

Agriculture Development Strategic Action Plan (ADS-Action Plan)

# **Rapti Sonari Rural Municipality**

Lumbini Province, Banke



Technical Assistance by

CRS/Farmer-To-Farmer Program and Caritas Nepal

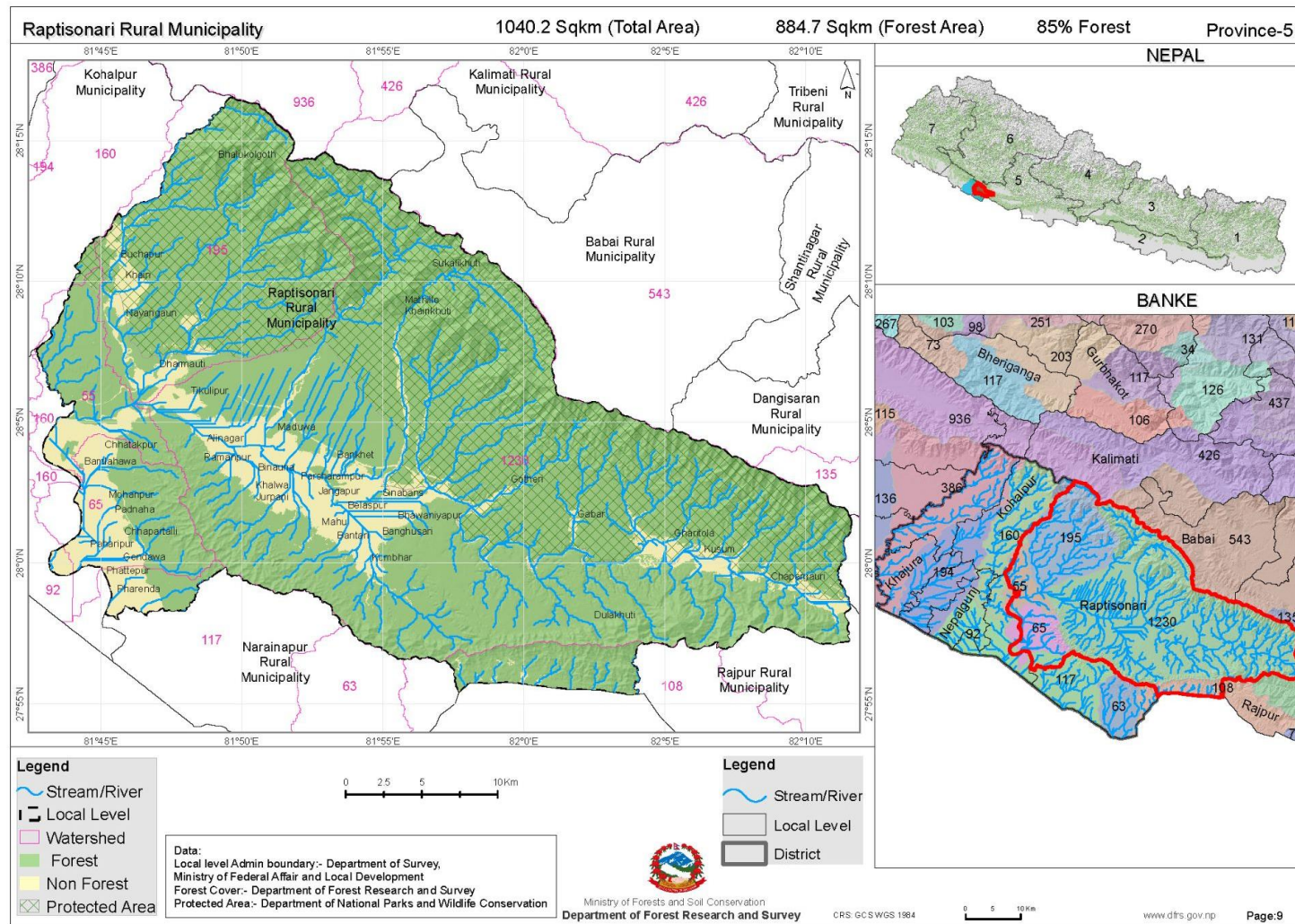
## Table of Content:

<b>Table of Content:</b>	<b>1</b>
Rapti Sonari in Geographic Map	4
Executive Summary	5
Data plays a crucial role in agriculture planning.	5
Regular Observation of Local farming Realities:	5
Periodic Participatory Review and Planning with Local Communities:	6
Collaborative Community Engagement in Collective Learning:	6
Innovative Cultivation Techniques:	6
Monitoring and Motivation:	7
Focus Sustainable Practices:	7
<b>Municipality Profile:</b>	<b>7</b>
<b>Agriculture Development Goals of Rapti Sonari</b>	<b>11</b>
Vision for the Municipality	11
Mission for the Municipal Development of Agriculture:	11
<b>A brief overview on the Agriculture Development Strategy- ADS (2015- 2035)</b>	<b>11</b>
Importance of ADS	12
<b>How can Rapti Sonari contribute to achieving the ADS Objectives?</b>	<b>13</b>
Focus on Enhancing Productivity while reducing the cost of production:	13
Market Integration and production systems Development:	14
Diversification and Commercialization:	14
Climate Resilience:	15
Capacity Building and Institutional Strengthening:	15
Access to Finance and Inputs:	16
Monitoring, Evaluation, and Learning:	16
<b>Limitations of Rapti Sonari municipality as a local level government</b>	<b>16</b>
<b>Fact Findings from Field Visit, Observation and Desk Review:</b>	<b>17</b>

<b>Findings from SWOT Analysis</b>	<b>17</b>
<b>Root Cause Analysis of Agricultural Underdevelopment Challenges of Rapti-Sonari</b>	<b>19</b>
<b>Community Suggestions: Results from Pareto Analysis</b>	<b>20</b>
Priorities of ADS Core objectives based on Community Inputs	22
<b>Development from Business Perspectives: Using BMC</b>	<b>22</b>
<b>Budget Priority as per the Farmers Priority</b>	<b>24</b>
<b>Demand Driven Strategic Action Plan</b>	<b>24</b>
Training and Development Action Plans	24
Marketing and Promotional Activities	27
Agriculture Inputs and Fertilizers	29
Reduction of Post Harvest Loss	31
Increasing Return on Investment from Subsidy and Entrepreneurship	33
Inclusiveness and Youth and Woman Engagement	36
<b>Planning considerations:</b>	<b>40</b>
<b>Some insights into planning considerations for Leaders</b>	<b>40</b>
<b>Key Results for Palika Leaders:</b>	<b>47</b>
<b>Key Performance Indicators</b>	<b>48</b>
<b>Annex I: Process</b>	<b>50</b>
<b>Annex II: Major Tools</b>	<b>55</b>
Hoshin Kanri	59
The X-Matrix	60
Quality Circle in Farming	61
<b>Annex III: Check list</b>	<b>63</b>
Preparatory Stage:	63
Engagement Stage:	64
Planning Stage:	64
Implementation Stage:	64
Evaluation Stage:	64

<b>Annex IV: SWOT Analysis for Rapti Sonari Municipality</b>	<b>66</b>
Strengths of Rapti Sonari as a Community:	66
Weaknesses of Rapti Sonari as a Community::	67
Opportunities of Rapti Sonari Rural municipality:	67
Threats of Rapti Sonari Rural municipality:	68
<b>Annex V: Root Cause Analysis Using Ishikawa Diagram and Cause and Effect Diagram</b>	<b>68</b>
<b>Annex VI: Business Model Canvas</b>	<b>70</b>
<b>Bibliography</b>	<b>72</b>

## Rapti Sonari in Geographic Map



## Executive Summary

Agriculture plays a pivotal role in the economic and social development of Rapti Sonari Rural municipality in Western Nepal. To build a competitive advantage and achieve strategic development, it is crucial to embrace a holistic approach that encompasses regular observation, periodic participatory planning, collaborative community engagement, creative cultivation techniques, effective monitoring, continuous motivation, and focus on agriculture and food system transformation across all phases and cycles of agricultural systems.

*This executive summary outlines the significance of these elements in fostering the competitive advantage of Rapti Sonari Rural municipality. Whole concept of the plan revolves around the PDCA (Plan-DO-Check-Act) model with belief of continual improvement over time.*

It is always a good practice to keep observing the progress, problems and process before we begin a new cycle of PDCA into strategic planning.

### Data plays a crucial role in agriculture planning.

Data plays a crucial role in agriculture planning by providing valuable insights and enabling informed decision-making. Data in agriculture planning empowers farmers and stakeholders with information, enabling them to optimize resource allocation, mitigate risks, enhance productivity, and contribute to sustainable and profitable farming practices. In this process the municipality in coordination with the local development partners should gather relevant data from the recent Agriculture Census and conduct agriculture sample surveys every five years. Such data should cover information about farm families, natural resources availability (land, water, forest etc), food production and requirements etc.

### Regular Observation of Local farming Realities:

Regular observation is vital for understanding the local agricultural landscape, identifying challenges, and recognizing opportunities. **Through systematic observation, key factors such as climate patterns, soil conditions, pest and disease outbreaks, and market trends can be monitored.** This information forms the foundation for evidence-based decision-making, enabling farmers and stakeholders to adjust their strategies, adopt suitable crop varieties, and implement timely interventions for improved agricultural productivity.



### Periodic Participatory Review and Planning with Local Communities:

Periodic participatory planning ensures that the agricultural development initiatives align with the ADS prioritizations and needs and aspirations of the local community. Involving local service providers (NGOs, INGOs, PMAMP-Banke, AKC-Banke, NARC-Khajura, University- Banke), agricultural products traders, agro-vets, farmers, financial institutions, insurance companies, local cooperatives, and other relevant stakeholders in the planning process, a sense of ownership and collaboration is fostered. The municipality's Economic Development committee in coordination with the local development partners should lead the process. **Such participatory review and planning should take place on an annual basis prior to the municipality preparing its program and budget.**

### Collaborative Community Engagement in Collective Learning:

Engaging the community in agricultural activities fosters a sense of shared responsibility and empowers individuals to actively contribute to the development process. **Collaborative community engagement initiatives, such as formation of 'Farmers' Quality Circle (FQC)', farmer field schools (FFS), knowledge-sharing platforms, and participatory research, facilitate the exchange of experiences, innovations, and best practices among farmers.** Collective learning approach either through FFS or FQC strengthens social capital, builds networks, and enhances the competitiveness of the agriculture sector.

### Innovative Cultivation Techniques:

Adopting innovative cultivation techniques is essential for optimizing agricultural productivity and resource management. **Exploration of innovative methods such as organic farming, vertical farming, agroforestry, crop-livestock integration, production of medicinal and aromatic herbs, and precision agriculture, farmers can maximize yields, minimize input costs, and reduce environmental impacts.**

### Monitoring and Motivation:

**Effective monitoring and evaluation systems are critical for tracking progress, identifying bottlenecks, and implementing corrective measures.** Regular monitoring ensures that agricultural interventions are on track and enables timely interventions to address emerging challenges. *Continuous*

*motivation through farmer support programs, recognition of achievements, and provision of incentives enhances farmers' enthusiasm, dedication, and adoption of sustainable practices.*

## Focus Sustainable Practices:

Adopting sustainable practices is paramount to safeguard the long-term viability of agricultural systems. **Rapti Sonari Rural municipality must prioritize practices that promote soil health, conserve water resources, mitigate climate change impacts, and protect biodiversity.** Integrating sustainable agriculture principles, such as crop rotation, integrated pest management, efficient irrigation, and agroecology, the municipality can enhance resilience, reduce input dependency, and ensure the longevity of its agricultural sector.

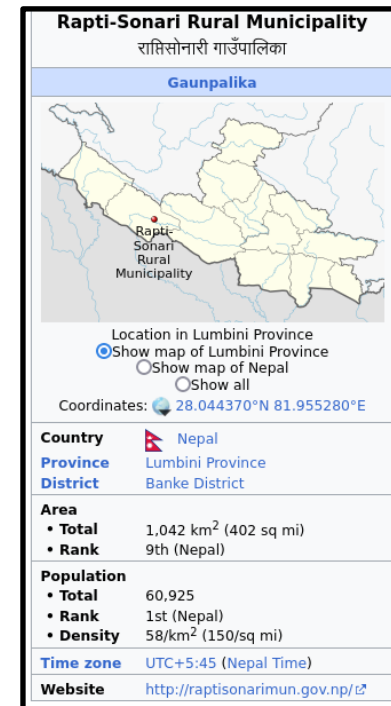
## Municipality Profile:

Rapti Sonari Rural municipality is located in the western part of Nepal, in the Dang Banke district of Lumbini province. It is a relatively large municipality with a population of approximately 59,946 people, according to the latest data available on the official website of the Rapti Sonari Municipality.

### Demographics:

The majority of the population in Rapti Sonari Rural municipality are from the Tharu community, who primarily rely on agriculture for their livelihoods. The municipality is home to a number of other ethnic communities, including the Brahmin, Chhetri, and Magar communities.

### Geography and Climate:



The municipality is situated in the Terai region of Nepal, at an elevation of 300 meters above sea level. The climate is tropical, with hot summers and mild winters. The monsoon season lasts from June to September, with the heaviest rainfall typically occurring in July and August. The municipality is surrounded by dense forests and is home to a number of wildlife species, including tigers and elephants with an area of 1042 Sq. KM.

### Education:

Rapti Sonari Rural municipality has several government run primary and secondary schools, but the quality of education in the municipality is generally poor due to lack of access to infrastructure and resources.

### Health:

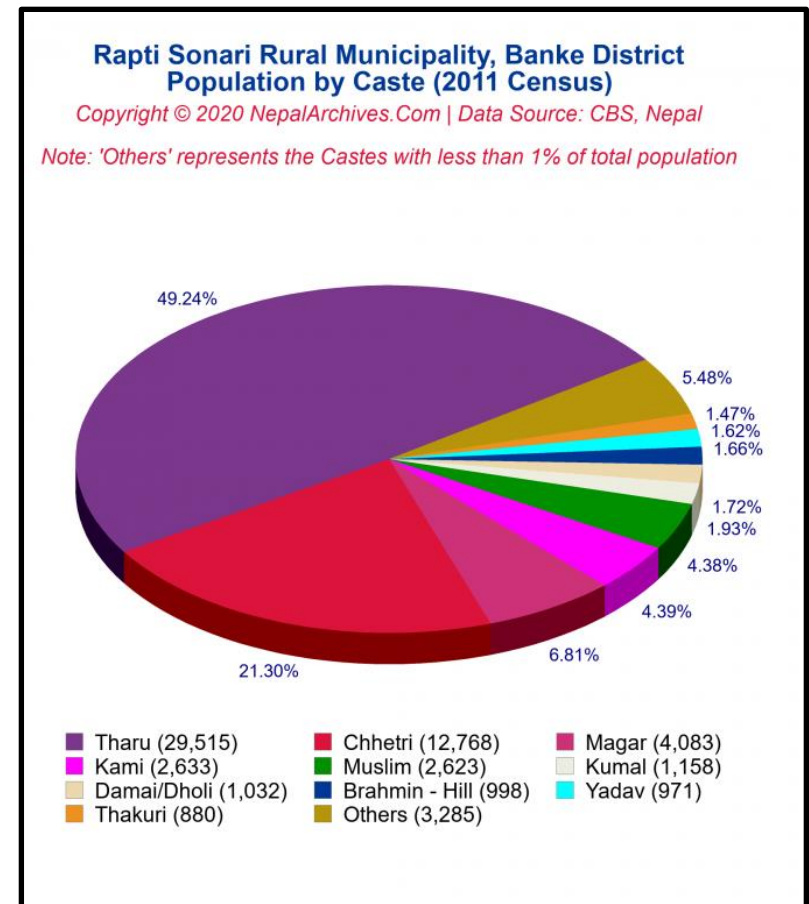
The municipality has a primary health center that provides basic health services to the population. Access to healthcare is limited, especially in the more remote areas of the municipality. Citizens have to travel to nearby cities for modern health facilities.

### Infrastructure:

The municipality has limited infrastructure, with few paved roads and unreliable electricity supply. The availability of safe drinking water is also limited, with many households relying on contaminated water sources.

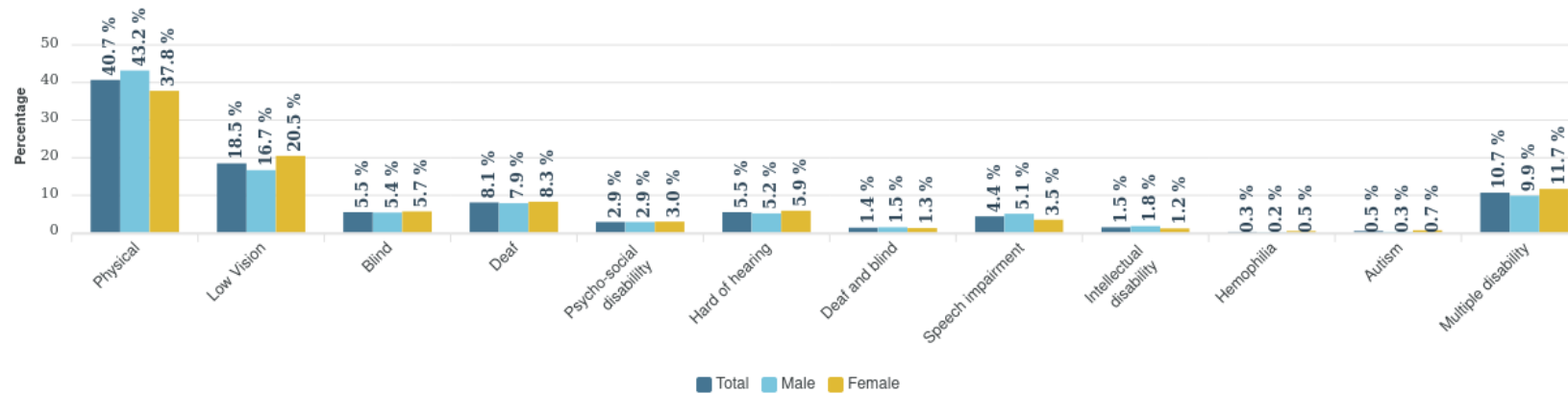
### Culture:

The Tharu community in Rapti Sonari Rural municipality has a rich cultural heritage, with unique traditions and customs. The community is known for its dance forms such as the Maghi dance and Sakhiya dance. The municipality also has several religious sites, including the Narayan temple, which is a popular destination for pilgrims.

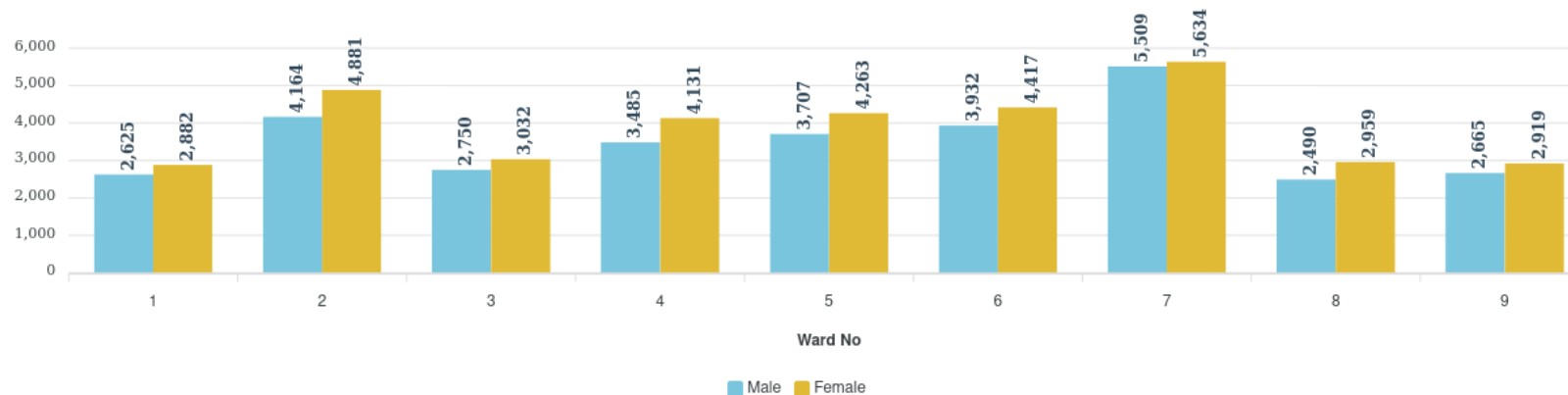


Municipality also has a unique cultural heritage and is surrounded by beautiful forests and wildlife, making it a potentially attractive destination for ecotourism.

The municipality also plans to establish seed banks to improve the quality and availability of local seeds, and to develop irrigation and water management systems to increase crop yields. The website also provides information on local government initiatives to support agriculture, including subsidies for fertilizer, irrigation, and seed distribution.



The website provides a comprehensive overview of the municipality's plans to support and promote sustainable agriculture practices and improve the livelihoods of local farmers.



### Economy:

Agriculture is the primary economic activity in Rapti Sonari Rural municipality, with the majority of the population engaged in farming. The municipality is known for producing crops such as rice, wheat, maize, and vegetables.

Below table collected from the municipality presents a general understanding of the status of agriculture in Rapti Sonari Municipality.

Wards	House Hold	Agriculture Land Area	Agriculture Revenue	Investment	Return on Investment
1	1306	2000 Bigha	20 lakh	10 Lakh	10 Lakh
2	2242	6000 Bigha	16 Lakh	8 Lakh	8 Lakh
3	1105	3000 Bigha	40 Lakh	20 Lakh	20 Lakh
4	1776	5000 Bigha	20 Lakh	10 Lakh	10 Lakh
5	1800	4000 Bigha	20 Lakh	8 Lakh	12 Lakh
6	1900	4000 Bigha	30 Lakh	15 Lakh	15 Lakh
7	2498	4500 Bigha	45 Lakh	21 Lakh	24 Lakh
8	Not Available and could not calculated from Ward				
9	Not Available and could not calculated from Ward				

The production and sale of these crops have been affected by challenges such as lack of technical skills and knowledge among farmers regarding safe and sustainable vegetable production practices, absence of standard operating procedures (SOPs) for safe crop and livestock products, and poor infrastructure for storing and transporting agricultural products. In addition, climate change and related disasters have posed serious impacts on the farmers' capability to produce good harvests.

## Agriculture Development Goals of Rapti Sonari

The municipality aims to transform Rapti Sonari's agriculture sector by addressing key challenges, promoting inclusive growth, and ensuring sustainability. It envisions a modern, competitive, and resilient agricultural system that contributes to poverty reduction, food security, economic growth, and environmental sustainability in the country.

### Vision for the Municipality

A Self-reliant, sustainable, competitive, and inclusive agriculture sector that drives economic growth, contributes to improved livelihoods, and creates food and nutrition security for the people of Rapti Sonari. (Formulated by Stakeholders).

### Mission for the Municipal Development of Agriculture:

Increasing agricultural productivity, improving livelihoods, food security, nutrition and ending poverty in Rapti Sonari municipality.

## A brief overview on the Agriculture Development Strategy- ADS (2015- 2035)

The ADS of Nepal is a comprehensive plan formulated by the national government to guide the agricultural sector's development for a 20-year period.

## Importance of ADS

Nepal is primarily an agrarian country, with a significant portion of its population engaged in agriculture for their livelihoods. Agriculture plays a crucial role in the country's economy, contributing to employment, GDP, and food security. However, the sector faces various challenges such as low productivity, lack of product competitiveness, limited access to markets, inadequate infrastructure, and vulnerability to climate change.

The ADS was developed to address the challenges faced by the agricultural sector in Nepal and harness its potential for sustainable development. The rationale behind the strategy includes:

**Poverty Reduction:** Agriculture is a major source of income for the majority of the rural population in Nepal. The ADS aims to enhance agricultural productivity and income opportunities for farmers, ultimately reducing poverty and improving rural livelihoods.

**Food Security:** Ensuring food security is a critical objective of the ADS. By promoting agricultural development, the strategy aims to enhance domestic food production, reduce dependency on imports & improve access to nutritious & affordable food.

**Economic Growth:** The ADS recognizes the potential of the agricultural sector to contribute significantly to Nepal's overall economic growth. The strategy aims to transform agriculture from subsistence based to commercial oriented farming by promoting modern technologies, value chain development, and market integration.

**Climate Resilience:** Nepal is highly vulnerable to climate change, with adverse impacts on agriculture. The ADS emphasizes climate resilient agricultural practices, such as conservation agriculture, improved irrigation systems, and crop diversification, to enhance the sector's resilience and adaptive capacity.

**Employment Generation:** Agriculture remains the largest employer in Nepal. The ADS seeks to create more employment opportunities in the agricultural sector, particularly for the youth, by promoting agribusiness, entrepreneurship, and rural nonfarm activities.

**Sustainable Resource Management:** The ADS recognizes the importance of sustainable natural resource management for long term agricultural productivity. It promotes the adoption of environmentally friendly practices, including water management, soil conservation, and biodiversity conservation.

## How can Rapti Sonari contribute to achieving the ADS Objectives?

To contribute to the achievement in the targets, outputs and outcomes of the ADS and to increase agricultural productivity, market integration, economic growth, and resilience in the local agricultural sector several key actions can be taken.

### Focus on Enhancing Productivity while reducing the cost of production:

- Promote the adoption of modern farming techniques and technologies, use of high yielding, climate and disease-pest resilient seeds, soil nutrients (through organic and non-organic sources), mechanization, and efficient use of irrigation water to increase agricultural productivity in a sustainable manner.
- Provide farmers with access to training; extension, financial & agriculture insurance services & technical support to improve their knowledge & skills in efficient farming practices that support to reduce cost of production making products more competitive.
- Encourage the use of organic farming practices, locally available resources and sustainable natural resources management technologies to conserve natural resources and enhance long term productivity.
- Develop land-lease laws to allow marginal farmers to use public and private fallow land areas for cultivation. Similarly, promote the use of community forest land to grow fruits and medicinal plants.
- Use ICTs in agriculture such as weather information, crop insurance, price information and technology dissemination.

### Market Integration and production systems Development:

- Strengthen market linkages for agricultural produce by establishing market infrastructure, such as collection centers, storage facilities, and processing units.

- Facilitate the formation and strengthening of farmers' cooperatives or producer organizations at the wards and municipality level to collectively access production inputs, market their products, negotiate better prices, and access larger markets. Mobilize agricultural cooperatives for collective production and marketing.
- Promote value addition and small-scale agro processing activities to increase the value of agricultural products and create opportunities for higher income and employment generation.
- Promote direct marketing through the establishment of linkages with schools and hotels as well as strengthen operation of weekly open market (Hatiya) in key locations of the municipality.
- Introduce minimum support price for major commodities in collaboration with the agricultural cooperatives and farmers groups.
- Enhance farmers' access to finance and agriculture insurance services.

### Diversification and Commercialization:

- Identify priority value chains and production systems and Encourage diversification of agricultural production by promoting high value crops, livestock, and non-traditional agricultural activities suitable for the local agro ecological conditions.
- Support the development of agribusinesses and entrepreneurship in the region, providing training, financial assistance, and market linkages to aspiring entrepreneurs.
- Foster linkages between farmers and agro-industries, hotels, restaurants, schools & tourism sectors to create demand for local agricultural products.

### Climate Resilience:

- Promote climate smart agricultural (CSA) practices, such as water efficient irrigation systems, crop diversification, agroforestry, crop-livestock integration, and conservation agriculture, to enhance resilience to climate change impacts.
- Coordinate with the banks & insurance companies and cooperatives to implement government insurance schemes & the agriculture loan.

- Strengthen early warning systems and provide farmers with timely climate information to help them make informed decisions regarding crop selection, planting, and harvesting.
- Encourage the adoption of appropriate water management practices, including rainwater harvesting, small scale irrigation schemes, and efficient water use techniques.
- Promote the use of the ICT to disseminate new technologies, weather information, and agriculture insurance.

### Capacity Building and Institutional Strengthening:

- Provide training and capacity building programs for farmers, extension workers, and local stakeholders to enhance their knowledge and skills in sustainable agriculture, marketing, and entrepreneurship.
- The municipality should organize a pre-budget planning annual coordination meeting with the Far West University, Agriculture research Station, Nepalgunj, Agriculture Knowledge center and Prime Minister Agriculture Modernization program (PMAMP).
- Organize farmers, traders and agro-processors' meetings on a regular basis to enhance linkages.
- Strengthen agricultural extension services and ensure their effective delivery at the local level. Lobby for recruiting at least two extension staff for crop and livestock in each ward.

### Access to Finance and Inputs:

- Facilitate access to credit and financial services for farmers and agribusinesses to invest in agricultural production, infrastructure, and value addition activities.
- Improve access to quality inputs, such as seeds, fertilizers, and pesticides, through reliable supply chains and the establishment of input centers.

## Monitoring, Evaluation, and Learning:

- Establish a robust monitoring and evaluation system to track progress, measure the impact of interventions, and identify areas for improvement.
- Promote knowledge sharing, learning, and dissemination of best practices among farmers, extension workers, and stakeholders through platforms such as farmer field schools, demonstration plots, and study tours.

## Limitations of Rapti Sonari municipality as a local level government

Local Level government may face several challenges when implementing strategic plans of national governments. Some of these challenges are relevant to Rapti Sonari as well.

**Limited resources:** Local governments may have limited financial, human, and technical resources to implement the strategic plans of national governments. This may make it difficult to effectively implement the plans, which can negatively affect the achievement of the plans' goals.

**Limited capacity:** Local governments may lack the capacity to effectively implement the strategic plans of national governments. This may be due to a lack of training or experience in implementing complex plans, or a lack of expertise in specific areas related to the plans.

**Conflicting priorities:** Local governments may have conflicting priorities with the national government's strategic plans. This may be due to differences in political priorities, cultural or social norms, or other factors that may make it difficult to align local priorities with national priorities.

**Lack of stakeholder engagement:** Effective implementation of strategic plans requires engagement with stakeholders at all levels. Local governments may not have sufficient mechanisms for engaging with stakeholders, which can negatively impact the implementation of the plans.

**Limited coordination:** Coordination between local governments and national governments may be limited, which can lead to inefficiencies and duplication of efforts. This may be due to differences in organizational structures or a lack of communication channels.

**Lack of data:** Local governments may lack the necessary data and information to effectively implement the strategic plans of national governments. This may be due to a lack of resources to collect and analyze data or a lack of access to relevant data sources.

Effective implementation of national strategic plans at the local level requires addressing these challenges through collaboration, capacity building, and effective communication and coordination between all stakeholders involved.

Local Leaders at Rapti Sonari Rural municipality have to be mindful about resolving the social issues to realize the effectiveness of the plan.

## Fact Findings from Field Visit, Observation and Desk Review:

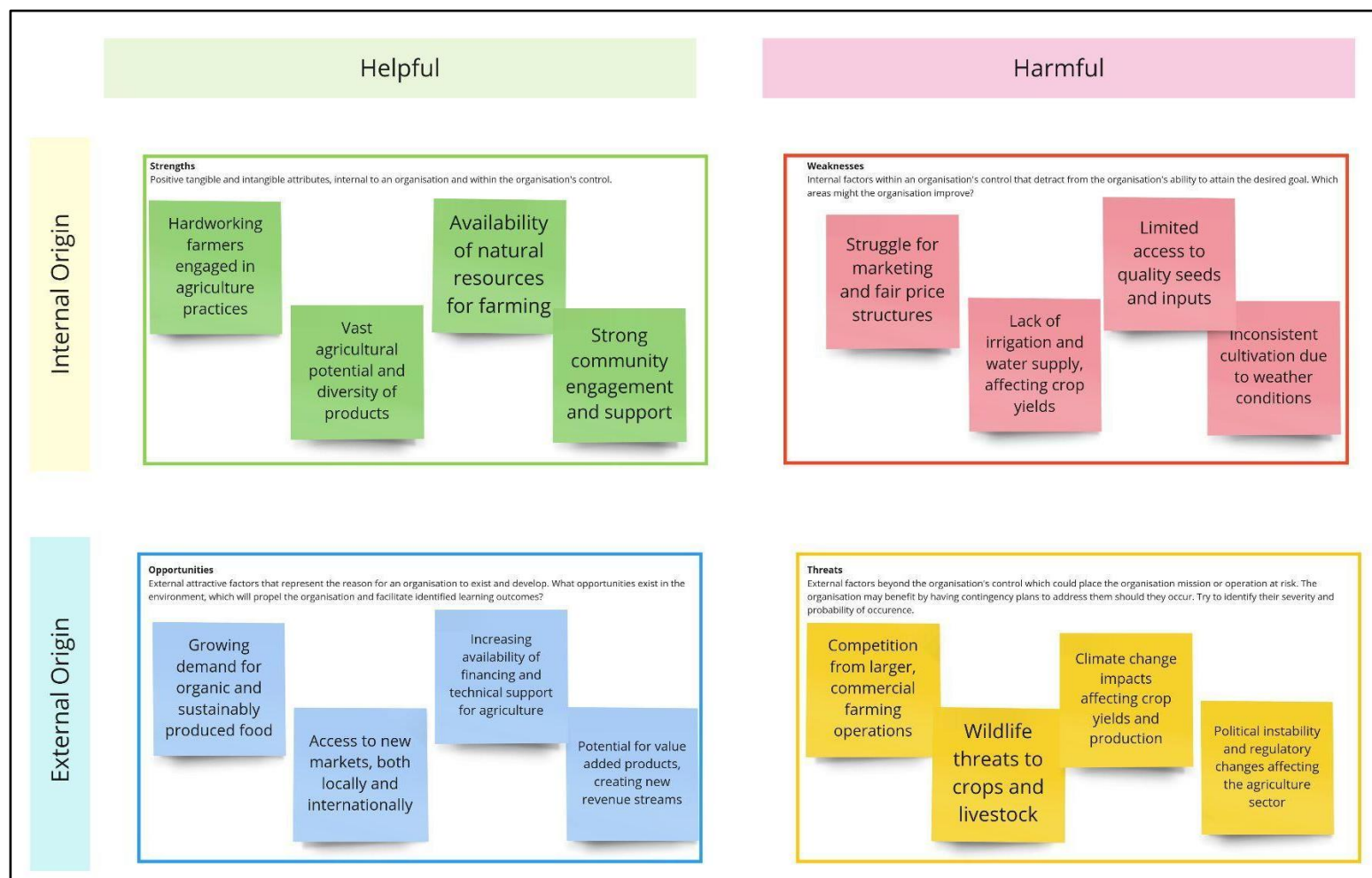
We used four tools to help us understand the context within Rapti Sonari municipality before building an action plan: SWOT Analysis, Root Cause of the lack of expected outcome, pareto analysis of priorities at the local level and Business Model Canvas to understand the local level spending.

### Findings from SWOT Analysis

Rapti Sonari municipality has several strengths, including a dedicated and hardworking farming community, a diverse range of agricultural products, and strong community support. However, the municipality also faces several challenges, including marketing and pricing issues, limited access to quality inputs, and water supply issues.

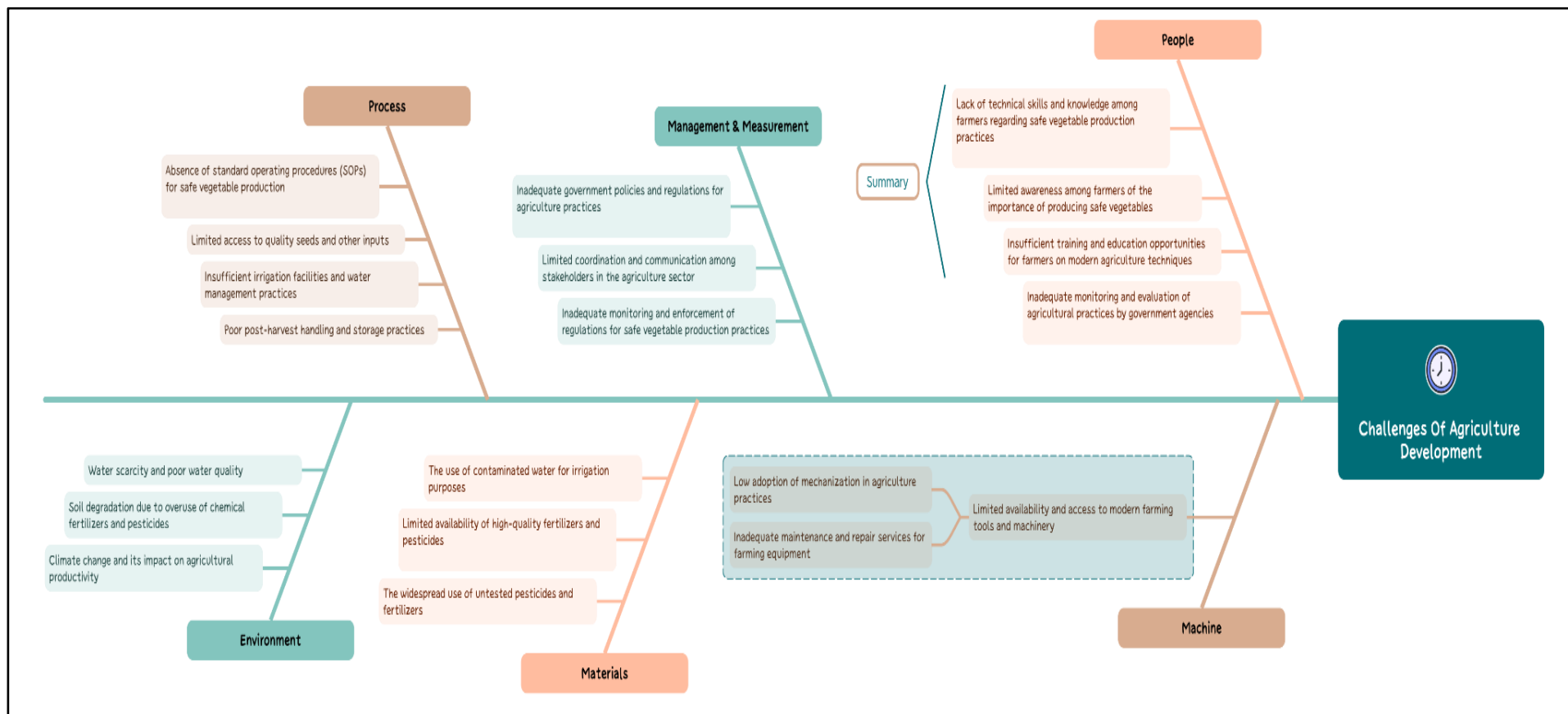
By leveraging opportunities such as growing demand for organic food and value added products, the municipality can develop a sustainable revenue model and overcome these challenges. It is important to address the threats such as wildlife and climate change impacts to ensure long term sustainability.

**Details in Annex IV.**



## Root Cause Analysis of Agricultural Underdevelopment Challenges of Rapti-Sonari

The root causes of the challenges faced by Raptisonari Rural municipality in producing safe vegetables and building better agriculture production are complex and interrelated. Addressing these issues requires a comprehensive approach that involves training and educating farmers on safe production practices,



ensuring access to quality inputs and equipment, implementing and enforcing regulations, and promoting sustainable agriculture practices.

## Community Suggestions: Results from Pareto Analysis

Pareto analysis is a method that helps identify the few key factors that have the most significant impact on a particular outcome or situation. It follows the principle that roughly 80% of the results come from 20% of the causes. Using Pareto analysis, agricultural development initiatives can avoid spreading resources too thin and target the factors that will have the greatest impact on productivity. It allows strategic managers to make informed decisions, prioritize interventions, and optimize resource allocation for effective agricultural development.

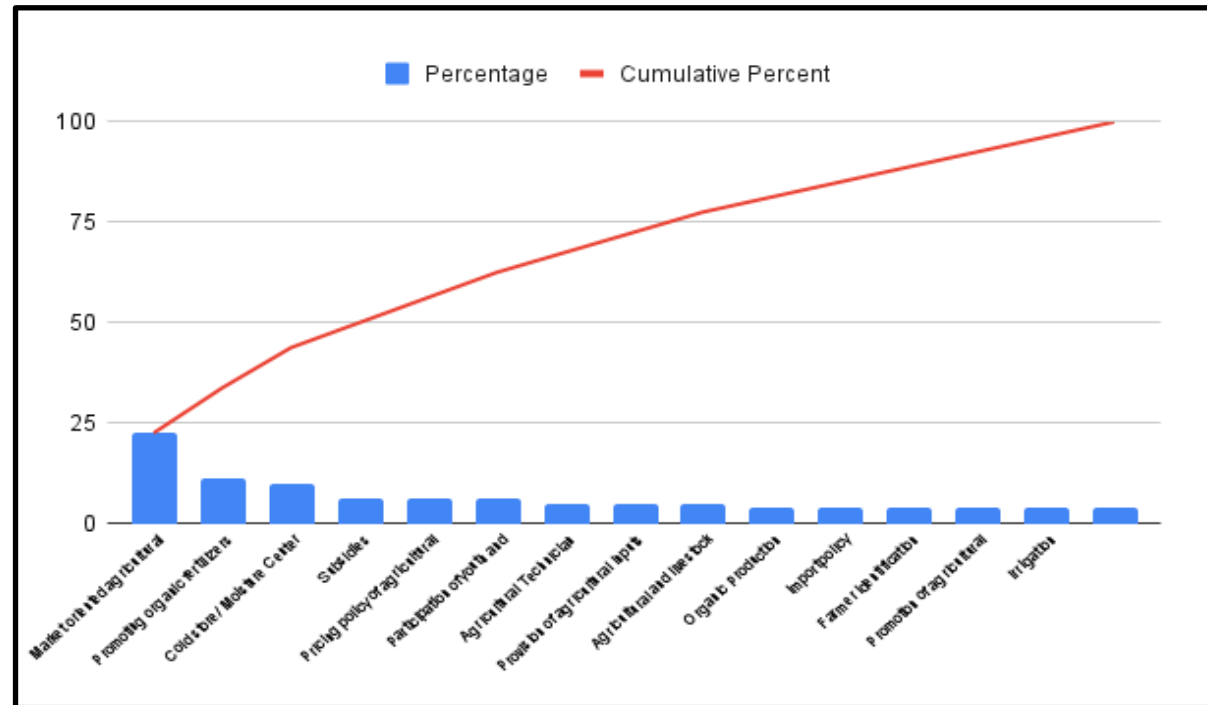
SN	Theme	Frequency	CF	%	Cumulative. %
1	<b>Agricultural trainings, programs and technical services</b>	18	18	22.5	22.5
2	<b>Market oriented agricultural production</b>	9	27	11.25	33.75
3	<b>Promoting organic fertilizers and biological pesticides</b>	8	35	10	43.75
4	<b>Cold store/ Moisture Center locally available</b>	5	40	6.25	50
5	<b>Subsidies in Farming Community</b>	5	45	6.25	56.25
6	<b>Pricing policy of agricultural products</b>	5	50	6.25	62.5
7	<b>Participation of youth and female</b>	4	54	5	67.5
8	<b>Agricultural Technician</b>	4	58	5	72.5
9	<b>Provision of agricultural inputs</b>	4	62	5	77.5
10	<b>Agricultural and livestock insurance</b>	3	65	3.75	81.25
11	Organic Production	3	68	3.75	85
12	Import policy	3	71	3.75	88.75
13	Farmer Identification	3	74	3.75	92.5
14	Promotion of agricultural products	3	77	3.75	96.25
15	Irrigation	3	80	3.75	100

Depending on the availability of the resources, investment should be done on the in the priority orders identified by communities.

Note: F in table means frequency and CF is cumulative frequency counted from community inputs.

Pareto analysis was used to prioritize efforts and resources towards the most critical areas that will yield the highest impact. Let's consider an example:

Agricultural Development Example: Suppose a government or an organization wants to improve agricultural productivity in a region. They have limited resources and need to decide where to allocate their efforts for maximum effect.

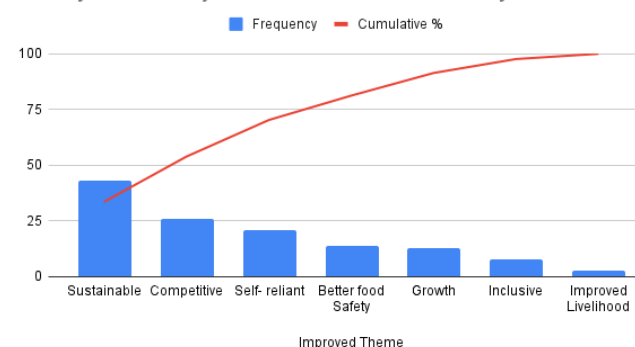


## Priorities of ADS Core objectives based on Community Inputs

The community members and stakeholders identified the

Improved Theme	Frequency	Percentage	Cumulative %
Sustainable	43	33.59	33.59
Competitive	26	20.31	53.91
Self- reliant	21	16.41	70.31
Better food Safety	14	10.94	81.25
Growth	13	10.16	91.41
Inclusive	8	6.25	97.66
Improved Livelihood	3	2.34	100.00

Priority of ADS Objectives based on Pareto Analysis



Looking at the response the priority areas that the community presents are as follows, Sustainable agriculture practices, Competitive Production Culture, Self-Reliant agriculture production and better food safety.

## Development from Business Perspectives: Using BMC

Business Model Canvas for the development of agriculture productivity in Rapti Sonari Rural municipality:

The Business Model Canvas (BMC) is a strategic management tool that provides a visual framework for analyzing and designing business models. It consists of nine key elements that represent different aspects of a business, including its value proposition, customer segments, revenue streams, key activities, resources, partnerships, and cost structure.

## The Business Model Canvas



Source: [Strategyzer AG](#) | License: [CC BY-SA 3.0](#)

## Budget Priority as per the Farmers Priority

SN	Theme	Year 1	Year 2	Year 3	Year 4	Year 5
1	Agricultural trainings, programs and technical services	8050000	8855000	97405000	10714550	11786005
2	Market oriented agricultural production	4200000	4620000	50820000	5590200	6149220
3	Promoting organic fertilizers and biological pesticides	3500000	3850000	42350000	4658500	5124350
4	Cold store/ Moisture Center	2450000	2695000	29645000	3260950	3587045
5	Subsidies to local farmers	2450000	2695000	29645000	3260950	3587045
6	Pricing policy of agricultural products	2450000	2695000	29645000	3260950	3587045
7	Participation of youth and female	1750000	1925000	21175000	2329250	2562175
8	Agricultural Technician	1750000	1925000	21175000	2329250	2562175
9	Provision of agricultural inputs	1750000	1925000	21175000	2329250	2562175
10	Agricultural and livestock insurance	1400000	1540000	16940000	1863400	2049740
11	Organic Production	1400000	1540000	16940000	1863400	2049740
12	Import policy	1400000	1540000	16940000	1863400	2049740
13	Farmer Identification	1400000	1540000	16940000	1863400	2049740
14	Promotion of agricultural products	1400000	1540000	16940000	1863400	2049740
15	Irrigation and water supply in the farm	1400000	1540000	16940000	1863400	2049740

*As per the Pareto analysis, the highest priority areas for budget spending are skill based training, market network and sustainable production. Though the local resources are limited to 1 crore per year, we suggest a plan for 3.5 cr and increase it by 10 % and lobby for the remaining budget based on the plan.*

## Demand Driven Strategic Action Plan

We visited all nine wards of Rapti Sonari Municipality and conducted focus group discussion with 15-25 local farmers, entrepreneurs and leaders and conducted two days workshop with 60 representative farmers, youth and women leaders along with development stakeholders and when we prioritized all the inputs from our engagement, here are the list of expectations and demands from the grassroots.

### Training and Development Action Plans

#### **Farmer Training Program: (Example: Farmer Field School)**

**Objective: Enhance the knowledge and skills of farmers to adopt sustainable agricultural practices and improve productivity**

- Conduct workshops and training sessions on sustainable farming practices, including organic farming, crop rotation, integrated pest management, and water-efficient irrigation techniques.
- Collaborate with agricultural experts and research institutions to provide specialized training on modern agricultural techniques, use of technology, and climate-smart farming methods.
- Organize field visits to successful sustainable farming models within and outside the municipality to expose farmers to best practices.
- Provide training on post-harvest management, including proper storage, handling, and processing techniques
- Facilitate training programs on financial literacy to improve farmers' understanding of budgeting, cost analysis, and profit optimization

#### **Capacity Building for Farmer Cooperatives: (Agriculture Business Plan and Profitability)**

**Objective: Strengthen the capacity of farmer cooperatives to promote sustainable agriculture and improve market access for farmers.**

- Conduct capacity-building workshops for cooperative members on cooperative management, governance, and financial management.
- Provide training on value chain analysis and market linkage strategies to help cooperatives identify market opportunities and negotiate fair prices for agricultural products.
- Support cooperative members in developing business and marketing plans, including branding and packaging of agricultural products.

- Facilitate training on quality control, certification, and compliance with organic or sustainable farming standards to enhance the competitiveness of cooperative products.
- Arrange training sessions on leadership & soft skills to empower cooperative leaders & enhance their ability to advocate for farmers

### **Youth Empowerment in Agriculture: (Engagement of Youth in Agriculture Production)**

Objective: Engage and empower the youth in sustainable agriculture practices and entrepreneurship opportunities.

- Establish youth-focused agricultural training programs, including internships and apprenticeships, to provide hands-on experience in sustainable farming techniques.
- Organize entrepreneurship workshops to educate and inspire young individuals to start their own agricultural ventures, such as organic farming, horticulture, or value-added product processing.
- Collaborate with educational institutions to introduce agricultural curricula that emphasize sustainable farming & entrepreneurship.
- Offer skill development training on agri-business management, marketing, and value addition to enhance the youth's understanding of the agricultural value chain.
- Create platforms for networking and mentorship, connecting aspiring young farmers with successful entrepreneurs & experts in the field.

### **Training on Climate Change Adaptation and Resilience: (Sustainable Agriculture Practices)**

Objective: Equip farmers with knowledge and skills to adapt to climate change and build resilience in their agricultural practices.

- Conduct training programs on climate change awareness, impact of climate change on agriculture & strategies for adaptation.
- Provide training on climate-resilient farming techniques, such as drought-tolerant crop varieties, water harvesting methods, and soil conservation practices.
- Facilitate capacity-building workshops on climate-smart agriculture, including agroforestry, agroecology, and precision farming.
- Collaborate with meteorological agencies to provide weather forecasting information & train them on climate-informed decision-making.
- Promote the use of technology-based tools and apps for weather monitoring, crop planning, and pest management

## Marketing and Promotional Activities

Marketing and Promotional Action Plans for Rapti Sonari Municipality's Local Agriculture Products:

### **Branding and Packaging Enhancement: (Sustainable Marketing Promotions)**

Objective: Improve the branding and packaging of local agriculture products to attract customers and create a distinctive identity.

- Develop a unique brand identity for Rapti Sonari's agriculture products representing the locality's heritage, sustainability, & quality.
- Design visually appealing and informative packaging labels that highlight the origin, nutritional benefits & sustainable production practices of the products.
- Collaborate with graphic designers to create attractive product packaging designs that stand out on shelves & attract customers.
- Provide training and workshops to local farmers and cooperatives on effective branding, packaging, and labeling techniques.
- Establish packaging standards and guidelines to ensure consistency and professionalism across different agriculture products.

### **Market Development and Linkages: (With focus on Supply Chain and Value Chain of Products)**

Objective: Expand market access for local agriculture products and establish partnerships with various distribution channels.

- Conduct market research to identify potential target markets and customer segments for different types of local agriculture products.
- Organize participation in trade fairs, exhibitions, and farmers' markets to showcase and sell Rapti Sonari's agriculture products to a wider audience.
- Collaborate with local restaurants, hotels, and cafes to promote the use of local ingredients in their menus, fostering a sense of community and supporting local farmers.
- Establish partnerships with retailers, supermarkets, and online platforms to ensure the availability and visibility of Rapti Sonari's agriculture products in urban areas and beyond.
- Facilitate networking events and buyer-seller meetups to connect local farmers and cooperatives with potential consumers, distributors, and wholesalers.

### **Digital Marketing and Online Presence: (Social Media Presence and Social Engagements)**

Objective: Leverage digital platforms to create awareness, reach a broader audience, and facilitate online sales of local agriculture products.

- Develop a user-friendly and visually appealing website or e-commerce platform dedicated to showcasing and selling Rapti Sonari's agriculture products.
- Utilize social media channels, such as Facebook, Instagram, and Twitter, to promote the municipality's agriculture products, share success stories, and engage with customers.
- Collaborate with influencers, bloggers, and food enthusiasts to create content and reviews that highlight the uniqueness and quality of Rapti Sonari's agriculture products.
- Implement online marketing campaigns, including targeted advertisements, email newsletters, and search engine optimization, to reach potential customers and drive online sales.
- Provide training and support to local farmers and cooperatives on using digital tools, managing online sales, and leveraging social media for marketing purposes.

### **Product Diversification and Value Addition: (Value Chain activities around key product portfolio)**

Objective: Encourage innovation and value addition to local agriculture products, creating a wider range of offerings to cater to different customer preferences.

- Promote the development of value-added products, such as jams, sauces, pickles, dried fruits, and herbal teas, using locally grown ingredients also animal products such as curd, paneer and cheese
- Organize workshops and training programs on product diversification, food processing techniques, and quality control to enable farmers to expand their product range.
- Collaborate with culinary schools, chefs, and food enthusiasts to create recipes and cooking demonstrations that showcase the versatility and usage of Rapti Sonari's agriculture products.
- Encourage organic and specialty product certifications to cater to the growing demand for organic and premium agricultural products.
- Support research and development initiatives to explore innovative uses of local agricultural produce, such as incorporating them into cosmetics, health supplements, or natural remedies.

These marketing and promotional action plans aim to create awareness, enhance the market presence, and increase the value of Rapti Sonari Municipality's local agriculture products. By implementing these strategies, the municipality can foster the growth of the agricultural sector, boost local economy, and promote the unique agricultural heritage of the region.

## Agriculture Inputs and Fertilizers

Action Plans for Rapti Sonari Municipality to Produce and Distribute Locally Sustainable Agricultural Inputs:

### **Establish Local Production Units: (Processing and Packaging Units)**

Objective: Set up production units within the municipality to produce sustainable fertilizers, manures, eco-friendly pesticides, herbicides, and disease control mechanisms.

- Conduct feasibility studies to identify suitable locations and infrastructure requirements for the production units.
- Collaborate with agricultural experts and research institutions to develop formulations and recipes for sustainable agricultural inputs using locally available resources.
- Establish partnerships with local farmers, cooperatives, and self-help groups to ensure a steady supply of raw materials for the production units.
- Train local technicians and workers in the production techniques and quality control measures for sustainable agricultural inputs.
- Implement stringent quality assurance protocols to ensure that the produced inputs meet the required standards for safety and effectiveness.
- Establish learning centers and resource centers

### **Promote Organic Waste Management:**

Objective: Encourage organic waste recycling and composting to produce organic fertilizers and manures locally.

- Launch awareness campaigns to educate farmers and the general public about the benefits of organic waste management and composting.
- Provide training and workshops on composting techniques, including proper segregation, compost pile management, and turning practices/ liquid fertilizers

- Establish community-based composting centers or support individual farmers in setting up composting units on their farms.
- Develop partnerships with local institutions, restaurants, and markets to collect organic waste for composting.
- Facilitate the distribution of composting kits, bins, and tools to encourage widespread adoption of organic waste management practices.
- Promote improved cowsheds to collect cow dung and urine systematically and produce organic fertilizers

### **Research and Development for Eco-friendly Pest and Disease Control: (Increase productivity)**

Objective: Foster research and development efforts to identify and promote eco-friendly pest and disease control mechanisms suitable for local agricultural practices.

- Collaborate with research institutions, universities, and agricultural experts to conduct studies on pest and disease prevalence in the region.
- Allocate resources for research and development activities focused on identifying effective and eco-friendly pest and disease control methods and on farm action research
- Encourage the use of integrated pest management (IPM) techniques that emphasize biological control, cultural practices, and natural pest repellents.
- Organize workshops and training programs to educate farmers on the application of eco-friendly pest and disease control measures.
- Establish demonstration farms or pilot projects to showcase the effectiveness of eco-friendly pest and disease control mechanisms to farmers.

### **Establish Distribution Networks and Support Services: (Improved Supply Chain)**

Objective: Develop efficient distribution networks and support services for the distribution of locally produced sustainable agricultural inputs.

- Create partnerships with local agricultural input suppliers, cooperatives, and retailers to ensure the availability and accessibility of sustainable agricultural inputs to farmers.
- Establish distribution centers strategically located within the municipality to cater to the needs of farmers in different regions.
- Provide training and support to agricultural extension workers and local cooperatives to educate farmers about the benefits and usage of sustainable agricultural inputs.
- Develop a responsive customer service system to address farmers' queries, provide technical assistance, and gather feedback on the performance of the distributed inputs.

- Conduct regular monitoring and evaluation of the distribution process to identify areas for improvement and ensure the effectiveness of the distribution network.

By implementing these action plans, Rapti Sonari Municipality can contribute to the enhanced productivity of agriculture by producing and distributing locally sustainable fertilizers, manures, eco-friendly pesticides, herbicides, and disease control mechanisms. This would not only support environmentally friendly farming practices but also reduce dependency on external inputs and promote the long-term sustainability of the agricultural sector.

## Reduction of Post Harvest Loss

Action Plans to Reduce Post-Harvest Losses in the Supply Chain for Rapti Sonari Municipality:

### **Improved Harvesting Practices: (Waste Reduction and Increase Profitability)**

Objective: Promote proper harvesting techniques to minimize damage and losses during the harvesting process.

- Conduct training programs for farmers on appropriate harvesting methods, including proper timing, handling, and storage of harvested crops.
- Educate farmers about the importance of harvesting at the optimal stage of maturity to ensure quality and reduce losses.
- Provide guidance on the use of appropriate harvesting tools and equipment to prevent physical damage to crops.
- Promote the use of containers and bins that minimize bruising and damage during transportation from the field to storage or processing facilities.

### **Efficient Transportation and Storage: (Cold chain and reduction of post harvest loss)**

Objective: Enhance transportation and storage facilities to minimize post-harvest losses caused by inadequate handling and storage conditions.

- Improve transportation infrastructure, including roads and vehicles, to facilitate quick and efficient movement of harvested crops from the farm to storage or processing facilities.
- Encourage the use of proper packaging materials, such as crates, boxes, or bins, to protect crops during transportation and minimize physical damage.

- Promote the adoption of cold storage facilities or appropriate storage techniques, such as controlled temperature and humidity, to extend the shelf life of perishable crops.
- Provide training to farmers and stakeholders on proper handling and storage practices, including pest control measures and regular inspection of stored crops.

### **Value Addition and Processing: (Value Chain Promotions)**

Objective: Promote value addition and processing activities to reduce post-harvest losses and create added value for agricultural products.

- Encourage farmers to diversify their products through processing and value addition, such as drying, canning, juicing, or freezing, to prolong shelf life and create marketable products.
- Provide training and support for farmers on basic food processing techniques, including hygiene practices, quality control, and packaging for processed products.
- Develop partnerships with food processing companies or cooperatives to establish processing units or facilitate contract processing services for farmers.
- Promote the establishment of farmer-owned processing facilities to enhance control over the value chain and reduce post-harvest losses.

### **Strengthen Market Linkages:**

Objective: Improve market linkages and market access for farmers to reduce delays and ensure timely sales of harvested crops.

- Facilitate direct market connections between farmers and consumers, such as restaurants, hotels, supermarkets, and wholesalers, to reduce intermediaries and minimize delays in sales.
- Establish farmer cooperatives or associations to collectively market and sell agricultural products, enhancing bargaining power and reducing market risks.
- Organize farmers' markets or agricultural fairs within the municipality to provide direct selling opportunities for farmers and increase consumer awareness of locally produced crops.
- Utilize digital platforms and e-commerce to create online marketplaces for farmers to connect with potential consumers and expand their customer base.

### **Awareness and Training Programs:**

Objective: Raise awareness among farmers and stakeholders about post-harvest loss issues and provide training on best practices to mitigate losses.

- Conduct awareness campaigns on post-harvest management, emphasizing environmental implications of losses in the supply chain.
- Organize training programs and workshops on post-harvest handling, storage, and value addition techniques for farmers, cooperative members, and other stakeholders involved in the supply chain.
- Collaborate with agricultural experts, research institutions, and extension services to provide technical guidance and support on post-harvest loss reduction strategies.
- Foster knowledge-sharing platforms and farmer-to-farmer learning networks to encourage the exchange of best practices and success stories in reducing post-harvest losses.

### **Increasing Return on Investment from Subsidy and Entrepreneurship**

Action Plans to Increase Return on Investment from Agriculture Production Subsidy and Agriculture Entrepreneurship Activities in Rapti Sonari Municipality:

#### **Enhance Access to Information and Education:**

Objective: Provide farmers and agriculture entrepreneurs with comprehensive information and education to make informed decisions and maximize the return on investment.

- Establish an agriculture information center or helpline to provide timely and accurate information on subsidy programs, market trends, farming techniques, and entrepreneurship opportunities.
- Organize training programs, workshops, and seminars on modern farming practices, financial management, and business planning to enhance the knowledge and skills of farmers and agriculture entrepreneurs.
- Collaborate with agricultural experts, research institutions, and industry professionals to deliver specialized training and mentorship programs tailored to specific agricultural sectors or value chains.

#### **Support Market Linkages and Value Chain Development:**

Objective: Strengthen market linkages and value chain development to ensure the profitability of agriculture production and entrepreneurship activities.

- Establish partnerships with local and regional consumers, retailers, and processors to create direct market access for farmers and agriculture entrepreneurs.
- Facilitate the formation of farmer cooperatives, producer groups, or agricultural associations to collectively negotiate better prices, access bulk orders, and share marketing costs.
- Promote the development of agro-processing units or cottage industries within the municipality to add value to agricultural products and increase profitability.
- Foster the use of e-commerce platforms and digital marketing strategies to expand market reach and connect farmers and entrepreneurs with a wider customer base.

#### **Improve Access to Finance and Credit Facilities:**

Objective: Facilitate access to finance and credit facilities to support investment in agriculture production and entrepreneurship activities.

- Collaborate with financial institutions, microfinance organizations, and government agencies to develop tailored financial products and credit facilities for farmers and agriculture entrepreneurs.
- Create awareness among farmers and entrepreneurs about available financing options, loan application procedures, and collateral alternatives.
- Provide assistance in preparing business plans, financial projections, and loan applications to enhance the chances of securing loans and investments.
- Explore innovative financing mechanisms, such as revolving funds or grant programs, specifically designed to support agriculture production and entrepreneurship in the municipality.
- Capacity building on simple proposal writing to claim the entitlements

#### **Strengthen Technical Support and Extension Services:**

Objective: Improve technical support and extension services to enhance productivity, efficiency, and profitability in agriculture production and entrepreneurship.

- Expand the network of agriculture extension officers and provide them with adequate resources and training to deliver technical guidance, advisory services, and on-field support to farmers and entrepreneurs.
- Organize demonstration farms and pilot projects to showcase best practices, new technologies, and innovative farming techniques that can help improve productivity and profitability.
- Facilitate access to high-quality seeds, fertilizers, and other agricultural inputs through reliable and transparent distribution systems.
- Foster partnerships with agricultural research institutions, universities, and private sector organizations to promote technology transfer, research collaboration, and innovation in agriculture.

### **Monitor and Evaluate Programs:**

Objective: Regularly monitor and evaluate the effectiveness of agriculture production subsidy and entrepreneurship programs to identify areas for improvement and ensure a higher return on investment.

- Establish a monitoring and evaluation framework to assess the impact of subsidy programs and entrepreneurship initiatives on farmers' income, employment generation, and overall economic development.
- Conduct periodic surveys and feedback mechanisms to gather data on the challenges, needs, and satisfaction levels of farmers and agriculture entrepreneurs.
- Analyze the collected data to identify success stories, lessons learned, and areas requiring intervention or policy adjustments.
- Use the evaluation findings to fine-tune the implementation strategies, reallocate resources, and introduce policy reforms that can enhance the return on investment in agriculture production subsidy and entrepreneurship activities.

## **Inclusiveness and Youth and Woman Engagement**

Action Plans to Increase Youth and Women Participation in Agriculture Production and Trading Activities, and Engagement of Field-Level Agriculture Experts in Rapti Sonari Municipality:

### **Youth Engagement in Agriculture:**

Objective: Encourage and support youth involvement in agriculture production and trading activities to promote innovation, entrepreneurship, and sustainable practices.

- Establish an agriculture youth club or association to create a platform for networking, knowledge-sharing, and collaboration among young farmers and agricultural enthusiasts.
- Organize capacity-building programs and vocational training specifically designed for youth, focusing on modern farming techniques, agri-entrepreneurship, and value addition.
- Provide financial incentives, grants, or subsidies to encourage young individuals to enter the agriculture sector and support them in starting their own farming enterprises.
- Promote the use of digital technologies, precision farming tools, and smart farming techniques to attract tech-savvy youth to agriculture.

### **Women Empowerment in Agriculture:**

Objective: Promote the active participation of women in agriculture production and trading activities, providing them with equal opportunities, resources, and support.

- Develop women-centric agriculture programs that address the specific needs and challenges faced by women farmers, such as access to land, credit, technology, and markets.
- Provide training and capacity-building initiatives to enhance the skills and knowledge of women in agriculture-related activities, including farming techniques, value addition, and entrepreneurship.
- Facilitate women's farmer groups or cooperatives to foster collective decision-making, marketing, and bargaining power.
- Implement gender-responsive policies and initiatives that promote gender equality, women's land rights, and women's representation in agricultural institutions and decision-making bodies.

### **Engagement of Field-Level Agriculture Experts:**

Objective: Ensure the engagement of field-level agriculture experts to provide technical guidance, advisory support, and extension services to farmers and agriculture entrepreneurs.

- Strengthen the extension services by recruiting and deploying qualified agriculture professionals at the field level to work directly with farmers and provide timely technical assistance.
- Establish farmer advisory boards or committees comprising experienced farmers, agricultural experts, and representatives from relevant government agencies to guide and support agricultural activities.

- Organize regular training programs and workshops for field-level agriculture experts to upgrade their knowledge and skills in the latest agricultural practices, climate-smart techniques, and sustainable farming methods.
- Encourage collaboration between agricultural research institutions, universities, and local farmers to promote knowledge exchange, research collaboration, and the adoption of best practices.

### **Promote Linkages and Partnerships:**

Objective: Foster linkages and partnerships between farmers, agriculture experts, agribusinesses, and market stakeholders to create a conducive ecosystem for agriculture development also with academic institutions, search institutions (University and NARC).

- Facilitate networking events, agricultural fairs, and business-to-business platforms where farmers and agriculture experts can connect with potential consumers, suppliers, and investors.
- Forge collaborations with private sector companies, NGOs, and development agencies to provide technical support, training, and market linkages to farmers and agriculture entrepreneurs.
- Establish farmer-resource centers or agriculture hubs that serve as one-stop centers for accessing information, training, and advisory services for farmers and agriculture experts.
- Encourage mentorship programs where experienced farmers and agriculture experts mentor and guide young farmers, women entrepreneurs, and aspiring agriculture professionals.

Rapti Sonari Municipality can create an inclusive and supportive environment for youth and women to actively participate in agriculture production and trading activities. Engaging field-level agriculture experts will ensure the availability of technical expertise and guidance, leading to improved agricultural practices and sustainable development in the municipality.

Relational Table							
Local Level Initiative	ADS Goals						
	Self Reliant	Sustainable	Competitive	Inclusive	Growth	Improved Livelihood	Better Food Safty
Farmers Training Program	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Farming Business Incubation	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Marketing and Promotional Activities	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Digital Marketing Initiatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Product Diversification	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Local Fertilizer Production	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Recycle Organic Waste through Management	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Eco Friendly Pest and Disease Control	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

**Relationship Between the Strategic Action Plan and ADS Goals:** This Table tries to establish the relationship between local level action plan and ADS Goals.

This Hoshin Kanri matrix outlines the Annual Objectives, Annual Improvement priorities, targets to improve and breakthrough objectives

Hoshin X Matrix for Rapti Sonari Municipality Agriculture Development Plan																			
●			At least One Community Market Place are establish in each ward and trade each week	○			●			○		●			○				
○		●	Ten Farmer Trainers are Trained Locally in each ward	●	●					●	○		○						
	●		Ten Organic Fertilizer Production Centers in each ward are recognized	○	○				○	○		●			○				
		●	Ten Organic Farms are awarded in each ward every year			●				●		○							
	○	●	100 Farmers Groups are given field level expert consultation						●	○	○	○	○	○	○	●	○		
Annual Recognition of best agro entrepreneurs	Two production Exhibitions and recognition of better producer	Implementation of 18 on field farmers workshop on better farming practices	<div>Annual Objectives</div> <div>Annual Improvement Priorities</div> <div>Breakthrough Objectives 3-5 Years</div> <div>Metrics (TTI's) - Targets To Improve</div>	Trained Farmers in local level for all major sectors or agriculture	Local trading and weekly marketplace in operation in all wards	Youth groups engagement in agribusiness activities	Participation of woman in direct business in agriculture	Increased consumption of local agriculture production	Palika Leaders	Ward Leaders	Cooprative Leaders	Agriculture Research Scientist	Agriculture Extention Service	Development Partners					
		●	Zero food carbon print through promotion of local food ecosystem	1	2	3	4	5	●	Primary Responsibility									
	●		Exporting agriculture food products in all seven province major cities						○	Secondary Responsibility									
●			Starting to exporting production to at least three major international markets																



## Planning considerations:

The community and stakeholders suggested considering the following issues in the municipality agricultural planning process. **Limited Access to Resources:** Strategic plans must address these resource constraints and provide solutions to increase access to these resources.

**Climate Change:** Strategic plans must consider the impacts of climate change on agriculture and develop adaptation strategies to mitigate these impacts.

**Limited Market Access:** Strategic plans must focus on improving market access for small farmers, including through market linkages, value addition, and improving the quality and quantity of their produce.

**Limited Access to Information and Technology:** Strategic plans must focus on providing access to information and technology that can support sustainable farming practices.

**Lack of Awareness and Training:** Strategic plan must focus on providing training and education to small farmers on sustainable farming practices, including soil management, water conservation, and pest and disease management.

**Policy and Institutional Framework:** Strategic plans must focus on developing policies and institutional frameworks that support sustainable agriculture practices, including incentives for small farmers to adopt sustainable practices, and a regulatory framework to promote sustainable agriculture.

## Some insights into planning considerations for Leaders

Strategic plan for sustainable agriculture and food systems must take into account the above-mentioned core concerns to be effective in realizing the municipality agriculture development objectives.

**Duration: 5 Years with yearly review.**

**Responsible:** Cooperatives, Ward leaders, NARC (Nepal Agricultural Research Council) College of Agriculture, Agricultural Knowledge Center, Private Donors, Rapti Sonari Municipality

### Objective 1: Self-Reliance in food production and supply systems

Strategies	Measurable Outcomes
Establish a revolving fund for inputs	Number of farmers who received input support
Provide training on sustainable practices	Number of farmers trained on sustainable practices
Provide technical assistance	Increase in yield and number of crops grown
Establish demonstration farms	Number of demonstration farms established and visited
Promote intercropping and crop rotation	Increase in crop diversity and soil health
Establish a farmers' cooperative	Number of farmers who joined the cooperative
Provide training on postharvest handling	Reduction in postharvest losses and increase in quality
Develop market linkages	Increase in number of consumers and prices received
Provide training on renewable energy	Number of farmers trained on renewable energy
Establish biogas plants	Number of biogas plants established
Promote use of solar pumps	Number of solar pumps installed

### Objective 2: Sustainable agricultural growth

Strategies	Measurable Outcomes
------------	---------------------

Provide training and education on composting, green manure, and other organic farming techniques	10% increase in the use of organic fertilizers
Promote agroforestry, contour farming, and other soil conservation techniques	20% reduction in soil erosion and increase in water retention
Encourage farmers to grow a variety of crops and practice intercropping	50% increase in the number of crop varieties and intercropping practices
Establish an agricultural information center and provide training on the use of smartphones and other digital tools	80% of farmers have access to agricultural information via the center
Promote the use of drones, GPS mapping, and other precision agriculture tools	30% increase in the use of precision agriculture tools
Provide training on organizational management and leadership skills	50% increase in the number of farmers participating in farmer organizations
Establish market linkages with consumers, processors, and exporters	20% increase in the number of farmers selling their products in formal markets
Provide training on climate change adaptation and disaster risk reduction	80% of farmers have knowledge of climate change and disaster preparedness
Encourage the use of drought resistant crops, conservation agriculture, and other climatesmart practices	30% increase in the use of climatesmart agriculture practices

## Objective 2: Enhancing agricultural competitiveness

Strategies	Measurable Outcomes
1. Conduct training and awareness programs on high value crops and markets. 2. Facilitate the establishment of producer groups for high value crops. 3. Develop market linkages between producer groups and consumers.	Increased production and sales of high value crops, increased income for farmers.

1. Conduct financial management training for farmers. 2. Facilitate partnerships between financial institutions and farmer groups. 3. Establish credit programs for farmers.	Increased access to credit for farmers, increased income for farmers.
1. Conduct training on irrigation management for farmers. 2. Establish maintenance programs for irrigation systems.	Increased crop yields, improved water management, increased income for farmers.
1. Conduct training and awareness programs on modern agricultural practices. 2. Establish regular meetings between extension workers and farmer groups.	Improved adoption of modern agricultural practices, increased yields, increased income for farmers.
1. Conduct training and awareness programs on agricultural inputs. 2. Establish partnerships between input suppliers and farmer groups. 3. Provide access to quality inputs through input credit programs.	Increased adoption of quality inputs, increased yields, increased income for farmers.

### Objective 3: Inclusive agricultural growth

Strategic Actions	Measurable Outcomes
Develop and implement policies and programs that prioritize the needs of marginalized and vulnerable groups in agriculture development	1. Adoption of policies and programs that prioritize the needs of marginalized and vulnerable groups. 2. Increase in participation of marginalized and vulnerable groups in agricultural development initiatives.
Establish and strengthen mechanisms for ensuring participation and representation of marginalized and vulnerable groups in decision making processes related to agriculture development	1. Establishment of mechanisms for ensuring participation and representation of marginalized and vulnerable groups. 2. Increase in representation of marginalized and vulnerable groups in decision making processes related to agricultural development.
Promote inclusive farming practices and technologies	1. Adoption of inclusive farming practices and technologies by at least 50% of farmers. 2. Increase in crop yields and income for marginalized and vulnerable groups.

Establish and strengthen farmer groups or cooperatives that promote inclusive agriculture development	<ol style="list-style-type: none"> <li>1. Establishment of at least 2 farmer groups or cooperatives that promote inclusive agriculture development.</li> <li>2. Increase in participation of marginalized and vulnerable groups in farmer groups or cooperatives.</li> </ol>
Provide technical and financial support for inclusive agriculture development	<ol style="list-style-type: none"> <li>1. Allocation of at least 30% of the project budget for inclusive agriculture development.</li> <li>2. Provision of technical assistance to marginalized and vulnerable groups.</li> </ol>
Develop and implement capacity building and training programs that prioritize the needs of marginalized and vulnerable groups	<ol style="list-style-type: none"> <li>1. Conduct of at least 2 capacity building and training programs for marginalized and vulnerable groups.</li> <li>2. Increase in knowledge and skills of marginalized and vulnerable groups in inclusive farming practices and technologies.</li> </ol>
Develop and implement market oriented programs that prioritize the needs of marginalized and vulnerable groups	<ol style="list-style-type: none"> <li>1. Increase in income for marginalized and vulnerable groups through market oriented programs.</li> <li>2. Establishment of at least 2 market oriented programs that prioritize the needs of marginalized and vulnerable groups.</li> </ol>

#### Objective 4: Achieve agricultural growth

Strategic Actions	Measurable Outcomes
Develop and implement policies and programs to promote agricultural growth	<ol style="list-style-type: none"> <li>1. Adoption of policies and programs related to agricultural growth.</li> <li>2. Allocation of budget and resources for agricultural growth.</li> </ol>
Establish and strengthen coordination mechanisms among stakeholders	<ol style="list-style-type: none"> <li>1. Establishment of coordination mechanisms among stakeholders.</li> <li>2. Increased participation of stakeholders in agricultural growth initiatives.</li> </ol>
Increase adoption of modern farming technologies and practices	<ol style="list-style-type: none"> <li>1. Adoption of at least 2 modern farming technologies by 50% of farmers.</li> <li>2. Increase in crop yields by 15%.</li> </ol>
Expand farming enterprises and diversify crops	<ol style="list-style-type: none"> <li>1. Increase in the number of farmers engaged in farming enterprises by 20%.</li> <li>2. Diversification of crops to include at least 2 high value crops.</li> </ol>
Provide technical and financial support for agricultural growth	<ol style="list-style-type: none"> <li>1. Allocation of at least 30% of the project budget for agricultural growth.</li> <li>2. Provision of technical assistance to farmers and communities.</li> </ol>

Develop and implement value chain development and market linkages	1. Increase in income for farmers by 20% through value chain development and market linkages.2. Establishment of at least 2 value chains for high value crops.
Develop and implement capacity building and training programs	1. Conduct of at least 2 capacity building and training programs for farmers and community members.2. Increase in knowledge and skills of farmers and community members in modern farming technologies and practices.

#### Objective 5: Sustainable livelihoods improvement

Strategic Actions	Measurable Outcomes
Develop and implement policies and programs to promote agricultural development and livelihoods	1. Adoption of policies and programs related to agricultural development and livelihoods. 2. Allocation of budget and resources for agricultural development and livelihoods.
Establish and strengthen coordination mechanisms among stakeholders	1. Establishment of coordination mechanisms among stakeholders. 2. Increased participation of stakeholders in agricultural development and livelihoods initiatives.
Increase productivity and diversification of crops	1. Increase in crop productivity by 20%. 2. Diversification of crops to include at least 2 high value crops.
Improve access to inputs, credit, and markets	1. Establishment of at least 2 input and credit supply systems for farmers. 2. Establishment of at least 2 market linkages for local agricultural products.
Provide technical and financial support for agricultural development and livelihoods	1. Allocation of at least 30% of the project budget for agricultural development and livelihoods. 2. Provision of technical assistance to farmers and communities.
Develop and implement value chain development and market linkages	1. Increase in income for farmers by 15% through value chain development and market linkages.2. Establishment of at least 2 value chains for high value crops.

Develop and implement capacity building and training programs	<ol style="list-style-type: none"> <li>1. Conduct of at least 2 capacity building and training programs for farmers and community members.</li> <li>2. Increase in knowledge and skills of farmers and community members in sustainable agricultural practices and market oriented approaches.</li> </ol>
Develop and implement social protection and safety net programs	<ol style="list-style-type: none"> <li>1. Establishment of at least 2 social protection and safety net programs for vulnerable households.</li> <li>2. Improved access to livelihood opportunities for vulnerable households by 10%.</li> </ol>

### Objective 6: Achieving food safety and quality

Strategic Actions	Measurable Outcomes
Develop and implement policies and programs to promote agricultural development and food and nutrition security	<ol style="list-style-type: none"> <li>1. Adoption of policies and programs related to agricultural development and food and nutrition security.</li> <li>2. Allocation of budget and resources for agricultural development and food and nutrition security.</li> </ol>
Establish and strengthen coordination mechanisms among stakeholders	<ol style="list-style-type: none"> <li>1. Establishment of coordination mechanisms among stakeholders.</li> <li>2. Increased participation of stakeholders in agricultural development and food and nutrition security initiatives.</li> </ol>
Increase production and consumption of diverse and nutritious crops	<ol style="list-style-type: none"> <li>1. Increase in the production of diverse and nutritious crops by 20%.</li> <li>2. Increase in the consumption of diverse and nutritious crops by 15%.</li> </ol>
Develop and implement community managed storage and processing facilities	<ol style="list-style-type: none"> <li>1. Establishment of at least 2 community managed storage and processing facilities.</li> <li>2. Improved postharvest handling and reduced postharvest losses by 10%.</li> </ol>
Provide technical and financial support for agricultural development and food and nutrition security	<ol style="list-style-type: none"> <li>1. Allocation of at least 30% of the project budget for agricultural development and food and nutrition security.</li> <li>2. Provision of technical assistance to farmers and communities.</li> </ol>

Develop and implement market linkages and value chain development	1. Establishment of at least 2 market linkages for local agricultural products. 2. Increase in income for farmers by 15% through value chain development.
Develop and implement nutrition education and awareness programs	1. Conduct of at least 2 nutrition education and awareness campaigns. 2. Increase in knowledge and awareness of nutrition and healthy eating practices by 25%.
Develop and implement social protection and safety net programs	1. Establishment of at least 2 social protection and safety net programs for vulnerable households. 2. Improved access to food for vulnerable households by 10%.

## Key Results for Palika Leaders:

Objective	Key Result	Measure	Target
Improve self reliance in agricultural production in Raptisonari Rural municipality	Increase adoption of sustainable farming practices	Conduct training on sustainable farming practices	Train at least 80% of farmers in the municipality on sustainable farming practices
	Improve access to agricultural inputs and technologies	Develop partnerships with input and technology suppliers	Ensure at least 90% of farmers have access to appropriate agricultural inputs and technologies
	Increase productivity of key crops	Conduct research and extension services to improve crop productivity	Increase the yield of key crops by at least 20%
Promote inclusive and competitive agricultural markets in Raptisonari Rural municipality	Develop value chains for key agricultural products	Identify key value chains and develop partnerships with relevant actors	Develop at least 3 functional value chains for key agricultural products
	Improve access to markets and market information	Develop partnerships with market actors and establish market information systems	Increase the number of market outlets for agricultural products by at least 50%, and establish a functioning market information system
	Enhance competitiveness of agricultural products	Provide training on product quality and branding	Increase the percentage of agricultural products meeting quality standards, and the percentage of farmers using branding techniques

Improve livelihoods of farmers in Raptisonari Rural municipality	Increase income from agriculture	Increase productivity and value addition of key crops and livestock products	Increase income from agriculture by at least 30%
	Improve access to financial services	Develop partnerships with financial institutions	Ensure at least 50% of farmers have access to appropriate financial services
Ensure safe food and nutrition security in Raptisonari Rural municipality	Improve food safety practices	Conduct training on food safety practices	Train at least 80% of farmers and food handlers in the municipality on food safety practices
	Increase availability and access to nutritious food	Develop partnerships with nutrition stakeholders	Increase the percentage of households consuming diverse and nutritious foods
	Improve food storage and preservation	Provide training on appropriate storage and preservation techniques	Ensure at least 80% of farmers use appropriate storage and preservation techniques for their products.

## Key Performance Indicators

Objective	KPI	Measure	Target
<b>Improve self reliance in agricultural production in Raptisonari Rural municipality</b>	Adoption of sustainable farming practices	Percentage of farmers adopting sustainable farming practices	Increase adoption by at least 20%
	Access to agricultural inputs and technologies	Percentage of farmers with access to appropriate agricultural inputs and technologies	Ensure at least 90% of farmers have access
	Crop productivity	Increase in crop yield	Increase yield of key crops by at least 20%
<b>Promote inclusive and competitive agricultural markets in Raptisonari Rural municipality</b>	Value chain development	Number of functional value chains developed	Develop at least 3 functional value chains for key agricultural products
	Market access and information	Number of market outlets & establishment of market information system	Increase number of market outlets by at least 50%, and establish functioning market information system

	Competitiveness of agricultural products	Percentage of agricultural products meeting quality standards and percentage of farmers using branding techniques	Increase percentage of agricultural products meeting quality standards, and percentage of farmers using branding techniques
<b>Improve livelihoods of farmers in Raptisonari Rural municipality</b>	Income from agriculture	Increase in income from agriculture	Increase income from agriculture by at least 30%
	Diversification of income sources	Number of alternative income generating activities established	Establish at least one alternative income generating activity in each ward of the municipality
	Access to financial services	Percentage of farmers with access to appropriate financial services	Ensure at least 50% of farmers have access
<b>Ensure safe food and nutrition security in Raptisonari Rural municipality</b>	Food safety practices	Percentage of farmers and food handlers trained on food safety practices	Train at least 80% of farmers and food handlers
	Availability and access to nutritious food	Percentage of households consuming diverse and nutritious foods	Increase percentage of households consuming diverse and nutritious foods
	Food storage and preservation	Percentage of farmers using appropriate storage and preservation techniques	Ensure at least 80% of farmers use appropriate techniques

<b>Note:</b>		
<i>This table outlines strategies based on goals and objectives of ADS for Rapti Sonari Rural municipality</i>		
<i>This is only for a draft to be presented in workshop for reference so that leaders can work on them, prioritize or create more based on sample work</i>		
<b>Table: SMART Strategic Action Plans for Food Safety Agriculture Development in Rapti Sonari Rural municipality</b>		

## Annex I: Process

The process of developing a participatory action plan for enhancing agriculture productivity and sustainability in Rapti Sonari Rural municipality, involving facilitators visiting farms and engaging with local stakeholders, can be outlined as follows:

### Preparatory Phase:

- Identify the objectives and scope of the participatory action plan.
- Formulate a clear agenda and timeline for the engagement process.
- Identify and invite relevant stakeholders, including farmers, local cooperatives, government officials, NGOs, researchers, and representatives from the private sector.

### Field Visits:

- Facilitators visit farms within Rapti Sonari Rural municipality to gain firsthand knowledge and understanding of the existing agricultural practices, challenges, and opportunities.
- Engage in discussions with farmers to assess their needs, aspirations, and perspectives regarding agricultural development and sustainability.
- Observe the prevailing farming techniques, crop varieties, input usage, and resource management practices.



### Participatory Engagement:

#### Summary Visits during the consultation

Phase	Purpose	Participation	Number
<b>I</b>	Desk Review and Research Work	Consultant, Farmers Community Organization	<b>20</b>
<b>II</b>	Field Visit and Observation	Palika Leaders and Community Actors	<b>270</b>
<b>III</b>	Participatory Community Hearing	Community Farmers and Different Stakeholders	<b>120</b>
<b>IV</b>	Validation & Consultation	Community Leaders and Consultants	<b>40</b>
<b>Total</b>			<b>450</b>

#### Phase II Field Visit

Days	Purpose	Participation	Number
<b>I</b>	Ice Breaking Meeting	Palika Leaders and Officers	<b>15</b>
<b>2</b>	Ward 3,4,5,6	Ward Leaders and Community	<b>100</b>
<b>3</b>	Ward 9,8,1,2	Ward Leaders and Community	<b>100</b>
<b>4</b>	Review and Consultation	Gyan Kendra, NAARC, Development Partners	<b>40</b>

#### Phase III Community Engagements

Days	Purpose	Participation	Number
<b>1</b>	Preparatory Meeting	Palika Leaders	<b>10</b>

<b>2</b>	Participatory Community Engagement	Community Farmers and Stakeholders	<b>40</b>
<b>3</b>	Participatory Community Engagement	Community Farmers and Stakeholders	<b>40</b>
<b>4</b>	Review and Expert Followup	Government Agency	<b>20</b>

#### **Phase IV : Validation Workshop**

<b>Days</b>	<b>Purpose</b>	<b>Participation</b>	<b>Number</b>
<b>1</b>	Rapport Building/ Budget Hearing	Community and Palika Leaders	40
<b>2</b>	Government Office and Research Unit	Gyan Kendra and Consultants	7
<b>3</b>	Preparation of Validation Workshop	Palika Leaders	15
<b>4</b>	Validation Workshop	Palika Leaders	30

- Organize participatory workshops, meetings, or focus group discussions at the local level to engage all possible stakeholders.
- Provide a platform for stakeholders to share their experiences, ideas, and concerns related to agriculture productivity and sustainability.
- Utilize participatory tools and techniques, such as participatory rural appraisal (PRA), community mapping, and brainstorming sessions, to encourage active participation and generate valuable inputs.

#### **Stakeholder Input Collection:**

- Facilitate open discussions and encourage stakeholders to share their knowledge, suggestions, and innovative practices for enhancing agriculture productivity and sustainability.
- Collect and document the inputs and feedback received from farmers, cooperatives, government officials, researchers, and other stakeholders.
- Ensure inclusivity by giving voice to marginalized groups and addressing gender-specific concerns.

**Analysis and Synthesis:**

- Analyze the inputs and data collected from the participatory engagement process.
- Identify common themes, patterns, and priorities that emerge from the stakeholders' inputs.
- Synthesize the information to develop a comprehensive understanding of the challenges, opportunities, and potential interventions for enhancing agriculture productivity and sustainability.

**Action Plan Development:**

- Facilitate a participatory process to develop an action plan based on the identified priorities and interventions.
- Collaborate with stakeholders to define specific goals, objectives, and strategies for improving agriculture productivity and sustainability.
- Establish clear targets, timelines, and responsibilities for the implementation of the action plan.

**Feedback and Validation:**

- Share the drafted action plan with the stakeholders for their feedback and validation.
- Conduct follow-up meetings or consultations to address any concerns, incorporate additional inputs, and ensure stakeholder buy-in.
- Refine the action plan based on the feedback received and finalize it for implementation.

**Dissemination and Implementation:**

- Communicate the finalized action plan to all stakeholders, ensuring transparency and clarity.
- Allocate necessary resources and establish coordination mechanisms for implementing the action plan.
- Monitor and evaluate the progress regularly, incorporating adaptive management approaches as needed.

Rapti Sonari Rural municipality can harness the collective wisdom and experiences of stakeholders, leading to a more inclusive, context-specific, and effective action plan for enhancing agriculture productivity and sustainability in the region.

## Annex II: Major Tools

Major tools used in a participatory strategic action plan for enhancing agriculture productivity and sustainability in Rapti Sonari Rural municipality:

### **Participatory Rural Appraisal (PRA):**

PRA is a set of participatory techniques and tools that involve local stakeholders in assessing their own situation, identifying problems, and planning for development. It includes tools such as mapping, transect walks, seasonal calendars, and social mapping to gather information and insights from the community.

### **Focus Group Discussions (FGDs):**

FGDs are structured discussions conducted with a small group of stakeholders to explore their perspectives, experiences, and opinions. These discussions facilitate open dialogue and generate qualitative data that can inform decision-making and action planning.

### **Community Mapping:**

Community mapping involves the collective creation of maps by community members to identify and visualize resources, infrastructure, and potential areas for development. It helps stakeholders understand spatial relationships, access to resources, and opportunities for intervention.

### **SWOT Analysis:**

SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis is a framework used to assess the internal and external factors influencing a project or organization. Conducting a SWOT analysis with stakeholders helps identify strengths to leverage, weaknesses to address, opportunities to pursue, and threats to mitigate in the context of agriculture productivity and sustainability.

### **Problem Tree Analysis:**

Problem tree analysis is a visual tool that helps stakeholders identify and analyze the root causes of problems or challenges. It involves identifying the core problem and mapping out its causes and effects. This tool enables a deeper understanding of the underlying issues and supports the development of targeted interventions.

### **Brainstorming:**

Brainstorming sessions encourage participants to generate a large number of ideas or solutions to a particular problem or challenge. Facilitators can organize structured brainstorming sessions to solicit diverse perspectives and innovative ideas from stakeholders regarding agriculture productivity and sustainability.

### **Ranking and Scoring:**

Ranking and scoring tools allow stakeholders to prioritize options or interventions based on their preferences and perceived importance. For example, stakeholders can rank potential strategies for improving productivity or sustainability and allocate scores based on their feasibility, impact, or desirability.

### **Visioning Exercises:**

Visioning exercises help stakeholders collectively envision the desired future state of agriculture productivity and sustainability in the municipality. Through guided discussions and visualizations, participants can articulate their aspirations, goals, and aspirations for the development of the agricultural sector.

### **Action Planning:**

Action planning tools involve systematically outlining the steps, responsibilities, timelines, and resources required for implementing specific interventions. This includes developing SMART (Specific, Measurable, Achievable, Relevant, and Time-bound) goals and defining key performance indicators to monitor progress.

### **Monitoring and Evaluation Frameworks:**

Establishing monitoring and evaluation frameworks ensures that progress is tracked, lessons are learned, and adjustments are made throughout the implementation process. These frameworks typically include indicators, data collection methods, and reporting mechanisms to assess the effectiveness and impact of interventions.

**Business Model Canvas:**

The Business Model Canvas is a strategic tool that provides a visual representation of the key components and relationships of a business or project. It consists of nine building blocks, including key activities, key resources, value proposition, customer segments, customer relationships, channels, cost structure, revenue streams, and partnerships. In the context of agriculture strategic planning, the Business Model Canvas helps stakeholders understand the various aspects of their agricultural initiatives, identify potential gaps or areas of improvement, and align their resources and activities towards achieving their goals.

**Affinity Diagram:**

The Affinity Diagram is a method used to organize and categorize a large amount of ideas, opinions, or data into meaningful groups. It involves collecting individual ideas or inputs from stakeholders related to agriculture strategic planning and then grouping them based on their similarities or themes. This tool helps in identifying common patterns, prioritizing ideas, and generating insights that can guide decision-making and action planning.

**Cause-Effect Diagram (also known as Fishbone or Ishikawa Diagram):**

The Cause-Effect Diagram is a visual tool used to identify and analyze the potential causes leading to a specific effect or problem. In the context of agricultural strategic planning, stakeholders can use this tool to understand the root causes of challenges or issues related to productivity, sustainability, or any other aspect of their agricultural activities. By categorizing causes into different categories such as people, process, equipment, environment, and management, stakeholders can gain a deeper understanding of the interdependencies and take appropriate actions to address the underlying causes.

**Paired Ranking:**

Paired Ranking is a technique used to prioritize a list of items or options based on their relative importance or preference. In the context of agriculture strategic planning, stakeholders can use paired ranking to assess and prioritize different strategies, interventions, or initiatives. By comparing each option with others and assigning a rank or score, stakeholders can identify the most preferred options that align with their objectives and constraints.

**Pareto Analysis:**

Pareto Analysis, also known as the 80/20 rule, is a technique used to identify and prioritize the most significant factors or issues contributing to a problem. In the context of agriculture strategic planning, stakeholders can use Pareto Analysis to identify the vital few factors that have the most significant impact on productivity, sustainability, or other desired outcomes. Focusing efforts on addressing these key factors, stakeholders can achieve substantial improvements and allocate resources more effectively. Pareto Analysis helps in:

1. **Identify Factors:** They start by gathering data on various factors that could impact agricultural productivity. These factors might include soil quality, irrigation, crop selection, pest control, access to markets, and farmer training.
2. **Analyze Impact:** The data is analyzed to determine the contribution of each factor to the overall agricultural productivity. Through the Pareto principle, they might find that 20% of the factors have an 80% impact on productivity. For example, they discover that soil quality, access to irrigation, and farmer training are the most influential factors affecting productivity.
3. **Focus Resources:** Armed with this insight, they can prioritize their efforts and allocate resources accordingly. Instead of trying to address all factors simultaneously, they concentrate on improving soil quality, providing better irrigation facilities, and organizing training programs for farmers.
4. **Measure Results:** Over time, they track the progress and measure the impact of their interventions. They can monitor the changes in productivity and evaluate if their focused efforts on the critical few factors have led to significant improvements.

### **Control Chart:**

A Control Chart is a statistical tool used to monitor and track performance over time. It helps stakeholders visualize data, identify trends, and detect variations or deviations from expected performance. In the context of agriculture strategic planning, stakeholders can use control charts to monitor key performance indicators (KPIs) such as yield, pest incidence, or resource utilization. By continuously monitoring and analyzing the data, stakeholders can make informed decisions, take corrective actions, and ensure their agricultural activities are on track to achieve their desired outcomes.

These strategic planning tools provide valuable insights, analysis, and decision-making support for stakeholders in the agricultural sector. By utilizing these tools effectively, stakeholders can improve their strategic planning processes, optimize resource allocation, and enhance the overall productivity and sustainability of their agricultural initiatives.

Utilizing these tools in the participatory engagement process, Rapti Sonari Rural municipality can effectively capture the insights and contributions of all stakeholders, leading to a more inclusive and robust strategic action plan for agricultural development.

## Hoshin Kanri

Hoshin Kanri, also known as Policy Deployment, is a systematic approach that helps organizations align their goals and objectives with their overall vision. It ensures effective implementation of strategic initiatives and fosters a culture of continuous improvement.

In the context of a local municipality's agriculture strategic action plan, Hoshin Kanri can be used in the following ways:

1. **Vision and Objective Setting:** Hoshin Kanri begins with establishing a clear vision for the agriculture sector in the municipality. This includes identifying long-term goals, such as promoting sustainable farming practices, enhancing food security, or improving farmers' livelihoods. Objectives are then defined to support the vision, such as increasing crop diversification or implementing water conservation measures.
2. **Cascading Goals and KPIs:** Hoshin Kanri involves cascading goals and key performance indicators (KPIs) throughout the municipality's organizational structure. This ensures alignment and accountability at various levels, from the municipal administration to specific agricultural departments or units. Each level identifies goals and KPIs that contribute to the overall vision and strategic objectives.
3. **Cross-Functional Collaboration:** Hoshin Kanri encourages cross-functional collaboration and involvement from stakeholders in the agriculture sector. This includes engaging farmers, agricultural experts, community representatives, and relevant government agencies. By incorporating diverse perspectives, the municipality can develop comprehensive and inclusive action plans.
4. **Implementation and Review:** Hoshin Kanri emphasizes the implementation of action plans in a systematic and structured manner. It involves setting specific initiatives, allocating resources, and assigning responsibilities to ensure progress towards the defined goals. Regular review and monitoring of performance against KPIs help identify areas of improvement or obstacles that need attention.
5. **Continuous Improvement:** A key principle of Hoshin Kanri is the concept of continuous improvement. The municipality can use feedback and data gathered during the implementation phase to adjust and refine the strategic action plan. Lessons learned from successes and challenges can inform future planning cycles, ensuring the plan remains relevant and effective over time.

A local municipality can develop a robust agriculture strategic action plan, align resources and efforts, and track progress towards achieving their agricultural goals. It promotes coordination, engagement, and a systematic approach to strategic planning and implementation, ultimately leading to sustainable agricultural development within the municipality.

## The X-Matrix

The X-Matrix is a visual tool used in Hoshin Kanri, also known as Policy Deployment, to facilitate the development and implementation of strategic action plans. It helps organizations, including local municipalities, align their goals, strategies, action plans, and key performance indicators (KPIs) in a single matrix. Here is a brief explanation of the X-Matrix and its use in the context of a local municipality's agriculture strategic action plan:

The X-Matrix is a four-quadrant matrix that provides a comprehensive view of the organization's strategic objectives and the initiatives necessary to achieve them. It helps establish a clear line of sight from high-level goals to specific actions, ensuring alignment and focus throughout the organization.

In the context of a local municipality's agriculture strategic action plan, the X-Matrix can be used as follows:

1. **Strategic Objectives:** The top-left quadrant of the X-Matrix is dedicated to defining the strategic objectives of the municipality's agriculture sector. These objectives should align with the overall vision and goals of the municipality, such as sustainable agriculture, food security, or rural development. Each objective should be specific, measurable, achievable, relevant, and time-bound (SMART).
2. **Strategies and Initiatives:** The top-right quadrant of the X-Matrix is used to identify the strategies and initiatives required to achieve the strategic objectives. Strategies can include promoting organic farming, supporting farmer cooperatives, or investing in agricultural infrastructure. Each strategy is then broken down into specific initiatives or projects that need to be implemented.
3. **Responsible Parties and Resources:** The bottom-left quadrant of the X-Matrix specifies the responsible parties or departments involved in executing each initiative. This ensures clarity and accountability for implementation. Additionally, this quadrant also considers the necessary resources, such as budget, personnel, and equipment, needed for successful execution.
4. **Key Performance Indicators (KPIs):** The bottom-right quadrant of the X-Matrix lists the KPIs that will be used to measure the progress and success of each initiative. KPIs can include metrics like crop yield improvement, reduction in pesticide usage, or increase in farmer income. It is important to select KPIs that align with the strategic objectives and provide meaningful insights into the impact of the initiatives.

Utilizing the X-Matrix, a local municipality can visually organize and align its agriculture strategic action plan. It provides a holistic view of the relationships between objectives, strategies, initiatives, responsible parties, resources, and KPIs. This facilitates effective communication, collaboration, and monitoring of progress throughout the implementation process. The X-Matrix promotes transparency, accountability, and a systematic approach to achieving the municipality's agriculture goals.

## Quality Circle in Farming

Quality Circle is a participatory problem-solving technique that originated in Japan and is widely used in various industries, including farming. It involves forming small groups of employees or farmers who voluntarily come together to identify, analyze, and solve problems related to quality, productivity, and efficiency.

In the context of farming, Quality Circles can be utilized to improve processes, enhance product quality, increase productivity, and promote innovation. Here is an explanation of how Quality Circles can be used in farming:

**Problem Identification:** Quality Circles in farming begin by identifying specific problems or challenges that affect the quality or productivity of agricultural operations. These can include issues such as crop diseases, inefficient irrigation practices, post-harvest losses, or ineffective pest control methods.

**Group Formation:** Farmers and agricultural workers form small groups, typically consisting of 5-10 members, who have a direct involvement in the identified problems. The groups can be based on specific crops, farming techniques, or specific aspects of the farming process.

**Analysis and Root Cause Identification:** The Quality Circle groups analyze the identified problems, gathering data and information related to the issues. They examine the root causes behind the problems by using techniques such as brainstorming, cause-and-effect diagrams, and data analysis. This helps them gain a deeper understanding of the underlying factors contributing to the problems.

**Solution Generation:** Once the root causes are identified, the Quality Circle groups brainstorm and generate potential solutions or improvements. These solutions can range from process modifications, adoption of new technologies or farming practices, changes in crop rotation, or better pest control methods. The emphasis is on finding practical and implementable solutions that can be applied within the farm's context.

**Implementation and Evaluation:** The Quality Circle groups select the most viable solutions and implement them on their farms. They monitor the progress, gather feedback, and evaluate the effectiveness of the implemented solutions. This allows for continuous learning and refinement of the proposed improvements.

**Knowledge Sharing and Collaboration:** Quality Circles promote knowledge sharing and collaboration among farmers within the group and beyond. Farmers can exchange their experiences, best practices, and lessons learned. This collaborative environment fosters innovation, encourages the adoption of successful practices, and contributes to the overall improvement of farming techniques and productivity.

Implementing Quality Circles in farming, farmers can actively engage in problem-solving, identify and address inefficiencies or challenges, and improve the overall quality and productivity of their agricultural operations. The participatory nature of Quality Circles empowers farmers to take ownership of their farming practices, encourages continuous improvement, and creates a culture of collaboration and innovation within the farming community.

## Annex III: Check list

Checklist for Participatory Strategic Action Plan in Rapti Sonari Rural municipality:

### Preparatory Stage:

- Identify the stakeholders and their roles and responsibilities.
- Schedule the meeting and inform all stakeholders.
- Prepare a list of discussion points and topics for the meeting.
- Ensure the availability of necessary logistics, such as a venue, refreshments, and stationery.

### Engagement Stage:

- Conduct the meeting in a participatory and inclusive manner, ensuring all stakeholders have an opportunity to express their views and concerns.
- Record all inputs and suggestions shared during the meeting.
- Encourage brainstorming sessions to generate new ideas.
- Prioritize the inputs based on their feasibility and potential impact.

### Planning Stage:

- Develop an action plan based on the inputs received during the meeting.
- Assign specific responsibilities to each stakeholder.
- Set clear and measurable objectives for the action plan.
- Identify the resources needed to implement the action plan, such as finances, manpower, and equipment.
- Develop a timeline for each activity and define key milestones.

### Implementation Stage:

- Mobilize the necessary resources to implement the action plan.
- Monitor progress regularly and identify any bottlenecks or challenges.
- Adjust the plan as necessary to ensure its effectiveness.

### Evaluation Stage:

- Evaluate the success of the action plan against the set objectives.
- Solicit feedback from stakeholders on the effectiveness of the plan.
- Document the lessons learned and best practices for future reference.
- Use the evaluation results to improve the next round of planning and implementation.



## Annex IV: SWOT Analysis for Rapti Sonari Municipality

### Strengths of Rapti Sonari as a Community:

Rapti Sonari Municipality boasts a community of hardworking farmers who are deeply engaged in agriculture practices. These farmers, through their dedication and commitment, form the backbone of the local agricultural sector. With their tireless efforts, they cultivate the land, tend to crops, and raise livestock, contributing significantly to the municipality's economy and food security. Their hard work and resilience are essential in driving the growth and development of agriculture in the region.

One of the key strengths of Rapti Sonari Municipality lies in its vast agricultural potential and the diversity of products it offers. The region is blessed with fertile soil and favorable climatic conditions, making it suitable for a wide range of agricultural activities. Farmers in this area have the opportunity to cultivate various crops such as rice, wheat, maize, vegetables, fruits, and spices. Additionally, the municipality's agricultural sector encompasses livestock farming, poultry production, and fishery, further adding to the diverse range of products.

Another advantage that Rapti Sonari Municipality enjoys is the abundant availability of natural resources for farming. The region is rich in water resources, with rivers, streams, and underground water sources, providing an ample water supply for irrigation purposes.

This natural abundance of water resources plays a crucial role in sustaining agricultural activities throughout the year. Moreover, the municipality is blessed with fertile land and favorable topography, creating favorable conditions for farming and enhancing productivity.

The strong community engagement and support in Rapti Sonari Municipality also contribute to the success of its agricultural sector. The local community recognizes the importance of agriculture and actively participates in supporting and promoting farming activities. There is a sense of collective responsibility among community members to uplift the agricultural sector and ensure its sustainability. This engagement manifests in various forms, such as cooperative farming initiatives, knowledge-sharing platforms, and collaborative efforts to address common challenges faced by farmers.

Rapti Sonari Municipality is characterized by hardworking farmers who are deeply engaged in agriculture practices. The region's vast agricultural potential, diverse range of products, availability of natural resources, and strong community engagement and support create a conducive environment for agricultural

development. By harnessing these strengths and implementing appropriate strategies, the municipality can further enhance its agriculture sector, drive economic growth, and ensure food security for its residents.

### Weaknesses of Rapti Sonari as a Community::

Rapti Sonari Municipality faces challenges in marketing and fair price structures, which affects the income of farmers. The absence of efficient marketing channels and transparent pricing mechanisms often leads to difficulties in selling agricultural products at fair prices. Additionally, the municipality grapples with inadequate irrigation facilities and water supply, impacting crop yields and productivity. The limited availability and accessibility of quality seeds and inputs further hinder the potential for optimal agricultural production. Moreover, the inconsistent weather conditions in the region pose uncertainties and challenges in cultivation, making it difficult for farmers to plan and maximize their yields. Addressing these issues will be crucial in ensuring the sustainable growth and development of agriculture in Rapti Sonari.

### Opportunities of Rapti Sonari Rural municipality:

Rapti Sonari Municipality is witnessing a growing demand for organic and sustainably produced food. Consumers are increasingly seeking healthier and environmentally friendly options, creating opportunities for farmers to tap into this market. Furthermore, there is potential for accessing new markets, both locally and internationally, as the demand for high-quality agricultural products continues to rise. This opens avenues for farmers to expand their reach and establish profitable relationships with consumers. Moreover, the municipality holds potential for value-added products, allowing farmers to diversify their offerings and create new revenue streams. By processing and adding value to their agricultural products, farmers can capture a larger share of the market and increase profitability. Additionally, there is an increasing availability of financing and technical support for agriculture, which can help farmers access the resources they need to improve their practices, invest in modern technologies, and enhance productivity. These factors collectively present promising opportunities for farmers in Rapti Sonari to thrive and contribute to the sustainable development of the agricultural sector.

### Threats of Rapti Sonari Rural municipality:

Rapti Sonari Municipality faces competition from larger, commercial farming operations, which can pose challenges for small-scale farmers. These larger operations often have more resources and economies of scale, giving them a competitive edge in the market.

The municipality also deals with wildlife threats to crops and livestock. Animals such as wild boars, deer, and birds can cause significant damage to agricultural crops, leading to financial losses for farmers. Protecting crops and livestock from wildlife intrusion requires implementing appropriate measures to mitigate these risks.

Climate change impacts are another concern for agriculture in Rapti Sonari. Changing weather patterns, including irregular rainfall, increased temperatures, and extreme weather events, can negatively affect crop yields and overall production. Farmers need to adapt their farming practices to the changing climate conditions and implement climate-resilient strategies to mitigate these impacts.

Political instability and regulatory changes can also have a significant impact on the agriculture sector. Uncertain political situations and frequent policy changes can disrupt agricultural operations and hinder long-term planning for farmers. It is important for the municipality to create a stable and supportive policy environment that encourages agricultural development and provides clarity for farmers.

Navigating these challenges requires strategic planning, collaboration among stakeholders, and the adoption of innovative solutions. By addressing these issues, Rapti Sonari Municipality can enhance the competitiveness and resilience of its agricultural sector, ensuring sustainable growth and prosperity for local farmers.

## Annex V: Root Cause Analysis Using Ishikawa Diagram and Cause and Effect Diagram

To understand the root causes of the challenges faced by Raptisonari Rural municipality in producing safe vegetables and building better suitable agriculture and food systems agriculture production, a Fishbone Analysis or Ishikawa Analysis can be used (see annex....about the tool). This fishbone diagram is based on participatory group discussions with different focal groups in different places and time. *The analysis can categorize agriculture development challenges into six main areas: People, Processes, Machines, Materials, Environment, and Management.*

### **People related causes of Agriculture Development:**

- Lack of technical skills and knowledge among farmers regarding safe vegetable production practices
- Insufficient training and education opportunities for farmers on modern agriculture techniques
- Limited awareness among farmers of the importance of producing safe vegetables

- Inadequate monitoring and evaluation of agricultural practices by government agencies

**Processes related causes of Agriculture Development:**

- Absence of standard operating procedures (SOPs) for safe vegetable production
- Limited access to quality seeds and other inputs
- Insufficient irrigation facilities and water management practices
- Poor post-harvest handling and storage practices

**Machines related causes of Agriculture Development:**

- Limited availability and access to modern farming tools and machinery
- Low adoption of mechanization in agriculture practices
- Inadequate maintenance and repair services for farming equipment

**Materials related causes of Agriculture Development:**

- Limited availability of high-quality fertilizers and pesticides
- The widespread use of untested pesticides and fertilizers
- The use of contaminated water for irrigation purposes

**Environment related causes of Agriculture Development:**

- Climate change and its impact on agricultural productivity
- Soil degradation due to overuse of chemical fertilizers and pesticides
- Water scarcity and poor water quality

**Management related causes of Agriculture Development::**

- Inadequate government policies and regulations for agriculture practices

- Limited coordination and communication among stakeholders in the agriculture sector
- Inadequate monitoring and enforcement of regulations for safe vegetable productions practices

## Annex VI: Business Model Canvas

When applied to local level government and agriculture development action planning, the BMC can help identify and structure the key components and activities required for successful implementation. Here's how it can be applied:

1. **Value Proposition:** The local government needs to define the value it intends to deliver through its agriculture development action plan. This could include aspects such as improving agricultural productivity, promoting sustainable farming practices, enhancing market access for farmers, or creating employment opportunities.
2. **Customer Segments:** Identifying the various stakeholders involved in agriculture development, such as farmers, agricultural businesses, local communities, and consumers, is essential. Understanding their needs and preferences will help tailor interventions and initiatives to address their specific requirements.
3. **Channels:** Determining the most effective channels for communication, outreach, and service delivery is crucial. This may involve engaging with farmers through training programs, establishing agricultural extension services, creating online platforms for information dissemination, or building partnerships with local organizations.
4. **Key Activities:** The actions and initiatives required for agriculture development need to be identified. This could include providing technical assistance to farmers, facilitating access to finance, promoting research and innovation, establishing market linkages, and implementing regulatory measures.
5. **Resources:** Identifying the necessary resources, such as financial, human, and technological, is important. It helps determine the investment required for implementing the action plan and ensures that adequate resources are allocated for different activities.
6. **Partnerships:** Collaboration with various stakeholders, including other government agencies, non-governmental organizations, research institutions, and private sector entities, can enhance the effectiveness of the action plan. The BMC can highlight potential partners and help structure the nature of these collaborations.
7. **Cost Structure:** Understanding the cost implications of different activities and interventions is vital for effective resource management. It enables the local government to allocate budgets appropriately and prioritize investments based on the potential impact.

8. Having a Business Model Canvas perspective during the strategic action planning process is important for several reasons:
9. **Comprehensive Analysis:** The BMC provides a holistic view of the various components and interrelationships within the agriculture development action plan. It helps identify gaps, dependencies, and potential areas of improvement.
10. **Alignment and Focus:** The BMC ensures alignment between the goals and activities of the action plan. It helps prioritize efforts, resources, and interventions by focusing on the key elements that contribute the most to achieving desired outcomes.
11. **Communication and Collaboration:** The visual nature of the BMC facilitates effective communication and collaboration among stakeholders. It helps convey the strategic intent, value proposition, and key actions to all parties involved, promoting shared understanding and cooperation.
12. **Adaptability and Iteration:** The BMC allows for flexibility and iteration in the action planning process. It enables local governments to assess the feasibility and viability of different approaches, make adjustments based on feedback and changing circumstances, and continuously refine the strategy.

Applying the Business Model Canvas to agriculture development action planning at the local government level helps ensure a systematic and comprehensive approach. It enhances strategic thinking, promotes effective resource allocation, and facilitates the implementation of initiatives that can drive sustainable agricultural growth and development.

Business Model Canvas as a framework, stakeholders in Rapti Sonari Rural municipality can effectively plan and implement initiatives to enhance agriculture productivity and drive sustainable development in the region.

## Bibliography

Amason, A. C., & Ward, A. (2021). *Strategic management: from theory to practice* (Second Edition). Routledge/Taylor & Francis Group.

Hutchins, D. C. (2008). *Hoshin Kanri: the strategic approach to continuous improvement*. Gower.

Johnson, M., & Flaherty, K. (2010). *Strategic analysis and knowledge support systems for agriculture and rural development in Africa: translating evidence into action*. International Food Policy Research Institute.

Lamorte, B. (2022). *The OKRs field book: a step-by-step guide for objectives and key results coaches*. Wiley.

Lillrank, P., & Kanō, N. (1989). *Continuous improvement: quality control circles in Japanese industry*. Center for Japanese Studies, the University of Michigan.

Osterwalder, A., Pigneur, Y., & Clark, T. (2010). *Business model generation: a handbook for visionaries, game changers, and challengers*. Wiley.