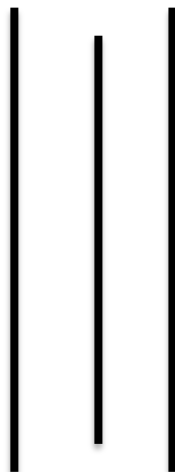


A Comprehensive Report on
Commission Market Assessment on Potential trades, Gaps in
Supply Chain, potential Skills, and existing Challenges in
Ishnath and Paroha Municipality of Rautahat districts of Nepal



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ABBREVIATIONS

%:	Percentage
AIDS:	Acquired Immunodeficiency Syndrome
AKC:	Agriculture Knowledge Centre
CVA:	Cash and Voucher Assistance
DRR:	Disaster Risk Reduction
FGD:	Focus Group Discussion
GAP:	Good Agricultural Practices
HIV:	Human Immunodeficiency Virus
IR:	Islamic Relief
MEAL:	Monitoring, Evaluation, Accountability and Learning
MOLMAC:	Ministry of Land, Management, Agricultural and Cooperative
NARC:	Nepal Agricultural Research Council
PMAMP:	Prime Minister Agriculture Modernization Project
RDC:	Rural Development Center
SWOT:	Strength, Weakness, Opportunity and Threat
WASH:	Water and Sanitation Hygiene

EXECUTIVE SUMMARY

For improving the lives and livelihoods of most marginalized people, Islamic relief Nepal (IR Nepal) have been partnering for Socio Economic Recovery Project (RECOVER) with Rural Development Centre Nepal (RDC) Nepal implemented in each municipality, Ishnath- Ward- 1, 3, 5 & 9 & Paroha- Ward- 3, 4, 5 & 6 of Rautahat district to uplift the livelihood of disadvantaged and marginalized communities by commercial and sustainable value gaps in supply chain, Potential Skills of agriculture and Vegetable production. Vegetable and Agriculture are the main agricultural commodities that are focused for commercial and sustainable production in project command areas.

The study was carried out during October and November 2021 with the objective to carry out production and market assessments of vegetable that provides insights for their production and marketing opportunities in Paroha & Ishnath Municipalities. The study sites and respondent farmers groups were purposively selected as they represent RECOVER command areas in Ishnath & Paroha Municipality. The study team examined information obtained from household survey, resource mapping, stakeholder's interviews, trader's assessment and focus group discussion with farmer groups. Altogether 5 farmers groups with 3 from Paroha & 2 from Ishnath, from each municipality were involved in group discussion. In the study area, marketing system of vegetables was majorly based on private undertakings where farmers (producers) and traders (wholesalers and retailers) were found to be the main actors. Farmers who produced vegetable as well as other vegetables found to be involved in selling activity at their own farm and disposing to nearby market and traders by themselves too. Traders were involved in buying, assembling, transporting, and selling activities. Marketing channel found was disposing vegetable directly to consumers, disposing to wholesalers to retailers to consumers and finally, disposing to consumers through retailers. Among which, majority i.e., few of the farmers sell vegetables to wholesalers and then wholesalers sell to retailers and retailers to consumers. Jute bags, plastic bags, bamboo boxes were extensively used by majority of the actors in the marketing system. Motor bike & bicycle were used for transportation of vegetable from field to wholesale market and to retail markets. But some farmers directly retail their produce by vendor on bicycle. In study area, lack of irrigation facilities was major issue in production of vegetables. Similarly, competition with Indian vegetables, lower price received by farmers, frequent price fluctuation, unorganized market near production sites are the major marketing problems perceived by farmers and traders.

Marketing systems need to be improved so that it will be in the favor of producer farmers. The large gap of price received by farmers and paid by consumers need to be minimized. Central, provincial and local government has prioritized the vegetables production through various programs and policies however provision of efficient marketing is still lacking. There is an immense need to adopt market-oriented policy and programs linking with production in order to enhance production and marketing efficiency in the study area, in particular.

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1. Introduction

1.1 Background:

Rural Development Centre (RDC) Nepal is a non-governmental, non-political and non-profit making organization established in June 2002 with its headquarter in Rautahat District of Nepal. Since then, RDC is heavily engaged in humanitarian assistance, community development, conservation of natural resources, and environmental protection mainly in the Terai and hill region of Nepal through the dozens of humanitarian and long term development projects reaching out to the children, adolescent boys and girls, youth, women, land poor, urban poor, and people living with disabilities, HIV & AIDS, conflict and disaster survivors from most poor, historically marginalized communities such as Dalits and Muslims, indigenous communities and other underprivileged groups.

Rautahat Socio Economic Recovery Program (RECOVER) is funded by Islamic Relief Nepal which aims to “improve socio economic resilience of vulnerable HHs to rebuild lives that interdependent on sustainable livelihood, diversified income, improved access to WASH and reduced disaster risk profile” for 5055 Number of direct beneficiaries in Paroha and Ishnath municipalities of Rautahat district (specifically 8 wards). The project will majorly focus to those who are most vulnerable and heavily impacted by Livelihood loss, inadequate access to WASH and not experienced the good practices in disaster preparedness and risk reduction interventions such as women, children, youth, persons with disabilities, older people, low-wage workers, workers in small and medium enterprises and the informal sector.

The project is being implemented to achieve the following three major results:

Outcome 1: Market linked livelihood restored with diversified income sources

Outcome 2: Improved access to claim rights on WASH facilities

Outcome 3: Functional Municipal level disaster preparedness and risk reduction approach.

1.2 Objective:

- To find out the situation of agricultural crops and vegetable at Ishnath & Paroha Municipality of Rautahat District
- To assess key constraints in terms of production, collection, processing, technologies and marketing of agricultural commodities and value chain actors in terms of promoting marketing of them
- To understand the existing supply chain of vegetable in Ishnath & Paroha Municipality of Rautahat District
- To find out the existing challenges of production and marketing of vegetables in these selected Municipality.
- To assess potential trades, skills and entrepreneurs of project target areas with traders' assessment

1.3 Study area:

The study was conducted among total 8 wards (Ishnath-4 wards- 1,3,5,9, Paroha-4 wards- 3,4,5,6) out of 18 wards of Ishnath & Paroha municipality at Rautahat district in Nepal. The geographical location of Ishnath is 26.78°N & 85.21°E and of Paroha is 26.84°N & 85.23°E. Ishnath municipality occupies an area of 35.17 km² with a total population of 41,435 while Paroha municipality occupies an area of 37.45 km² with a total population of 37,453.

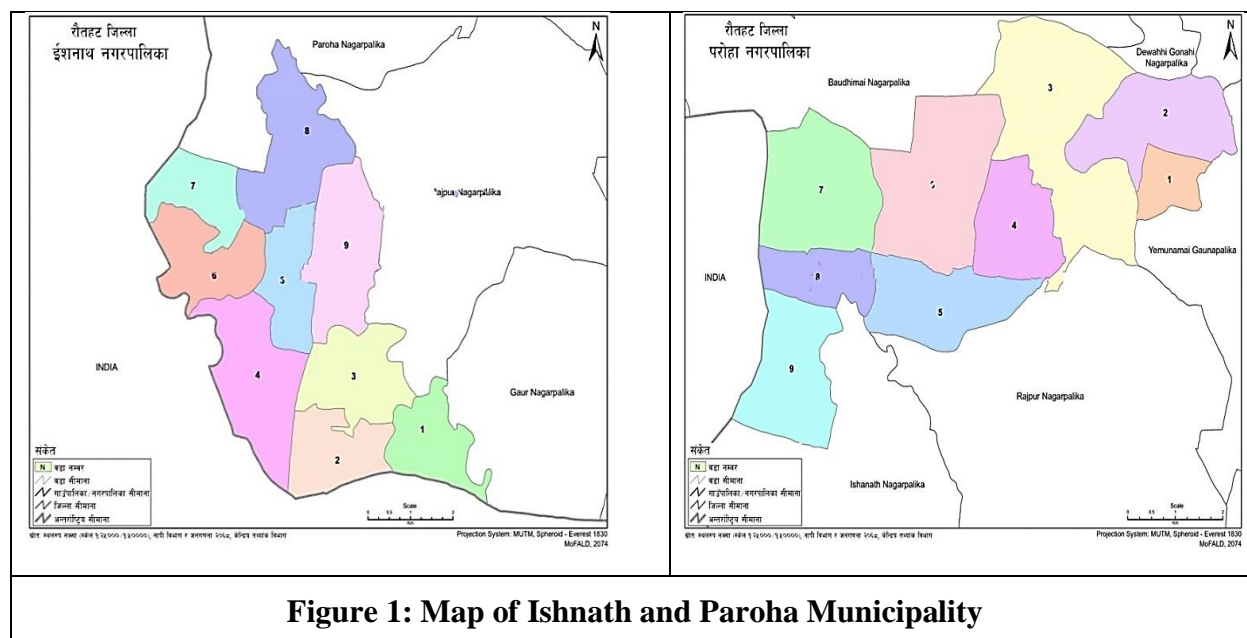


Figure 1: Map of Ishnath and Paroha Municipality

1.4 Study design and methodology

The study was carried out during October and November 2021 in Ishnath and Paroha municipality of Rautahat districts. The methodology of this study included interaction with producers, traders and consumers as well as with various stakeholders working in vegetables value chain in Rautahat districts. The study was carried with consultation and in close coordination with government agencies (MOLMAC, AKC and local bodies). Both primary and secondary data collection methods and tools were used in the study. Data used in the study were both qualitative and quantitative. The activities performed during the study were as follows:

- Development of study approach and methodology, including checklists and travel plan
- Consultation with RDC team and finalization of questionnaire
- Desk work for review of relevant literatures, reports and publications of related stakeholders
- Vegetables field visits, survey and FGD in production areas of Ishnath and Paroha municipality of Rautahat districts
- During visits in two municipalities, observations and interactions with farmers and traders was done following the developed questionnaire. Altogether 200 farmers i.e. 100 from each municipality. Among them 125 were producers, 35 were traders and remaining were consumers of vegetables.

- Visit and consultation with horticulture personnel at Agriculture Knowledge Center, Rautahat and Agriculture officer of respective palikas.
- Trader's assessment for CVA assistant and identification of small scale entrepreneurs
- Data analysis and prepare & share draft report
- Review of the report and final submission

2. Production and market analysis

2.1 Vegetable Marketing in Nepal

Vegetable marketing is an important mechanism to coordinate the production, distribution and consumption of vegetables in the food chain. Marketing of vegetables in particular, is more complex and risky because of the special characteristics like highly perishable nature, seasonality, bulkiness etc. and needs special care and immediate disposal (*Gandhi and Namboodiri, 2002.*). The supply of vegetables is subjected to various problems including wide fluctuation in prices. The marketing situation of vegetables is still in developing/rudimentary stage characterized by influences of supply and demand and price realization (Shrestha, 2008). The important factor that directs agriculture development towards commercialization and diversification is the development of proper marketing system. Despite the fact that vegetable production is a viable option to increase farm income and hence alleviate widespread poverty in Nepal, considerable attention has not been given for its marketing aspects. Because of the imbalance in distribution system and lack of organized marketing system there is always a market glut of vegetables in main production season and scarcity of vegetables in the other seasons.

The Government of Nepal has emphasized the commercialization of vegetables in each five year plan including the three years' interim plans. Despite the great potential of production in the country and continuous efforts from government, vegetable farmers are facing marketing problems such as poor marketing infrastructures (marketing information, physical facilities, auction markets, marketing extension services, price uncertainty etc.), frequent transport obstruction called by different political parties and pressure groups, small scale of production. Moreover, producer farmers are not organized. Farmers are obliged to dispose their produce at low price due to the lack of adequate knowledge of marketing system. They are not getting fair prices for their produces. This has affected not only the producer, but also the consumers. Involvement of large number of middlemen has decreased farmers' share. The middlemen are grabbing the economic benefits.

For marketing of vegetables, *Thapaliya (2006)* mentioned three main marketing channels followed according to the type of vegetables. The leafy vegetables follow the first channel, i.e. farmer-retailers/consumer; whereas other fresh vegetables follow the second channel, i.e. farmer/ farmer group/cooperative-collection center-intermediary-urban wholesaler retailer/hawker/ Indian wholesaler-consumer/exports to India; and non-perishable vegetables such as

potato, onion, garlic follow the third category of channel, i.e. importer-urban wholesale market-retailer-consumer.

2.2 Key Constraints and Issues in Vegetable Production and Marketing

Production constraints faced by vegetable growers are mentioned in table 1. Lack of year-round irrigation facilities was ranked as most serious problem in both the municipalities followed by disease and pest problem, unavailability of quality seeds in time, timely unavailability of chemical fertilizers, weak technical support and services, high input costs, difficulty to get loan and whereas shortage of skilled labor was indicated as a least serious problem.

Table 1: Rank of vegetable production constraints perceived by farmers

Problems	Rank
Unavailability of quality seeds in time	III
Shortage of skilled labor	VIII
Disease and pest problem	II
Difficulty to get loan	VII
Lack of year-round irrigation facilities	I
Weak technical support and services	V
High input costs	VI
Timely unavailability of chemical fertilizers	IV

Vegetable's growers in the study area mentioned several constraints related to marketing as shown in table 2. The problems faced by vegetable producers are mostly similar in both the Municipalities. Competition with Indian vegetables was found as the most serious problem followed by lower price of vegetables, frequent price fluctuation, unorganized market near production sites, lack of storage facilities, high transport cost, and lack of processing facilities. Limited access to reliable market information was observed as least serious problem in study areas.

Table 2: Index of vegetable marketing constraints perceived by farmers and traders

Problems	Rank
Lower price	II
Unorganized market near production sites	IV
Frequent price fluctuation	III
High transport cost	VI
Lack of storage facilities	V
Lack of processing facilities	VII
Frequent transport obstruction	IX
Limited access to reliable market information	VIII
Competition with Indian vegetables	I

2.3 SWOT analysis:

Ishnath Municipality: We conducted FGD with two farmers group for SWOT analysis:

- a) Janajagriti mahila farmers group
- b) Ishnath baba farmers group

Strength <ul style="list-style-type: none"> • Availability of fertile land which is suitable for diverse production of vegetables • Growing local markets with improving marketing facilities • Availability of enough labor for vegetable cultivation • Prevalence of home market with good price 	Weakness <ul style="list-style-type: none"> • Lack of irrigation facility • Lack of investment capacity for commercialization • Unavailability of quality seeds and seedlings of vegetables on time • Influence of middleman in marketing • Marketing price becomes too low in December month • Lack of technical backup from municipality • Decreased vegetable supply during late winter and early summer due to insufficiency of irrigation system
Opportunity <ul style="list-style-type: none"> • Relatively good price available to the farmers • Emerging of several support agencies for vegetable farming • Production area is near to Gaur city and trans-border market • Growing demand of fresh local vegetables • Practice of group farming which has less risk of loss of investment 	Threat <ul style="list-style-type: none"> • Loss of investment due to flood in rainy season • Highly fluctuating market price • Incidence of wide range of pest and disease • Supply of cheaper vegetables from India as border is too close from municipality

Table 3: SWOT analysis of Vegetable value chain in Ishnath Municipality

Paroha Municipality: We conducted FGD with three farmers group for SWOT analysis

- a) Shree Ganesh Farmers Group
- b) Shree Ram Janaki Farmers Group
- c) Shree Gariwi Niwaran Farmers Group

Strength <ul style="list-style-type: none"> • Electricity facility to vegetable field • Soil is suitable for vegetable cultivation • Growing local markets with improving marketing facilities • Availability of enough labor for vegetable cultivation • Prevalence of home market with good price • Well-connected roads for marketing 	Weakness <ul style="list-style-type: none"> • Unavailability of quality seeds • Lack of irrigation facility • Lack of investment capacity for commercialization • Marketing price becomes too low in poush month • Decreased vegetable supply during late winter and early summer due to insufficiency of irrigation system • Lack of technical backup from municipality • Fertilizer scarcity in required time
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Opportunity	Threat
<ul style="list-style-type: none"> • Practice of group farming which has less risk of loss of investment • Relatively good price available to the farmers • Emerging of several support agencies for vegetable farming • Production area is near to Gaur city and trans-border market • Growing demand of fresh local vegetables • Good climate for vegetable cultivation 	<ul style="list-style-type: none"> • Wild animal interference • Highly flood prone areas • Highly fluctuating market price • Incidence of wide range of pest and disease • Supply of cheaper vegetables from India as border is too close from municipality • Untimely and erratic rainfall

Table 4: SWOT analysis of Vegetable value chain in Paroha Municipality

2.4 Issues and challenges at production and market level

(I) At production level

Low revenue received by vegetable farmers

Generally, farmers involved in vegetable cultivation have low sales revenue due to various reasons; low prices, poor market access and high post-harvest losses.

a. Low prices

Farmers face weak bargaining power in price setting of vegetables with traders as they are unorganized and lack market competition based on price and quality, which indicates lack of product differentiation. Similarly, farmers have to bear unnecessary complex supply chain to make their vegetables reach to consumers. This long supply chain is inefficient and offers lower prices to real farmers where middlemen take lots of advantages. Further, the price of vegetables is unknowingly added up in various steps of supply chain without any real value addition. Another lacking among farmers is poor risk bearing capacity and they produce vegetables without any market analysis. What the market demands is not considered rather they produce similar vegetables that get low or average Effective crop calendar and consultation with stakeholders about market information can better improve the sales revenue of vegetables farmers.

b. Poor market access

Poor market access to vegetable famers is interlocked with limited direct commercial market linkages, monopoly of traders and poor road connectivity to some extent. Commercial market linkage is limited due to lack of aggregation, cheap imports from India, low capital access etc. High transaction cost is involved for both farmers and traders due to unorganized farmers and lack of product aggregation. Vegetables flow in market face oversupply of wrong timed products. Cheap Indian vegetables imports offer more problems in Nepalese market and more often in border cities like Baiganiya, chainpur of Rautahat district. It is estimated that about 60% of vegetables consumed in Nepal are imported from India to major market hubs and market centers. Duty free access and subsidized Indian vegetables are offered in cheap prices in Nepal disregards in their quality.

c. Post-harvest loss

Vegetables being highly perishable suffer from high post-harvest loss. Generally, vegetable farmers in Nepal face post-harvest losses of up to 30-40% at different stages from harvesting to marketing, and tomatoes suffer the highest losses. Farmers involved in vegetable production do not have proper knowledge of post-harvest GAP, including cleaning, grading and sorting. Also there is inadequate post-harvest infrastructure in our markets that cause inefficient value chain of vegetables.

(II) At market level

Wholesaler level

Large bulk of vegetables is imported in Nepalese wholesale markets from India. Those Indian vegetables are cheaper as they enjoy duty-free access to Nepal, big government subsidies and few quarantine checks at the border. Also, wholesalers have sub optimal margins when trading domestic vegetables due to high post-harvest losses and a lack of storage facilities. Nepalese farmers being scattered and unorganized offer small volume of vegetables and sell individually to often middlemen so wholesalers may not find profitable business.

Retailer level

Retailers, supermarkets and other traders face problems like high post-harvest loss, low volume of sales, vegetables being of short shelf life with weak storage infrastructures and so on.

2.5 Major markets in project sites

Ishnath Municipality	Paroha Municipality
• Auraiya	• Laukaha
• Banjarha	• Basantpatti
• Dumariya	• Tejapaked
• Motipur	• Pokhariya
• Ghiura	• Narkatiya
• Paltuwa	• Rampur Khap
• Jokaha	• Naya Bazar Damar
	• Jhingarhwa

Table: 5 Major markets in study areas

3.Theory of Change (ToC)

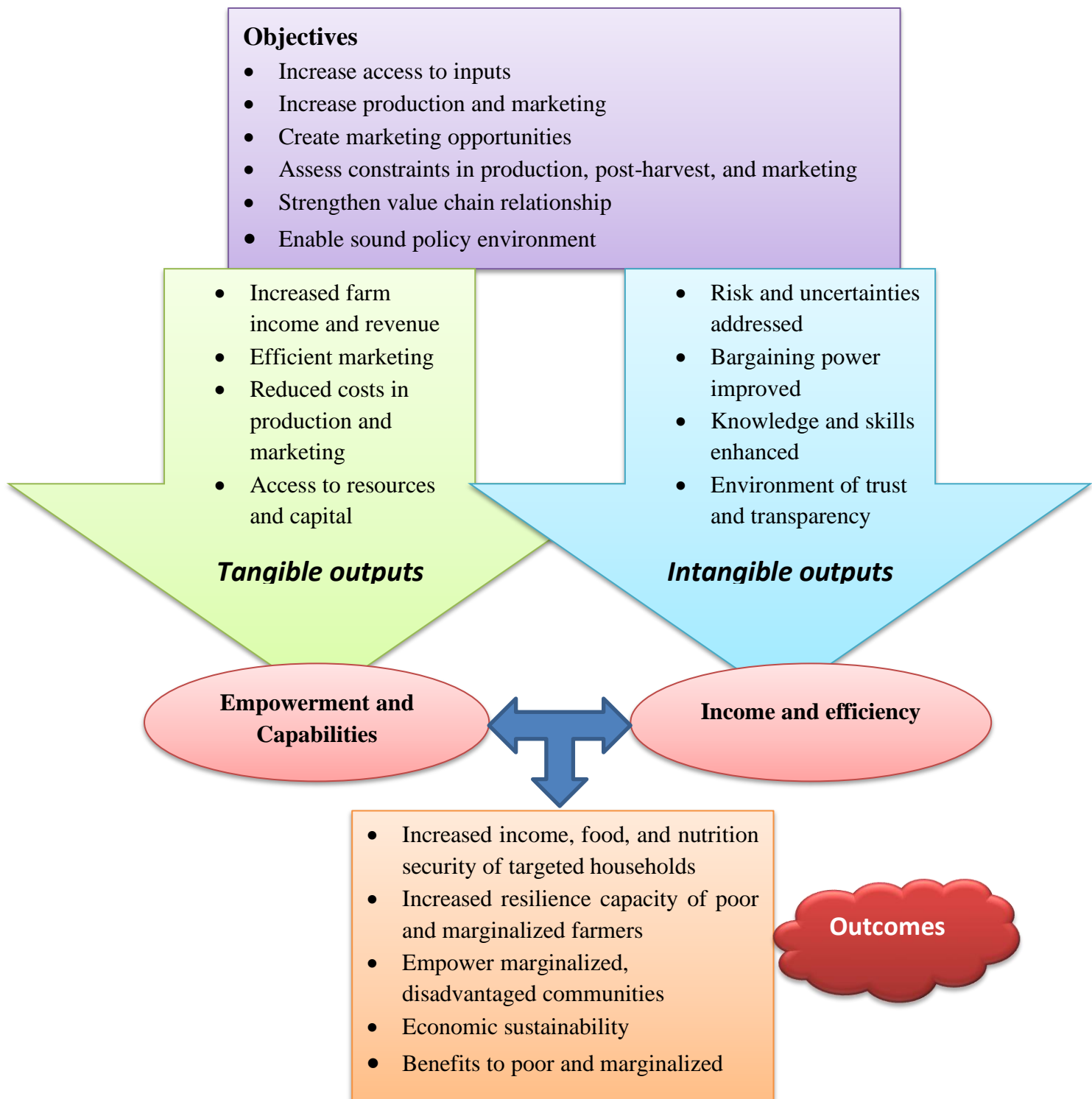


Figure 2: Theory of change

4. Value Chain Maps

4.1 Marketing channel

Marketing channels for vegetables vary from commodity to commodity, from producer to producer, lot to lot and time to time (Acharya & Agarwal,1999). Agricultural commodities move from the farmer's field to consumers through several channels.

The model is based on the collection of information through field visits to the major wholesale markets and collection centers. Middle marketers are mainly responsible for collecting the products from different places and delivering the products to the wholesale market. The products from wholesale markets are supplied to retailers/vegetable shop owners and then to consumers. The number of steps for a commodity to reach to the consumers depends upon the location of the market and the targeted place to be delivered.

In study areas, marketing channel was practiced in three major forms, which is shown in figure 6.

Channel I (C I) is the first channel disposing vegetables directly to consumers. 70% of the farmers found to be selling their products directly to consumers. Direct selling to consumers involved selling vegetables at their own farm as well as selling door to door by farmers themselves.

Channel II (C II) is the second channel disposing to wholesalers to retailers to consumers which was found to be practiced by 20%. Then retailers buy from wholesalers and then sell to consumers. Retailers stated that the producers did not agree to sell their products in small amount to retailers. So, retailers being even at nearby areas of production are buying those vegetables from wholesalers of distant markets. In second channel, the middlemen or brokers are also involved in selling of vegetables in commission basis by matching up producers and buyers and help them to negotiate a price and volume of produce. They don't buy the produce but often earn the commission, so they aren't really traders but service providers.

Channel III (C III) is the third channel disposing to consumers through retailers which comprised 10% in study areas.

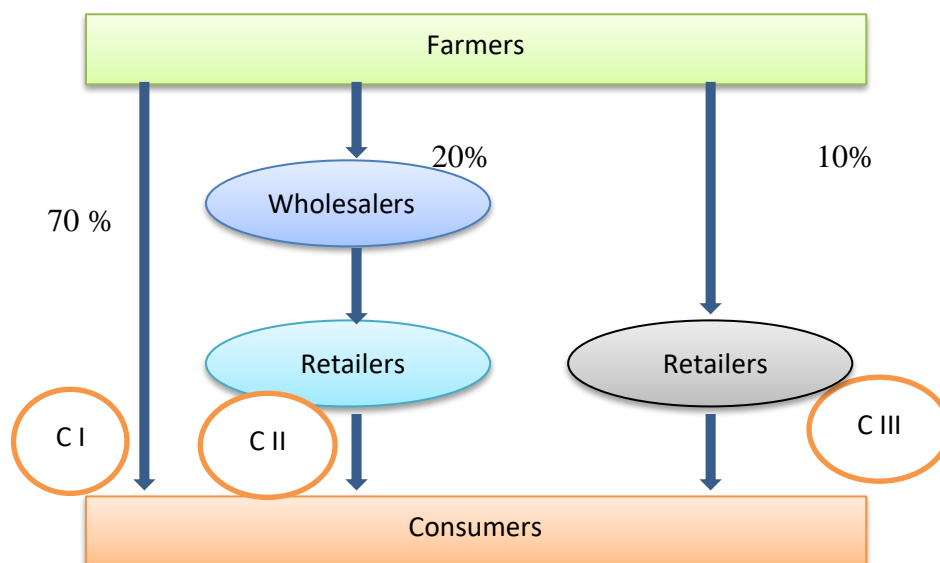
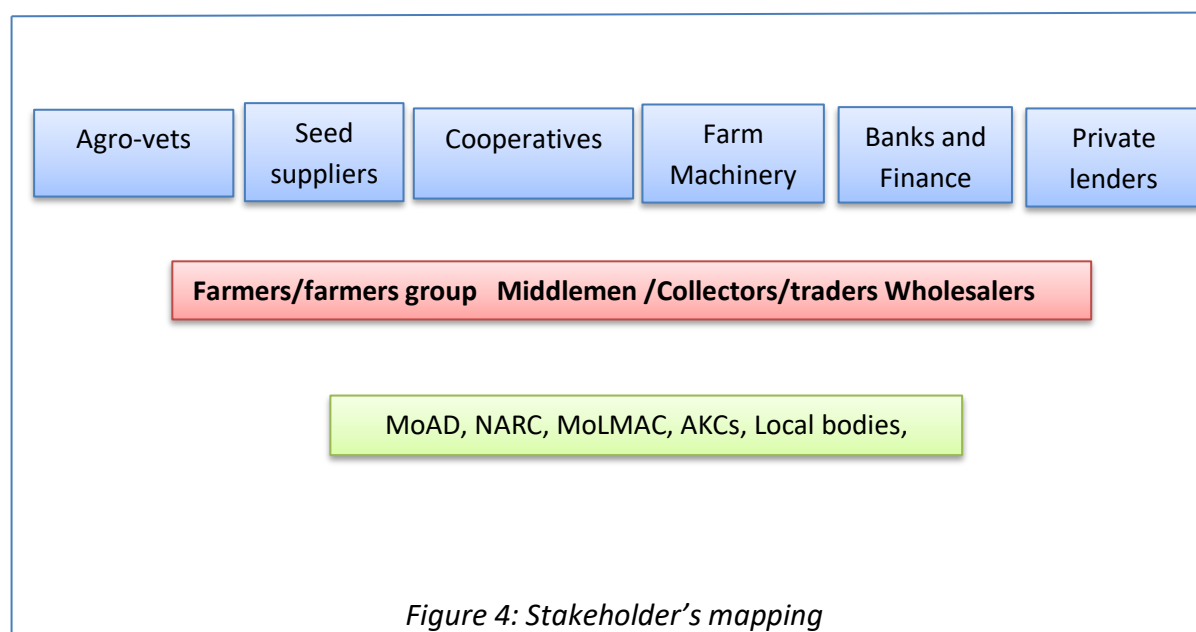


Figure 3: Marketing channel in study area

5. Stakeholder's mapping

The various stakeholders representing both the governmental and non-governmental agencies along with market actors and producers are interlinked with each other both in production and marketing functions. The stakeholders mapping has been shown in figure 4.



6. Short term and long-term interventions

Interventions in short term and long-term basis are to be focused on production, marketing and policy levels.

Short-term Interventions

Production level

Still many farmers lack proper technical knowhow on commercial vegetable production. The use of improved technology as well as effective business plan is still lacking. Farmers are unaware or neglecting the competitive and comparative advantages of vegetables. Demand driven vegetable production is to be done. Before reaching to consumers, vegetables suffer from many problems related to production and post-production. Quality product is also important issue. So, provisions of technological guidelines for production and post-harvest handling at farmers' level are necessary. Good agriculture practice should be intervened in vegetable production level. Not only seasonal, but offseason production of vegetables should also be focused. Training, exposure, visit and demonstration in short term basis are essential related to commercial vegetables production. Therefore, the standard poly-house structure with subsidized rate should be introduced in production pockets.

Marketing level

In study municipalities as well as in our country, efficient marketing is lacking. Vegetables are suffered from post-harvest losses, collection and storage problems, quality issues etc. There is about 25 to 50 percent post-harvest loss in vegetables in our case. Postharvest loss can be reduced by establishing grading and collection centers. Similarly, post-harvest loss could be considerably reduced by packaging in plastic crates, corrugated fiberboard boxes which should be subsidized to farmers, groups, co-operatives, local traders etc. It needs to provide training to the farmers and traders for increasing their knowledge on post-harvest handling technologies. There is also need of training in packaging and storage at the trader, wholesaler, and retailer level. Proper temperature and humidity management are very effective tools in ensuring good condition of vegetables throughout storage. Similarly, entrepreneurship development training for the literate cooperative members in fund utilization and management, net cash income, net profit, risk analysis, and market management knowledge and skills should be provided. For efficient marketing, effective vegetable call center could be managed with provisions of marketing and technology information sharing in coordination with local bodies, AKCs, cooperatives etc.

Policy level

Vegetables are suffered from many diseases and insects and unfavorable weather extremes. Risks and uncertainties in vegetables production can be addressed by crop insurance and minimum price guarantee. Similarly, different stakeholders can be involved in disseminating production techniques, post-harvest management, and marketing technologies of vegetables to relevant farmers and traders through use of booklets, leaflets, posters, mass media and social media.

Long-term Interventions

Production level

Commercial production of vegetables in large scale needs to be encouraged joining small and scattered farmers. High yielding variety development is essential for NARC and proper dissemination through AKCs and local bodies.

Marketing level

Establishment of cold storage near *Mandis* (wholesale market) is necessary. Similarly, good road connectivity is essential for rural farmers in disposing their products to markets. Large scale production and their guarantee of being disposed to markets should be done in support of local bodies and AKCs. For this, incentives can be given to cooperatives, or collection centers based on the volume purchased of vegetables from nearby production. Contractual agreement can be set up between farmers and collection centers or cooperatives for guarantee of disposal of vegetables.

Policy level

In long term basis, export promotion can be facilitated by Nepal Government in terms of tariffs and customs. Similarly, both for import and export, quality control mechanism along-with

pesticide residue analysis is needed to be strictly implemented for which proper laboratories, equipment, tools and manpower is must.

7. Conclusion & recommendation

7.1 Conclusion

Vegetable farming is appealing because it ensures cash revenue within a short period of time, even from small plots of land. Due to the availability of market and as an income generating cash crop, the production of vegetable crops has been increasing every year. However, the production of bulk of vegetables is frequently affected in lack of efficient marketing system. A study was carried out with a view to carry out production and market assessments of vegetables that provides insights for their production and marketing opportunities in Ishnath and Paroha Municipality.

In the study area, marketing system of vegetables was almost based on private undertakings where farmers (producers) and traders (wholesalers and retailers) were found to be the main actors. Farmers who produced vegetables found to be involved in selling activity at their own farm and disposing to nearby market and traders by themselves too. Traders were involved in buying, assembling, transporting and selling activities. Marketing channel found was disposing directly to consumers, disposing to wholesalers to retailers to consumers and finally, disposing to consumers through retailers. Among which, majority i.e. 70% of the farmers sell vegetables directly to consumers. Plastic bags, wooden crates were extensively used by almost all actors except few farmers in the marketing system. Pick-up van, auto-riksaw, bicycle was used for transportation of vegetables from field to wholesale market and to retail markets. But some farmers directly retail their produce by vendor on bicycle. Marketing system need to be improved so that it will be in the favor of producer farmers. The large gap of price received by farmers and paid by consumers need to be minimized.

Vegetable growing is a profitable and potential agricultural enterprise in respective municipalities. Farmers should give emphasis on growing vegetables in offseason too. They should practice value addition, preservation and processing activities too to get higher price. There is an immense need to adopt market-oriented policy and programs linking with production in order to enhance production and marketing efficiency in the study area, in particular.

7.2 Recommendations

Various stakeholders in vegetable sector are suggested with following recommendations based on the study and findings:

- Provision of pure seed of vegetables
- Central, provincial and local government should focus on proper marketing of vegetables in production areas. The immense support is only focused on production so market guarantee of vegetables should be facilitated by farmers' group approach, co-operatives markets, incentives based on volume of marketing. Market oriented

agricultural development programs by emphasizing more on marketing extension is must.

- Agricultural marketing act is a need.
- Well-equipped agricultural marketing infrastructure (retail market, collection centres etc.) should be developed nearby production pocket and rural areas.
- Agricultural marketing information system needs to be improved. The present wholesale price dissemination should be accompanied with other information like information on demand and supply of vegetables, market arrivals, information on other markets.
- Transportation and storage facilities should be more improved.
- Agricultural inputs need to be made available in right time and in required quantity.
- Field level agriculture extension technicians should be upgraded with technical knowhow facilitating on efficient production and marketing.
- Agriculture ambulance van need to be operated in major production pockets and road corridors.

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Annex -1

Some glimpses of field study



Focus Group Discussion with farmer group at Ishnath municipality.



Focus Group Discussion with farmers group at Paroha Municipalities



Market Assessment for trade support at Ishnath municipalities.



Market Assessment for trade support at Ishnath Municipalities.



Market Assessment for trade support at Paroha Municipalities.