HIGH GROWTH ENTERPRISES

For Impact at Scale in Uttar Pradesh

The State of Uttar Pradesh has the largest population in India at 240 million people or 16.51% of the country's total. This is also the youngest with 56% belonging to the working age group of 15 to 29 years.[1] However, only 37.7% of these are engaged at work with only women faring far behind men in terms of meaningful engagement with labour force participation rate of 13.6% against 58.7% of men.[2] Locally led enterprise models that possess a higher growth potential than others, have high replicability and scope of customization across geographies, scale and social groups, and create local employment can effectively harness aspirations of these women through entrepreneurship activities.

[1] Invest Uttar Pradesh. Accessed at https://invest.up.gov.in/demography/
[2] Ministry of Statistics and Programme Implementation, "Periodic Labour Force Survey (PLFS), Quarterly Bulletin," July-September 2023. Accessed at https://www.mospi.gov.in/sites/default/files/publication_reports/QuarterlyBulletinPLFSJuly-September2023L.pdf

There is no one set definition of High-Growth Enterprises (HGEs), and different agencies define these differently. One such definition comes from OECD that classifies HGEs as "firms that by their extraordinary growth make the largest contribution to net job creation, despite typically representing a small proportion of the business population."[3] These enterprises have an average annualised growth greater than 20% a year over a three-year period, where growth can be measured by the number of employees or by turnover. This, however, is attuned to the operational model and scale of Small and Medium-sized Enterprises (SMEs). **For a country like India where 99% of the Micro, Small and Medium Enterprises (MSMEs) are micro in nature, the definition needs to be customized at a micro scale and as per the local context.**

Micro High-Growth Enterprises by Development Alternatives

Under the Work4Progress Programme, funded by "la Caixa" Foundation and implemented by Development Alternatives and its partners - Rang De, Transform Rural India and Gram Vaani, locally led entrepreneurial solutions that promote women empowerment have been facilitated and prototyped. A closer look at these solutions yields three necessary conditions for a micro enterprise to be high growth in Indian context. These are:-

1. **Financial Viability**, in terms of these enterprises yielding an average of 20% year-on-year growth over 2-3 years.
2. **Contribution to Employment and Local Economy,** in terms of generating employment for 3 or more individuals apart from the entrepreneur over 2-3 years' horizon. They also generate value through localised demand of the raw material.
3. **Replicability**, in terms of potential of impact and customization for different social groups and geographies. Most of the prototypes have emerged from the community, and the capital for these can manageably be raised locally.

This is not an exhaustive classification and is subject to evolve with facilitation to more and more high-growth enterprises in the localised context in India.

ABOUT THIS BRIEF

Local High-Growth Enterprises can act as trailblazers by strengthening income generation and livelihood security of the entrepreneur and the employees. Socially, these enterprises are apt agents for harnessing potential of women, youth, and other vulnerable sections of the society towards value creation and meaningful engagement in the local economy. This brief decodes five such local high-growth enterprises of food processing (bakery, ice-cream and namkeen manufacturing), information kiosk, vermicompost manufacturing, e- rickshaw and integrated fisheries and poultry for adoption by government and civil society network, towards amplification of the impact. These selected models are community-driven i.e., their need came from within the community through deep listening exercises, and are validated across geographies, social and vulnerable groups, including women and youth. Over the period of 2-3 years, they have shown considerable potential for economic and social outcomes. In many cases, they fit within the existing value-chains to strengthen these and thereby, bolster the micro-economies.

POTENTIAL PATHWAYS

These enterprises can be enabled for a higher-order impact through scaling-up (supporting the existing high-growth enterprises to reach their potential through technology, market, financial and capacity building services) or scaling-out (supporting replication of the best enterprise solutions in other areas).

Disclaimer: The data captured in this brief dates between 2017 and 2023, subjective to the setting up of the enterprise. It is subject to revisions based on additional enterprises as and when facilitated and accounting for 10% inflation year on year.

[3] OECD Library, "Enterprise Growth and Employment Creation: High growth enterprises," Accessed at https://www.oecd-ilibrary.org/docserver/entrepreneur_aag-2014-20-en.pdf?expires=1705254924&id=id&accname=guest&checksum=11F9BC701E1DC5BE765F065DFE5BBB93

Image 1: Women-run masala manufacturing unit facilitated by Development Alternatives in Bundelkhand

ENTERPRISE PROTOTYPE 1

FOOD PROCESSING

The Indian food processing industry is one of the largest in the world. Within India, the sector accounts for 32% of the country's total food market. It employs around 1.93 million people formally, generating many more informal or temporary employment opportunities. Rural India as provider of packaged food products – especially local specialities and traditionally produced goods, is an important subsegment of the food processing market – offering a lucrative window for women to become an entrepreneur. Development Alternatives has supported 25+ women-led food processing enterprises across rural localities in Uttar Pradesh. Three of the enterprise prototypes (ice-cream manufacturing, namkeen manufacturing and bakery) with financial viability, high replicability and contribution to local economy are explained below.

FOOD PROCESSING ENTERPRISE PROTOTYPE

ICE-CREAM MANUFACTURING

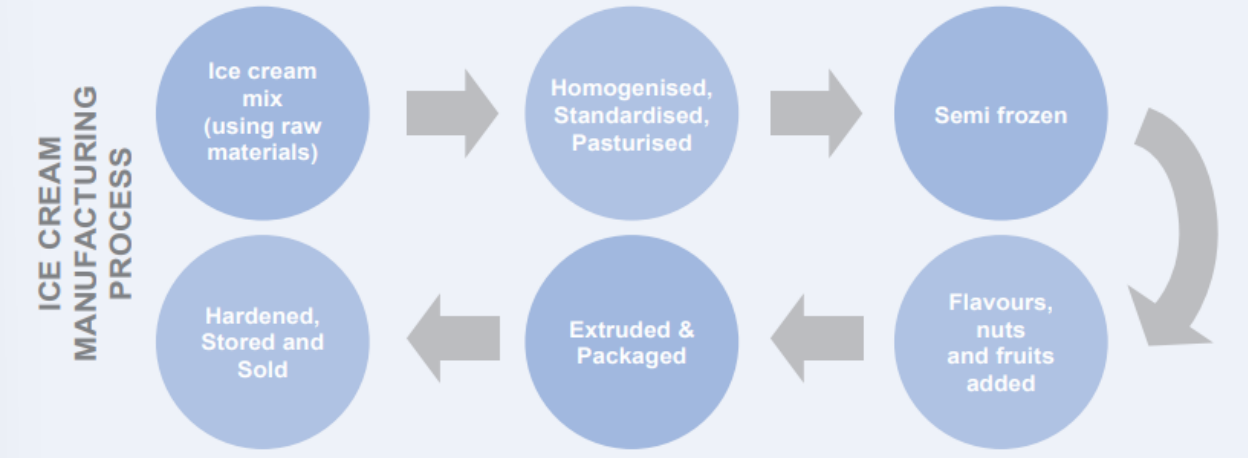
Image 2: Mamta Devi and her ice-cream stall in Mirzapur, Uttar Pradesh

The ice cream market in India is pegged at Rs.4,300 crore per annum, estimated to grow at a CAGR of 17.3% to reach the value of Rs.31,350 crore by 2026. In comparison to the global market though, the Indian ice cream market is still at a nascent stage and offers a huge untapped growth potential fueled by a young population and growth in incomes. On the supply side, the value chain is aided with the presence of a robust dairy sector. In rural areas especially, cold chain solutions and associated infrastructure support market growth.

ICE CREAM MANUFACTURING

Ice cream is a frozen sweet food typically eaten as a dessert. It may be made from milk, water, sugar (or an alternative sweetener) and other ingredients and is available in numerous flavours such as chocolate, vanilla, strawberries, mango, banana, orange etc. With the increasing popularity, the demand of ice cream in India is rising at a significant rate and could be a good profitable business for aspiring entrepreneurs aiming to cater to such demand locally.

The first step in the ice cream manufacturing process is preparation of an ice cream mix which can include different combinations of milk, cream, water, sweetener, colouring and flavouring agents in an unfrozen stage. In modern manufacturing systems, the mix is then homogenized, standardized and pasteurized. If required, small pieces of fruits and nuts are injected, and the mixture is stirred to incorporate air spaces and to prevent detectable ice crystals from forming. The semi frozen ice cream is then extruded from the freezer and filled into different packaging containers. The packed ice cream is then hardened by a blast freezer at a temperature of minus 3 to minus 8 degree Celsius, and the ice cream freezes in 8-12 hours. After hardening, the ice cream is ready for sale and can be stored in a deep freezer or walk-in freezer at a temperature between minus 23 and minus 29 degrees Celsius.



Women entrepreneurs engaged in ice-cream manufacturing supported by Development Alternatives have registered **a 60% increase in family income,** averaged annually over a period of 3-4 years.

BUSINESS ECONOMICS

The economics of ice-cream manufacturing enterprise is based on the following assumptions.

- Production capacity is 50kg per day, with 25 working days per month and 8 hours of a shift per day.
- 100% of the goods produced are sold.
- Bank loan is not considered.
- Land and Building cost are assumed for construction of building. Alternatively, land can be rented, or existing building owned by entrepreneurs can also be leveraged
- Ice-cream carts are also an optional expenditure depending on individual business strategy

Fixed Capital (One-Time Expenditure):

Particulars	Amount
Land and Building	
1,000 sq ft @ Rs. 800 / sq ft	Rs800000
Machinery and Equipment	
Churner – 1 No.	Rs. 110,000
Brine Tank – 1 No.	Rs. 180,000
Storage Machine (freezer) – 1 No.	Rs. 165,000

Ice Cream Mould – 100 Nos. @ Rs.150 per piece	Rs. 15,000
Ice Cream Cart – 5 Nos. @ Rs. 30000 per piece	Rs. 180000
Total	**Rs. 1450000**

Working Capital:

Particulars	**Amount**
Raw Material	
Milk powder, sugar, chocolate powder, vanilla powder, stick, wrapper, flavour, cashew, cream, almond, salt, colour, paper etc.	Rs. 60,610
Staff and Labour	
Manager – 1 No. and Assistant – 3 Nos.	Rs. 18,000
Utilities	
Electricity	Rs. 2,100
Water	Rs. 300
Other Expenses	
Maintenance	Rs. 1,000
Transportation Charges	Rs. 2,500
Total	**Rs. 84,510**

Financial Summary:

Financials	**Amount**
Fixed Capital	Rs. 679,150
Working Capital	Rs. 10,14,210
Annual Turnover	Rs. 13,20,000
Annual Profit	Rs. 305,880
Payback Period	< 1.5 years

ENTERPRISE IN ACTION

I named my business, Amrita Ice Cream, after my daughter. I want her to have an even brighter future than me.

—Mamta, Mirzapur, Uttar Pradesh

Mamta Devi always wanted to have an enterprise of her own. Her father had an ice cream factory, and she had grown up observing and learning the art of building a business from scratch. In 2018, she decided to join the Work4Progress(W4P) programme, a joint initiative of Development Alternatives and "la Caixa" Foundation, focused on creating dignified and meaningful livelihood opportunities for marginalised women and youth in rural India through enterprise development.

The Work4Progress team helped her co-create a comprehensive business plan for setting up an ice cream factory in Dhannipatti village, on the outskirts of Mirzapur.

With her savings and support from Development Alternatives, she invested in an ice cream manufacturing machine and rented space for a small factory. 'Amrita Ice Cream' was inaugurated soon after. Over the last four years, Mamta's enterprise has **grown from a single pushcart to an impressive fleet of 10,** providing **employment to 16 residents of her village** in both manufacturing and sales of Amrita Ice Cream.

She runs a successful business with no competition in the areas, which has helped make her enterprise profitable. Despite the seasonal nature of the enterprise, **her family's annual income tripled**, and she now enjoys an **average monthly earning of Rs. 20,000**. In doing so, she not only achieved her dream of entrepreneurship but also carried forward her father's legacy, a role previously limited to her brother.

WHAT IS NEXT FOR MAMTA?

Mamta, a mother of two, dreams big. She aspires to expand Amrita Ice Cream beyond the confines of Mirzapur and aims to create a diverse array of flavours tailored to the preferences of her business geographies. Undeterred by the seasonal nature of her initial success, Mamta is set on expanding and diversifying her business. Her ambitious plans include the installation of a plastic manufacturing unit and the establishment of a snacks manufacturing unit. Mamta's journey shows not only the triumph of individual entrepreneurship but also the transformative impact it can have on rural communities, paving the way for inclusive and sustainable development.

Scan this QR Code to make Mamta's story come alive!

Image 3: Parvati Devi with her namkeen packaging machine. Parvati is a serial entrepreneur who also engages in masala manufacturing.

FOOD PROCESSING ENTERPRISE PROTOTYPE 2

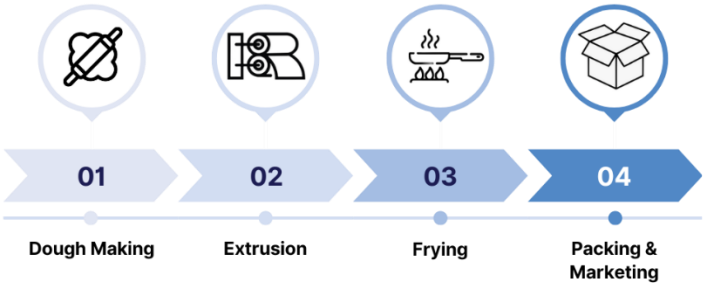
NAMKEEN MANUFACTURING

The market for namkeen in recent years has seen increasing growth spurts as people move away from hyper-processed foods that are tremendously rich in salt and saturated fats. Namkeen provides an alternative to that while maintaining the taste. Driven by lifestyle changes and higher consumer spending, especially in Tier 2 and 3 cities, the market is forecasted to grow by a compound annual growth rate of 7% and reach more than Rs.20,000 crores (USD 2.8 billion) by the year 2026. This offers a potential for rural women to tap into the market for livelihood generation, given their traditional knowledge of namkeen making.

NAMKEEN MANUFACTURING

Namkeen literally translates to “salty” and is a generic term for a variety of popular traditional savoury snacks enjoyed by people across the country. Many cities such as Indore and Ratlam are known for their specialties. Traditionally made namkeens have long shelf life, making it easier to store and consume over a period of time.

Namkeen is manufactured from flour of different pulses. However, depending on the final recipe, a combination of two or more pulses and gram flour can be tried out. An adequate quantity of water is added to flour of pulses, common salt, spices, chilli and sodium bicarbonate. It is mixed homogenously to form a dough, which is then extruded out of the machines or manual extruders. Some are roasted and some are fried in edible oil, depending upon the type. Seasoning and other additives like roasted pulses are then thoroughly mixed before packing the namkeens.



Women entrepreneurs engaged in namkeen manufacturing supported by Development Alternatives have registered **an average annual increase in family income of 34%.**

BUSINESS ECONOMICS

Estimated costs and revenues of a namkeen manufacturing unit are shared below based on standardized assumptions as given below. These may vary from business to business based on the capacity, efficiency and other market factors.

- Production capacity is 600kg per month.
- A month comprise of 25 working days, and each working day has an 8-hour shift.
- There are on an average ten work orders in a month.
- Complete 100% of the produced namkeen is sold.
- Price of one 500-gram namkeen packet is Rs.90.
- In one 2-month cycle, on an average 2,400 namkeen packets are made.

Fixed Capital (One-Time Expenditure):

Particulars	Amount
Machinery and Equipment	
Wood-Fired Oven	Rs. 10,000
Generator	Rs. 65,000
Namkeen Making Machines (Grinder and Cutter)	Rs. 55,000
Flour Mixer	Rs. 25,000
Total	**Rs. 155,000**

Working Capital (for a 2-Month Cycle):

Particulars	Amount
Raw Material	
Besan and Pulses (kgs)	Rs. 66,300
Cooking Oil (litres)	**Rs. 11,760**
Packing Material – 500gram pouches (units)	Rs. 4,800
Staff and Labour	
Entrepreneur Saary (@Rs. 10,000 / month)	Rs. 20,000
2 Full-Time Workers (@Rs. 4,800 / month)	Rs. 19,200

Utilities and Other Expenses	
Water	Rs. 600
Electricity	Rs. 1,200
Transportation Cost	Rs. 20,000
Rent	Rs. 9,000
Total	**Rs. 152,860**

Financial Summary:

Financials	**Amount**
Fixed Capital	Rs. 155,000
Working Capital	Rs. 152,860
Total Enterprise Cost	Rs. 307,860
***	
Annual Revenue	Rs. 12,96,000
Total Expenditure (Annual Working Capital)	Rs. 917,160
Enterprise Profit	Rs. 378,840
Payback Period (in months)	5

ENTERPRISE IN ACTION

Parvati Devi is a resident of Mevli village of City Block, Mirazpur. Her husband used to be employed in a carpet weaving unit, but the falling demand for carpets in the market made his income insufficient for the family. To financially support her family, Parvati Devi started a business of making and packaging snacks at home.

During one of the community meetings conducted by the Work4Progress team in Mevli village, Parvati Devi expressed her desire to expand her business and increase its production capacity. To scale up her business, the team helped her avail a loan of Rs. 40,000 (EUR 447) through a government scheme and also supported her in making an expansion plan for her snacks-making business. She used the loan amount to purchase the necessary equipment which would help her in increasing the production capacity.

With support from the team on quality enhancement, she also branded her enterprise and that added a marketing edge which helped it gain publicity, which helped the business grow. The enterprise is on an upward trajectory, and Parvati has become a role model for other women in the community, as she not only supports her own family but has also given employment to 8-10 people in her business.

WHAT IS NEXT FOR PARVATI?

Parvati Devi continues to add multiple businesses to her name. She has availed another loan of Rs. 1,00,000 (EUR 1117) from a peer-to-peer lending platform RangDe and has now started her cold drink venture to diversify her income sources. She continues to find avenues for scaling her enterprises further and is planning to buy land for her business.

FOOD PROCESSING
ENTERPRISE PROTOTYPE 3

BAKERY

In recent years, baked goods have become increasingly popular. The Indian bakery market reached a size of USD 11.3 billion in 2022 and is poised to grow at a compound annual growth rate of 10.8% between 2023 – 2028 to reach the value of USD 21.2 billion by the end of it. The market can be divided into three broad segments of bread. biscuits and cakes. The most popular baked items, especially in rural India, are cakes and pastries which comprise nearly 50% of all baked goods.

Bakery is one of the earliest forms of food preparation and processing industries. Baked goods are popular and come in various flavours that suit all palates, be it sweet or savoury. The business model of the bakery enterprise in rural India relies on buying pre-made dry cakes at wholesale price and adding value in terms of using icing and cream to make iced cakes and pastries.

Women-led bakery enterprises facilitated by Development Alternatives have registered **an average annual increase in family income of 19-20% for the women entrepreneurs.** These enterprises have high replicability due to the simplicity of the business model and low capital requirement for starting up.

BUSINESS ECONOMICS

Estimated costs and revenues of the bakery enterprise are based on the following assumptions, based on the field observations. These may vary business-to-business based on the capacity, efficiency, and other market factors.

- The business operates throughout the year and runs on the model of a pre-made cakes being decorated by the enterprise.
- Each cycle consists of 3 months, with a total of 4 cycles in a year.
- A month comprises of 26 working days, with each full day of 8 hours shift.
- Five cakes are made from one raw base; 30 pastries are made from one raw base.
- Five cakes at a rate of Rs.350 each, and 30 pastries at the rate of Rs.35 each are sold per day.
- Daily requirement of cream is 2kgs.
- Average revenue of the enterprise is Rs. 2,18,400 per cycle.
- All (100%) produced goods are sold.
- Loan is not taken into account.

Bakery Item	Quantity	Selling Price / Item (in Rs.)	Amount (in Rs.)
Cake (500 gms)	390	350	1,36,500
Pastry	2,340	35	80,900

Fixed Capital (One-Time Expenditure):

Particulars	Amount
Machinery and Equipment	
Cream-Making Machine	Rs. 28,500
Deep Freezer (200 Litre)	Rs. 26,500
Refrigerator (250 Litre)	Rs. 30,000
2 Knives (@ Rs. 100 each)	Rs. 200
2 Cutting Boards (@ Rs. 150 each)	Rs. 300
2 Mixing Bowls (@ Rs. 150 each)	Rs. 300
4 Steel Container (@ Rs. 300 each)	Rs. 12,000
Total	**Rs. 87,000**

Working Capital (for a 3-Month Cycle):

Particulars	Amount
Raw Material	
Cream (156 kgs)	Rs. 23,400
Raw Cake Base for Pastries (78 Pieces)	**Rs. 39,000**
Raw Cake for Cake (78 Pieces)	**Rs. 39,000**
Edible Food Colours (5 Boxes)	**Rs. 12,000**
Staff and Labour	
Entrepreneur Saary (@Rs. 10,000 / month)	Rs. 30,000
1 Full-Time Workers (@Rs. 5,000 / month)	Rs. 15,000
Utilities and Other Expenses	
Rent	Rs. 9,000
Electricity	Rs. 4,500
Transportation Cost	Rs. 13,500
Marketing Cost	Rs. 3,600
Repair and Maintenance	Rs. 1,500
Miscellaneous	Rs. 1,000
Total	**Rs. 1,91,500**

Financial Summary:

Financials	Amount
Fixed Capital	Rs. 87,000
Working Capital (for each cycle of 3 months' duration)	Rs. 1,91,500
Total Enterprise Cost	Rs. 2,78,500
***	
Annual Revenue	Rs. 8,73,600
Total Expenditure (Annual Working Capital)	Rs. 7,66,000
Enterprise Profit	Rs. 1,07,600
Payback Period (in months)	9

Image 4: Kajal Parihar providing information to community members.

ENTERPRISE PROTOTYPE 2

INFORMATION KIOSK

Common Services Centre (CSC) programme is an initiative of the Ministry of Electronics and IT (MeitY), Government of India. CSCs are the access points for the delivery of various electronic services to villages in India, thereby contributing to a digitally and financially inclusive society. Under the Digital India Programme, at lease one CSC (preferably more than one) is envisaged in 2.5 lakh Gram Panchayats for the delivery of various electronic services to citizens across rural India. This includes strengthening and integrating the existing 100,000 CSCs under the CSC Scheme and making operational an additional 1.5 lakh CSCs in Gram Panchayats.

INFORMATION KIOSK

Information Kiosks are local platforms such as Common Service Centre (CSC) to enable access to enterprise development solutions and other digital services for lifestyle and livelihood development solutions. Information kiosks address challenges like lack of relevant and updated knowledge on schemes and services, high costs and time of acquiring information through traditional channels and information asymmetries owing to lack of trust between citizens and the service providers. These kiosks deliver a wide variety of online services including telemedicine, digital payments and logistics delivery as per the demand of the community and help in the penetration of digital services in the rural areas.

Information kiosks supported by Development Alternatives have resulted in **a 53% increase in family income of the women entrepreneurs**, averaged annually over 3-4 years.

BUSINESS ECONOMICS

The economics of an information kiosk enterprise assumes 25 operational days in a month and an average fee of Rs. 6.5 per customer per service w.r.t the following services.

Per Day Service Provided	**Qty / Day**
Printing (colour)	25 Nos / Day
Internet Browsing	5 Nos / Day
Photocopying	100 Nos / Day
Scanning	25 Nos / Day
Printing (B/W)	100 Nos / Day
Information Booklet	5 Nos / Day
Enterprise Compendium	5 Nos / Day
Detailed Business Plan	2 Nos / Day
Loan Form Application	2 Nos / Day
Connect to MFIs	2 Nos / Day
Online Market Access	5 Nos / Day

Fixed Capital (One-Time Expenditure):

Particulars	**Amount**
Machinery and Equipment	
Computer PC **2 units @ Rs. 25,000 / pc**	Rs. 50,000
Printer Colour 1 unit @ Rs. 12,000 / pc	Rs. 12,000
Printer B/W 1 unit @ Rs. 10,000 / pc	Rs. 10,000
Scanner 1 unit @ Rs. 7,000 / pc	Rs. 7,000
Laminator 1 unit @ Rs. 3,000 / pc	Rs. 3,000
Uninterrupted Power Supply 1 unit @ 8,000 / pc	Rs. 8,000
Preoperative Expenses (furniture, wiring and hardware)	Rs. 30,000
Total	**Rs. 120,000**

Working Capital:

Particulars	**Amount**
Raw Material	
Printer Paper **3 units @ Rs. 180 / pc**	Rs. 500
Printing Cartridges (b/w) 2 units @ Rs. 250 / pc	Rs. 500
Printing Cartridges (color) 1 unit @ Rs. 5000 / pc	Rs. 500
Miscellaneous (lamination sheet, stationery) (lump sum)	Rs. 1500
Staff and Labour	
Assistant – 1 No	Rs. 4,000
Utilities	
Internet Connection Charges	Rs. 1,000
Electricity Bill (150 units @ Rs. 7)	Rs. 1,000
Miscellaneous Expense	Rs. 1,000
Rent for 200 sq ft.	Rs. 2,000
Total	**Rs. 12,000**

Financial Summary:

Financials	**Amount**
Fixed Capital	Rs. 120,000
Working Capital	Rs. 144,000
Annual Turnover	Rs. 516,000
Annual Profit	Rs. 372,000
Payback Period	< 1 year

ENTERPRISE IN ACTION

Seeing people in my village benefitting from my services makes me feel like I am making a difference. People also recognize me now because of my business.

—Kajal Parihar, Orchha, Madhya Pradesh

The 26-year-old Kajal Parihar is Orchha's first woman to run a technology-based digital enterprise. The winner of 'Kaun Banega Business Leader 2020' - a competition held in Bundelkhand to discover entrepreneurs in rural Bundelkhand as part of Work4Progress, Kajal's desire to set up an Information Kiosk germinated when she had to travel 8-10 kilometers to access essential internet-linked documentation support services and saw elders of her village struggling similarly to withdraw their monthly pension or get a government ID updated.

After benefiting from the services of a nearby CSC, she believed that a mobile Information Kiosk could be the best way to provide services to her community and alleviate their problems. Kajal's aspiration transformed into reality when a DA team member visited her village to promote the KBBL competition. An opportunity presented itself, and she seized it to her fullest potential. She filled the KBBL form for the information kiosk category and subsequently went on to win the competition amongst thousands of other applicants.

Today, Kajal owns the first woman-led information kiosk catering to **10 villages in Bundelkhand** and **earning a monthly profit of Rs.12,000**. Her Information Kiosk provides services related to Aadhar Card and PAN Card upgradation, apart from other financial services such as opening of a bank account. She has collaborated with Fino Bank to enable withdrawing and depositing money, for which she gets a small commission after each transaction. Kajal further intends to soon start issuing Aadhar Cards at her kiosk after clearing the qualifying examination.

Kajal is the first entrepreneur in her family to set up a business. Her father is a farmer, and she has an elder brother who finished his studies and is now assisting their father in the field. In a village where there are severe restrictions on women's mobility and a lack of consideration towards their autonomy and personhood - Kajal's story is one of resilience and resistance. She is an inspiration for many young women in her village who have big dreams and aspirations but often find it difficult to break through patriarchal barriers and societal conditioning. She today guides other women in her village to set up their own enterprises, providing peer-to-peer learning sessions and exposure to new business ideas. With her support, **six more entrepreneurs have set up their own udyaME kiosks.**

Scan this QR Code to make Kajal's story come alive!

WHAT IS NEXT FOR KAJAL?

Kajal's next plan of action is to market her kiosk better so that more people can benefit from her services. Consequently, she wishes to shift the kiosk from her home to the main road. She also hopes to employ some people in her kiosk in the near future.

Image 5: Asha Devi, a vermicompost entrepreneur from Dhannipatti, Mirzapur

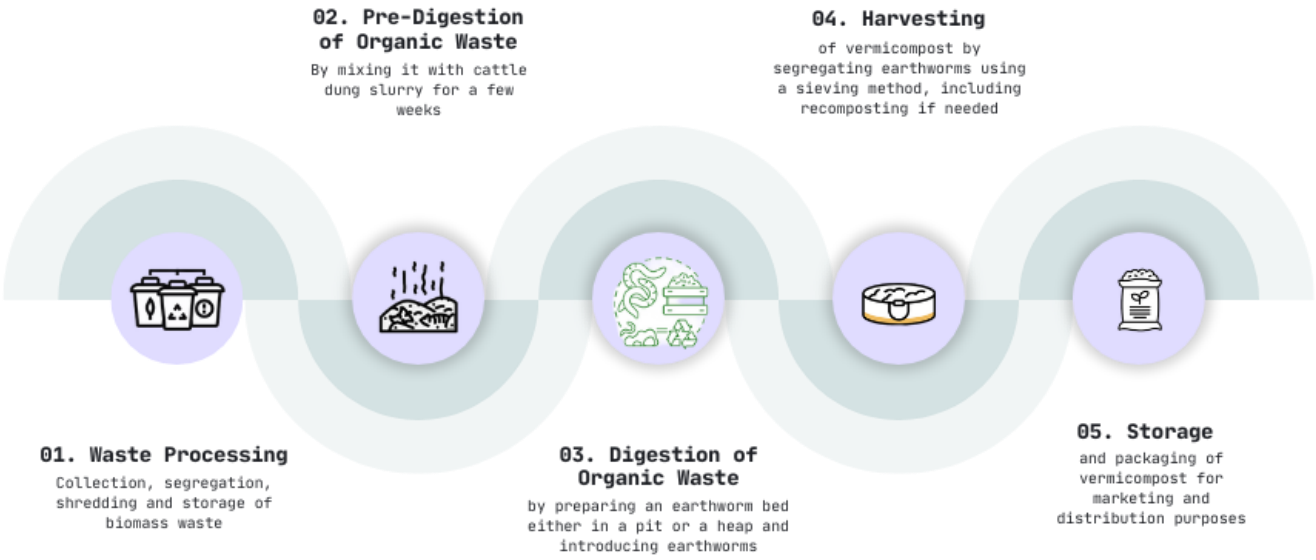
ENTERPRISE PROTOTYPE 3

VERMICOMPOST MANUFACTURING

Vermicompost has a tremendous potential to convert biodegradable waste into organic manure for use in organic farming. Apart from the farming communities in rural areas, it also has a large urban market with demand driven by home gardens, kitchen gardens and commercial plant nurseries. The vermicompost market was valued at Rs. 44.5 Crore in 2019 and is projected to reach Rs. 163.4 crores by 2027, growing at a CAGR of 16.74% from 2020 to 2027.

VERMICOMPOST MANUFACTURING

Vermicomposting is a method of making compost with the use of earthworms. In the vermicomposting process, the biomass waste is converted into high-value through a five-phase process including collection, segregation, shredding and storage of biomass waste; pre-digestion of organic waste mixed with cattle dung slurry for a few weeks; preparation of earthworm beds in either a pit or heap methods and initiating digestion of mixed organic waste in the pit/heap by introducing earthworms; harvesting vermicompost by segregating earthworms using a sieving method and recomposting as required; and finally, storing and packaging the produced vermicompost for marketing and distribution.



The compost produced using this method is rich in humus and nutrients as given under. The quality and quantity of vermicompost produced depends on the type and quantity of feed material and living conditions for earthworms.

Nutrient	Content
Organic Carbon	9.5 to 17.89%
Nitrogen	0.5 to 1.5%
Phosphorus	0.1 to 0.3%
Potassium	0.15 to 0.56%
Sodium	0.06 to 0.30%
Calcium	22.67 to 47.60 meq/100g
Sulphur	128 to 548 mg kg-1
Copper	2 to 9.50 mg kg-1
Iron	2 to 9.30 mg kg-1
Zinc	5.70 to 11.50 mg kg-1

Vermicompost manufacturing enterprises facilitated by Development Alternatives have resulted in a **170% increase in family income of the women entrepreneurs,** averaged annually over 2-3 years.

BUSINESS REQUIREMENTS: Starting a vermicomposting unit requires the following: -

- **Shed** for sheltered culturing of earthworms to protect them from excessive heat and rain, and natural predators like ants, birds, termites, pigs, rats etc.

- **Containers** for constructing cement tanks or lightweight HDPE tetra vermibeds for the production of vermicompost. This could be prepared either using a pit or heap method. The recommended dimensions are 12ft x 4ft x 2ft. The length and width can be increased or decreased depending on the availability of organic waste.
- **Bedding and feeding materials** to prepare a suitable bed for earthworms and feed it with organic waste to ready it for vermicomposting.
- **Space Required:** 1600 sq ft (Open composting, a container with shed and storage)
- **Labour:** 2 people to manage production and packaging
- Water and electricity connection.

BUSINESS ECONOMICS

The economics of an information kiosk enterprise assumes:

- One working shift of 8 hours per day
- One cycle lasting for 40 days – the total number of working days in a year becoming 200
- Dimension of container – 12ft x 4 ft x 2 ft
- Intake capacity of 1 ton per container where 1 ton is 1000kg.
- Composting period of 60 days
- About 5 number of cycles per year
- About 750kg of output per cycle per container, selling at a cost of Rs. 14 per kg
- Approx. 75% of intake capacity
- Ten containers
- Land is owned by the entrepreneur.
- All produced compost is sold.
- Business loan is not taken into account.

Fixed Capital (One-Time Expenditure):

Particulars	**Amount**
Land and Building	
Land Development	Rs. 21,000
Machinery – power operated shredded, sieving machine, bag sealing machine, bag sewing machine, culture tray, vermicompost beds with portable sheds, and other tools	Rs. 73,500
Installation and training charges	Rs. 10,000
Transportation charges for machinery	Rs. 5,000
Pre-operative expenses	Rs. 10,000
Total	**Rs. 119,500**

Working Capital (Monthly):

Particulars	**Amount**
Raw Material	
Biomass waste (kitchen/farm) in tons	Rs. 4,000
Cow dung in tons	Rs. 9,000
Vermiform in kgs	Rs. 22,500
Manpower	
Assistants – 2 Nos @ Rs. 4,500	Rs. 8,000
Utilities	
Electricity	Rs. 1,200
Water	Rs. 2,000
Other Contingency Expenses	
Marketing	Rs. 2,000

Transportation	Rs. 3,000
Repair and Maintenance	Rs. 1,000
Total	**Rs. 52,700**

Financial Summary:

Financials	**Amount**
Fixed Capital	Rs. 119,500
Working Capital	Rs. 263,500
Annual Turnover	Rs. 525,000
Annual Profit	Rs. 261,500
Payback Period	< 2 years

ENTERPRISE IN ACTION

My sisters in Bundelkhand gave me the confidence to start my enterprise. I now want to grow with Komal Vermicompost, and be known for my product in UP.

—Asha Devi, Mirzapur, Uttar Pradesh

In the heart of the bustling Dhannipatti village of Mirzapur is the vibrant backyard of the very popular Asha Devi's home. As you walk deep into the narrow lanes, do not let the smell of cow dung distract you, as you are very likely to be in the scrutiny of a camera when you arrive at a vermicomposting enterprise adjacent to her courtyard.

In February 2018, Asha attended a community meeting where she shared her desire to add an additional source to her family income, to improve the lifestyle of her three children. As is the norm for many middle-aged women in the community, Asha wanted to work from home. During meetings that followed, she toyed with various ideas, such as sewing and pickle making, and finally in March 2018, she came across the idea of setting up a vermicomposting enterprise, which required cow dung as the main raw material. She already had four cows, and waste from livestock was abundantly available at her home.

Understanding the scope and potential of vermicompost in her village, she travelled to Bundelkhand for a peer-to-peer learning session with a women-led Farmer Producer Organisation (FPO). During her visit, Asha understood the vermicompost manufacturing and packaging process. That very month, a stakeholder coalition meeting between enterprise support service providers and other entrepreneurs was held in Mirzapur. Here, Asha met two local FPOs which supplied her with two composting beds and two kilograms of earthworms at a reasonable interest rate to kick start the setup of **'Komal Vermicompost Enterprise'** – named after her youngest daughter. In September the same year, she paid back the amount owed to the FPO, and made her enterprise debt free. She now earns a **monthly income of Rs.18,000.**

Asha has over time developed an unbeatable business acumen. Her high-quality compost is supplied in finely packaged bags to nursery owners at a premium price. She has **employed two more women** to keep the production running and is now aggregating produce from two smaller vermicompost manufacturing entrepreneurs, Ashok and Krishna Kumar. She provides technical assistance for quality production, purchases the compost at Rs.10 per kilogram (ensuring a profit of Rs.7 per kilogram for Ashok and Krishna), and sells it in the market for Rs.20 per kilogram. Ashok shares, “My produce has an assured market now. The tie-up [with Asha] will ensure business growth for me and others.” Leveraging peer-to-peer networks that have emerged in her community, Asha recently finalised a deal with a nursery owner for a monthly order of ten quintals, at Rs.22 per kilogram.

WHAT IS NEXT FOR ASHA?

Asha's story is one that truly demonstrates entrepreneurial progression. From being a passive member of a women's group not engaged in any productive activity, Asha Devi has a clear vision of growth for her enterprise now. She shares, “I have a plan to make 'Komal Vermicompost Enterprise' a private limited company in two years.” This progression is also reflected in her personality, as she is more confident about bettering the quality of life for her family.

Scan this QR Code to make Asha’s story come alive!

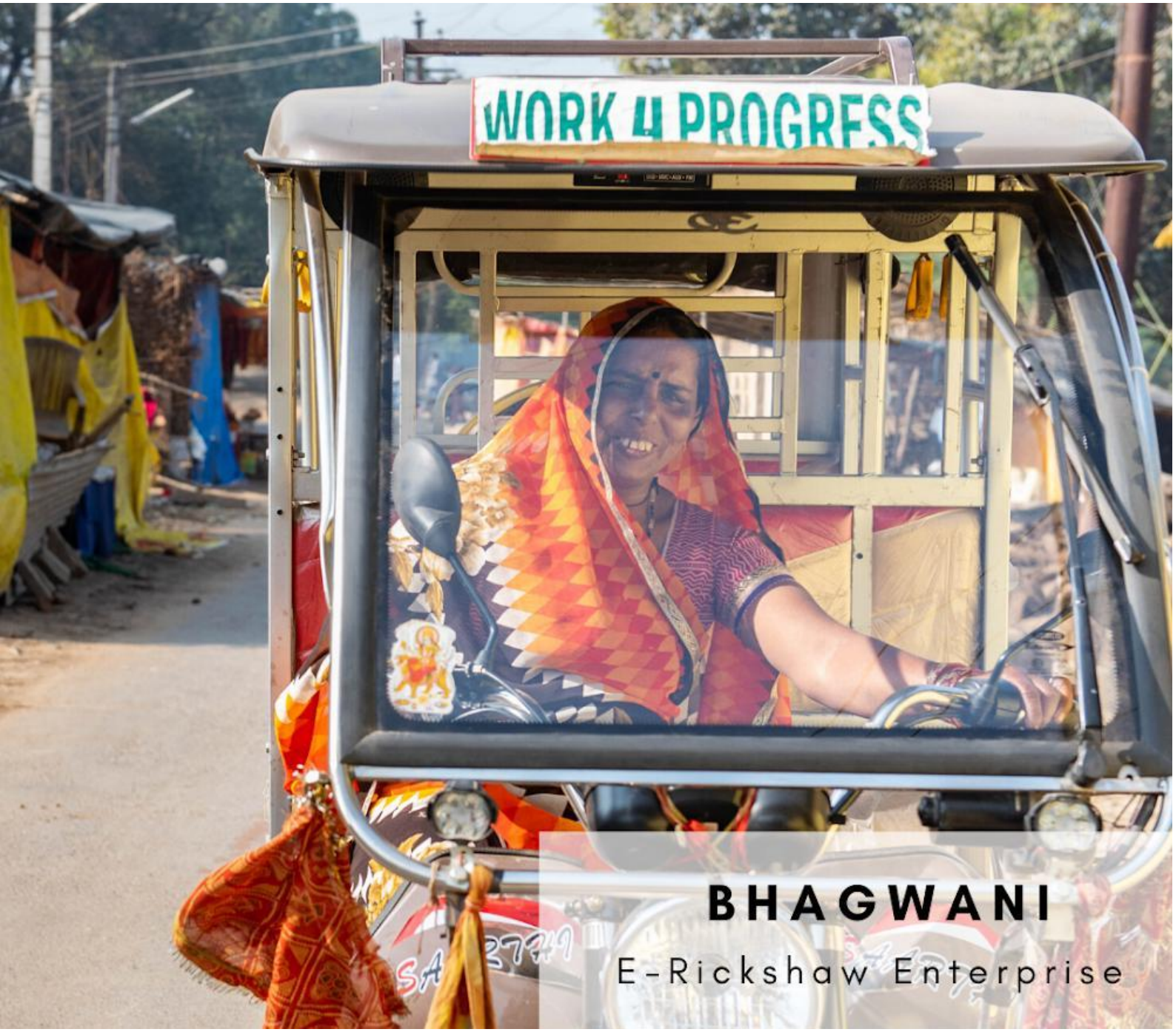


Image 6: Bhagwani Devi driving her e-rickshaw in Mirzapur, Uttar Pradesh

ENTERPRISE PROTOTYPE 4

WOMEN RUN E-RICKSHAW

India has around 15 lakh e-rickshaws that increase with additional sale of around 11,000 new ones every month. The market is expected to witness a sale of 9.25 lakh e-rickshaw by 2024. The Indian electric rickshaw market is estimated to grow at a 33.3% CAGR between 2020 and 2025. At this rate, the market size will likely rise to USD 1,394.2 million by 2025 from USD 786.2 million in 2019. Historically, Delhi was the largest state in the Indian electric rickshaw market, on account of the alarming air pollution levels and air quality index (AQI) in the city. In the years to come, the increasing demand for these eco-friendly automobiles in Varanasi, Lucknow, Noida and Kanpur will likely make Uttar Pradesh the State making the largest revenue contributor to the industry.

WOMEN-LED E-RICKSHAW

E-rickshaws comprise 83% of the electric market in India. In villages and smaller cities, they provider feeder services to nearby bus stands, markets or railway stations. On average, e-rickshaw operators charge around Rs.5/- per kilometer. The current average mileage of e-rickshaw is around 60km after 6-8 hours of charging. With electricity supply becoming more stable and regular across the country, the scope of e-rickshaw increases as its per kilometer profit is comparatively higher than general auto-rickshaw.

E-rickshaw entrepreneurs facilitated by Development Alternatives have experienced **an increase in family income of 86%** averaged annually over 2-3 years.

BUSINESS ECONOMICS

The economics of an information kiosk enterprise assumes 24 operational days a month with 16 trips completed each day and 5 people in each trip. It also assumes a charge of Rs. 10 per trip.

Fixed Capital (One-Time Expenditure):

Particulars	Amount
Machinery and Equipment	
E-Rickshaw	Rs. 130,000
Spare batteries (set of four)	Rs. 25,000
Installation and training charges	Rs. 2,000
Pre-operative expenses	Rs. 5,000
Licenses and permissions	Rs. 20,000
Total	**Rs. 182,000**

Working Capital (Monthly):

Particulars	Amount
Raw Material and Consumables Required	
Lubricating oil and other maintenance	Rs. 1,000
Utilities Required	
Electric Bill	Rs. 1,000
Maintenance	Rs. 500
Manpower Required	
1 Entrepreneur @ Rs. 4,500 / month	Rs. 4,500
Total	**Rs. 7,000**

Financial Summary:

Financials	Amount
Fixed Capital	Rs. 182,000
Working Capital	Rs. 84,000
Annual Turnover	Rs. 230,400
Annual Profit	Rs. 146,400
Payback Period	2 years

ENTERPRISE IN ACTION

My e-riskshaw has given me a separate identity. I earn more than my husband now, even when I work half as long as him.
—Chanda Shukla, Mirzapur, Uttar Pradesh

The story of Chanda Shukla from Mirzapur, Uttar Pradesh is a remarkable example of how determination and hard work can help overcome difficult situations in life. Chanda's husband suffered from substance addiction, and she lacked support from her family. To help her through this tumultuous time, her brothers took the responsibility of putting food on the table for her family. However, tragedy struck when both her brothers were murdered, devastating Chanda and leaving her to fend for herself.

Faced with an adverse situation, Chanda was inspired by Pragya Devi, the first woman e-Rickshaw entrepreneur supported under the Work4Progress Programme, a joint initiative of Development Alternatives, "la Caixa" Foundation, and Fundación ISS. The program focuses on creating dignified and meaningful livelihood opportunities for marginalised women and youth in rural India through enterprise development.

Having been made aware of the programme and seeking help to support her family, Chanda visited workers from the project who formally introduced her to the e-rickshaw programme. With the help of her husband, she took a loan to buy an e-rickshaw and was trained to drive it. Overcoming the initial challenges, Chanda excelled at her work and started earning a decent income by providing pick-up and drop services to passengers and students. Chanda's dedication to her work is reflected in the fact that she spends most of her time driving the e-Rickshaw. She has also managed to save money for her children's education and manages her time to train other women on e-Rickshaw maintenance and road safety.

WHAT IS NEXT FOR CHANDA?

Despite the success, Chanda is aware of the challenges ahead and is working hard to overcome them. She aspires to clear her debts and buy a four-wheeler soon to increase her source of income. She also plans to buy another e-rickshaw to expand her business.

Scan this QR Code to make stories of women led e-rickshaws come alive!

Image 7: An Integrated Fisheries & Poultry Unit in Rasauli, Uttar Pradesh.

ENTERPRISE PROTOTYPE 5

INTEGRATED FISHERIES AND POULTRY

Poultry in India is the foremost developing segment of the agricultural sector and is valued at Rs.80,000 crore. It is broadly divided into a highly organized commercial sector with a market share of Rs.64,000 crore and an unorganized sector – mostly rural based – with a market share of about Rs.16,000 crore. The latter, also known as backyard poultry, is a major source of income for 30 million farmers in India. By raising the poultry over a pond and recycling the poultry excrete to fertilize the pond water, the farmers can diversify their livelihoods and address the risks associated with rising feed cost, disease spread among chicks, fluctuation in the market price of eggs etc. This will also help in maximizing the use of limited land and saving labour in transporting manure to the pond and can further be advanced by growing vegetables on the bank embankments for expanding the income horizon.

INTEGRATED FISHERIES & POULTRY

Integrated fisheries and poultry comprise of two separate cultures woven together to create an artificially balanced ecosystem where there is no waste and economic efficiency is maximized.

FISH CULTURE

In order to cultivate fisheries, the pond needs to be prepared by removing any predatory and weed fishes, either by draining the pond or applying piscicides at the rate of 1 tablet/ 23 cu m water. The pond can be treated by applying 25 km lime to pond bottom if the pond is dry, or dissolving lime in water and spraying the solution if pond already has water. The following are further procedural steps for culturing a fish pond.

- **Stocking of the pond with four fish species**. Ratio of species could be 40% surface feeders (catla and silver carp), 20% rohu, 30% bottom feeders (mrigal and common carp) and 10% grass carp.
- **Feeding the fish.** For this, 50% poultry waste is mixed with fish feed.
- **Fertilizing the pond.** In integrated fisheries and poultry, the pond can be fertilized with excrete of chicken falling into ponds alone. No other fertilizer is required.
- Finally, **harvesting the fishes.**

As a common practice, any plastic waste or other harmful substance should be removed from the pond to save the fishes. There should not be any detergent or chemical inflow and the Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) of water must be measured regularly for proper growth of fishes. When water becomes deep green due to plankton blooms, oxygen in the water can get depleted and fishes can die. In such cases, if possible, irrigate the pond with fresh water.

POULTRY FARM

Poultry farming needs a temperature of 28-33°C maintained throughout, to maintain which, the chicks could be enclosed in a bamboo fence with an electric or kerosene lamp hung above them. A rice husk heater can also be used.

- The poultry house can be constructed over the pond at least 0.5 m above maximum pond water level. Each bird requires 1.5 square feet space. The house can be made of bamboo or any other locally available cheap materials.
- Roof can be covered with hay or another similar material. Enough cross ventilation should be maintained to keep cool during hot days. Floor needs to be constructed with bamboo slats, and made plane by using soil, which is soft in order to not harm the chicks.
- **Production**: Broilers reach market size of 1.5-1.8 kg in 6-8 weeks. Five batches can be raised in a year.

For proper growth of the chicks, one must ensure that the water supplied for chicks has less Total Dissolved Solid (TDS). The chicks must be fed, and nutrition and medicines provide on time as advised by the expert. It is also essential for a poultry farmer to stay updated with news of any disease spread like bird-flu. Integrated Fisheries and Poultry entrepreneurs facilitated by Development Alternatives have experienced **an increase in family income of 53%** averaged annually over 2-3 years.

BUSINESS ECONOMICS

The economics of integrated fisheries and poultry farming is based on the following assumptions, driven by field experience.

- Bore well is situated near the pond & electricity is available nearby.
- Poultry shed is made up of locally material which size is 100 feet length, 20 feet width and 13 feet height in this shade around 600 broiler, desi chicks and duck grown.
- Chick's fodder, medicines and essential materials are available near the farm.
- 5 cycles of Broiler chicks are prepared in a year.

- Harvest fish once in a year, in summer pump is running to watering the pond.
- Fish and chicken buyers came to farm give the market price of the chicken and fish.
- Chicken price per kilogram is Rs130 & Fish price per kilogram is Rs120.
- Chicks' price is Rs. 32 per piece.
- Mortality rate of chicks is 5 percent, so per annum 2000 chicks were grown out of which mortality of 100 chicks were considered.
- Cost of one grown chicken of 2 kg is Rs 260, so we can take average of Rs230 per chicken here 1900 chickens are available which cost is Rs 437,000
- Fish after a year grown up-to 1kg which cost is Rs120, total fish harvested after a year from 1 acre is around 3500 kg of fish from the pond.
- Cost of harvested fish is Rs420,000 in the market, assume 100% fish and chicken were sold.

Fixed Capital (One-Time Expenditure):

Particulars	**Amount**
Fish culture	
Rented pond of one acre	Rs. 10,000
Motor	Rs. 5,000
Net for harvesting	Rs. 5000
Poultry farm	
Construction of Poultry farm (100*20 feet)	Rs. 100,000
Ventilation system, drinker, feeder	Rs. 30,000
Total	**Rs. 150,000**

Working Capital:

Raw material	**Amount**
For Fish culture	
Finger lings (6500 pieces) at price of Rs3 each	Rs. 19,500
Poultry waste one trolly	Rs. 800
Feed and medicines	Rs. 68,000
Electricity	Rs. 2,000
Poultry farm	
Chicks (400*5), Rs.32 per chicks	Rs. 64,000
Fodder (Rs. 80 for one chicks to prepare 1.8 to 2kg)	Rs. 80 * 1900 = Rs. 152,000
Medicines for one chicks	Rs. 5 * 2000 = Rs. 10,000
Electricity	Rs. 2500
Staff	
1 worker for 365, hunters (8 days 5 worker)	Rs. 60,000 + Rs. 16,000 = Rs. 76,000
Other Contingency Expenses	
Transportation	Rs. 8,000
Total	**Rs. 402,800**

Financial Summary Annual:

Financials	**Amount**
Fixed Capital	Rs. 150,000
Working Capital per Annum	Rs. 402,800
Turnover	Rs. 437,000 + Rs. 420,000 = Rs. 857,000
Annual Profit	Rs. 454,200
Break Even Time	1 year

ENTERPRISE IN ACTION

I have learnt that there is no room to entertain second thoughts in business. It emboldens you to be confident in all walks of life.

—Neetu Devi, Rasauli, Uttar Pradesh

Rasauli is barely 55km away from Lucknow, the state capital of Uttar Pradesh, situated on the Lucknow-Basti highway. With around 650 families, it is a prosperous village with good connectivity to state capital and major cities of UP. The village economy majorly depends on agriculture and the agricultural lands are predominantly owned by landlords and small farmers.

As one travels to Rasauli, one can see women working on lands with most men of the village having shifted in Lucknow to do minor jobs. One such women was Neetu Devi, a 57-year-old mother of two and grandmother of one, who had been working the fields for twenty-five years but was still struggling to keep her family afloat. In 2021, she came across 'Udyamita' (entrepreneurship) in a listening session conducted by Development Alternatives and liked the idea of starting her own business. Initially apprehensive of her capacities due to lack of any formal education, Neetu was convinced of the enterprise model of integrated poultry and fisheries after meeting with other entrepreneurs who were running this model and agreed to invest Rs. 4 lakhs.

In September 2021, she received lease of a government pond nearby her field and started with 5000 indigenous fingerlings, 50 ducks and 100 indigenous hens. Her experience with indigenous hens gave her the confidence that she can earn more profit as compared to broiler chicken. With three streams of income i.e. chicken, fish and eggs, she started to yield earnings within 3 months of setting up the business. Within 6 months, she was earning a monthly revenue of Rs. 45,000. With her daughter and son-in-law's support and DA's guidance, she added solar panels and camera on her field to secure her farm.

By March 2023, she had already generated a revenue of Rs. 6 lakhs by selling her chicken, eggs, and fishes. The integrated model helped her manage finance as it ensured she had liquidity through eggs and chicken, and secured earnings every six months through selling fish. By September 2023, she had expanded her poultry set up and added 500 broilers as well as 300 quails. When she faced loss due to floods affecting her fish culture in August 2023, her poultry set up ensured a financial buffer – depicting her resilience due to risk diversification through integrated farming.

Neetu is an inspiration for both her family and the village. Seeing her work, her husband and son returned to Lucknow and the whole family now works on the farm. She also went a step ahead and added horticulture plants such as papaya, banana, berries etc, and is now planning to purchase an egg incubator, so that she can raise her chicks as well as sell them to nearby integrated fishery and poultry farmers, whom she has inspired. The integrated fisheries and poultry farming model has given Neetu a chance at an individual identity and scope of improving her family's living standard. Her grandchildren now study in private schools. She also participates pro-actively in all government trainings as model farmer and keeps inspiring other women in her villages and nearby to start their own business irrespective of literacy or any other challenges.

Scan this QR Code to make stories of integrated fisheries and poultry come alive!

To know more about our high-growth enterprise models,
write to the **Centre for Social Innovation and Inclusive Entrepreneurship** at csiie@devalt.org