha district in the Bagmati province of Central Nepal. It was established in 2014 as per the decision of the Council of Ministers by merging the former Mali, Jiri, Thulo Patal, and Shyama Village Development Committees. The municipality has nine wards and is spread over an area of 211.25 square kilometers with elevation range from 1,649m and 5,341m. Jiri municipality is adjoining to Baiteshwor rural municipality in the west, Gaurishankar rural municipality in the north, Tamakoshi rural municipality and Gokulganga rural municipality in the south, and Umakunda rural municipality in the east. Jiri lies about 190 kilometers far from Kathmandu, and remained as the 'Gateway to Mount Everest' as it was the main gateway to the Everest region in the past. From the very beginning, forest remained as the integral part of Jiri; it was a wide grazing land locally called kharka and the entire region was covered by a dense forest. At current, Jiri occupies a significant area of forests and grassland covering 58% of the total area, and majority of the forests are managed by the local communities. Agriculture and livestock farming have remained as the major occupation of the people in Jiri. Agriculture has been practiced at subsistence level, and the dairy sector is quite developed in the area with the establishment of livestock farm in the 1940s. The Lincoln market also known as Jiri Bazaar, is the main market area in Jiri due to its dynamic commercial life.

While we observe the farm and forest based activities over the past two decades in Dolakha district in general and the Jiri area in particular, there are useful lessons and experiences, especially on community-based enterprise-oriented farm-forest management for benefitting the local communities. Pioneering efforts on enterprise-based forest management has achieved significant success in linking sustainable forest management with the economic opportunities for the rural communities and thus improving their livelihoods. These efforts have promoted sustainable utilization, processing, value chain development and marketing of the forest products by strengthening capability of community groups for sustainable forest management and linking them to the market, service providers and national policy through participatory roles of local communities, government and the development agencies.

Over the years, Jiri municipality adopted different practices and innovative tools that have directly contributed to the sustainable natural resource management and livelihood improvement in the area, while setting examples for replication and expansion in other parts of the country. These include: a) sustainable forest management: forest management following standards of sustainable forest management, FSC certification of forests and non-timber forest products (NTFPs), REDD+ (Reducing emissions through deforestation and forest degradation) in community managed forest, and other economic incentives for conservation; b) local economic development: development of sub-groups of poor and marginalized communities within the community forest user groups (CFUGs), promotion of leasehold forestry, establishment of farm-forest based enterprises, and piloting of payment of ecosystem services (PES) mainly diagnostic study on ecotourism, biodiversity and forest carbon, and demonstration for drinking water. Over the course the local communities, civil society organizations, forest users and the federation of community forest users group have been capacitated for social, institutional and good governance.

At the same time, Jiri is a well known hub for the technical education and vocational training on agriculture and livestock with the establishment of Jiri Technical School, and for livestock and dairy sector with the presence of Livestock Development Farm, and Jiri Yak Cheese Production Centre in the area.

Building on the past efforts of the incentive oriented sustainable farm-forest based management and considering the current context, Jiri municipality in collaboration with ANSAB is working on conservation and sustainable use of farm and forest resources for local economic development in the area. This has come in the context of the settlement of the long political transition with the promulgation of Nepal's new constitution and the election of the three level of governments, that has given mandate to the the local government bodies to develop local development plans and consolidate efforts of every organizations to achieve the development goal of people. With the new structural change, the Local Government Operation Act 2017 has authorized the local governments for formulation of laws and policy, plan and program for agriculture and forestry sector at local level.

Jiri municipality has envisioned 'Clean Jiri, Green Jiri, and Organic Jiri'. It is in the context of the geographical peculiarity, public perception of Jiri as clean and popular recreational area, high fertility of soil for the agriculture, increased awareness of

the farmers and communities on the negative environmental impact of the high input agriculture practice, and the recent trend of increased demand of organic produce at domestic and international markets. While it is the case, the agriculture has been abandoned by the youth, the youth and the productive sections of population are migrating to Kathmandu or Gulf countries for menial work. So the current need is to provide remunerative options to the farming communities including the youths based on the available resources around them, and capacitate them on production, utilization and sustainable marketing of the produces in order to achieve the development goal of the general people in the municipality.

Jiri municipality has initiated implementation of the organic agriculture production and marketing practices following the Public-Private-Community-Alliance (PPCA) approach directly supporting its mission of Clean Jiri, Green Jiri and Organic Jiri. By bringing various actors and stakeholders (government, private sector, local communities and development agencies) in a common platform, the alliance will help to bring new knowledge and ideas, develop and execute plan in a coordinated way and create synergy of the work reducing duplication. It will also help addressing the current challenge of the limited expertise of the newly established local government entity.

The municipality organized two PPCA planning meetings during the last two years, and discussed on the goal, expected outcomes, strategy, outputs and action plan of PPCA by bringing together the government, private sectors and local communities as the alliance members. The meetings endorsed the PPCA approach as well as the preliminary plan of action defining the possible sites, products and activities for PPCA. The first planning meeting, which was organized in November 2018 included participation of members of federal and provincial parliaments representing Dolakha district, elected members of Jiri and adjoining municipalities, local government officials, development programs, local and national level enterprises, and three international companies. This meeting concluded with the promulgation of 'Jiri Declaration on PPCA for Sustainable Natural and Organic Products-based Enterprises and Local Economic Development' (Annex 1) that provided common understanding and agreement for development of PPCA in Jiri municipality as a common platform of the government, private sector, local communities and development partners considering the farm and forests and make it operational to deliver the services. The second planning meeting organized in February 2020 involved participation of over 30 individuals including Mayor and Chief Administrative Officer of Jiri Municipality, Ward Chairpersons, agriculture focal point and agriculture technicians of Jiri Municipality, Chiefs of sub-division forest

office and livestock development center, representatives of Federation of Community Forest Users (FECOFUN)-Jiri, Jiri Technical School, Jiri Chamber of Commerce and Industries, local enterprise - Everest Gateway, and farmers group and cooperatives. In the meeting, the participants discussed on the potential activities and agreed to develop a plan of action based on these activities and meet at least twice a year. PPCA has now become an agenda of discussion among various stakeholders and a basis for planning and implementing activities.

In accordance with the common vision as developed by PPCA alliance, and aspirations of all key stakeholders from all fronts for the demonstration of model for sustainable natural resource based enterprises and local economic development, Jiri municipality with technical assistance from ANSAB has developed this strategic plan. This plan presents on the potential interventions on farm and forestry sector in the municipality for the conservation and sustainable use of farm and forest resources by analysing opportunities and challenges and utilizing the available and potential efforts, support and services. The activities are planned in the spirit of the Jiri Declaration on PPCA and the municipality's overall vision of Clean Jiri, Green Jiri and Organic Jiri, and the document will help for developing annual program and periodic planning of the municipality, and for identifying interventions for external/development supports.

This plan document is prepared based on the available data and information, assessment of the potential interventions to meet the overall development goal of the municipality, and ANSAB's over two decades of experience in Dolakha region including Jiri. The key methods of data collection included i) consultations and interviews with key stakeholders and experts, ii) focus group discussions, iii) surveys of the existing infrastructures, development programs, and farming practices in the municipality, iv) participatory resource mapping, and v) review of literatures and records. Consultation with all relevant stakeholders and key experts in the municipality were organized to collect information. Ward level participatory mapping was carried out by organizing focus group discussion in all wards for identification of potential agriculture and agriculture products along with their distribution map, production status, and the number of farmers' engaged. Ward representatives, teachers, lead farmers, representatives of community forests user groups, and other key stakeholders from each ward participated in the meetings and participatory resource mapping process. As the data and information were collected, they were organized, processed and analysed for potential interventions considering opportunities and challenges in farm and forestry sector of Jiri Municipality.

VISION AND OBJECTIVES

With a long-term vision of socially and environmentally responsible local economic development, this planning document presents plan of actions for the implementation of farm and forest based activities in the municipality, which will demonstrate a sustainable natural products-based enterprises and local economic development model based on conservation and wise use of natural resources. The main objective of this strategic plan is to meet the overall development goal of the people while contributing towards the overall vision of the municipality – Clean Jiri, Green Jiri and Organic Jiri, and showcasing the resilient local livelihoods model for mountain people through conservation and sustainable use of farm and forest resources, particularly focusing on organic and mountain specialty. More specifically, the strategic plan will present set of activities with the following objectives:

Build system and practice of good governance: to create enabling policy environment for the promotion of locally produced natural and organic products, free and fair-trade practices, and equitable benefit sharing;

Strengthen capability of farm and forest producers: to increase farm production and productivity by adopting climate smart input and practices and following organic standards and certification, and enable communities for conservation of forests and watershed for continued access to water and other ecosystem services;

Link agriculture to nutrition, health and education that can ensure food and nutrition security at local level;

Establish research and extension services: for institutionalizing knowledge gathering and analysis, and dissemination to farm-forest producers and other value chain actors; and

Support farm and forest enterprise development: (production, consolidation, value addition) and marketing to increase productivity and gain better market position for locally produced (and certified organic) farm and forest products in domestic and international markets.

CHAPTER-2

PRESENT SITUATION INCLUDING THE RECENT INITIATIVES IN FARM AND FORESTRY SECTORS

FARM AND FOREST BASED PRODUCTS AND SERVICES

Jiri municipality has significant area of forest and agriculture lands offering different forest and farm based products and services for livelihoods and local economic development through their conservation and wise use. Forests cover a total of 12,125 ha (about 58% of the total area of Jiri municipality). Over 3,000 ha of forest area is being managed by 37 community forest user groups (CFUGs) and 40 Leasehold Forest User Groups (LHFUG). Major forest products and services include lokta/argeli, wintergreen, loth salla, handicraft, forest-based ecotourism.

4,480 ha of land in Jiri are cultivable agriculture lands, which is over 20% of the total land of the municipality. Agriculture practices have remained traditional and largely at subsistence level. Some cash crops such as potato have been traditionally grown in

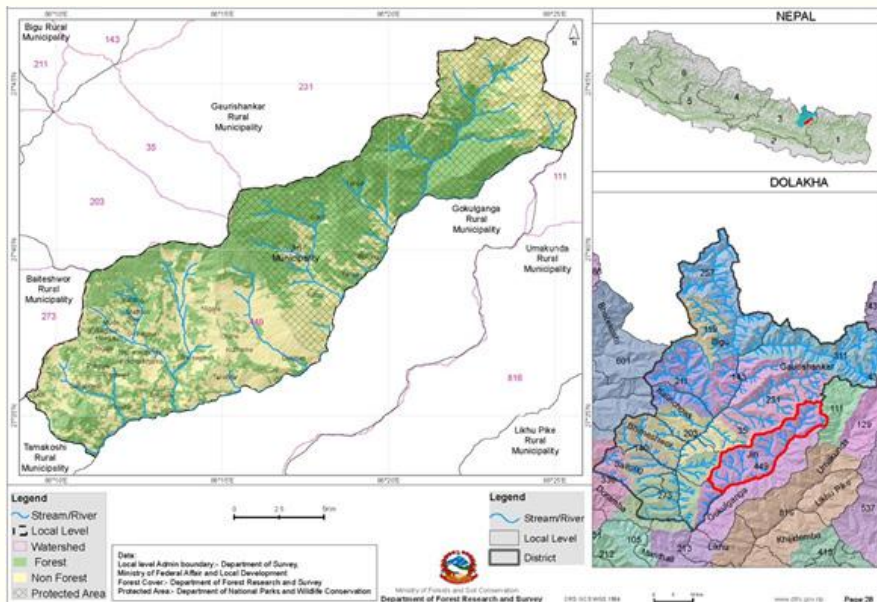


Figure 1: Map of Jiri Municipality

Jiri that are sold at nearby market centers. Recently few crops, mainly fruits and fresh vegetables are introduced in Jiri and commercially grown for sale in nearby urban markets and Kathmandu. With the suitable climate and soil conditions, there is potential of introducing other remunerative crops. Table 1 presents the list of the crops/NTFPs traditionally grown, recently introduced and with potential of introduction in Jiri.

Table 1: Potential crops for commercial production and marketing

Traditionally grown crops	Recently introduced crops	Potential crops for introduction
Potato, Plum, Turmeric, Ginger, Garlic, Chilli pepper, Broad leaf mustard, Chayote, Beans	Kiwi, Yacoon, Akabare chilli, Onion, Cauliflower, Cabbage, Broccoli, Carrot, Turnip, Peas	Apple, Pear, Walnut, Grapes, Strawberry, Blackberry, Greens for salad, Beet root, Chia seeds, Quinoa

Lokta, Argeli, Louth Salla, Wintergreen, Satuwa and Chiraito are traditionally grown NTFPs.

SWOT ANALYSIS OF FARM AND FOREST-BASED PRODUCTS AND SERVICES IN JIRI MUNICIPALITY

Strengths

Rich in natural resources: Jiri is rich in forest, biodiversity and natural beauty. It has abundance of water resource for irrigation, fertile land for crop production, and pastures for livestock farming.

Jiri as geographic indicator for commercialization of products: General perception of the consumers in major market centers, mainly in Kathmandu, is positive for its nutritious and organic products such as potato, cheese, chhurpi, kiwi.

Commitment of the municipality for organic production: The municipality has high priority for organic production. The municipality has already been declared as organic.

Traditional knowledge and skill of processing and product development based on farm and forestry: Cheese, handmade paper, timber processing and furniture making, bamboo and wooden handicrafts.

Popular tourist destination: Jiri is a known tourist destination for a long time, along with the development of new cultural and natural tourist sites at present. Tourist facilities for accommodation are well developed.

Infrastructures: Jiri has motorable roads within its wards to collect the agriculture products for marketing. Jiri is connected to Kathmandu and Tarai region with the highways.

Training and extension service: Along with the staffing of the technical experts in the municipality, Jiri has the presence of Jiri technical school and government managed livestock farm for training and extension service.

Weaknesses

Difficulty in mechanization: Due to the mountainous and sloppy terrain, farm mechanization is difficult and costly.

Inadequate supply of organic inputs: Supply of organic inputs is limited besides the traditionally prepared cattle manure

Weak extension services: Trained human resources in production and processing of organic products is limited in the municipality.

Low investment capacity of the municipality: Due to low internal revenue of the municipality, investment capacity for commercialization of the farm and forest-based products is low.

High transaction cost: Costs of products from Jiri in main market centers become higher because of the long distance coupled with the poor road conditions.

Lack of clear policy, program and strategy to promote organic agriculture: As a new sector, policies, programs and strategies for the promotion of organic agriculture are limited. It has limited availability and accessibility of production technology, finance and affordable loan, and market promotion.

Lack of entrepreneurship at community level: Farming practice is mostly traditional and farm and forest based economic activities are being abandoned as the youth migrate for non-farm opportunities. There is very limited entrepreneurship and commercial perspective for more remunerative farm and forest based products and services at community level.

Opportunities

Availability of marketable products: Potential farm and forest based products for commercial production and marketing are available in Jiri. There are significant number of traditionally grown crops and NTFPs and other potential such products for introduction with commercial importance.

Scope to increase production, productivity and sales of the products: There is high scope to increase the production, productivity and sales of the potential farm and forest based products through:

- **Production:** Possibility to expand area and farmers for commercial production of fruits and vegetables;
- **Productivity:** Possibility to introduce quality planting materials, varieties, cultivation techniques, technology, irrigation to increase the productivity;
- **Value addition:** There is a possibility of local value addition such as potato chips, fruit jam, timber processing and handicrafts;
- **Marketing:** Product marketing through labeling and branding in the name of Jiri.

Potential ecosystem services: Potential eco-tourism products and destinations, such as hiking trails, stone park, gurash park, lake and boating are being developed in Jiri.

Potential to develop Jiri as an organic farming training center: Jiri with its organic farming practices and institutional commitment towards it, could offer as a potential residential training center for organic farming for the established crops such as potato, fruits and vegetables.

Threats

Possibility of crop failure: As there is no reliable biopesticides, there is always a chance of crop failure due to the outbreak of diseases and insects.

Unavailability of labour: Labour migration to urban centers reducing the availability of labour for farming.

Natural disasters halting transportation of products to markets: Due the heavy rainfall and landslide in rainy season, there is chance of road blockade creating difficulty in transportation of the products from farmers field to the collection centers and from collection centers to the markets.

Market competition: There is a chance of entry and competition of the products similar to those produced in Jiri by the local level producers in the markets from more seasoned traders, once the market is developed for that specific products.

EXISTING INFRASTRUCTURES AND SERVICES

Available infrastructures and services in Jiri municipality and their existing condition by different wards is presented in Table 2.

Table 2: Availability and condition of infrastructures and services in various wards of Jiri

Infrastructures and services	Ward No.								
	1	2	3	4	5	6	7	8	9
Black-top road	*			*	*	*	*		
Agricultural road	**	*	*	*	*	*	*	*	*
Electricity	*	**	**	**	**	**	**	**	**
Telecom/Internet service	*	*	*	*	*	*	*	*	*
Commercial Banks	**	*	*	*	**	**	*	*	*
Micro-finance Banks	**	**	**	**	**	**	**	**	**
Saving-credit cooperatives	*	**	**	**	**	**	**	**	**
Extension service		*	*	*	*	*	*	*	*
NTFP collection center							*		
Rustic storage for seed potato		*				*	*		
Input suppliers (agrovets)	*			*	*	*			
Irrigation		*	*	*	*	*	*	*	*
Handmade paper processing enterprises					**				
Furniture industries				**			**		
Milk processing (Yak Cheese)					**				
Hotels				**	**	**			
Cold storage									
Tourist guides									

* Available but with poor quality and standards

**Available and with satisfactory quality and standards

Extension services: The general agriculture program of the municipality are providing extension services, appropriate technology, creating enabling environment, easy access of finance and marketing support. However, in the absence of human and financial resources, the municipality is limited to only few activities. For instance, in the fiscal year 075/076, the municipality was able to support in organizing 2 IPM farmers' field schools, distribution of 1,307 staking for Kiwi, 16 hand tillers, 7 vegetable tunnels, 100 beehives, 2 nurseries, and some support to yak herders and other livestock keepers.

CHAPTER-3

STRATEGIC PLAN

In order to achieve the goal of local level economic development through conservation and sustainable use of farm and forest based resources, five outcomes are visualized, which include:

- 1) Building system and practice of good governance,
- 2) Capacity building of farm and forest producers,
- 3) Linking agriculture to nutrition, health and education,
- 4) Research and extension services, and
- 5) Farm and forest enterprise development and marketing.

The outcomes are briefly described below along with the context and rationale. To make the outcomes more clear, associated indicators and indicative activities are presented in each outcome. The list of the activities within each outcome, and their planned timeframe (short term - within 2 years, medium term - within 5 years, and long term - beyond 5 years) are presented in Annex 2.



3.1 BUILDING SYSTEM AND PRACTICE OF GOOD GOVERNANCE

The growth and competitiveness of farm and forestry sectors in Nepal are hindered, in general, with the weak governance and lack of law enforcement, bureaucratic hurdles, procedural delays, and insecurity. Moreover, with the state restructuring there are many gaps especially in accessing extension services, and transportation and marketing of farm and forest-based products. To address this, both a good governance system and its implementation in practice are required. For this, in order to build an appropriate institutional setup at the municipality level, which is currently a gap, the municipality will build a reliable institutional sub-structure within its system with clear roles, responsibilities and proper law enforcement mechanism. An effective system of governance will be developed for ecosystem-based organic agriculture through institutional reform, development of policies, rules, regulation and plans, and establishment of an efficient service delivery and support mechanism with sufficient human resources and technological and knowledge products. This system will ensure for proper function and sustainability, multi-stakeholders monitoring, periodic reporting and effective public auditing is in practice.

The outcomes will be measured against the following indicators:

Policy reform and formulation – no. of policy formulated, and brought under practice;

Institutional reform with provision of human resources and effective service delivery mechanism;

Ecosystem based commercial agriculture (ECA) system adopted;

Effective practice of knowledge management and reporting is in place.

The following areas of interventions are suggested to realize this outcome:

3.1.1 POLICY REFORM AND FORMULATION

Operationalize Jiri declaration on PPCA with a formal policy decision: The 'Jiri Declaration on Public Private Community Alliance (PPCA) for Sustainable Natural and Organic Products-based Enterprises and Local Economic Development', promulgated in November 2018 provides a common understanding and agreement among the government, private sector actors, community organizations and development partners for local level farm-forest based economic development in Jiri municipality. A policy decision that would be made by the Council of the Municipality and its implementation on a priority basis can materialize the intent of the declaration.

Formulate policy to promote local, organic and natural products: In order to promote local, organic and natural products through their production at the community level, there is need of conducive policy environment. So the policy should ensure the availability of grants and subsidy, financing (soft loan), insurance, market promotion mechanism mainly for organic, local health food, medicinal and natural products.

Remove regulatory barriers in production and trade especially in forest products: There is tariff on forest products from various level of governments and also informal fees along the highway from state and non-state actors. Some of the municipalities, along the way to Kathmandu from Jiri, started charging tax, even for agriculture produces. To reduce this barrier, the municipality has to work jointly with the District Coordination Committee, provincial government and federal government and federation of municipalities and rural municipalities.

Develop standards and standard operating procedure (SoP) for production, processing and marketing of farm and forest-based products: Jiri lies in high mountain, and there is better public perception with this name. To capitalize the immense potential of high value and quality product with Jiri brand, the municipality has to set the uniform and credible product standards and standard operating procedure (SoP) in production, processing and marketing of farm and forest products. For instance, the external and internal quality parameters for vegetables and fruits are colour, size, packaging date and lot number, food-nutrition table, and for handmade paper the parameters are size, raw material and thickness - gram per square meter (GSM).

3.1.2 INSTITUTIONAL STRUCTURE

Develop an institutional structure: The economic development section in the present institutional structure of the municipality is responsible to provide agriculture service. The section has very limited technical capacity, resources and outreach mechanism to effectively serve the producers. As per the present mandate, the plan of activities are endorsed by the assembly of the municipality and implemented by the municipal executive led by Mayor through economic development section. Economic development section is directly responsible for the implementation of activities if it covers more than one ward; otherwise ward level offices are responsible for the execution and monitoring of the activities. But presently there is no any institutional structure and technical manpower at ward level to provide services to producers. To bridge this gap, a proposed institutional structure is presented in Figure 1.

¹The declaration was signed by the federal and provincial level parliamentarians representing Dolakha district, chairperson of Dolakha District Coordination Committee, Mayor of Jiri Municipality, 3 international companies from USA, Germany and China, and ANSAB.

As proposed, ward offices will implement field level activities through producer groups (agriculture or forest), cooperatives, enterprises, lead-firms, community-based markets and other infrastructure management entities. Economic development section and ward offices will also look after for the management of required services (both financial and non-financial) for the producers and other value chain actors.

The municipality also receives technical and financial support from federal and provincial level governments and their local offices and development partners. PPCA (public private community alliance) will be instrumental in planning and monitoring of farm and forestry activities implemented by the municipality or by other development agencies, both from the government and non-government sector. The PPCA is a loose but a permanent advisory body to the municipality for the promotion of sustainable natural and organic products-based enterprises and local economic development.

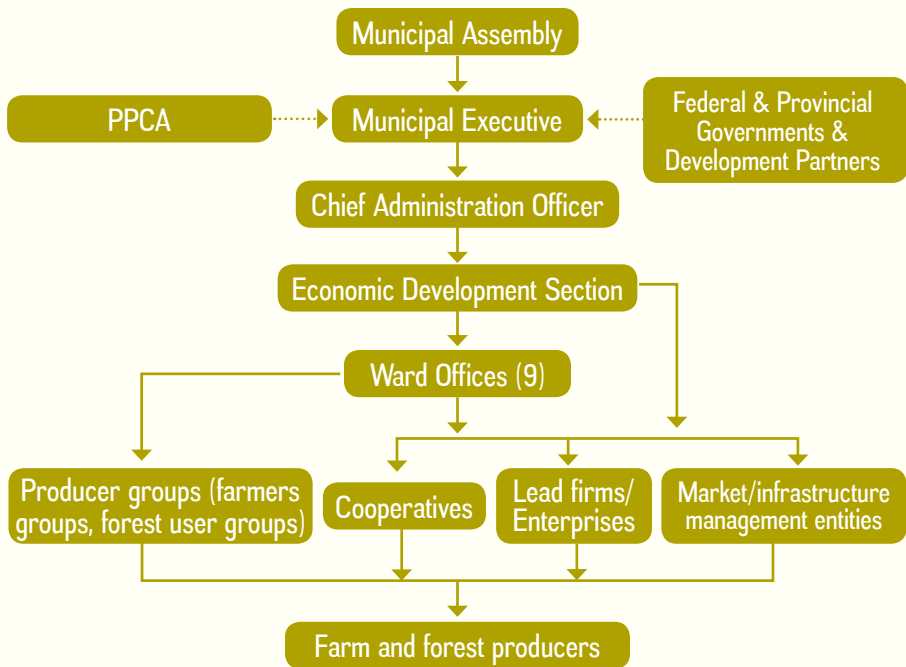


Figure 2: Institutional structure to promote ECA products and services

Organize regular alliance meeting: PPCA, with its structure involving relevant stakeholders of farm and forestry sectors, brings together innovations, ideas, most appropriate solutions and resources to address the development challenges. The alliance will provide advisory support to the municipality on: i) development and execution of plan in a coordinated way creating synergy of the work reducing duplication; ii) promotion of locally appropriate family farming methods and crops that will provide both proper food and nutrition to families and excess to be marketed and sold locally and nationally; iii) discussion and planning at the municipality level to anticipate and execute long and short term programs that take into account local and national climate change challenges; iv) promotion and enabling of local knowledge to be respected and integrated into programs and planning; and v) special consideration of women, children and other vulnerable groups in the program planning and implementation. As agreed by all the stakeholders in previous PPCA meetings, municipality plans to organize PPCA meetings in a bi-annual basis.

Enforce policy and integrate ECA program in planning and budgeting: The policy decisions that are made through the municipal assembly have to be implemented by developing regulations and guidelines as appropriate. Based on the regulations and guidelines, the municipality will sensitize the concerned stakeholders. After the formulation of policy and development of implementation tools (regulations and guidelines) to promote ecosystem-based commercial agriculture (organic agriculture and forestry); the municipality will integrate this program in its regular planning process. The activities and locations will be selected based on the policy priority and the advise from PPCA, along with a logical allocation of the budget.

3.1.3 ECOSYSTEM-BASED ORGANIC AGRICULTURE SYSTEM

Except few areas, where vegetables (mainly tomato) are grown commercially, Jiri municipality is organic by default. Unique taste of Jiri products due to cold climate, unadulterated soil and local variety is the main comparative advantage to commercialize Jiri products in high end niche markets. Acknowledging this advantage, Jiri municipality plans to make it complete organic and even receive third party certification of the farms and products, if market needs. After showing the example of organic production, Jiri municipality will work with neighboring municipalities and districts for scale-up of organic production. As a preparation of ecosystem-based organic agriculture system development, the following activities are proposed:

Orient farmers and market system actors on organic certification standards: In order to develop common understanding among farmers and other actors and reduce the existing myths that have caused minimal growth of organic agriculture, there is need to orient the key actors on organic agriculture and certification. Orientation program for farmers will mainly be focused on inputs use incl. seeds, fertilizers and pesticides, and production system; whereas for markets actors (aggregators, transporters, wholesalers, retailers) the orientation will be focused on product handling - grading, packaging, transportation and storage.

Develop or adopt a reliable and credible system of certification: For certification, the municipality will develop its own organic standards adapting the most credible domestic and international standards. Based on this standards, producers and other market system actors will be trained so that they will be prepared and get ready for third party certification at any point of time.

Develop ICS for organic certification: Jiri municipality plans to be in a ready position for third party certification so that they can certify their products within a year of the market demand. For this, the producer groups will be trained on internal control system (ICS) for group certification so that they can produce required information for the certification.

Organize Training of Trainers (ToT) on organic certification for LRPs and potential inspectors: In order to increase outreach and sustainable access to services, local resource persons (LRPs) and potential inspectors will be capacitated for training the producer groups. Training of Trainers (ToT) will be provided to LRPs and potential inspectors, who will be mobilized for providing onward trainings to the producer groups and market actors.

3.1.4 KNOWLEDGE MANAGEMENT AND REPORTING

In order ensure the proper function and sustainability of the planned activities, effective implementation and knowledge management practice need to be in place. A system of knowledge management practice, including monitoring and evaluation and reporting needs to be in place to contextualize learning by doing approach and integrate the traditional and scientific knowledge. For this, a system of multi-stakeholder monitoring,

effective public hearing and auditing, and periodic information collection and reporting will be developed within the municipality.

Monitoring and Evaluation: Planned activities will be implemented in each ward of the municipality in the leadership of ward chairpersons and technical support of staff. For effective implementation of the plan and mid-term correction if needed, a high level mechanism will be formed in the leadership of the Mayor, where the team members will be Chief Administrative Officer, head of agriculture program, chief of economic development section and key members of PPCA. Annually, at least 2 monitoring visits will be organized in each ward and the monitoring team will provide suggestion for the mid-term correction if needed. Based on the performance, the structure of reward and punishment will be promoted within the municipality system at various levels, including the producer groups, enterprise, traders, processors and ward chairpersons.

Public hearing and public auditing: In order to strengthen the transparency and accountability of the municipality, participatory process of public hearing and public auditing will be carried out at the wards and municipality level, depending upon the outreach of the implemented activities. Through information sharing and question-answer style discussion, it allows for a mutual assessment of performance by the municipality representatives and the general public. While management processes and outcomes are assessed during the public hearing, the public audit reviews financial transactions. Both processes will be conducted on an annual basis. The participants will agree on a set of recommendations, that will be further reviewed in the following public hearing and auditing.

Information collection, record keeping/database management and reporting: The ward chairperson will be responsible for the compilation of progress and reporting to the municipality in a periodic basis matching with the reporting cycle of the municipality.

²An Internal Control System (ICS) is the part of a documented quality assurance system that allows an external certification body to delegate the periodic inspection of individual group members to an identified body or unit within the certified operator. This means that the third-party certification bodies only have to inspect the well-functioning of the system, as well as to perform a few spot-check re-inspections of individual smallholders.

3.2 CAPACITY BUILDING OF FARM AND FOREST PRODUCERS

The agriculture farming and NTFP collection practices of the majority of the community members are mostly traditional, and as in the other parts of the country, the farm and forest based economic activities are being abandoned as the youth migrate to other areas for non-farm opportunities. There is very limited entrepreneurship and commercial perspective for more remunerative farm and forest based products and services at the community level. Our recent assessment shows that the capacity gaps among the producers are on the application of improved production techniques in existing commercial commodities such as potato and kiwi and lack of knowledge and skill on production of other highly potential products such as fresh vegetables and spices, fruits including various types of berries, high value grains such as quinoa and chia seeds; and proper management of the watershed and ecosystem which directly or indirectly contributes to the sustainability of ecotourism, NTFPs and farming. In this regard, capacity building of the producers need to be done through organizing them in groups, training them on proper cultivation and post harvest management of crops and vegetables along with the provision of relevant inputs and technology, and orienting the producer groups on farm and forest based ecosystem service management.

The achievements of this outcome will be measured through the following indicators.

3,000 producer households are organized into 120 groups; of which 60 groups and 1,500 HHs produce crops for commercial purpose;

50% producer with commercial production of potato in 800 ha, Kiwi in 150 ha, vegetables in 50 ha;

Increased production of potato by 20% and others by 100% through expansion of crop area and increased productivity;

Increased number of visitors annually by 5,000 and employment 100 due to agro and eco-tourism.

Building on the principles of ECA, the capacity building activities are developed, which includes organizing producers into various groups, developing knowledge and skills of producers on crop production and ecosystem management along with the provision of inputs, technologies and infrastructures.

3.2.1 ORGANIZING PRODUCERS

Organizing smallholder producers in groups and cooperatives and federating them in networks is necessary to enhance economies of scale. Through the organized groups, the smallholder producers can jointly procure inputs and services, produce the products in bulk and jointly market the surplus, that also reduce transaction cost for the community produced products.

Form groups in new areas and strengthen the existing groups: There are about 30 producer groups formed at different times by different agencies. Some of them are registered at the government authorities and rest of them are not recognized in the government system; and most of them are not functional. For organizing communities and making them functional, the following three major activities could be performed: i) formation and registration of new groups; ii) registration of existing groups, which are not formally registered; and iii) strengthening capability of the registered groups for their organizational management.

Support CFUGs and LHFUGs: Though forest user groups are better organized compared to agricultural groups, there are different issues on governance and management, especially on renewal and update of the management plans, which needs technical support. Training and capacity building support will be provided to the forest user groups (CFUGs and LHFUGs) on critical governance and management issues, such as book keeping and accounting, periodic meeting conduction, record keeping, public auditing, renewal of the groups on time. In case of LHFUGs, there is unclarity on harvesting and sale of forest products out of the district, for which facilitation will be provided in coordination with the provincial and federal governments.

Provide special support to sub-groups: All the users of a CFUG may not have similar issues and same degree of needs, so formation of sub-groups of the users of similar issues and needs within a CFUG is in practice. By nature, the people to be involved in sub-groups are more dependent on forest resources and are near to the forest, and belong to poor and marginalized sections of the society. So, special support activities for income generation activities is needed to those groups. In order to support the poor and marginalized communities through the sub-groups, the following indicative activities will be conducted: i) formation of new and strengthening of existing sub-groups, ii) training on primary processing and value addition of NTFPs, iii) allocation

of certain forest patch for NTFP cultivation, iii) some on-farm and off-farm livelihood support activities; and iv) provision of alternative energy technologies to reduce the use of firewood.

Support the producer groups for accessing finance: Access to finance is a common problem in rural areas due to the issue of collateral for the banks. This is more severe to the smallholder farmers as normally they are not used to on the cumbersome documentation process of the commercial banks and the compulsory provision of valuable collateral. In other side, access to micro-finance is comparatively easy for small holders but the interest rate of the micro-finance institutions is high. In this situation, without support from the government, smallholders cannot access the finance from banks and financial institutions. The municipality plans for the support options in three ways: i) support for the development of smallholders' saving and credit cooperatives or linking farmers to be the members in the existing cooperatives; ii) subsidizing the interest rate for smallholders in micro-finance institutions, iii) collateral free loan provisions for smallholder farmers, such as application of score card system or silent collateral in the commercial banks.

3.2.2 TRAINING TO THE PRODUCERS' GROUPS

For increased entrepreneurship at the producer level and commercialization of the agriculture and forest products, the producers need to be capacited with knowledge and skill on entrepreneurship, business planning, farm management, crop production and post harvest handling.

Entrepreneurship and farm business planning: Most of the farmers are subsistence and complete lack of entrepreneurial thought and skill. They are producing crops traditionally without calculating the cost of production and often they are in loss. This is mainly because of the lack of knowledge in business planning. So, basic level training on enterprise development and entrepreneurship skill has to be organized in each producer groups. After the training, a follow-up support is needed while writing easily understandable basic business plans.

Orient producers on the principles and practices of organic farming: Understanding on organic farming is different from producers to producers and even among the supporting agencies. To develop a common understanding among the producers and

supporting agencies, there is need of group level trainings on principle and practices of organic farming among the farmers. Initially, the areas, esp. ward 7, where trainings on organic farming and certification has been provided to the local communities, could be considered for orientation to the producers. Orientation will be gradually provided to other areas covering the whole municipality.

Organize production and post-harvest handling trainings: Before delivering the specific training, a detail training need assessment has to be carried out, based on which the training curriculum will be developed. In our preliminary assessment, the training needs at production level are in the selection of crops and varieties, nursery management, cultivation methods, cropping system, crop calendar, soil nutrient management, preparation and application of manure and plant protection measures. Similarly to reduce the losses in harvesting and post-harvest handling, the trainings focusing on harvesting time, harvesting method, primary processing, pre-cooling, storage and packaging are needed.

3.2.3 FOREST AND ECOSYSTEM SERVICES MANAGEMENT

Mountain forests are important in watershed management, hydrological services and risk mitigation, as well as biodiversity, food security, carbon sequestration, soil formation and recreational services. Jiri forest landscape is one of the important mountain ecosystems, which provide various services, such as recreation (ecotourism), biodiversity conservation, watershed management and carbon sequestration.

Promotion of ecotourism: Jiri is one of the known tourist destinations in Nepal for all time due to its scenic beauty, forests, various religious places and cultural practices and trekking route to Chherdung hill and Mount Everest. To protect and get benefit from this pristine natural beauty, which has immense potentiality for payment for ecosystem services, the following activities are proposed, which are mainly focused on forest user groups level - CFUGs, LHFUG, sub-groups. These include prioritization and bundling of eco-tourism products; improvement and maintenance of basic infrastructures and facilities, including trail improvement, proper waste disposal and cleaning; capacity building of local tourist operators and guides; organizing promotional events and mass media (both at local and national) campaign; and establishing linkages of local tourist operators with Kathmandu based operators.

Biodiversity conservation and watershed management: Capacity building of forest user groups for biodiversity conservation and watershed management include orientation on forest protection, sustainable harvesting of forest products, spring protection, and bio-engineering (e.g. plantation of *Alnus*) in newly opened trails and motorable tracks. Public campaigns on the importance of biodiversity conservation need to be carried out.

Carbon sequestration: Dolakha is one the REDD+ project districts, where carbon stock baseline is already calculated so that the change in carbon stock can be measured. The potential buyers of carbon stock in Jiri are hydropower companies and hotels. This activity demands high resource and technical manpower, so the detail business feasibility study has to be undertaken before making decision to invest in this activity.

3.2.4 PROVISION OF INPUTS, TECHNOLOGIES AND INFRASTRUCTURES

The mountainous and sloppy terrain in Jiri makes farm mechanization difficult and costly. Similalry, the ecosystem-based commercial agriculture is unique and includes ecosystem based farm and forest production system increasing production and productivity in a sustainable way while generating better remuneration. Access to appropriate inputs, technologies and infrastructures are the pre-requisite at producers level for farm mechanization and upgradation of farm and forest production system in the municipality.

Quality planting materials: To provide quality planting materials (seeds and seedlings) to the producers, the proposed actions are: i) identification of appropriate crops and varieties suitable for Jiri; ii) nursery management, including both multipurpose (vegetables, fruits, fodder, NTFPs, timber) and crop specific such as akabare chili in Jiri – 8; iii) seed production and proper storage with priority for the local crops and varieties; and iv) seed supply system development through identification of reliable agrovets and establishing their forward and backward linkages.

Soil nutrition management inputs: Feeding the soil is important to feed the plant and make the grown crops nutritious. There is high chance of soil degradation with increased nutrient uptake by the plants in intensive conventional farming. In order to avoid the soil degradation, the proposed activities are: i) establishment of soil testing facility that can measure at least soil pH, N, P, K and organic matter; ii) preparation

and application of organic manure such as farm yard manure (FYM) and compost; iii) preparation and application of Jeevamrit (liquid and solid) as appropriate in soil; iv) preparation and application of biopesticides (jholmol 1, jholmol 2) using locally available materials such as cow dung, urine, water and parts of medicinal plants; v) collection of urine from livestock farms and individual households and its application in soil; vi) identification of suitable biofertilizer and its application.

Farm machineries: The terrain in Jiri is not suitable for heavy tractors and threshers. Identification of the potentially appropriate farm machineries and technologies for their introduction in the area needs to be done through feasibility assessment and testing. The potential technologies will be assessed based on their applicability in the area increasing labour efficiency, their climate friendliness, and reduction of human drudgery, esp. women. Some technologies tested in the similar situation can be introduced and supported, such as mini-tiller, mini multi-crop thresher.

Irrigation schemes: Because of the mountainous and difficult terrain, construction of big canal for irrigation is not suitable and possible in most of agriculture land. So, micro-irrigation schemes, such as drip irrigation, water harvesting, and water collection in poly tank at household level, and pipe irrigation at larger level are recommended for Jiri.

3.3 LINKING AGRICULTURE TO NUTRITION, HEALTH AND EDUCATION

The health and nutritional status of the people, especially living in the mountainous and hill regions of Nepal is poor. In order to enhance the health and nutritional status of the people in Jiri, the municipality will link agriculture to nutrition, health and education. In order to achieve this outcome, we propose four programs, namely i) school gardens, ii) home gardens, iii) general awareness on nutrition, food preparation and consumption, and iv) water, sanitation and hygiene (WASH), the details of which is presented below. The achievements of this outcome will be measured through the following indicative actions.

Increased self-sufficiency of local community with farming, family gardens, seed storage and access to seed stock

Enhanced capability of producers to grow organic crops will be instrumental to meet their food and nutrition needs and surplus for sale

Health status of children and producers improved due to the consumption of fruits and vegetables with proper cooking

Performance of students improved due to healthy diet and practical education

Improved WASH practices among the producers and market actors

3.3.1 SCHOOL GARDEN

School garden program has multi-faceted benefits, such as increased awareness of nutritious food among students, effective practical session in schools, and aesthetic beauty of the schools. Vegetables, fruits, flowers and medicinal plants can be the part of school gardens. Studies show that the school gardens improve children's knowledge of and preferences for healthier foods. Each school, wherever land is available for garden, will be supported through school garden program. The steps to establish school gardens are presented as below.

Identify schools for garden establishment: Based on the standard criteria, the schools can be selected for establishment of school gardens. The criteria are: i) The school should be public (where there is equal access for students of all types of economic class) with at least classes up to grade 7 (lower secondary level education) and minimum 100 students; ii) the school management has willingness to join the program;

iii) the school should have at least 300 square meter land for gardening; and iv) the proposed land should have reliable access to water for irrigation.

Design school garden and crop rotation: As stated above, school garden may include vegetables, fruits, medicinal plants and flowers. However, from the nutrition point of view and short nature of the crops, the school gardening program will focus on vegetables. For vegetable gardens, there is no specific rules for the size of the vegetable plots, however the school children must be able to reach every part of the plots. A minimum of four plots, each with 3m length is recommended. If possible, wire fencing of the garden is recommended. The school garden will include farming of the locally grown vegetables. The criteria for selection of vegetables include: preference at local level, diversified nutritional value, hardy and easy to grow/manage, well adapted to the local climate and soil, tolerant to common pest and diseases, good yield, growing cycle fits into the school schedule and availability of seeds. It is necessary that the locally grown vegetables are selected, but same types of vegetable will not be grown in the same plot over the season/year. It is also important to plan that all type of vegetables need to be grown in a season. Figure 3 presents the vegetable types and their rotation by year.

Plot 1	Y1	Legumes	Plot 2	Y1	Leafy vegetables
	Y2	Leafy vegetables		Y2	Fruit vegetables
	Y3	Fruit vegetables		Y3	Root vegetables
	Y4	Root vegetables		Y4	Legumes
Plot 2	Y1	Fruit vegetables	Plot 4	Y1	Root vegetables
	Y2	Root vegetables		Y2	Legumes
	Y3	Legumes		Y3	Leafy vegetables
	Y4	Leafy vegetables		Y4	Fruit vegetables

Figure 3: Vegetables types in school garden and their rotation by year

Develop or adapt training manual in local language: Nepal Agriculture Research Council - NARC (Bhattarai et.al 2018) has already developed a training manual for school-garden and applied in different schools in Dolakha and Sindhupalchok for the research purpose. This manual can be contextualized in the Jiri situation and used for the training.

Organize ToT for teachers and local resource persons (LRPs): Trainers (TOT) will be developed for onward trainings on establishment and operation of school gardens. As the school garden and home garden are interlinked, the trainings for trainers will include both school teachers and local extension agents including LRPs, that will accommodate participants for both school gardens and home gardens. Such training will be of 2 days and will basically focus on: i) home garden designing and development; ii) vegetables and human nutrition; iii) linkage between school garden and home garden; and iii) work-plan for parents’ trainings. The trained teachers will be mobilized to train school students.

Facilitate to establish school gardens: The basic components of school garden are production plots, nursery plot with poly-house, water tank/irrigation system, compost pit and fence. A schematic school garden is presented in Figure 3. Facilitation support for the establishment of the school gardens will be provided. The garden design, crop selection and rotation and training modules are can be adopted from the manual - School Vegetables Garden – Curriculum and Action-plan (Bhattarai et.al., 2018).

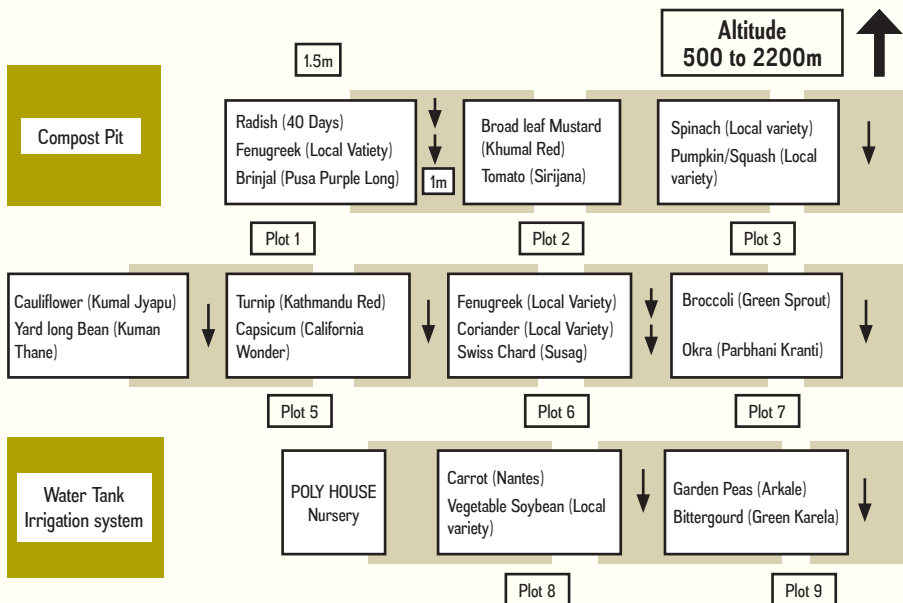


Figure 4: Schematic diagram of a school garden

(Adapted from Bhattarai et.al., 2018)

3.3.2 HOME GARDEN

Studies have shown that school gardens improve children's knowledge of and preferences for healthier foods, but that change towards better quality diets may be constrained by low availability of healthy foods. Results show that the combined home and school garden intervention increased parents' food and nutritional knowledge and that they were able to harvest more vegetables from their gardens. The municipality plans to establish vegetable home gardens in 60 groups involving 1,500 farming households. The steps to promote home gardens is presented below.

Organize or identify producer groups for home garden establishment: By utilizing the existing producer groups and organizing more farmers in new groups as presented in outcome 2, some gardens can be promoted at farmers' level. These groups will be supported with home garden knowledge and skills.

Design home garden options suitable for various types: Design of the home gardens will depend based on the availability of land area and surface. For the flat land, the design of the school garden presented above could be replicated. If land is sloppy with small terraces, then each small terrace can be allocated for one or two crops but crop rotation should be maintained. If there is no land for farming, use backyard or roof top home gardening can be promoted.

Develop or adapt training manual of home garden in local language: There is a tested manual developed by ANSAB for home garden training. This covers both theoretical as well as practical sessions. This training manual can be adopted for the context of Jiri to train the producer groups.

Support to establish home gardens: With the backstopping support of agriculture extension workers, the trainers (teachers or local resource persons) receiving trainings on school and home gardening could be mobilized. The trainers will train and support the farmers in establishing home gardens and growing the recommended crops for different seasons.

Provide crucial inputs, technology and backstopping support to the producer groups: In order to promote home garden, there will be provision of necessary initial support




of inputs to the farmers receiving trainings. The inputs include vegetable seeds, ingredients for bio-pesticides and bio-fertilizers so that the producers can start home gardens immediately after the training.

3.3.3 AWARENESS ON NUTRITION, FOOD PREPARATION AND CONSUMPTION

Public awareness on the importance of nutritious and balanced food is important to attract people towards healthier food choice. In the recent decades, there is marked growth in global availability of energy-dense, nutrient-poor snack foods and beverages, with consumption rising among adults and children in low and middle-income countries. This phenomenon is also becoming common in rural areas of Nepal including in the municipality, causing nutritional deficiency to the children, pregnant women and older population. For this also, there is need of raising awareness among the general public. For creating general awareness on food and nutrition, and food preparation and consumption in the municipality, the following activities are suggested.

Sensitize producers and consumers on the importance of local and organic foods: Sensitization program includes awareness raising activities in two folds – for the



producers on health hazards of increased use of chemical fertilizers and pesticides to them, the consumers and to the environment on the whole, and to the consumers on the importance of local and organic produces on human health. The sensitization events can be organized at different levels, namely school children and producer groups, and at larger scale through developing and displaying posters and hoarding boards and disseminating messages through local FMs.

Provide training and demonstration on cooking and food preparation methods: Training and demonstration focuses on two folds – preventing loss of nutrients while cooking, and food preparation with proper combination of nutrients and minerals. High temperatures, long cooking time and large quantity of water causes loss of nutrients, which is prevalent in Nepali cooking habits. Similarly, general public and more specifically the poor people are not aware on the need of the proper combination of grains, fruits, vegetables and proteins and fats in their food. So, in order to sensitize the general public, cooking events and exhibitions can be organized. The cooking events can be organized at school and producer group levels, and the exhibition can be organized in mass gathering events and trade-fairs, where varieties of local food and cooking methods can be demonstrated.

3.3.4 WATER, SANITATION AND HYGIENE (WASH)

Safe drinking-water, sanitation and hygiene (WASH) practices are crucial to human health and well-being. Safe WASH practices are not only a prerequisite to health, but also contribute to livelihoods, school attendance and dignity and helps to create resilient communities living in healthy environments (WHO). WASH can be realized through proper watershed management (Ref chapter 4.2.3), safe drinking water supply system and personal hygiene. It also includes waste disposal system, clean drinking water supply in schools and clean and separate toilets in schools. So, the existing system in the municipality has to be strengthened linking with WASH component. In order to ensure the proper WASH in Jiri, the municipality can initiate with the following activities: i) awareness raising on the importance of clean drinking water for human health; ii) training on drinking water supply management, and material support for spring protection, storage tanks, pipelines and taps management; iii) awareness raising on hand washing and personal hygiene; and iv) supports to schools for safe drinking water supply system and clean toilets.

3.4 RESEARCH AND EXTENSION SERVICES

The mountainous nature of Jiri with limited research in the area, extension materials and extension workers, and the recent application of ecosystem based organic agriculture practices in the area underscores the necessity of appropriate research and extension services in the municipality. There is a need of a system of institutionalizing knowledge gathering, analysis and dissemination to be in place, which could enhance the research and extension services. Jiri municipality has to establish a system of research and extension as a regular program in the municipality. This outcome will be measured against the following indicators:

A policy decision is made by the municipality to establish a system of research and extension services as a core program of the municipality;

An information unit along with the capable extension worker in agriculture section of the municipality is established and every producers has the access to trained local resource persons to get hands-on technical services;

A successful demonstration of production system, practice, inputs and technology developing an Experimentation and Demonstration center. This can be linked with the system of NARC making a outreach trial center for organic agriculture;

Enterprise development plan and market research of at least 5 commercially important products are made.

3.4.1 PRODUCT DEVELOPMENT, ENTERPRISES AND MARKET RESEARCH

Identification of promising products and services: The availability of the resources (supply potential) and market demand are the main indicators to select products for market research, enterprise development and marketing. Through our assessment of possible production, value addition and marketing of farm and forest-based products and services in the municipality, the promising products for commercialization are local varieties of potato, fresh vegetables, spices, kiwi, plum and handmade paper (made of lokta/argeli). Similarly, eco-tourism is another important sector in Jiri with business potential.

Enterprise feasibility and market research: Of the identified products and services, initially Jiri can focus one or two products for value addition and selling in distant markets, and the remaining products could be targeted for local and nearby markets.

Before selecting the products for enterprise development, a thorough market research at the local, national and international levels could be done with proper business planning and a realistic cost-benefit analysis.

Identification of appropriate inputs and technologies: Selection of appropriate and suitable production inputs and technologies, such as crops, varieties, irrigation, nutrient management and plant protection measures; post harvest handling; and value addition technologies are crucial, and these are also also unique for high mountains. Study and research on appropriate inputs and technologies that are used in other parts of Nepal and even in India and China with similar geographical and socio-economic setting could be done for adoption or adaptation in the context of Jiri.

Product development: For product development based on the most promising products and services, local and adjoining markets will be taken into consideration at the first place. If there is excess and these markets can not consume the products, then the access to the markets at national level will be the alternative plan. For now, Potato and Kiwi are ready to target for the national markets.

3.4.2 EXPERIMENTATION AND DEMONSTRATION CENTER

There are very few research and demonstration work on eco-based and commercial farming in high mountain areas, such as Jiri. As Jiri has sloppy terrain and a unique micro-climatic condition, there is need of testing of new crops and varieties, production inputs and technologies at the field level before their wider application. So, the resource nursery which is already initiated in Khawa, Jiri can be established as an experimentation and demonstration center. This center will provide a place for adaptive research of crops, varieties and technologies. It can also provide extension service through production demonstration, where producers can visit and learn. The proposed activities for the establishment of the center are:

Development of business model: Private sector has low motivation to establish experimentation center because there is no immediate return of investment. On the other hand, the producer groups can not afford the cost for establishing the center. So, a unique business partnership is proposed for establishment of the experimentation and demonstration center, where the community groups and local level investors build a partnership model and the municipality will shoulder the operation cost in the initial

satge. This community private partnership model of business will have a realistic business plan for making it sustainable.

Identification and testing of new remunerative crops: The crops with high market value and low volume, will be continuously identified and cultivated in the center for testing to further cultivation at the wider area. The already identified crops for testing are various types of greens for salad, different types of berries incl. strawberry, tree tomato, chia seed, quinoa, akabare chilly and temperate fruits.

Demonstration of various inputs and technology use: This includes introduction of new technologies, such as micro-irrigation, micro-climatic modification through plastic tunnels, cultivation methods, organic manure, and bio-fertilizer preparation and application. A crop calendar and production plan will be developed.

Development of multipurpose nursery: This includes procurement of crop seeds and seedlings, development of nursery technician, production and selling of vegetable seedlings, establishment of fruit nursery, continuous maintenance and upgradation of mother plants of various fruit crops and fodders.

Production and marketing: The center will not be limited as a site for experimentation and demonstration, as it should be a commercially viable business entity. So, the center will be also be extended with its function as a resource center in order to generate revenue for its sustainable operation. The main business of the center will be production and selling and fruits and vegetables seedlings to the producer groups in affordable price, fresh fruits and vegetables, and other high value low volume products.

Capacity building: This center will host various training and exposure visit events and internship for the agriculture technicians, mainly graduated from Jiri Technical School (JTS).

3.4.3 HUMAN RESOURCE DEVELOPMENT

Lack of skilled and knowledgeable human resources is one of the major constraints in organic production. So, the municipality should have a human resource planning with clear roles, responsibilities and annual performance appraisal system. For the availability and access of the qualified and trained human resources in the municipality, the following three ways are suggested.

Internal capacity building of the municipality on organic production: This can be done through special trainings and exposure visits to the existing staff, and new recruitment of the qualified and experienced agriculture graduates.

Support for locally appropriate TEVT: To make the training practical, organic focused and mountain specific, the municipality has to collaborate with TEVT schools, mainly JTS. As there are no exclusive curricula for organic, the municipality can collaborate with CTEVT to develop a curriculum in organic production. To increase the access of poor and marginalized youth in technical education, the municipality can provide scholarship support for education and offer a place for on-the-job-training (OJT).

Developing local resource persons (LRPs): The potential LRPs for training are lead farmers, technical school or university graduates, school teachers and agrovet operators. These potential LRPs can be trained on the required services such as entrepreneurship development, business planning, organic production, processing and value addition, sustainable forest management and forest resource inventory. Similarly, some LRPs could be trained on hospitality and hotel management, and as tourist operator and local guides. The municipality can develop a roster of LRPs for various services and produce brochures and business cards that helps the needed ones to access their services.

3.4.4 INCREASED ACCESS OF PRODUCERS TO EXTENSION SERVICES

To increase the access of producers to various services such as input supply, production, processing, business planning, the following activities are suggested.

Mobilizing LRPs for technical support for organic production: These trained LRPs will provide technical services to the producers in production, post-harvest handling and processing, business management, forest protection among others. In the initial stage, the municipality can compensate the time costs of LRPs and later the producer groups can pay the service charge once they become commercialized. The knowledge and skills of the LRPs have to be continuously upgraded through trainings in new technologies and backstopping from the subject matter specialists of the municipality and Agriculture Knowledge Center.

Developing JTS as a training center for organic agriculture: Jiri Technical School (JTS) is one of the quality training center of CTEVT, which has good physical facilities and trained personnel. So the municipality can capitalize the strength of the school by signing an MoU to develop JTS as a training center for organic agriculture.

Developing soil testing facility: With the initial support of soil testing kits from ANSAB, Jiri municipality can establish a soil testing facility for analysis of basic soil parameter such as pH, major nutrients (N, P, K) and organic matter. The testing facility can be hosted within the agriculture section of the municipality, or other available options such as Jiri Technical School, Khawa experimentation and demonstration center or the agrovets.

Exposure visit of farmers: Providing exposure of the producer group representatives to organic farming system and practices in well established farms and territory is necessary for them to learn on on production and marketing techniques of organic products and services such as eco-agro-tourism. Potential exposure sites could be farms, organic declared areas within Nepal and outside such as Sikkim, where such practices are adopted and institutionalized.

3.5 FARM AND FOREST ENTERPRISE DEVELOPMENT AND MARKETING

With rich and diverse range of farm and forest based products and services in Jiri, the municipality has potential for employment and income generation to the local communities and contribution to overall economic development of the municipality through development of enterprise and value chain. With some potential products, there are few enterprises in the municipality that have been operated or are recently initiated, such as the Everest gateway for handmade paper, Khawa multi-purpose nursery, Khudurke organic agriculture group vegetables, and lead firms, each for Kiwi, potato trading and Taxus nursery and initial plantation. There is limited knowledge and participation of the local level farmers and community members on enterprise-based activities, and there is need of providing support to them for the development and operation of farm and forest based enterprises on the long run. Necessary support activities for the development of enterprises based on the promising products and services from the municipality are organization of local farmers for commercial production and marketing, and provision of training on entrepreneurship and business planning and access to critical inputs, technologies and business development services. Progress towards enterprise development and marketing could be judged through the following outcomes:

Increased number of commercial producers, aggregators and traders in organic food crops, such as fresh vegetables, potato and kiwi;

Increased number of processing and marketing enterprises in organic foods and high value non-timber forest products (NTFPs), such as potato chips, fruit jam, orthodox tea, NTFPs and handmade paper;

Developed organic inputs (biofertilizer, biopesticides, organic manure) and technologies suppliers including high value crop nurseries; and

Increased number of destinations and tourist flow in Jiri to visit and observe forests, organic farming practices, and recreational sites.

3.5.1 ENTERPRISE PLANNING AND MANAGEMENT

Potential entrepreneurs have limited capacity on enterprise planning and management, which is vital for the regular operation and sustainability of the enterprises. The basic steps during enterprise planning are: identification of enterprise options and entrepreneurs, building capacity on entrepreneurship development and business planning, suggesting business model and having access to legal and financial services.

Identify new processing and marketing enterprise options and entrepreneurs: Some of the producers have already showed interest to commercialize their production

system, such as Akabare chilli nursery in ward 8; Strawberry cultivation in wards 4 & 7, Chia seed in ward 7 and Kiwi in most of the wards. Similarly, proudcers have shown their interest on processing and product development of potato in wards 3 & 9 fruit jam in wards 2 & 7.

Facilitate to develop business model: The schematic business model for farm and forest based enterprises, that cares the ecosystem and organize production systems, consolidate products and services and access markets is presented in Figure 5. This business model can be adapted for different products and services.

In the business model, farm and forest landscape managers, producer groups, lead firms and market actors are the main actors of the value chain. In each level of value chain there is a need of support services such as finance, technology, market incl. product promotion and consumer awareness and capacity building. To facilitate and promote this business model, the public-private-community-alliance that is already built in Jiri, can be instrumental mainly for playing a role in creating business enabling environment.

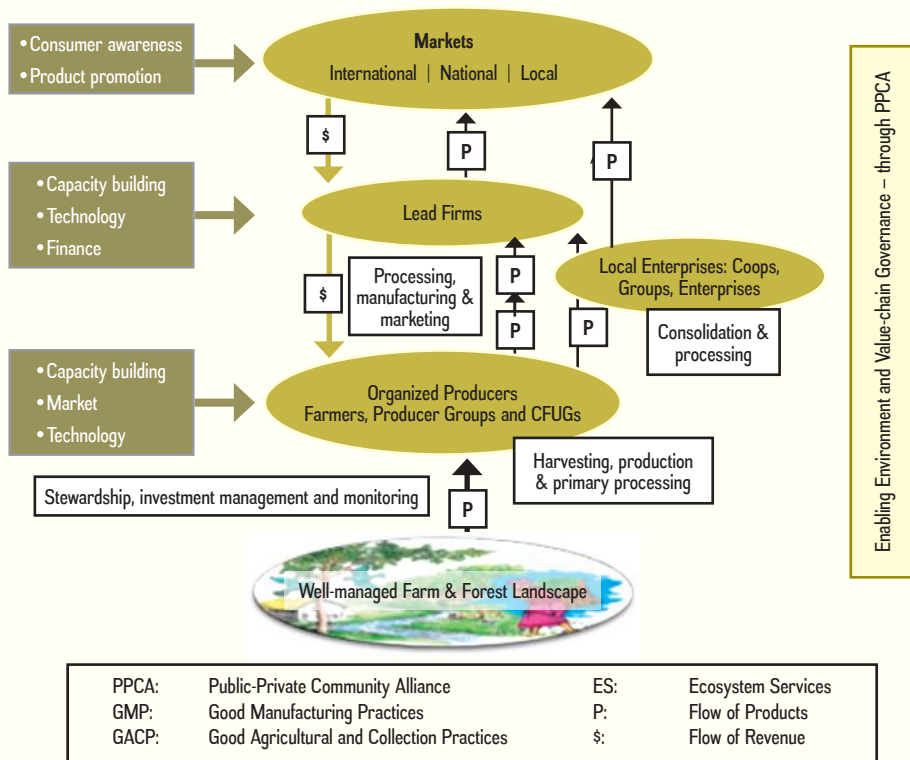


Figure 5: Schematic business model for farm and forest based enterprise

Build capacity of existing and potential entrepreneurs on enterprise development and management: Training on entrepreneurship development and business planning for the existing and potential entrepreneurs will be organized in two phases: i) the first phase include creating general awareness among the potential entrepreneurs; ii) the second phase include detailed training with sample business plans for the selected entrepreneurs. These trainings can be facilitated through LRPs in close supervision of experts and in the later stage, the LRPs can provide this service independently.

Business planning and accessing finance: Promising entrepreneurs have limited capacity to access finance from banks and financial institutions (BFIs). They need support for the development of a bankable business plan, and also during the application process and negotiation with the BFIs.

Legal services and registration: Supports are required in document preparation for the registration, annual audit, renewal and tax clearance of companies that are either registered in company register officer or in small and cottage industries development board. Facilitation is also required to register agriculture producer groups in the municipality, and community managed forests (CFUGs and LHFUGs) in Divisional Forest Offices (DFO).

3.5.2 TECHNOLOGY UPGRADING

In order to increase the production and overall competitiveness of the sector, adoption of appropriate technologies and upgradation to the efficient technology is necessary. Technological upgradation is required in production, post harvesting and processing and marketing levels.

Introduce new inputs and technologies: The required inputs and technologies at production level include remunerative crops and varieties, irrigation, bio-pesticides and fertilizers, cultivation methods, micro-climatic modification, mini-tillers, proper staking for Kiwi among others. The required technologies at processing level include sorting, grading potato and Kiwi, vegetables washing, potato chips making technology, and paper enterprise upgradation. At marketing level, upgradation can be done through introduction of proper packaging materials and methods and cold chain maintenance during transportation of fresh fruits and vegetables.

Establish bio-fertilizer and bio pesticides manufacturing enterprises: Availability of organic inputs, mainly fertilizer and pesticides, is the main bottleneck in commercialization of organic agriculture. To fulfill this gap, the municipality will provide technical and financial support to establish bio-fertilizer and bio pesticides manufacturing enterprises. These enterprises can be established by the cooperatives, or in partnership of community-private partnership.

Upgrade High value NTFP nursery: To increase the production level and reduce the per unit costs, the municipality can provide support to the existing NTFP nursery, which is specialized in Taxus seedlings production, located in ward number 7 through support in infrastructures of the nursery.

3.5.3 MARKET AND SUPPORT INFRASTRUCTURES

For proper collection and marketing of the products produced by the farmers and producers, there is need of critical market and support infrastructures.

Establish vegetables collection centers: Collection centers are required in the road-head centers of each ward. In the initial stage, the municipality can support to develop collection centers at Lincoln Bazar, Haat Danda, Khawa, Pumpa and Mali.

Establish warehouse, cold storage and market outlets: In the initial stage, the municipality can support to develop a warehouse in Khawa, a cold storage in Lincoln bazaar and the weekly haat bazaars in Lincoln bazaar and Haatdanda.

Support infrastructures: For the growth of any enterprise, the basic requirement is access to Information and Communication Technology (ICT), road/transportation, and electricity. In order to increase access and quality of the internet service, the municipality can work with the telecom providers, and in the initial stage could also support in the cost of data to the entrepreneurs. For increased access of the agricultural products to road/transportation, the municipality will prioritize the main production pockets while opening the new tracks and improving the existing roads. The municipality will take into account the existing production pockets of cash crops such as Jiri-Mali-Yalung-Pumpa, Khawa-Chhipchhipe-Laharepani-Kholme, Jiri-Tallo Sikre-

Purano Gaun-Trishule-Makmere-Chhipchhipe for development of road tracks. For electricity, the municipality is aware of the current constraints of 3 phase electricity and electric transformer for the start-ups and small business. For this also, the municipality can subsidize the initial costs of electricity connection for the enterprises.

3.5.4 TRADE PROMOTION OF PRODUCTS AND SERVICES

For marketing of the different products from Jiri to local and other potential markets, activities towards identification of potential markets, development of market channels, promotion of products from Jiri, increasing consumer awareness, and establishment of market information system of Jiri products will be carried out.

Identify potential markets: The markets for the Jiri products can be categorized into three levels: i) local and adjoining markets, ii) Kathmandu market, and iii) international market. Kathmandu is the major market for main products such as potato and Kiwi, whereas local and nearby markets in Charikot and Manthali are the initial target markets for vegetables. With the increased production of vegetables, Kathmandu market could gradually be targeted. International market is mainly for the certified natural products, such as handmade paper, essential oils and Taxus.

Develop market channel: Main market actors for the agriculture value chain are collection agents, lead firms, wholesalers and retailers. Recognizing the developed and potential target markets of the three major types of commercial agriculture products from Jiri, namely i) fresh vegetables, ii) potato, and iii) kiwi and other fruits, there is need to develop market channels for these products. We suggest three market channels, namely the existing (mostly the local markets for all products), newly developed (mostly at nearby markets at Kathmandu by the same traders), and the potential (mainly to Kathmandu market at commercial scale). The schematic market channels for the three different products is presented in Annex 3.

Product promotion: Producers need support in branding of their products, indicating message that the products are from Jiri and have inherent local, organic and nutritious quality. They also need support in introducing and commercial trading of such products in the national markets. For this the specific support activities for promotion of products

from Jiri include: i) label designing, printing and packaging, which has already been initiated with potato and kiwi and will be extended to other products; ii) facilitation in organizing and participation in exhibition and trade-fairs; iii) organization of buyer-seller meetings including participation of the farmers; iv) continuous exploration of new markets – both at domestic and international levels; v) promotion and expansion of domestic markets for the products from Jiri, for example encourage the use of the handmade paper and paper products such as notebook, register and other official documents for municipality's official work; vi) support tour operators (esp. hoteliers) to develop tour package and advertise it through mass media, especially for farm and forest based ecotourism and recreation.

Organize public awareness campaign on the importance of local and organic foods: Public awareness on importance of local and organic foods are necessary for disseminate message on the importance of organic and mountain products for human health, and the negative effects of chemical fertilizer and pesticides in human health and ecosystem. Furthermore, awareness campaign at local level will also help in consumption of new and nutritive crops such as Kiwi, greens for salad, chia seed and quinoa that could be grown by the farmers in Jiri. Awareness campaign will be carried out through mass media mobilization.

Establish MIS (Market Information System) of Jiri products: Development of market information system (MIS) is important for the organized marketing with fair and transparent pricing. The information on quality, volume and price of the products can be collected on a periodic basis and disseminated through bulletin board and FM radios at local level. The MIS at the local level can also be linked to the national initiatives, e.g. price bulleting of Agro-enterprise Center.

4. ANNEXES

ANNEX 1: JIRI DECLARATION ON PPCA

Jiri Declaration on Public Private Community Alliance (PPCA) for Sustainable Natural and Organic Products-based Enterprises and Local Economic Development

We, assembled in Jiri, Dolakha on November 27, 2018 in a planning workshop on “Public Private Community Alliance (PPCA) for Natural Products-based Enterprises and Local Economic Development”, jointly organized by the Jiri Municipality and the ANSAB Nepal;

Recognize that the new political change with devolution of power to local government bodies and high aspiration of people towards development, and the increasing threats to conservation of forest, water and other natural resources have triggered the socio-economic drive and pace of economic development.

Realize that there is a need to demonstrate a sustainable natural products-based enterprises and local economic development model that is environmentally sustainable, economically viable and socially beneficial. It would contribute to conservation of watershed, ecosystem and biodiversity for environmental sustainability; increased productivity and production of farm and forest, access to water and other ecosystem services, development of enterprises, value chain, market system for economic viability; and increased steady incomes and employment for farm and forest producers including women and marginalized through revenue diversification.

Acknowledge that the local governments as a new entity has a mandate to develop local development plans and consolidate efforts of every organization to achieve the development goal of people.

Recognize that the need of a model for the local political bodies to bring various actors and stakeholders together who could contribute to develop plans, implement the development activities and achieve the desired goal. This type of common platform of the government, private sector and local communities will be helpful to bring new knowledge and ideas, develop and execute plan in a coordinated way and create synergy of the work reducing duplication.

Agree that a Public Private Community Alliance (PPCA) will be developed in Jiri Municipality as a common platform of the government, private sector, local communities and development partners considering the farms and forests in and around Jiri area and make it operational to deliver the services, which is expected to replicate in other areas.

Expect that PPCA as a strategic approach will bring together innovations, ideas, most appropriate solutions and resources to address the development challenges through complimentary roles of the Nepali farm and forest producers, domestic and international enterprises, consumers, service providers (including quality assurance and certification organizations), and government, development partners and NGO programs assisting the agriculture and forestry sector. A preliminary agreement on the sites, products and activities was made by the participants.

Agree that the PPCA activities could contribute to the Sustainable Natural and Organic Products-based Enterprises and Local Economic Development through locally organized and controlled farm and forest enterprises (production, consolidation, value addition) ensuring sustainable use of natural resources and equitable benefit sharing; enhanced capacity of communities for conservation of forests and watershed for continued access to water and other ecosystem services; better market position for locally produced (and certified organic) farm and forest products in domestic and international markets; enabling policy environment for the

promotion of locally produced natural and organic products and free and fair trade practices; and mechanism for performance monitoring of the program activities and impact tracking.

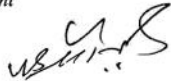
Agree to let this document be known as “Jiri Declaration on Public Private Community Alliance (PPCA) for Sustainable Natural and Organic Products-based Enterprises and Local Economic Development”, and work collectively to implement and review, as appropriate, the understanding that we have achieved in this Declaration so as to maintain its relevance to future challenges and opportunities confronting wellbeing of our community.

Mr. Parbat Gurung, *Hon. Member - House of Representatives, Federal Parliament*



Ms. Shanti Pakhrin, *Hon. Member - House of Representatives, Federal Parliament*

Mr. Pashupati Chaulagain, *Hon. Member - Provincial Assembly, Province No. 3*



Mr. Bishal Khadka, *Hon. Member - Provincial Assembly, Province No. 3*



Mr. Dabal Pandey, *DCC Chairperson, Dolakha*



Mr. Tanka Jirel, *Mayor, Jiri Municipality*



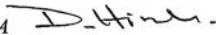
Dr. Bishma P. Subedi, *Executive Director, ANSAB*



Ms. Melissa Chelminiak, *Aveda Corporation, USA*



Mr. David Hircock, *Aveda Corporation, USA*



Ms. Manching Lee, *Gurung Himalayan Tea, China*



Ms. Tiffany Soong, *Gurung Himalayan Tea, China*



Mr. Johannes Burmeister, *Manfred-Hermsen-Stiftung (MHS), Germany*



ANNEX 2: LIST OF ACTIVITIES WITHIN EACH OUTCOME OF THE STRATEGIC PLAN AND THEIR TIME FRAME

S.N	Activities	ST	MT	LT
1	Building system and practice of good governance			
1.1	Policy reform and formulation			
	Operationalize Jiri declaration on PPCA with a formal policy decision			
	Formulate policy to promote local, organic and natural products			
	Remove regulatory barriers in production and trade especially in forest products			
	Develop standards and standard operating procedure (SoP) for production, processing and marketing of farm and forest-based products			
1.2	Institutional structure			
	Develop an institutional structure			
	Organize regular alliance meeting			
	Enforce policy and integrate ECA program in planning and budgeting			
1.3	Ecosystem-based organic agriculture system			
	Orient farmers and market system actors on organic certification standards			
	Develop or adopt a reliable and credible system of certification			
	Develop ICS for organic certification			
	Organize Training of Trainers (ToT) on organic certification for LRPs and potential inspectors			
1.4	Knowledge management and reporting			
	Monitoring and Evaluation			
	Public hearing and public auditing			
	Information collection, record keeping/database management and reporting			
2	Capacity building of farm and forest producers			
2.1	Organizing producers			

	Form groups in new areas and strengthen the existing groups			
	Support CFUGs and LHFUGs			
	Provide special support to sub-groups			
	Support the producer groups for accessing finance			
2.2	Training to the producers' groups			
	Entrepreneurship and farm business planning			
	Orient producers on the principles and practices of organic farming			
	Organize production and post-harvest handling trainings			
2.3	Forest and ecosystem services management			
	Promotion of ecotourism			
	Biodiversity conservation and watershed management			
	Carbon sequestration			
2.4	Provision of inputs, technologies and infrastructures			
	Quality planting materials			
	Soil nutrition management inputs			
	Farm machineries			
	Irrigation schemes			
3	Linking agriculture to nutrition, health and education			
3.1	School garden			
	Identify schools for garden establishment			
	Design school garden and crop rotation			
	Develop or adapt training manual in local language			
	Organize ToT for teachers and local resource persons (LRPs)			
	Facilitate to establish school gardens			
3.2	Home garden			
	Organize or identify producer groups for home garden establishment			
	Design home garden options suitable for various types			
	Develop or adapt training manual of home garden in local language			
	Support to establish home gardens			
	Provide crucial inputs, technology and backstopping support to the producer groups			

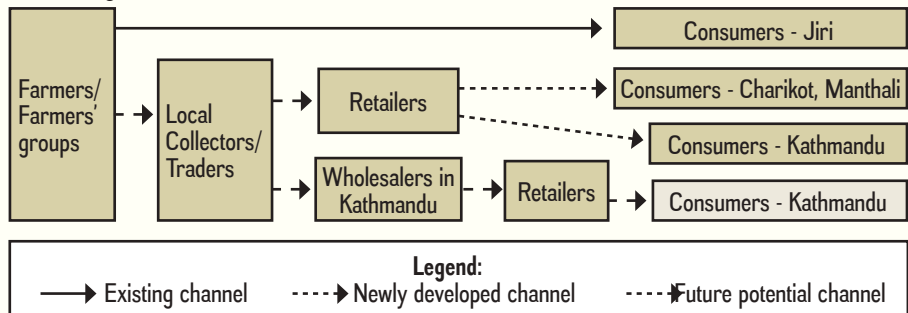
3.3	Awareness on nutrition, food preparation and consumption			
	Sensitize producers and consumers on the importance of local and organic foods			
	Provide training and demonstration on cooking and food preparation methods			
3.4	Water, Sanitation and Hygiene (WASH)			
4	Research and extension services			
4.1	Product development, enterprises and market research			
	Identification of promising products and services			
	Enterprise feasibility and market research			
	Identification of appropriate inputs and technologies			
	Product development			
4.2	Experimentation and demonstration center			
	Development of business model			
	Identification and testing of new remunerative crops			
	Demonstration of various inputs and technology use			
	Development of multipurpose nursery			
	Production and marketing			
	Capacity building			
4.3	Human resource development			
	Internal capacity building of the municipality on organic production			
	Support for locally appropriate TEVT			
	Developing local resource persons (LRPs)			
4.4	Increased access of producers to extension services			
	Mobilizing LRP for technical support for organic production			
	Developing JTS as a training center for organic agriculture			
	Developing soil testing facility			
	Exposure visit of farmers			
5	Farm and forest enterprise development and marketing			
5.1	Enterprise planning and management			

	Identify new processing and marketing enterprise options and entrepreneurs			
	Facilitate to develop business model			
	Build capacity of existing and potential entrepreneurs on enterprise development and management			
	Business planning and accessing finance			
	Legal services and registration			
5.2	Technology upgrading			
	Introduce new inputs and technologies			
	Establish bio-fertilizer and bio pesticides manufacturing enterprises			
	Upgrade High value NTFP nursery			
5.3	Market and support infrastructures			
	Establish vegetables collection centers			
	Establish warehouse, cold storage and market outlets			
	Support infrastructures			
5.4	Trade promotion of products and services			
	Identify potential markets			
	Develop market channel			
	Product promotion			
	Organize public awareness campaign on the importance of local and organic foods			
	Establish MIS (Market Information System) of Jiri products			

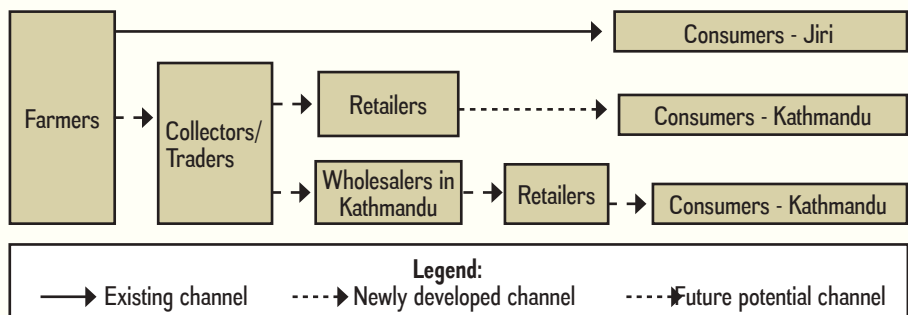
ST: Short term (within 2 years), MT: Medium term (within 5 years), and LT: Long term (beyond 5 years)

ANNEX 3: SCHEMATIC PRESENTATION OF THE MARKET CHANNELS FOR MAJOR COMMERCIAL FARM PRODUCTS FROM JIRI

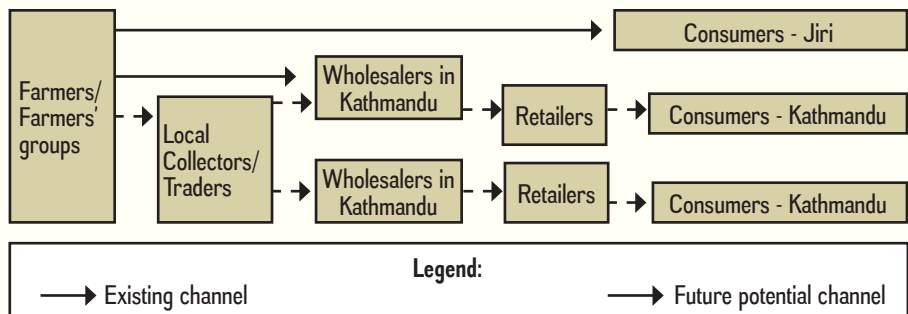
Fresh vegetables



Potato



Kiwi and other fruits





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