

LABOUR MARKET ASSESSMENT RURAL INDIA

State Deck
Jharkhand

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01

Labour Market Assessment Executive Summary

Research Scope
Key Findings
Potential Pathways

Studying the potential labour market opportunities for youth absorption at a district level

Objective of this research

- Ecosystem mapping exercise in rural districts of Jharkhand
- Assess the labour market opportunities that can boost economic mobility for youth.

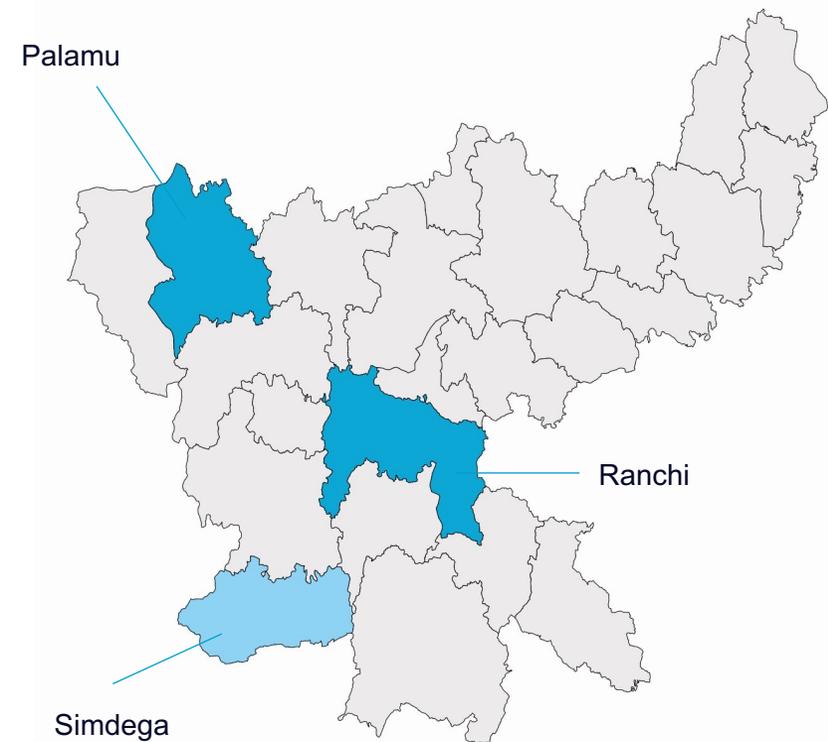
Target Beneficiaries

- Opportunity Youth (OY)
- Young people in the age group of 15-29 years who are not in education or training, are unemployed or are underemployed



Research Areas in Palamu and Ranchi

- Opportunity landscape
- Youth aspirations, challenges and skill gaps
- Supporting schemes, funding and skilling ecosystems
- Means to boost economic activities (Simdega included)



OY Population & Labour Absorption in Ranchi

Learnt that there is a huge gap between the aspirations of youth and available labour market opportunities

Opportunity Youth



37,71,749

Projected Population of Ranchi (2023)

57%	36%	49%	28%
Rural	Tribal	Females	Youth

4,27,587 (41%)

Size of Opportunity Youth in Ranchi is calculated as 15-29 years who are not in education or training, are unemployed or are underemployed [OY]

Youth aspire to **start small business** of their own and are **not interested in traditional agriculture** related work.

Aspiration Income ranges from **INR 10,000 to INR 20,000 per month.**

Lack of technical knowledge, less access to information and lack of family support are the top challenges youth face in the district.

Employment Landscape



29,200

Jobs created each year in Ranchi

-874	+3505	+9135	+17,500
Primary	Secondary	Tertiary	Informal

6.8%

opportunity youth can be absorbed. Education & Health and Trade have the most formal jobs created while domestic help & security guards are in demand in informal sector. [Jobs]

Women indicated interest in working at **garment shops or in beauty salons.**

Workers receive **irregular salaries.** Training centres are often in **far flung locations.** They face **language challenges** in trainings & jobs.

Youth are **not comfortable in working in other districts.** Lack of confidence in working alone is compounded by difficulty in trusting new people.

Business Opportunities



56,188

Existing MSMEs in Ranchi

54,486	1569	133
Micro	Small	Medium

Farm and Non-Farm business aspirations

- Mushroom Cultivation (Value Chain)
- Motorcycle repair business
- Beauty parlor shop
- Computer & mobile shop
- Papad & Pickle
- Animal Husbandry & Dairy Farming

Lack of access to credit or loans to start a business. **Institutional support needed to bridge the knowledge and access gap.**

OY Population & Labour Absorption in Palamu

Learnt that there is a huge gap between the aspirations of youth and available labour market opportunities

Opportunity Youth



25,64,088

Projected Population of Palamu (2023)

88%	9%	48%	25%
Rural	Tribal	Females	Youth

3,28,105 (50%)

Size of Opportunity Youth in Palamu is calculated as 15-29 years who are not in education or training, are unemployed or are underemployed [OY]

Youth is engaged in **agriculture related activities** and aspire to have means of a **permanent source of income**.

Aspiration Income ranges from **INR 15,000 to INR 50,000 per month**.

Lack of technical knowledge, less pay in home districts and less access to information are the top challenges youth face in the district.

Employment Landscape



15,200

Jobs created each year in Palamu

-448	+974	+2740	+12,000
Primary	Secondary	Tertiary	Informal

4.6%

opportunity youth can be absorbed. Education & Health and Construction have the most formal jobs created while agricultural & allied activities have most demand in informal sector. [Jobs]

Most youth want stable job like civil service, store manager and teacher that provide a steady source of income.

Lack of personality development training in the district. Youth have **low savings** and **no clarity on hard & technical skills** needed to excel.

Responsibilities at home restrict time available to engage in jobs

Business Opportunities



11,153

Existing MSMEs in Palamu

10,938	205	10
Micro	Small	Medium

Farm and Non-Farm business aspirations

- Dairy Production
- Lights & Sound systems
- Clothing Shop
- Photocopy Shop
- Processing Unit
- Micro enterprises for achar & papad

Lack of access to credit and market linkages to start a business. **Institutional support needed to bridge the knowledge and access gap.**

Ecosystem Map

Policy Makers



Funders



Industries



Education and Skilling Providers

Mass skilling initiatives for youth sponsored by government schemes

Diploma programs in technology and vocational training



Collaborations

Rural Livelihoods Initiative



Tribal Empowerment & Livelihoods Project



Entrepreneurship in Education Initiative



Youva Compass



Livelihoods for Women



Saksham Jharkhand Kaushal Vikas Yojan

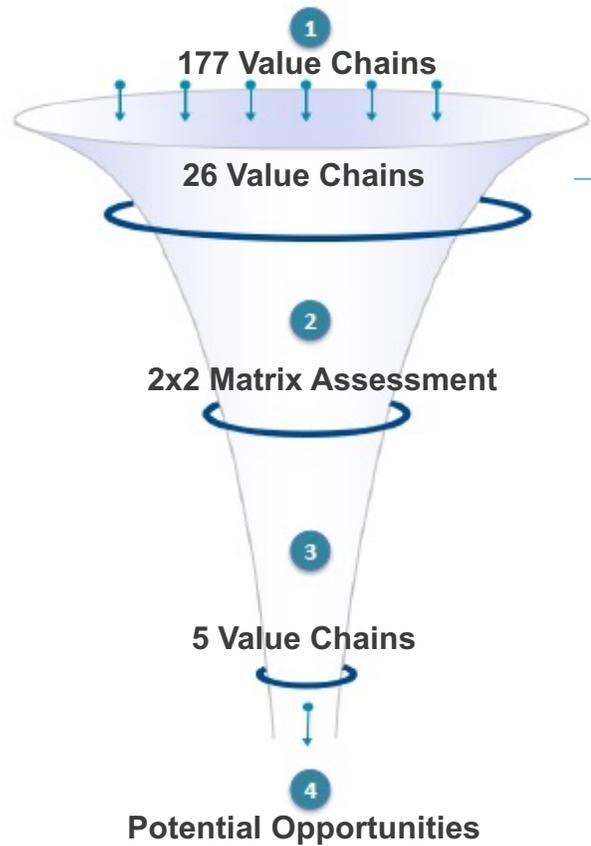


Lenders



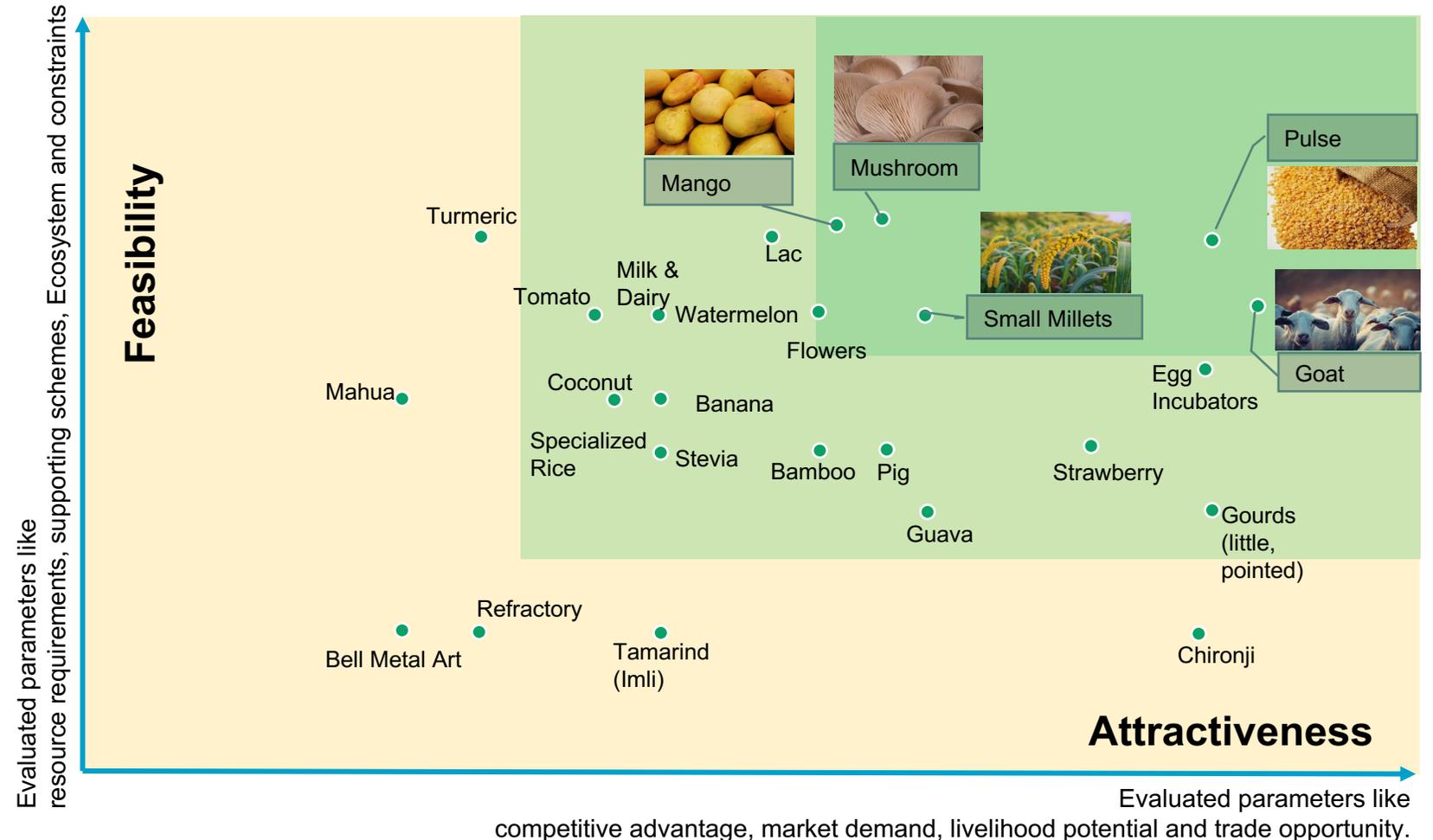
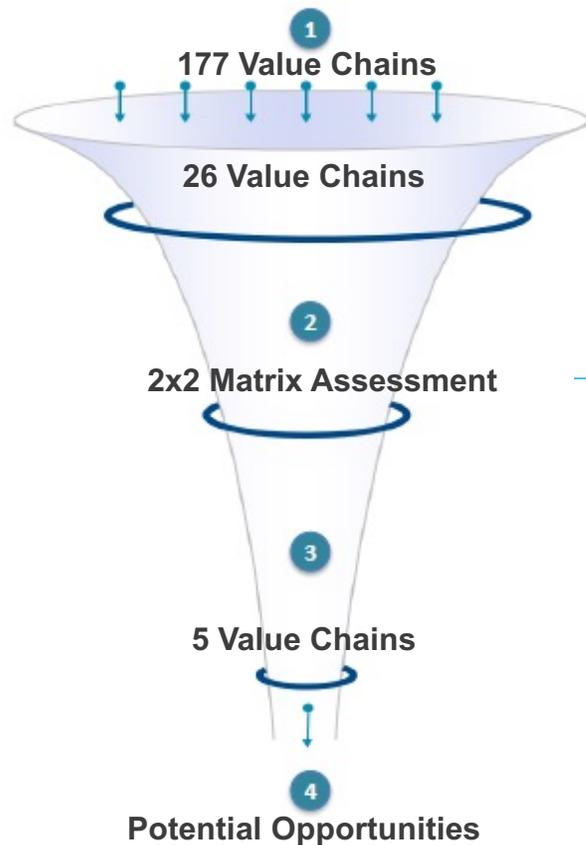
Value Chains in 3 districts of Jharkhand

Identified a long list of 177 value chain development opportunities in the districts. Gathered inputs from experts to help assess and shortlist 26 value chains with great potential for youth engagement.



Value Chain Assessment – 2x2 Matrix

Evaluated 26 value chains on a feasibility and attractiveness parameters and mapped them on the graph. Prioritized 5 value chains for further analysis and exploration of opportunities for youth.



Potential Pathways

We looked at different options available in the districts that enable youth employment at scale and structured our research efforts to arrive that the following pathways

Services aligned with market demand

30 Services based opportunities explored

02 Services based opportunities shortlisted for 3 districts in Jharkhand



- Tourism



- Food Systems

Value Chain Development for long term prosperity

26 Value chains identified and assessed

05 Value chains found to be promising for 3 Districts of Jharkhand



- Pulses
- Mushrooms
- Goat
- Mango
- Small Millets

Small Business Options relevant for opportunity youth

300+ Small business options identified

130+ Small business options Clustered in the context of the 3 Districts



- Farm & Allied
- Agri-entrepreneur
- Manufacturing
- Trades
- Services
- Primary Food Processing
- Secondary Food Processing

Emerging Pathways

An initial hypothesis was developed for the potential pathways and identified enablers for accelerating economic opportunities for OY in Jharkhand

Emerging Pathways	Potential Partners	Short-term: Till 2025	Medium-term: Till 2027
<p>Tourism</p> 	<ul style="list-style-type: none"> Jharkhand Department of Tourism Local entrepreneurs Training institutes 	<p>Food Tourism, Eco-Tourism, Homestays</p> <ul style="list-style-type: none"> A pilot can be implemented in Lathia village due to its proximity to capital, rich culture and existing tourist footfall Language training, capacity building & hospitality training will be needed to serve the tourists effectively Influencer-based marketing (country & abroad), institutional marketing backed by the govt can help these businesses establish a foothold 	<p>Tourism related activities</p> <ul style="list-style-type: none"> Perception of danger related to Jharkhand districts needs to be tackled in the medium term by planned PR activities Gradually, government should look at building tourism circuits that generate steady employment opportunities
<p>Small Businesses</p> 	<ul style="list-style-type: none"> Skill partners – Udyogini RSETI, SIDBI, JSLPS, NABARD, KVIC CSR – Reliance, Amazon, Flipkart CSC Certification Entities Co-operative Banks 	<p>Services</p> <ul style="list-style-type: none"> Youth would need EDP training with focus on financial aspects and standardization before setting up service enterprises Mentorship would be required to guide the new entrepreneurs at the inception of their business They can partner with CSR organizations in the area for funding 	<p>Services related activities</p> <ul style="list-style-type: none"> After successfully providing e-commerce & delivery services for a few products, youth can expand their portfolio by diversification or increasing the number of villages they serve They can identify the sub-areas that have higher demand in their districts and provide more customized & relevant solutions
<p>Food Systems</p> 	<ul style="list-style-type: none"> KVKs Agriculture Department Rural Development Horticulture Department Tata & PSU Bits Agri University 	<p>Agri Clinics/Nurseries, Packaging & Warehousing</p> <ul style="list-style-type: none"> Involve youth farmer clubs to setup agri-clinics at block levels. They can initially sell within their network and then expand to neighboring areas Packaging & Warehousing is an opportunity for youth who are not currently engaged in agriculture. They can start by renting the equipment to keep capital costs low Quality & marketing related trainings for youth will be required 	<p>Food systems related activities</p> <ul style="list-style-type: none"> Offerings of agri-clinics can be tweaked as per market response. Some new services might need to be added and old ones discontinued As the demand for packaging & warehousing grows, youth can expand to other products & nearby geographies

Emerging Pathways

An initial hypothesis was developed for the potential pathways and identified enablers for accelerating economic opportunities for OY in Madhya Pradesh

Emerging Pathways	Potential Partners	Short-term: Till 2025	Medium-term: Till 2027
(4) Value Chains (a) Mushroom 	<ul style="list-style-type: none"> Leads JSLPS PanIIT Udyogini WRI 	Fresh Oyster Mushrooms, Dried Mushrooms, Cold Storage <ul style="list-style-type: none"> Pilot can be launched in districts like Khunti, Simdega, that already have oyster mushroom cultivation going on For cultivation, younger people can be involved and for processing, people who own land would be the initial target group Trainings will need to be conducted for processing of mushrooms to dried form Cold storage will need to be operated in a cooling-as-a-service model as mushrooms can be stored only for short durations 	Mushroom related activities <ul style="list-style-type: none"> Farmers should get certification from FSSAI to market their products in urban cities They can explore mushroom powder & mushroom pickle when volume of production increases
(b) Small Millets 	<ul style="list-style-type: none"> Agri department, FPO, Industries Funding – PMFE, CSR Institutions for technical supports Industries (ODOP) 	Production, Processing & Warehousing <ul style="list-style-type: none"> Youth will need to be trained and capacity building for processing & warehousing will be required A nodal agency must be created by the working group at district level for millets Backward market linkages to clusters at village level and forward market linkages to E-commerce & local markets will need to be established 	Small Millets Processing related activities <ul style="list-style-type: none"> Government advocacy will be needed to ensure MSP for millets. MSP will lead to increased cultivation of millets over time Awareness programs for products like cookies, instant mix & pasta will be needed for both farmers (on production) & consumers (on consumption)

Way forward

To implement these pathways at a district level, collaborative efforts from different stakeholders is needed

Further Research

1. **Addressing data/information gaps**
 - Latest district specific production and existing small enterprises numbers
 - District specific MSME reports and employment elasticity for specific sectors are dated. More recent data can be helpful.
2. **Mapping of youth aspirations**
 - Explore youth interest in the identified pathways ensuring a holistically representative sample
3. **Conducting a needs assessment**
 - Identify the demand and sales channels for identified pathways
 - Explore the supply aspects for identified pathways at a district level based on ground-level data

Collaborative Growth

1. **Identify potential partners**
 - Based on the ecosystem map and inputs from multi-sectoral workshop including existing partnerships
2. **Establish working groups**
 - Building on the working groups formed during the workshop for each identified pathway, formalize a task force group including representatives from different government, civil society, private sector partners and value chain experts
 - Communication via google groups & Whatsapp groups
 - The working group should meet either quarterly or bi-annually to help ongoing collaboration and mobilization.
 - Working group should present their findings to government stakeholders
 - Working group organizations should align their mission, vision & goals with GOYN
3. **Funder engagement**
 - Engage with interested donors and corporates working in the ecosystem

Creating differentiation

1. **Ensuring sustainability** via an ecosystem approach and ensuring **scalability** of identified pathways by creating **business in a box model** to template the solution which can be scaled up
2. Formalize a unique **multi-sectoral collaboration** for youth centric engagement or leverage existing partnerships and programs
3. Test different solutions at different places, **cross pollinate learnings** and establish a **feedback loop**. Sharing with the working group so all partners can benefit
4. Leverage existing **MoU with governments**
5. **Digital engagement strategy** with OY and other stakeholders
6. **M&E framework** and clearly defined targets

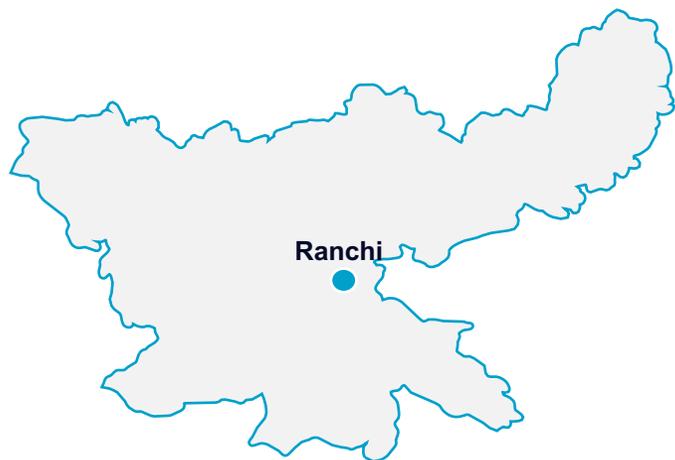
02

Opportunity Landscape in Ranchi District

About Ranchi
Size of OY in Ranchi
Jobs & Enterprises

Ranchi District Overview

Ranchi was selected to be developed as a smart city and is an aspirational district



Population Overview⁴

3,771,749
Total Projected Population of Ranchi (2023)

Rural - Urban split
57% Rural – 43% Urban

Gender split
49% Female - 51% Male

Proportion of Tribal population
35.76% Tribal

Proportion of Youth
28% Youth

427,587
Opportunity Youth in Ranchi
41% of total Youth population

Employment Overview (% of Total Population)



Primary Sector
323,457 employments (37%)
Cultivator
Agricultural Labour
Mining and Quarrying



Secondary Sector
152,411 employments (18%)
Manufacturing
Electricity, Gas, Steam, Water Supply
Construction



Tertiary Sector
392,180 employments (45%)
Wholesale and Retail Trade
Education & Health
Administrative & Other services

District Overview^{1,2,3}



Area: 5097 sq.km



Forest cover:
1168.78 sq.km



Villages: 1328



Net sown area:
2558.5 sq.km



65.6% Literacy



Avg. annual
rainfall: 1057 mm



126km from
Jamshedpur



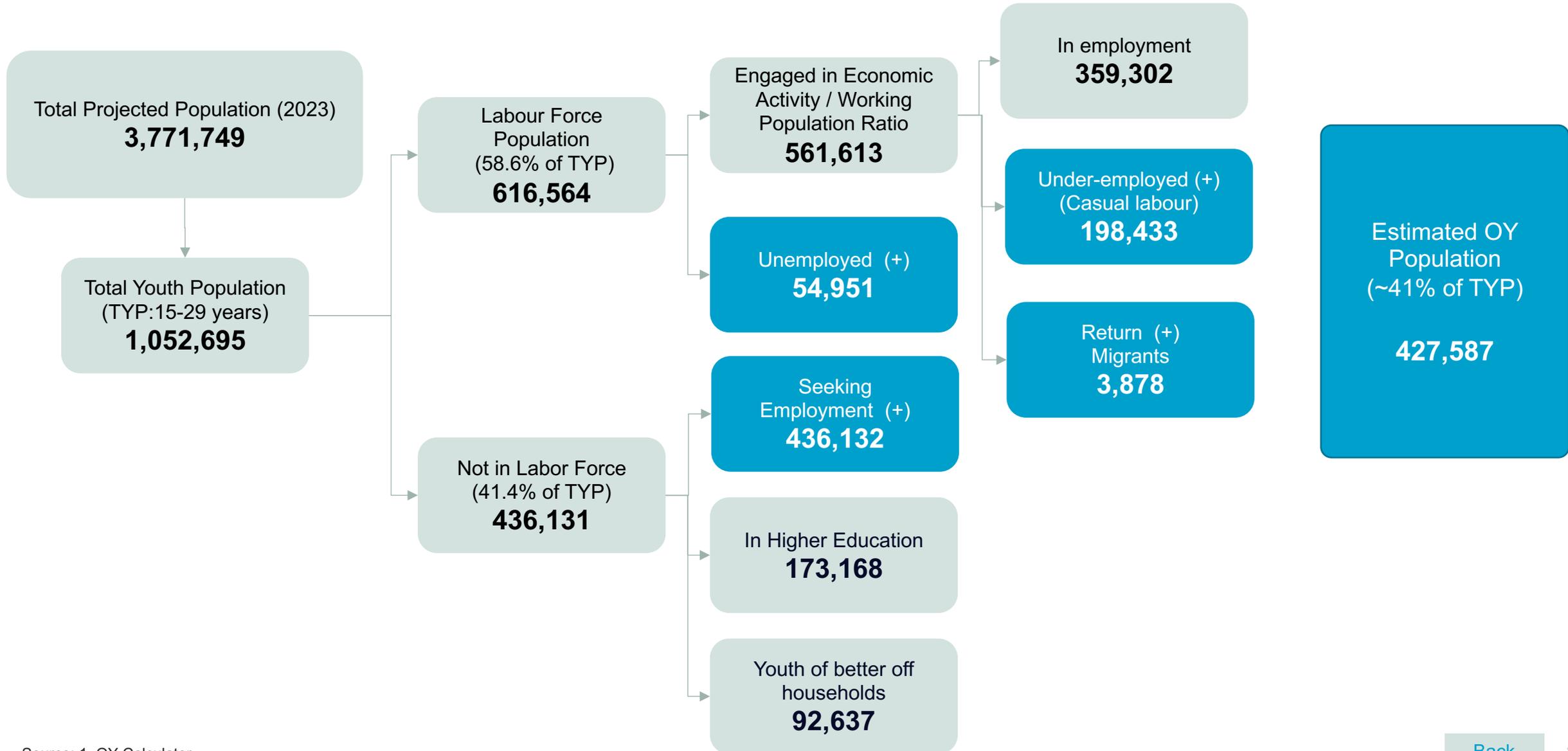
Net irrigated
area: 885.75
sq.km

New Jobs in Ranchi

- 11.7k formal and 17.5k informal jobs are expected to be created every year.
- Major sectors projected to supply formal jobs:
 - Construction
 - Education & Health
 - Wholesale & Retail Trade
- Major sectors projected to supply informal jobs:
 - Agriculture & allied activities
 - Drivers
 - Domestic help & security guards

Size of OY in Ranchi

41% of the youth population in Ranchi can be classified as OY

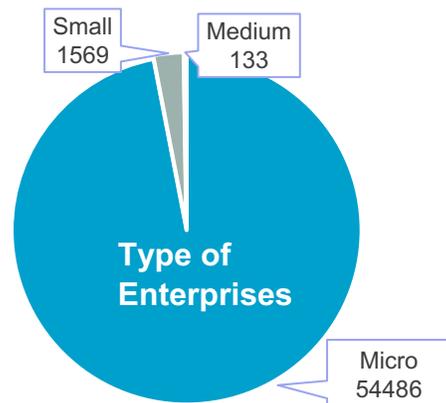


Micro enterprises in Ranchi

Micro-enterprises are the largest category by number in Ranchi, and Engineering units command a significant share in the district

Enterprises Breakdown¹ in Ranchi based on scale (total – 56,188) – till 2023

97% of enterprises in Ranchi are micro-enterprises registered under UDYAM



Average Employee Count by type of Enterprise³:

- Micro – 4
- Small – 14
- Medium – 68

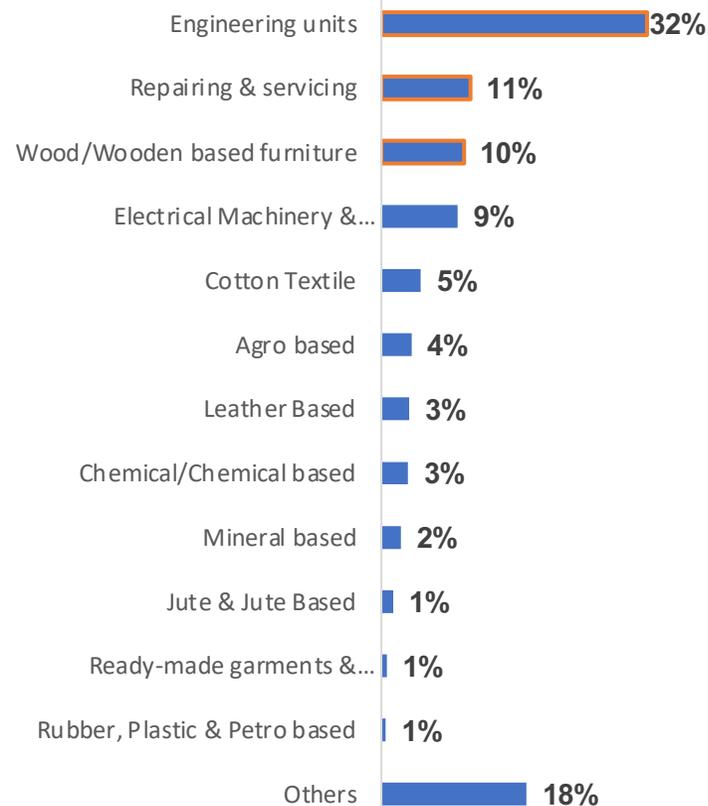
Total labour absorption: ~248,954

Note:

1. Average employment numbers are calculated by taking an average of 1 Lakh MSMEs registered in the state of Jharkhand

Source: 1. data.gov.in, 2. DCMSME Ranchi, 3. data.gov.in

Enterprise break-down in Ranchi based on Industry² (as per available data) – (2016-17)



Details of Existing Clusters²

Identified Clusters

3

Bamboo Cluster, Sonahatu – Bundu, Ranchi

Employment: 1,500

Refractories Cluster, Ranchi - Ramgarh

Employment: 2,500

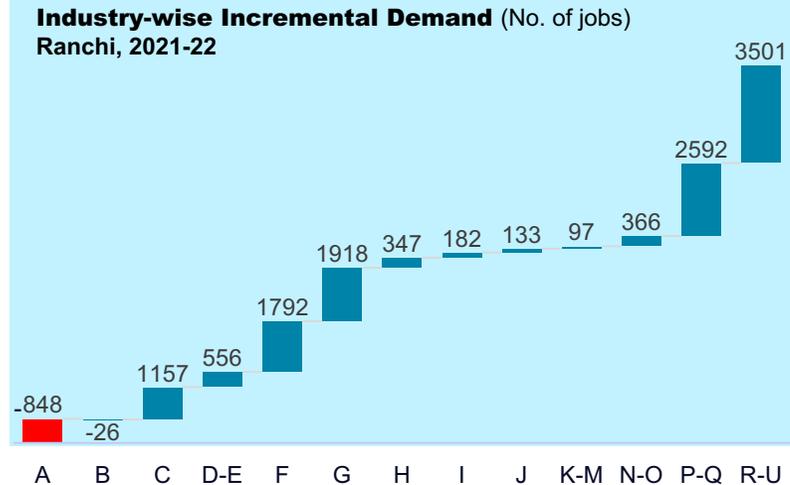
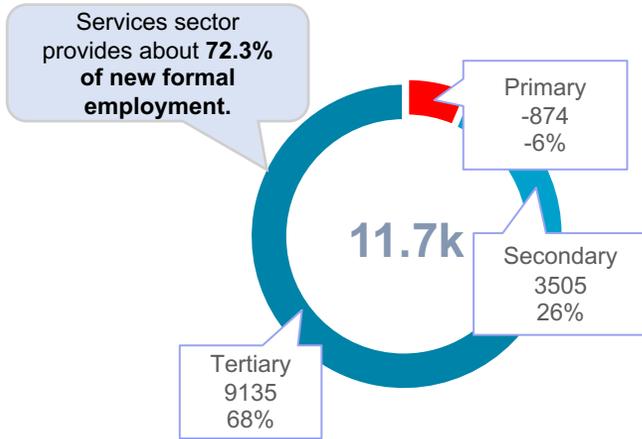
Fabrication & Engineering Industry Cluster, Ranchi

Employment: 3,500

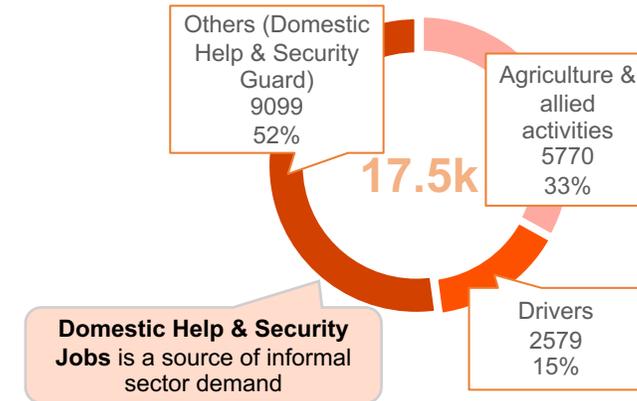
Jobs in Ranchi

Each year 29.2k jobs are created in Ranchi. This is only 6.8% of the OY size of 4.28 lakh.

Formal Sector Incremental Demand Ranchi, 2021-22



Informal Sector Incremental Demand¹ Ranchi, 2021-22



Growth	A- Agriculture, Forestry and Fishing	B- Mining and Quarrying	C- Manufacturing	D- Energy E- Water Supply	F- Construction	G- Wholesale and Retail Trade	H- Transportation and Storage	I- Accommodation & food service	J- Information and Communication	K - Financial and Insurance L- Real Estate M- Professional, Scientific and Technical activities	N- Administrative and support service activities O- Public Administration and Defence	P- Education Q- Human Health and Social Work	R- Recreation S- Other Service T- Undifferentiated Goods and Services U - ET Organisations and Bodies
GDP CAGR (2011-2022) ²	3.4%	-0.6%	4.9%	5.2%	2.6%	8.6%	3.4%	8.6%	3.4%	6.0%	1.9%	7.7%	7.7%
Employment Elasticity (1999-2012) ³	-0.08	0.34	0.33	1.17	1.01	0.25	0.25	0.25	0.47	0.06	0.47	0.47	0.47

- Latest reliable sectoral employment elasticity data was available for 1999-2012. In fact, **average elasticity** in India between 2006 and 2018 was estimated at **0.01⁴**. This makes even these **grim numbers optimistic**. Further, with the **decline in jobs in mining & agriculture sector (primary sector)**, workforce from it will need to be retrained & absorbed in other sectors.
- **Education & Health, Trade, Construction, Manufacturing and Utilities** emerged as the top 5 promising sectors for generating employment.

Job Posting in Ranchi

The current status of job portals indicate the presence of formal employment in the district of Ranchi and OY can leverage them for employment opportunities

JOB PORTALS

 936 job listings

 140 job listings

 19 job listings



80 job listings



No independent listings for Ranchi



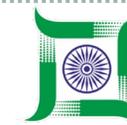
180 job listings



GOVERNMENT EFFORTS



जिला राँची
DISTRICT RANCHI



झारखण्ड सरकार

- The job portals of **Naukri.com**, **Shine** and **Google Simplified Job Search** had the maximum of district-specific job listings amongst all the portals. Job listings were **less than 1k** for the district on all the portals.
- The job listings in the state of Jharkhand are **primarily in Ranchi**, making it easier for the OY to find employment in their place of residence or nearby areas.
- Few training providers provide managed placement services in metros outside of Jharkhand for service sector jobs.

- Established **DEE (District Employment Exchange)**
- There are total **25,778 registered candidates** from Ranchi district out of which 15335 are male candidates.
- District level government jobs are listed on **Ranchi's official government job portal** (ranchi.nic.in), however there were only 2 job listings on the portal.

03

Opportunity Landscape in Palamu District

About Palamu
Size of OY in Palamu
Jobs & Enterprises

Palamu District Overview

Palamu is a predominantly rural district where agricultural production is characterized by mono cropping practices



Population Overview⁴

2,564,088
Total Projected Population of Palamu (2023)

Rural - Urban split
88% Rural – 12% Urban

Gender split
48% Female - 52% Male

Proportion of Tribal population
9.34% Tribal

Proportion of Youth
25% Youth

328,105
Opportunity Youth in Palamu
50.5% of total Youth population

Employment Overview (% of Total Population)



Primary Sector
164,887 employments (52.6%)
Cultivator
Agricultural Labour
Livestock



Secondary Sector
42,413 employments (13.5%)
Manufacturing
Electricity, Gas, Steam, Water Supply
Construction



Tertiary Sector
106,456 employments (33.9%)
Education & Health
Wholesale and Retail Trade
Transportation and Storage

District Overview^{1,2,3}



Area: 5043.8 sq.km



Forest cover: 640.18 sq.km



Villages: 1882



Net sown area: 4603.08 sq.km



65.5% Literacy



Avg. annual rainfall: 1257 mm



181km from Ranchi



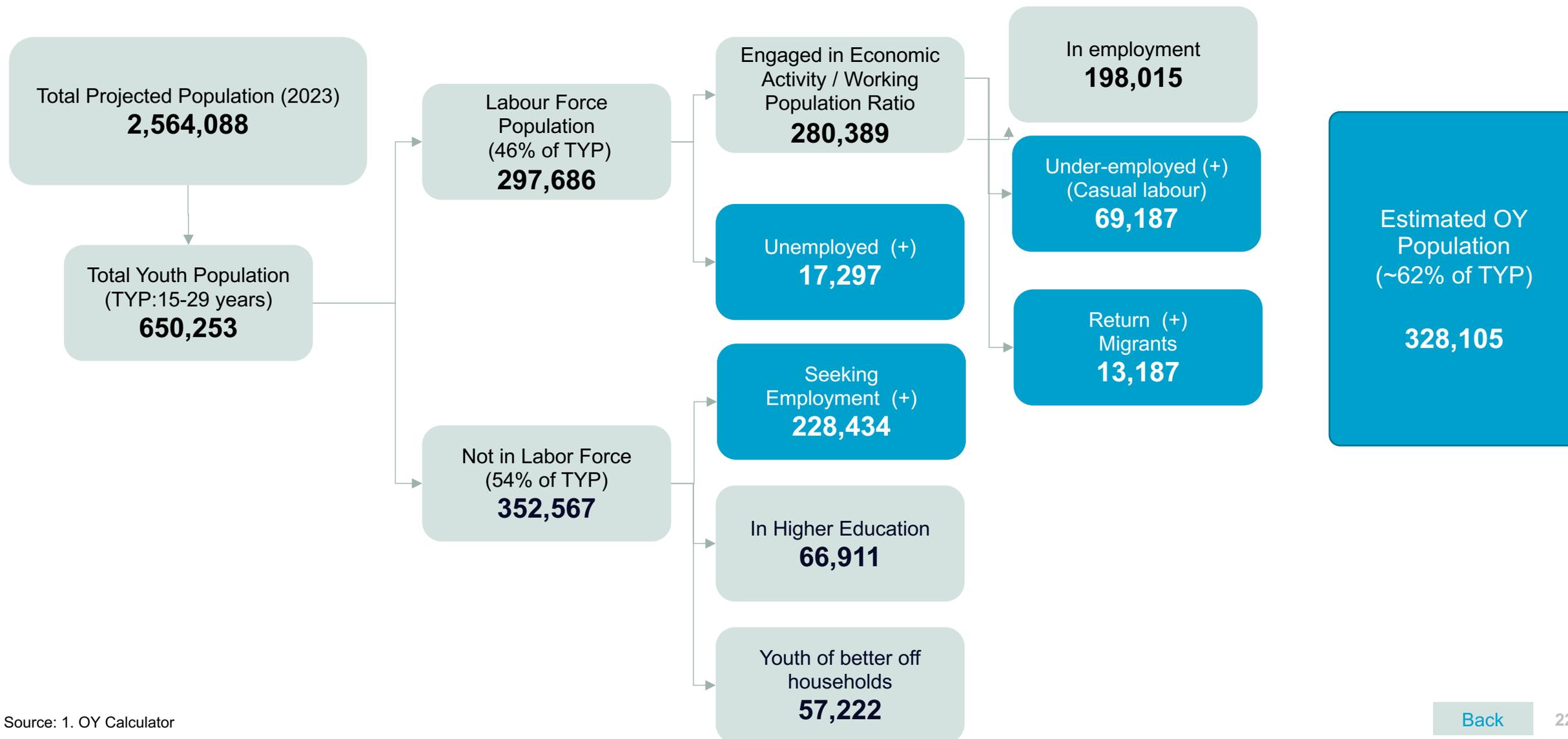
Net irrigated area: 521.33 sq.km

New Jobs in Palamu

- 3.2k formal and 12k informal jobs are expected to be created every year
- Major sectors projected to supply formal jobs:
 - Construction
 - Education & Health
 - Wholesale & Retail Trade
- Major sectors projected to supply informal jobs:
 - Agriculture & allied activities
 - Drivers
 - Domestic help & security guards

Size of OY in Palamu

50% of the youth population in Palamu can be classified as OY

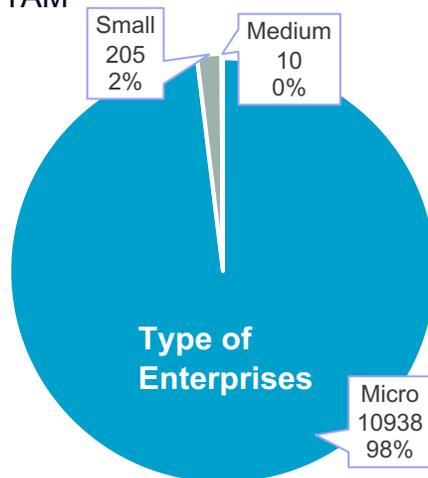


Micro enterprises in Palamu

Micro-enterprises are the largest category by number in Palamu, and Agro based Enterprises still command a significant share in the district

Enterprises Breakdown¹ in Palamu based on scale (total – 11,153) – till 2023

98% of enterprises in Palamu are micro-enterprises registered under UDYAM

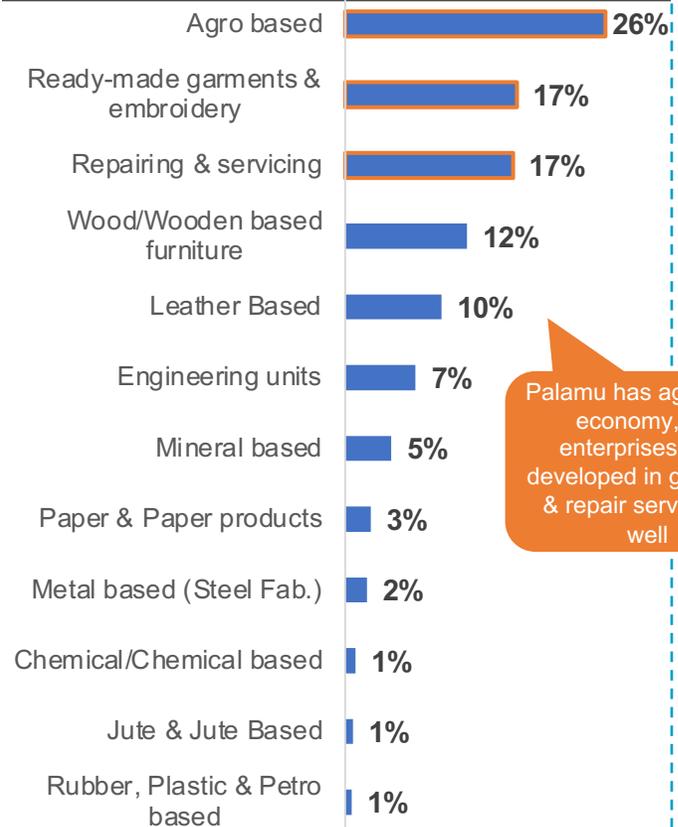


Average Employee Count by type of Enterprise³:

- Micro – 4
- Small – 14
- Medium – 68

Total labour absorption: **47,302**

Enterprise break-down in Palamu based on Industry² (as per available data) – (2016-17)



Palamu has agri based economy, but enterprises have developed in garments & repair services as well

Major Industries in the District²

No clusters reported in last published industrial profile

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Note:

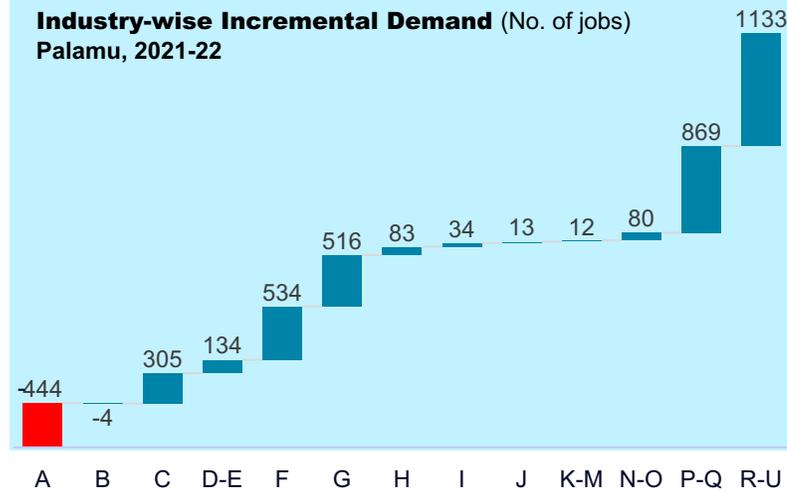
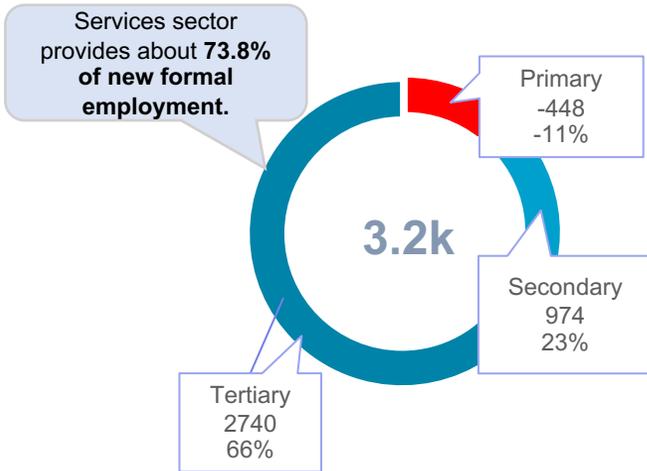
1. Average employment numbers are calculated by taking an average of 1 Lakh MSMEs registered in the state of Jharkhand

Source: 1. data.gov.in, 2. DCMSME Palamu, 3. data.gov.in

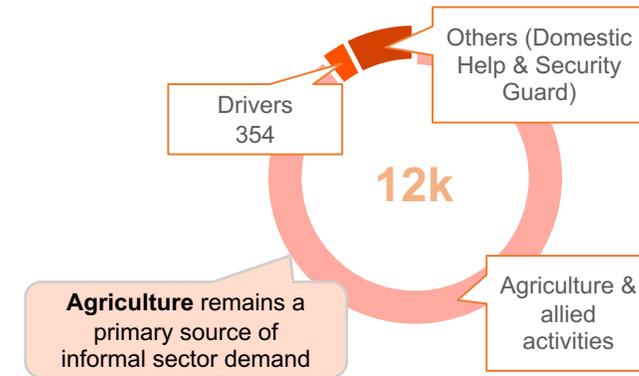
Jobs in Palamu

There are potentially 15.2k new jobs available each year and the number of OY stands at 328k implying that the gap would be very difficult to bridge unless something changes drastically in Palamu!

Formal Sector Incremental Demand Palamu, 2021-22



Informal Sector Incremental Demand¹ Palamu, 2021-22



Growth	A- Agriculture, Forestry and Fishing	B- Mining and Quarrying	C- Manufacturing	D- Energy E- Water Supply	F- Construction	G- Wholesale and Retail Trade	H- Transportation and Storage	I- Accommodation & food service	J- Information and Communication	K - Financial and Insurance L- Real Estate M- Professional, Scientific and Technical activities	N- Administrative and support service activities O- Public Administration and Defence	P- Education Q- Human Health and Social Work	R- Recreation S- Other Service T- Undifferentiated Goods and Services U - ET Organisations and Bodies
GDP CAGR (2011-2022) ²	3.4%	-0.6%	4.9%	5.2%	2.6%	8.6%	3.4%	8.6%	3.4%	6.0%	1.9%	7.7%	7.7%
Employment Elasticity (1999-2012) ³	-0.08	0.34	0.33	1.17	1.01	0.25	0.25	0.25	0.47	0.06	0.47	0.47	0.47

- Latest reliable sectoral employment elasticity data was available for 1999-2012. In fact, **average elasticity** in India between 2006 and 2018 was estimated at **0.01⁴**. This makes even these **grim numbers optimistic**. Further, with the **decline in jobs in mining & agriculture sector (primary sector)**, workforce from it will need to be retrained & absorbed in other sectors.
- **Education & Health, Construction, Trade, Manufacturing and Utilities** emerged as the top 5 promising sectors for generating employment.

Job Posting in Palamu

The current status of job portals clearly indicates the lack of formal employment in the Palamu district and OY would rarely be eligible for the limited number of jobs available

JOB PORTALS

 **5 job listings**

 **4 job listings**

 **44 job listings**

 **No independent listings for Palamu**

 **9 job listings**

 **1 job listing**

- The job portals of **Naukri.com** and **Shine** had only 5 and 1 district-level job opportunities respectively listed. Job listings were **less than 50** on all the portals.
- The job listings on the portal are for all of Jharkhand so the **OY need** to be willing to **relocate** in term to grab these job opportunities.
- The number of formal jobs available on the job portal for Palamu district are negligible and OY need to go to **Ranchi, Bokaro, or Jamshedpur** in search for jobs.



GOVERNMENT EFFORTS



पलामू
PALAMU



झारखण्ड सरकार

- Established **DEE (District Employment Exchange)**
- There was no data specific to Palamu on the number of candidates registered for seeking employment on the DEE portal.
- District level government jobs are listed on **Palamu's official government job portal** (palamu.nic.in), however there were only 4 job listings on the portal

04

Opportunity Youth (OY) Perspectives

Aspirations
Challenges
Skill Gaps

Multi-stakeholder perspective

Focus Group Discussions

Glimpses from Ranchi and Palamu

04 Opportunity Youth (OY) Perspective

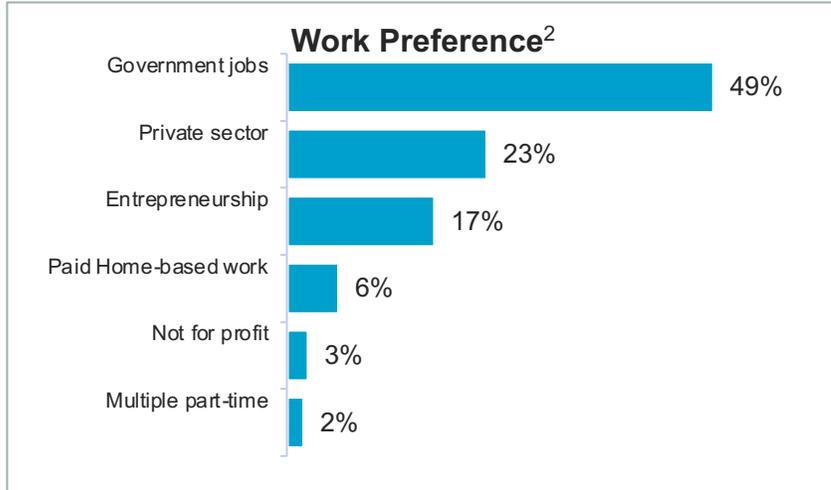
Aspirations
Challenges
Skill Gaps
Multi-stakeholder perspective



Youth Aspirations

Ranchi

Youth give preference to stable employment and quality of life¹. Perceived **lack of a career progression** is the main reason they are not interested in working in the gig economy²



85% Youth want full time job while the rest want part time jobs²

78% Youth who reported full preparedness to work in their desired sector were **willing to migrate**³

04 Opportunity Youth (OY) Perspective

Aspirations
Challenges
Skill Gaps
Multi-stakeholder perspective

Insights from the Focus Group Discussions with OY in Ranchi

	Men Group 10	Mixed Groups 20	Women Groups 33
Employment	No information about job aspirations	No information about job aspirations Aspirational income: Above INR 10,000 per month	Garment shop (Stitching) Beautician
Entrepreneurship	Service business Motorcycle repair business	Beauty parlor shop Computer & mobile shop Aspirational income: INR 10,000 – 13,000 per month	Start a shop Leaf plates Papad Pickle Mushroom cultivation Animal husbandry Dairy Farming Aspirational income: INR 15,000 – 20,000 per month

Note: Limitations

- Secondary resources offer data that is based on a sample from all across the country
- Bifurcation of Urban and Rural context is not available for the different statistics provided in the reports

Source: 1. [IndiaCSR](#), 2. [Orfonline](#), 3. [NSDC](#)

Challenges Faced by Youth

Ranchi

04 Opportunity Youth (OY) Perspective

Aspirations
Challenges
Skill Gaps
Multi-stakeholder perspective

Insights from the Focus Group Discussions with OY in Ranchi

	 Lack of Information & Skills	 Financial Constraints	 Systemic Barriers	 Social Barriers
Employment	<ul style="list-style-type: none"> Unaware of channels for getting job. They want information at regular intervals Need support on selection of work 	<ul style="list-style-type: none"> Irregular salaries Late processing of salaries 	<ul style="list-style-type: none"> Training centers are in far flung districts Language challenges both in training & jobs 	<ul style="list-style-type: none"> Lack of confidence to work alone. Not comfortable with working in other districts Lack of family support Difficulty in trusting new people Social pressure Getting sick when staying alone creates a difficult situation
Entrepreneurship	<ul style="list-style-type: none"> Bike / Motorcycle repairing skills Beauty parlor skills Guidance on starting & running a business is needed 	<ul style="list-style-type: none"> Financial support needed Problem in getting approval from banks Micro Finance needed 	<ul style="list-style-type: none"> Need room, materials & machinery 	<ul style="list-style-type: none"> Lack of family & friends support Social pressure

Skill Gaps

Ranchi

Employability - Key Skill Gaps

- **Soft skills:** Often the **lack of communication and presentation skills** hold back talented youth¹
- **Guidance:** Guidance on what to expect from the first job, the search process, resume building and how to prepare for it (aptitude tests, GDs and interviews) Guidance on avenues for basic skills & personality development and support on travel and safety concerns.²
- **Green jobs:** Needs to be trained as carbon accounting, regenerative farming, battery engineers etc.

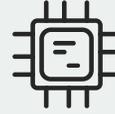
Entrepreneurship - Key Skill Gaps

- **Lack of digital skills:** Empowering artisans with digital skills and giving them control over the prices of their products can thus hugely empower the sector and keep traditional practices alive.¹
- **Soft skills:** Often the **lack of communication and presentation skills** hold back talented youth.¹

Insights from the Focus Group Discussions with OY in Ranchi



Technical Skills Computer Skills



Specialized Skills Bike / motorcycle repair skills Beauty parlor skills Stitching training



Agricultural Skills Mushroom Cultivation



Interpersonal Skills Communication Skills



Entrepreneurial Skills Guidance on starting & running a business

Trainings undertaken by participants

Nursing Training

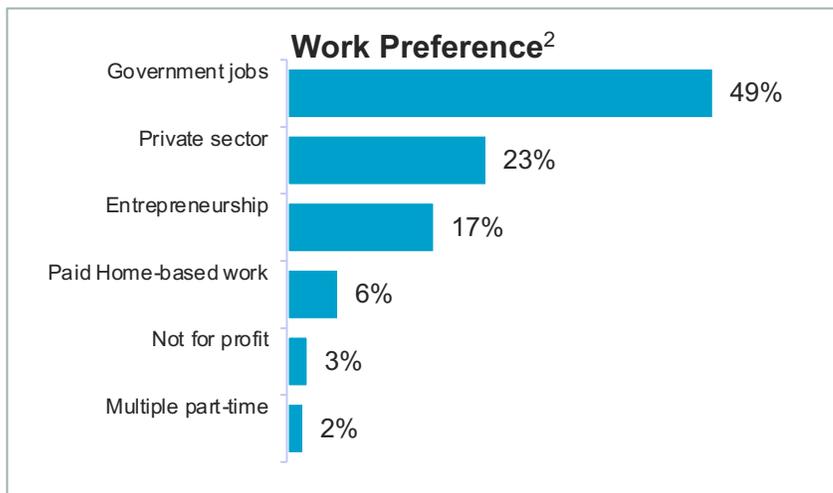
Computer Skills Training

5-Days Mushroom Training

Youth Aspirations

Palamu

Youth give preference to stable employment and quality of life¹. Perceived **lack of a career progression** is the main reason they are not interested in working in the gig economy²



85% Youth want full time job while the rest want part time jobs²

78% Youth who reported full preparedness to work in their desired sector were **willing to migrate**³

04 Opportunity Youth (OY) Perspective

Aspirations
Challenges
Skill Gaps
Multi-stakeholder perspective

Insights from the Focus Group Discussions with OY in Palamu

25

Animal Husbandry
Employed & Unemployed
Student
Pragya Kendra
Farmer



23

Oil Mill
Housewife
Kirana shop owner
Farming support at home
Student
Panchayat karamchari



Employment

- Civil Servant
- Store Manager
- Local Misc Job
- Service sector job

Aspirational income:
INR 15,000 – 40,000 per month

Entrepreneurship

- Buffalo Rearing
- Dairy Production
- Electrical Supplies
- Lights & Sound systems
- Clothing Shop
- Photocopy Shop
- Processing Unit
- Paper Plate Manufacturing Unit
- Kirana Shop
- Mechanic Workshop
- Driving Fleet
- Fancy Store
- Mobile Phone Store
- CSC*

Aspirational income:
INR 10,000 – 50,000 per month

- Teacher
- Contract Construction work

Aspirational income:
INR 20,000 – 30,000 per month

- Something they can do in addition to managing their homes
- Tailoring Unit / Stitching Center
- Footwear Store at home
- Micro enterprises for achar & papad*
- Poultry Feed
- CSC*

Aspirational income:
INR 15,000 – 30,000 per month

Note: Limitations

- Secondary resources offer data that is based on a sample from all across the country
- Bifurcation of Urban and Rural context is not available for the different statistics provided in the reports

Source: 1. [IndiaCSR](#), 2. [Orfonline](#), 3. [NSDC](#)

* Not specified whether response is by men or women.

Challenges Faced by Youth

Palamu

Insights from the Focus Group Discussions with OY in Palamu



Lack of Information & Skills



Financial Constraints



Systemic Barriers



Social Barriers

Employment

- Some are unaware of channels for getting job
- Job Counselling is needed
- Discipline, communication & computer skills needed
- Lack of personality development training

- Low savings
- Less labor pay at home led to migration
- Lack of stable income & long work hours

- No clarity on hard & technical skills needed
- High competition
- Seasonal employment
- Lack of education

- Responsibilities at home restrict time available to engage in jobs
- Family does not support education after 12th

Entrepreneurship

- Lack of clarity on business processes
- Unaware of details of availing loans like formalities & processes involved
- Training needed on business growth & expansion
- Technical training needed

- Need financial support

- Lack of platform to monetize acquired tailoring skills
- Lack of market linkages
- Language Barrier

- Lack of networking support
- Family does not encourage becoming an entrepreneur

Skill Gaps

Palamu

Employability - Key Skill Gaps

- **Soft skills:** Often the **lack of communication and presentation skills** hold back talented youth¹
- **Guidance:** Guidance on what to expect from the first job, the search process, resume building and how to prepare for it (aptitude tests, GDs and interviews) Guidance on avenues for basic skills & personality development and support on travel and safety concerns.²
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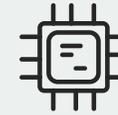
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- **Soft skills:** Often the **lack of communication and presentation skills** hold back talented youth.¹

Insights from the Focus Group Discussions with OY in Palamu



Technical Skills
Computer skills



Specialized Skills
Mobile repair training



Interpersonal Skills
Behavioral skills
Discipline
Communication skills



Entrepreneurial Skills
Business growth & expansion
Marketing

Trainings undertaken by participants

Poultry Farming, SHG Management, Tailoring, Electrical Works, Aachar & Papad Training

Multi-stakeholder perspective

We interviewed relevant stakeholders across the ecosystem to understand the current challenges and possible solutions

What are the current challenges?

Skilling:

- **Lack of awareness** about skilling initiatives
- After training, some candidates are **not interested in joining a job, migrating**, girls face issues from their family
- Need for **continuous skilling** to manage business, improve quality, & market the products

Information:

- Lack of information about **new and climate-friendly cultivation practices**
- Lack of awareness about **relevant Government schemes**

Market linkage:

- Lack of **Market Linkage support & skills** to advertise and improve product quality leads to losses & closure of businesses
- **Non-standardized practices and the unorganized** nature of certain value chains can be challenging for companies to procure products directly from farmers
- **Competition from cheaper imported products in a highly price sensitive market** (such as pulses, meat) due to Foreign Trade Agreements

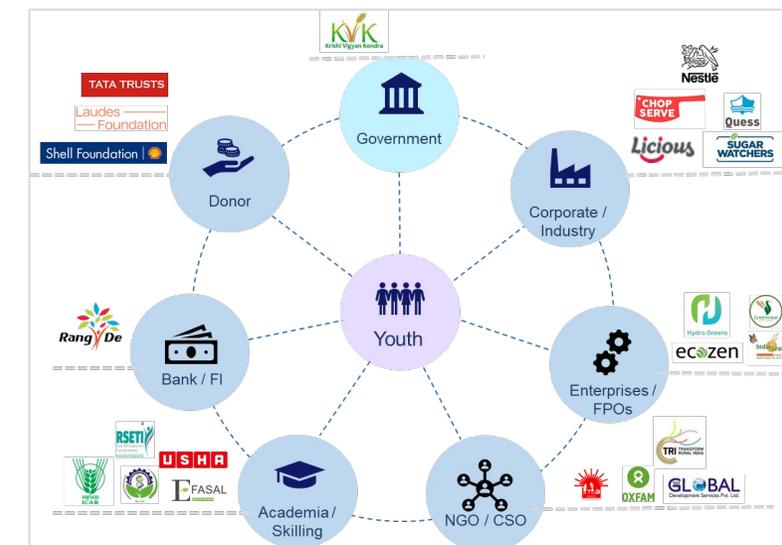
Credit:

- **Paperwork, collateral requirements & credit history** make it difficult to access credit and loan
- Lack of a **business plan** to establish confidence in loan repayment
- **Small loan size (INR 30 – 80k) with higher administrative costs** for banks
- Limited access to **working capital**

What are some of the proposed solutions?

- **Entrepreneurship Development Programme** at District level to provide complimentary skills to set up and manage nano and micro businesses
- Focus on Skills such as **computer skills, English speaking, grooming, discipline, interview preparation, after sales support** for
- **Institutional Partnerships** with grassroots organizations and corporates **and post-training support**
- **Role models / Influencers** - with the growth in internet usage, there is an opportunity to use social platforms for awareness and skilling at scale.
- Micro entrepreneurs can make **value-added products** to cater to **local demand** like millet laddus for Anganwadi

- **Agri Entrepreneurs** providing service models such as – cooling-as-a-service, irrigation-as-a-service, fodder and promoting climate smart agriculture
- Adopt **alternative and innovative loan collection mechanisms** to enable more **frequent and flexible repayments**
- Aggregation points for the various agricultural produce can be set up which is linked to MoFPI
- Drying units can be set up to produce products like tomato, chili and ladyfinger flakes to reduce wastage



05

Means to boost economic activity

Value Chain Opportunities
Small Business Opportunities
Food System Opportunities

Assets and Natural Resources

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Key resources in Ranchi, Palamu and Simdega

Agriculture & Allied



Secondary processing

- Pulses, Millets
- Tomato (ODOP)
- Mango (ODOP)

High-value crop cultivation

- Strawberry
- Watermelon
- Flowers (Marigold, Jasmine)
- Mushroom
- Stevia

Allied activities

- Goat
- Pig

Services



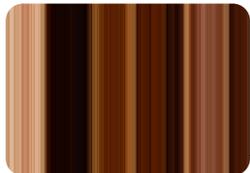
- Healthcare
- Logistics / Delivery
- Sewing

Tourism



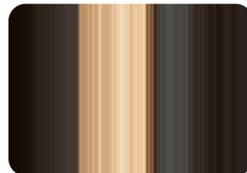
- Homestay
- Food-trucks
- Weekend Getaways

Forest Produce



- Tamarind / Imli
- Mahua

Crafts & Small Industry



- Lac
- Refractory (Cement Bricks, Faber Blocks)

Minerals



- Coal
- Limestone
- Iron Ore

Key Highlights

Ranchi

- It has been selected as one of the hundred Indian cities to be developed as a smart city under PM Narendra Modi's flagship **Smart Cities Mission** and is an **Aspirational District**.
- Popularly known as the “**City of waterfalls**” owing to multiple waterfalls in and around the district.
- Tertiary sector makes **about 52% contribution** to district's GDDP owing to **trade & tourism, real estate & public administration**.

Palamu

- Predominantly rural , agricultural production is characterized by **mono cropping practices** with only **36% of the net cropped area being irrigated**.
- **83%** of the operational holdings are owned by **small and marginal farmers**.
- Palamu is **well connected by railways and overnight trains to New Delhi** making the transport of products including fruits and food products high potential employment areas for the target group.

Simdega

- Simdega district has about **32% of forested area**. Important forest products are **Saal seeds, Cocoon, Lac, Tendu leaves, Chiraunji**
- The major trees are Sal, Bija, Gamhar, Jackfruit, Jamun, **Mango, Bamboo, Neem**

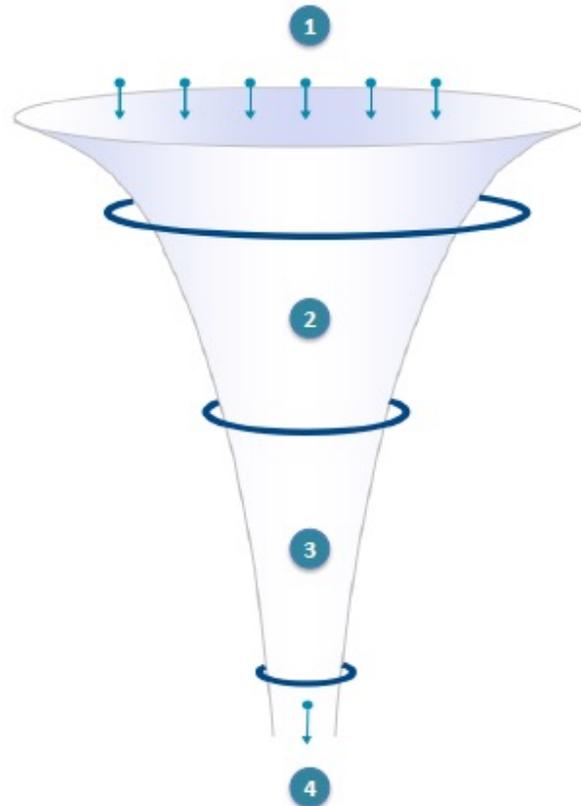
Identifying Value Chains

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

We followed a systematic process to identify the most appropriate value chain opportunities in terms of feasibility and attractiveness for OY in Jharkhand

Multiple criteria to filter out opportunities and then evaluate them based on parameters representing **feasibility of implementation** and **attractiveness**



1. Identified a long list of 177 value chain development opportunities in the districts through secondary research reports. Gathered inputs from experts and arrived at a shortlist of 26 value chains that are aspirational for opportunity youth.



2. Identification of 8 criteria to rate these opportunities in terms of attractiveness and feasibility of implementation

3. Evaluation of shortlisted options through discussions with value chain partners, and experts from KVK and TRI, secondary research, and estimation to evaluate shortlisted opportunities on parameters such as: competitive advantage, market demand, livelihood potential, trade, resource requirements, supporting stakeholders, existing schemes and local constraints.

4. Detailed analysis of 5 prioritized value chains

Gaps in value chain, proposed interventions, unit economics, roles for OY, investment models, relevant stakeholders, etc.

Prioritized Value Chains

We evaluated 26 value chains to identify the most promising value chains for future implementation

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities



Pulses



Mushrooms



Mango



Small Millets



Goat



Refractory



Lac



Banana



Gourds



Bamboo



Flowers



Guava



Turmeric



Stevia



Coconut



Strawberry



Pig (Pork)



Tamarind (Imli)



Milk and Dairy



Egg Incubator



Chirongi



Mahua



Bell Metal Art



Tomato



Watermelon



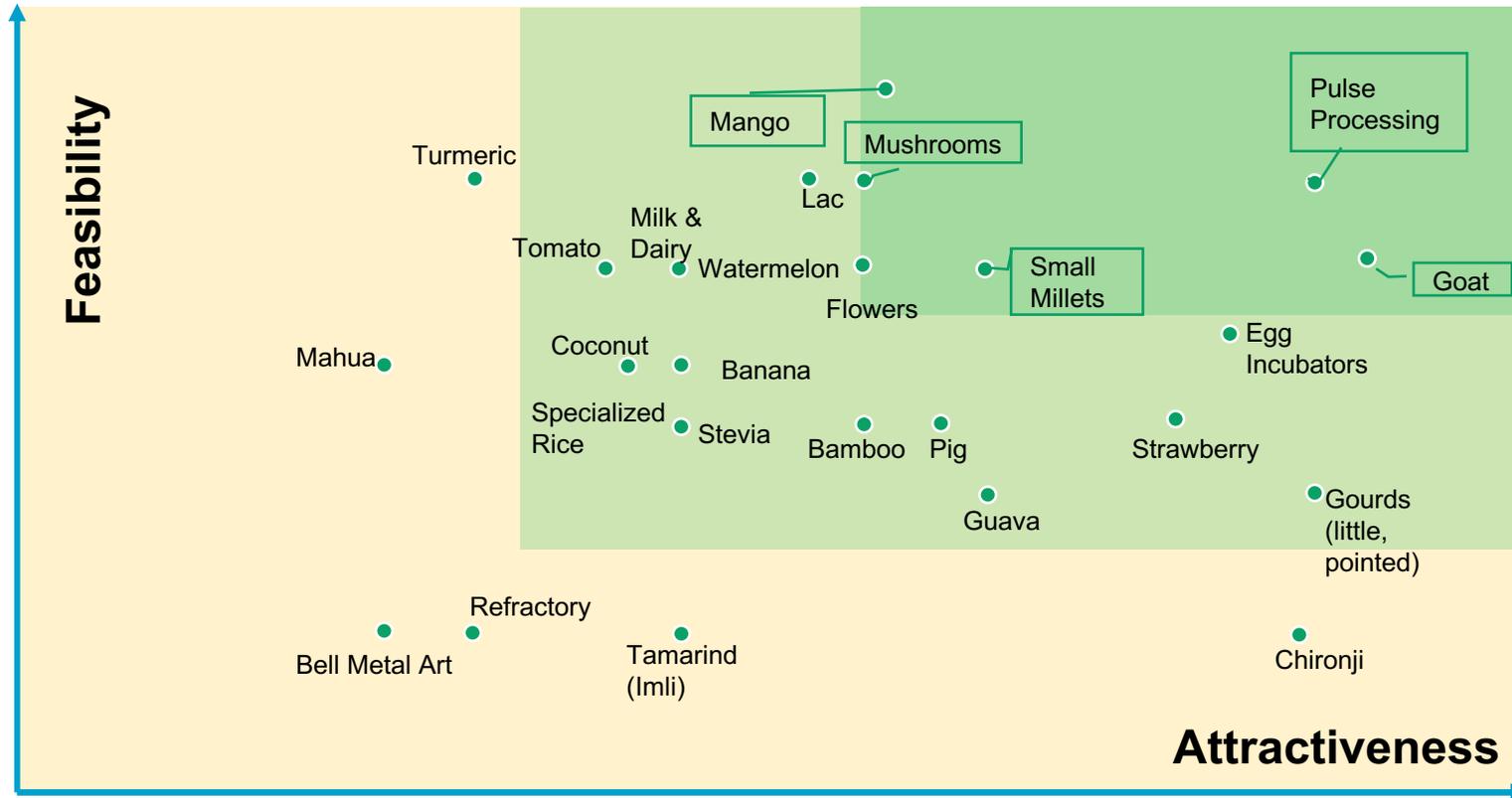
Rice

Evaluating Prioritized Value Chains

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

The preliminary analysis has thrown some light on the most promising value chains and demonstrated the need for a dedicated working group for value chain development in Jharkhand



✓ Key Insights

- **Pulses** – The districts in scope have a considerable production of pulses, but most of it is sold in mandis without any processing leading to poor margins for farmers. Processing at district level will increase employment and profit for the local players
- **Mushroom** – They can be cultivated on small areas and yield healthy margins, making them suitable for small holder farmers. Since they are not labor intensive, they align with the aspirations of youth & women
- **Goat** – They have been traditionally reared by tribal people in their backyards and requires little amount of space. But this chain is highly unorganized and has much scope for standardization
- **Mango** - The trees usually takes at least 5 years to start producing mangoes and can remain in production up to 40 years. Mangoes have strong domestic and international demand and has the potential to make a lot of value-added products like juice, pulp, pickle, jams etc.
- **Small Millets** – They are high nutritious value grain grown across the state by rural and tribal farmers. With an aim to create awareness and increase the production and consumption of millets, 2023 has been declared as the International Year of Millets.

We studied 5 shortlisted value chains further analysis



Mushroom



Mushroom Value Chain Overview

Context/Description:

The main three types—**white button, oyster, and milky mushrooms**—are very popular and comprise 90% of production in India. **Paddy straw** mushroom is also grown in certain areas. As per National Horticulture Board, **Bihar (10.82%)** is India's leading producer of mushrooms, followed by **Maharashtra (9.89%), Odisha (9.66%)**.

The research focuses on **oyster mushrooms** since they are **easy to cultivate at small scale** & climate in the target states **is favorable for 8-10 months**.



White Button Mushroom



Oyster Mushroom



Milky Mushroom

Key Characteristics:

- **Type of Farmers:** Small scale mushroom production is an opportunity specifically for small, marginal or landless farmers. Mushroom business is well suited **for both females and males** of all levels of education and the role of women in the production and trade of mushroom were higher than that of men.¹
- **Nutritional Value:** Mushrooms are **nutritious, medicinal and functional food**. It contains low calories, high protein, dietary fiber, vitamins, and minerals. They have **iron content, good quality protein (9 essential amino acids), Vitamin D and contain 30-35% protein content** [ICAR Expert]
- **Shelf life:** Mushrooms are very promising in its agribusiness trend but have a constraint of **low shelf life**.¹ Products like dried mushrooms are used in pharma industry while mushroom powder can be mixed with flour to increase its nutrient content. Mushroom pickles act as good appetizers. They can increase the shelf life of mushrooms up to 2 years reducing pressure of immediate selling.

Production Statistics²:

Country Data	Year	Production
India	2021	190,200 metric tons

Market Trends:

- ^ The India mushroom market is expected to exhibit a **CAGR of 7.6%³ during 2023-2028** and ICAR expert indicated that the **growth could reach upto 15%**.
- ^ The market for **dried mushrooms** is expected to grow by **CAGR of 4.4%** from 2022-32. The global pickles market is expected to exhibit growth rate **(CAGR) of 4% during 2023-2028**.
- ^ Globally, mushroom has ranked in the top ingredients of the culinary forecasts over the last couple of years, The **New York Times** named mushrooms the **“Ingredient of the Year 2022”⁴** and it continues to be one of the top ingredients for 2023.
- ^ **Europe is the largest consumer** for mushrooms with 35% global demand share.⁵ India exports most of its dried mushroom to **France, Germany and Switzerland in Europe**.⁶
- ^ **Annual Per capita consumption** of Mushroom in India is **100 g as compared to 20-22 Kg in China**.⁷
- ^ Out of the total mushroom produced, **white button mushroom share is 73%** followed by **oyster mushroom (16%)**, paddy straw mushroom (7%) and milky mushroom (3%) in India.⁸

Value Added Products:

Dried Mushroom, Mushroom Powder, Mushroom Pickle, Mushroom for packaging

Mushroom Value Chain in Jharkhand

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Context/Description

Jharkhand is not a major player in mushroom cultivation. Cultivation of **paddy straw mushroom from March to September** and **oyster mushroom from October to February** is favorable in Jharkhand. ⁴

The cultivation of button mushrooms in the Bokaro district is showing good progress and many women members of **self-help groups (SHG) are earning profits and becoming self-reliant**. Several women are also showing eagerness to learn mushroom cultivation as a means of their livelihood.

Pilots were attempted by ICAR in Simdega but they didn't give favorable results due to lack of demand and processing options in the region. **Spawns & trainings for mushroom cultivation** are being provided by **ICAR** in the region.

Challenges in value chain ecosystem

- Mushroom ecosystem is **not much developed** in the state. Farmers will need awareness to start cultivating mushrooms
- **Shelf life of fresh mushrooms is 1-3 days**; hence they need proper storage to extend life to 1-3 weeks and processing to further increase it. **Market Linkages** to ensure consumption of fresh mushrooms are a must.
- Market for mushroom is not much developed in India due to **lack of awareness** about the nutritional benefits of mushrooms.
- **Technical Guidance and information** is needed for mushroom cultivation.
- Jharkhand has **mushrooms growing in nearby forests**, so some demand is met from there.

Schemes and initiatives

- Govt of India's **mid day meal mandates mushroom** as once a week food for children.
- Jharkhand State Livelihood Promotion Society (JSLPS) covers mushroom cultivation & processing trainings.
- RKVY Scheme 2021-22 offers financial assistance for Mushroom cultivation as follows ¹ :
 - **Small Scale Mushroom Production Unit** has subsidy up to **40%** of the total cost of INR 28,125/unit and **Hi-tech Milky Mushroom Production Units** have subsidy up to 40% of the cost of INR 2.50 lakh/unit.
 - **Minimal Processing and Value Addition Units of Mushroom** – Subsidy up to **40%** of the total cost of INR 1 lakh/unit. (Max cost covered: INR 0.40 lakh/unit)
 - **Small Scale Mushroom Spawn Production Units** – Subsidy up to **40%** of the entire cost of INR 5 lakh/unit. (Max cost covered: INR. 2.00 lakh/unit.)

Examples of key stakeholders in the State



Mushroom Value Chain Stages



Actors in the Value Chain

Stages in the Value Chain

Opportunities for Youth

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Context/Description:

During our conversation with ICAR Mushroom expert, they mentioned that **Oyster mushrooms** have most potential for small scale production since they can grow at 20-30 degrees temperature which is available for 8-10 months in our target states. **The stats below are for one cycle** in two 10x10 feet rooms. **9 cycles** can be completed in a year on average

Time Required

Shelf Life

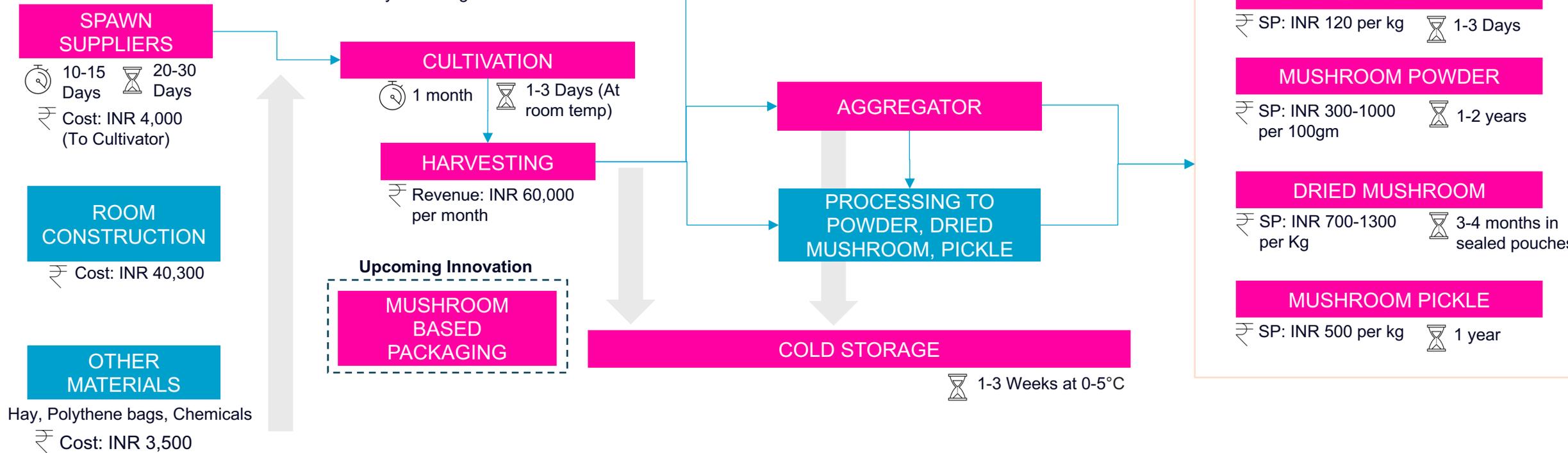


Mushroom cultivation requires one time setup of room and spawn & some materials for every subsequent cycle

Mushroom cultivation is not labor intensive and can be taken up by youth and women easily. Spraying of water is dependent on humidity in the region

Mushroom farmers can sell their produce locally to retailers or hotels in the area. Alternate is to sell them to an aggregator to get benefit of scale

Shelf Life of fresh mushrooms is very less which can lead to distress selling. After gauging local demand, rest of the produce needs to be processed to increase value & life



Mushroom Value Chain Opportunities (1/5)

H - High Investment
Institutional Partnerships

M - Moderate investment
cooperatives

L - Low investment
livelihood enablement

Rural
Consumers



Urban
Consumers



International
Consumers



05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 1: Spawn Generation



Opportunity

Good quality spawn is necessary for disease free and good productivity of oyster mushrooms. This preparation needs to happen in a sterilized environment and proper training is required for its production. It is recommended to get **trained from nearby ICAR center** or any other institute in the area as it is a highly technical process.



Process

- For preparing the spawns, wheat, maize or sorghum can be used. Semi-boiled wheat/maize/sorghum is air-dried and mixed with calcium carbonate powder. The mixture is then put in empty glucose drip bottles or plastic bags, plugged with cotton and sterilized.
- After this, the pure culture of the fungus is added and incubated at room temperature for 15 days. Pure culture can be procured from the Directorate of Mushroom Research.

Fixed Cost
INR 30,820

Earning Potential
INR 21,100
per month

Financial Feasibility¹

Details	Costs	Assumptions
Fixed Cost per kg	INR 0.67	For one time setup
Variable Cost per kg	INR 45.30	For Raw materials
Revenue Stream		
Selling Price per kg	INR 50	Profit of INR 4.13/ kg
Total Profit in 9 months	INR 1,90,000	From producing 5120 kg spawn / month / person

Opportunity 2: Fresh Oyster Mushrooms



Opportunity

The stats below are for one cycle in two 10x10 feet rooms. 9 cycles can be completed in a year on average. Oyster mushrooms can grow for about 9 months every year with one cycle taking 1 month. They need high moisture content & 20-30 degrees C temperature for cultivation.



Process

One Time

- Construction of rooms costing INR 30,000
 - Racks, Drums, gunny bags, grasscutter, Thermo hygrometer, sand, boiling vessel: INR 10,300
- Recurring cost for ever cycle
- Hay, Polythene bag, spawn, chemicals, others: INR 7,500

Fixed Cost
INR 40,300

Earning Potential
INR 26,250
per month per person

Financial Feasibility⁵

Details	Costs	Assumptions
Fixed Capital	INR 40,300	For 500 kg capacity
Recurring Capital	INR 67,500	Raw materials, irrigation, electricity, labor costs
Revenue Stream		
Selling Price	INR 120 per kg	
Annual Profit (9 months)	INR 4.72 Lakh	For 9 cycles per year (for 2 people)

Mushroom Value Chain Opportunities (2/5)

H - High Investment Institutional Partnerships	M - Moderate investment cooperatives	L - Low investment livelihood enablement
Rural Consumers 	Urban Consumers 	International Consumers 

05 Means to boost economic activity
Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 3: Dried Mushroom



Opportunity

To overcome the perishability of mushrooms, it is a good practice to dry them and store in airtight containers to increase shelf life upto 3-4 months. Dried mushrooms are also in demand in pharma industry, so that linkage can be explored as well. The market for dried mushrooms is expected to grow by CAGR of 4.4% from 2022-32¹



Operations²

- Drying in a solar dryer in batch sizes of 10 kg
- Economics below are for a setup producing 500 Kgs of oyster mushroom per cycle. Total 9 cycles are expected. **(Total:4500 Kg)**
- It is assumed that all the produce will be processed.
- 10 Kgs of fresh oyster produces 1 kg of dried oyster mushroom

 **Fixed Cost**
INR 56,300

 **Earning Potential**
Upto INR 25,000 per month per person

Financial Feasibility³

Details	Costs	Assumptions
Fixed Capital (Cultivation)	INR 40,300	500 kg capacity
Solar Dryer⁴	INR 16,000	One time cost for 10 kg solar dryer
Recurring Capital	INR 67,500	Raw materials, irrigation, electricity, labor costs
Revenue Stream		
Selling Price ⁵	INR 700-1300 per kg	Total 450 Kgs of dried mushroom annually
Annual Profit (9 months)	INR 1.91 - 4.61 Lakh	Can support 2 people

Opportunity 4: Mushroom Powder



Opportunity

To overcome the perishability of mushrooms, it is a good practice to powder the dry mushroom them and store it containers to increase shelf life upto 1-2 years⁶. Due to its high nutrient value, it can be mixed with flour to increase flour's nutrient content. The global market for mushroom powder is expected to grow by CAGR of 6.3% from 2022-32¹



Operations²

- Cutting the dried mushrooms into pieces and then pass the output through a sieve
- Economics below are for a setup producing 500 Kgs of oyster mushroom per cycle. A total 9 cycles are expected. **(Total: 4500 Kg)**
- It is assumed that all the produce will be processed.
- 10 Kgs of fresh oyster produces 1 kg of oyster mushroom powder

 **Fixed Cost**
INR 67,300

 **Earning Potential**
Upto INR 17,500 per month per person

Financial Feasibility³

Details	Costs	Assumptions
Fixed Capital (Cultivation)	INR 40,300	500 kg capacity
Solar Dryer + Pulverizer⁷	INR 27,000	One time cost
Recurring Capital	INR 67,500	Raw materials, irrigation, electricity, labor costs
Revenue Stream		
Selling Price ⁸	INR 300-1000 per kg	Total 450 Kgs of dried mushroom annually
Annual Profit (9 months)	INR 200 – 3.15 Lakh	Can support 2 people

Mushroom Value Chain Opportunities (3/5)

H - High Investment
Institutional Partnerships

M - Moderate investment
cooperatives

L - Low investment
livelihood enablement

Rural
Consumers



Urban
Consumers



International
Consumers



05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 5: Mushroom Pickle



Opportunity

Pickling is a method of long-term storage to preserve mushrooms in an economically viable way. These pickles are good appetizers and add palatability to the meal. It is also a process by which one can store and then relish them during the offseason when the price of mushrooms is high. The global pickles market is expected to exhibit growth rate (CAGR) of 4% during 2023-2028.³

Process¹

Mushrooms for pickling are either blanched or fried in oil till brown depending upon taste; various condiments as per local preferences and practices are also ground or fried in oil separately and added to the mushroom. The contents are mixed thoroughly and cooked slightly for few minutes. It is allowed to cool and then filled in the jars (lugs) of desired size. Vinegar may be added for taste and longer storage and the contents in the bottle or the container should be topped up with oil. Details below for 1 setup producing **500 Kgs in a month i.e, 4500 Kg annually**.

Fixed Cost
INR 40,300

Earning Potential
INR 25,000
per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital (Cultivation)	INR 40,300	500 kg capacity (For Cultivation)
Recurring Capital	INR 67,500	Raw materials, irrigation, electricity, labor costs
Pickling Cost	INR 2,70,000	@ INR 90/ kg; Taking inflation since the reference report
Revenue Stream		(3:2 ratio of fresh : pickled qty)
Selling Price ²	INR 500/ kg	Total 3000 Kgs of mushroom pickle annually
Annual Profit (9 months)	INR 11.22 Lakh	Can support 5 people per setup



Mushroom Value Chain Opportunities (4/5)

H - High Investment
Institutional Partnerships

M - Moderate investment
cooperatives

L - Low investment
livelihood enablement

Rural
Consumers



Urban
Consumers



International
Consumers



05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 6: Canned Mushroom



Opportunity

Canning is another method of increasing shelf of mushrooms in an economically viable way. They can be added to salads, rice, soup and are a popular topping for pizzas. The global canned mushroom market is expected to exhibit growth rate (CAGR) of 4.9% during 2022-2032.³



Process¹

Mushroom canning process consists of:

1. Washing of mushrooms in cold water
2. Blanching of mushrooms in boiling water
3. Dehydration & Packing
4. Processing of cans & labeling.

Machine Capacity is: **100 Kg per hour.**



Fixed Cost
INR 16 Lakhs



Earning Potential
INR 10,800 per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 16 Lakh	5.7 Lakhs for plant & machinery + 8.8 Lakhs for canning reforming section + 1.5 Lakhs for Other assets
Working Capital	INR 9.3 Lakh	Raw materials, personnel cost
Revenue Stream		(25% yield in canning)
Annual Profit (9 months)	INR 2.05 Lakh (Year 1) – 12.29 Lakh (Year 5)	Corresponding to 50-70% capacity Utilization – Increasing capacity by 5% every year. Assuming 2 people own the installation & hire 7 workers.
Monthly Profit	INR 10,800 (Year 1) – 64,700 (Year 5)	Profit per person for the 2 owners

Opportunity 7: Aggregator



Opportunity

Some youth can work as aggregators pooling fresh & processed mushroom products being created in the district. This will give them higher bargaining power with final customers and will ease the selling process for farmers & processors. There is opportunity for branding as well.



Operations

- An individual can aggregate fresh and produce from players in the area
- Enter into long term agreements with both producers & consumers
- Packaging & Branding can be an additional source of income



Fixed Cost
INR 8,100



Earning Potential
INR 4,000 – 10,000 per month

Financial Feasibility

Details	Costs	Assumptions
Packaging Material cost⁴	INR 2	Per packet cost
Packing Machine⁵	INR 8,100	
Profit Stream		
Sale to customers	INR 4-16 per kg	10-20% margin range;
Self Branding	INR 50-100 per kg	50-100% margin range; Certification standards research required. Branding margin will increase as popularity grows

Mushroom Value Chain Opportunities (5/5)

H - High Investment Institutional Partnerships

M - Moderate investment cooperatives

L - Low investment livelihood enablement

Rural Consumers



Urban Consumers



International Consumers



05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 8: Cold Storage



Opportunity

Oyster mushrooms can be stored at 0-5°C for 1-3 weeks. Otherwise, they can perish within 3 days. In case there is any lag in reaching market from the day of cultivation, cold storage becomes crucial. Entrepreneurs can provide cold storage as a service to mushroom farmers in the area.



Cooling-as-a-service Model

- Leasing a portion of the cold storage to farmers/entrepreneurs for short time frame ranging from a few days to weeks.
- Service charges are a factor of storage volume and the time period of storage.
- Each enterprise can employ around 5 people



Cost
INR 1,400,000



Earning Potential
INR 4,500
per month per person

Opportunity 9: Mushroom-based Packaging



Opportunity

Mushroom packaging made from Mycelium (root like structure of fungus) is being considered as a replacement for non-biodegradable packaging options⁵. As per UK-based Magical Mushroom Company (MMC), these are durable & comparable in price to traditional packaging like polystyrene. They can be made from waste of mushroom cultivation. The global mushroom packaging market is expected to exhibit a **CAGR of 7.2% from 2022-32**.³



Process (By Ecovative)

- The trays are filled with hemp hurd and mycelium blend which grow for 4 days.
- The grown parts are removed from the tray and continue to grow for 2 more days to create a velvety layer of overgrowth.
- The parts are dried to disable future growth.

Financial Feasibility²

Details	Costs	Assumptions
Mycelium bed cost	INR 5	Per bed
Revenue Stream		
Profit Margin	400%	From cost analysis of prototype

Livelihood Opportunities

- The mushroom packaging ecosystem is not much developed in the country. This is an opportunity for entrepreneurs in the district to capture a new space.
- 5 youth** per district can get together to explore this space.

Note:

- 5MT capacity cold storage is considered for the calculations.

Pulse



Pulse Value Chain Overview

Context/Description¹:

India is the top pulse producer globally, leading in both area and production with 31% and 28% shares worldwide, respectively. In India, about 65% of the total farmland is used for growing food crops, with cereals accounting for 50% and pulses for around 14%.

Among individual crop categories, **gram** contributes the most to pulse production in India, accounting for 45% of the total, followed by **tur (17%), urd (11%) and mung (10%)**.

Madhya Pradesh is the top state for growing pulses in India, with **21%** of the land and **25%** of the total production. Rajasthan, Maharashtra, and Uttar Pradesh follow with 16%, 15%, and 10% production shares, respectively.



Arhar



Chickpea

Key Characteristics:

- Pulses contain **20 to 25 percent protein by weight** which is twice as much as the protein content of wheat and three times more than that of rice.¹
- Pulses are grown in **all 3 seasons in India**: Kharif, Rabi & Summer. Pulses support **crop rotation** to maintain fertility of the soil.¹
- Owing to their natural resilience to extreme weather conditions, low water requirements and being environmentally benign, **pulses have been traditionally a smallholder's crop**. However, with poor price realization, **farmers have been switching towards other remunerative crops such as sugarcane, soybean, among others**.⁵

Source: 1. [DPD](#), 2. [IMARC](#), 3. [IMARC](#), 4. [PIB](#), 5. [Springer](#), 6. [Statista](#) 7. [Pulses Import](#)

Production Statistics:

Annual Pulses Report (2021-21) ¹	Land Area (Mha)	Yield (kg/ha)
Global	93.18	964
India	28	885

Market Trends:

- ✓ India pulses market is expected to exhibit a growth rate (**CAGR**) of **6.5% during 2023-28**² while the global pulses market is expected to grow by **4%** during the same period³.
- ✓ Although retail prices of pulses escalated sharply, the same has **not resulted in higher prices for farmers**.¹ This implies that the profits are not flowing down the chain to farmers.
- ✓ Import dependency of pulses in India came down from **19% in 2013-14 to around 9% in 2021-22**; projected to drop down further to around **3% by 2030-31**⁴. Major pulse importers to India include **Myanmar** (757 thousand metric tons(TMT)), **Canada** (485 TMT) & **Mozambique** (465 TMT).⁷
- ✓ In financial year 2022, **per capital pulse availability** has increased to **53 grams** as compared to the previous year's 44.5 grams.⁶
- ✓ **Pulses procurement by government is up more than 74 times during 2016-21** period in comparison to 2009-14 period in India.⁴

Value Added Products:

- Pulses Flour, Papad, Batter, Hummus

Pulse Value Chain in Jharkhand

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Context/Description

Jharkhand ranks 9th in terms of area under pulse cultivation in India with **3% area and 3% contribution to country production**. Average yield in the state stands at **1030 Kg/Ha**.

There are **no major processing units in shortlisted districts** (not even grading & processing). Government has announced plans in 2022 to **open 22 pulse mills in Palamu division**.

Major varieties of pulses grown in Jharkhand include **Arhar, Urad, Moong, Gram**.

Challenges in value chain ecosystem

- **“Mindset is not developed for business in Jharkhand districts. People treat it as a last resort option”** – TRI Expert
- The state is plagued by **frequent power cuts**, with even Ranchi experiencing 5-7 hours of electricity shortage on some days. This will lead to reduced capacity utilization of any processing units.
- Farmers’ profits don’t increase as MRP rises. **They benefit millers, wholesalers and retailers** who can hold stocks (within permissible limits) and play the market fluctuations to their benefit. ¹ This is largely due to inadequate warehousing facilities available to the smallholder farmers.
- **Imported pulses are cheaper** than domestically produced pulses as per an interviewed enterprise owner. He cited small masoor’s domestic price of INR 100/Kg as compared to Australian price of INR 75/kg. Govt is working to reduce import dependency

Schemes and initiatives

- **Price Stabilization Fund (PSF) managed by Ministry of Consumer Affairs** - Under Price Stabilization Fund (PSF) the Government has increased the buffer target for pulses from 19.5 Lacs MT in financial year 2020-21 to 23 Lacs MT in the financial year 2021-22. ²
- **PM-AASHA**, an umbrella scheme comprises of Price Support Scheme (PSS), Price Deficiency Payment Scheme (PDPS) and Private Procurement Stockist Scheme (PPSS) to ensure Minimum Support Price (MSP) to farmers for their produce of notified pulses. ³
- PM Formalisation of Micro food processing Enterprises (**PMFME**) Scheme aims to provide financial, technical, and business support to establish or upgrade micro food processing enterprises. It will be implemented from **2020-25 with budget allocation of INR 10,000 crore**
- Infrastructure supporting schemes like Pradhan Mantri Kisan Sampada Yojana (**PMKSY**) and National Agriculture Infra Financing Facility (**NAIFF**) can support farmers establish value addition facilities at post-harvest stage.

Examples of key stakeholders in the State



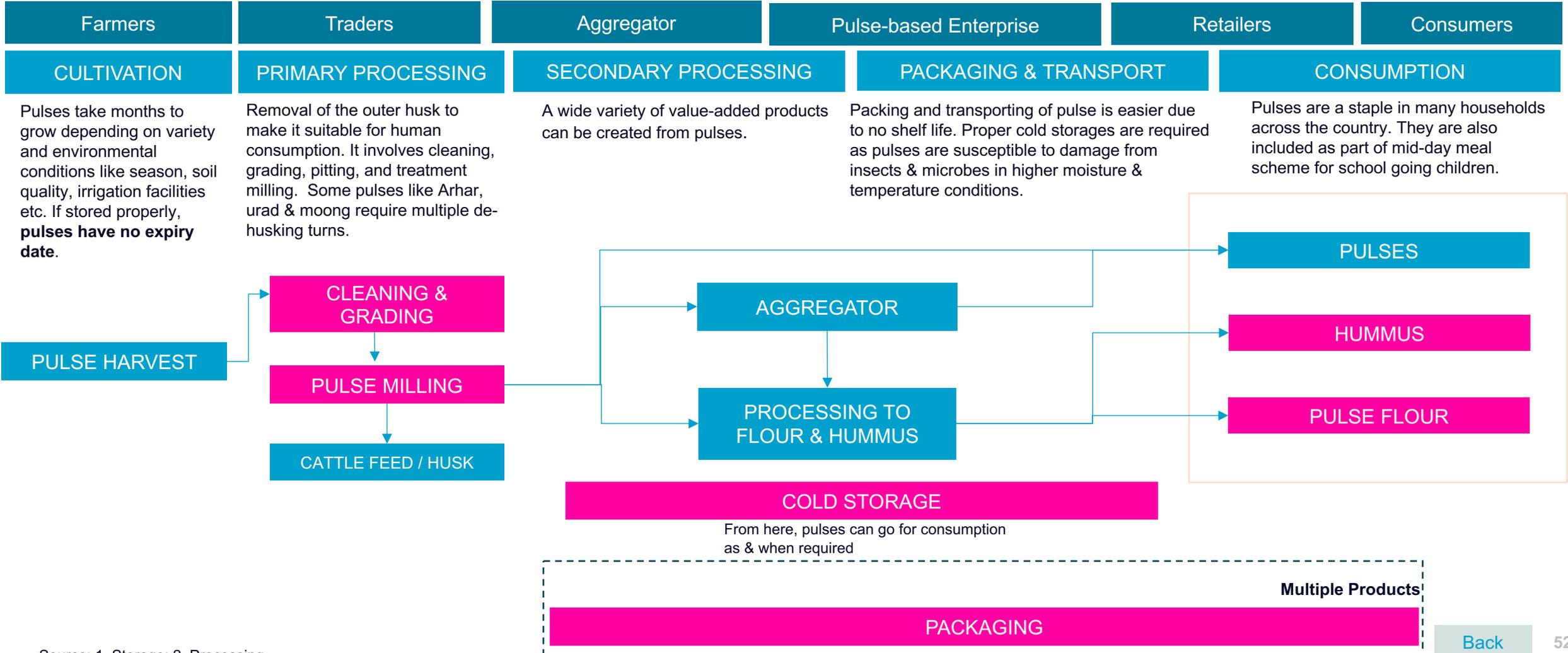
Pulse Value Chain Stages

- Actors in the Value Chain
- Stages in the Value Chain
- Opportunities for Youth

05 Means to boost economic activity
 Value Chains Opportunities
 Small Business Opportunities
 Food System Opportunities

Context/Description:

The pulse processing value chain includes intermediaries like village-level aggregators, mandi traders, millers, brokers and commission agents, stockists, and retailers who buy and sell different kinds of pulses and its value-added products at different prices and stages.



Pulse Value Chain Prices & Products

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Type of Pulse	CAGR	Cropping season	MSP (INR per Kg) – Converted from Quintal rate	Wholesale Prices (INR per Kg)	MRP		
					Packaged & Branded Grain (INR per Kg)	Value Addition Flour (INR per Kg) (CAGR of 10.5% from 2023-33)	Value Addition Hummus – INR per Kg
Arhar (DTM)	9.4% from 2024-29	Kharif	63	110	200	-	-
Chickpea (ETM)	5% from 2023-28	Rabi	52.30	72.5	230	175 (CAGR of 5.2% from 2018-26)	450 (CAGR of 12.17% from 2021-28)

Note:

- Depending on adherence of husk to grain, the pulse grains need to be passed through mills 2-8 times. Pulses that require higher number of rounds in the mills are classified as DTM (Difficult to Mill) and the ones requiring less are classified as ETM (Easy to Mill)
- These prices are indicative to denote price range expected from different products of different pulses.

Pulse Value Chain Opportunities (1/3)

H - High Investment Institutional Partnerships

M - Moderate investment cooperatives

L - Low investment livelihood enablement

Rural Consumers



Urban Consumers



International Consumers



05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 1: Pulse Cleaning & Grading



Opportunity

Youth can setup plants for part-processing activities like cleaning & initial grading and then sell to mills in the area at 5-10% margin. This will increase the profits for locals and establish a supply chain for mills. Founder of India Grain was willing to train youth in their factories.



Operations

- In districts with substantial pulse production and insufficient processing capacity
- FPOs (Farmer Producer Organisations) would be ideal entities for setting up cleaning operations engaging 5 youth
- Produce from multiple smallholder farmers can be processed here increasing their profit margins
- Sell the cleaned pulse to big mills in the region
- Capacity: **1000 kg/hr**

Fixed Cost
INR 3.25 Lakh



Earning Potential
INR 60,000 per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 3.25 Lakh	For dal cleaning & grading setup (1000 kg/hr)
Working Capital	Refer to slide	Procuring Pulses
Revenue Stream		
Average monthly profit	INR 3 Lakh (assuming 5% margin)	5-10% margin on MSP of the respective pulse split equally between the group of 5. Assumed capacity utilization of 70%

Opportunity 2: Pulse Mill Setup



Opportunity

Industry partner can setup pulse mills in the districts where pulse production is considerable, but no mills are present. Youth can act as aggregators and sell to these mills at a competitive price. These mills can generate jobs for local youth as well.



Operations

- In districts with substantial pulse production and insufficient processing capacity
- Made up of 4 stages: Dryer (15 lakh) Color sorting (25 lakhs) Drill Machines, Cleaner, Destoner (25 lakhs) Fabrication (15 lakh) + Electrical work, Connections, Generator, Electrical, Maintenance, employing 20 youth
- Procure raw material (pulses) from local farmers
- Sell the finished product to an established company or create own brand

Fixed Cost
INR 1 Cr



Earning Potential
INR 30,000 per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 1 Cr	For 3 Tons capacity
Working Capital	Refer to slide	Procuring pulses, electricity
Revenue Stream		
Sale to brands	20% margin	Follow their pre-requisite
Self Branding	100-200% margin	Certification standards research required
Net Profit (Average monthly)	INR 21,00,000	2.5 Tons per hours capacity and 10% margin. Assuming 30% of the profit is paid as salary to 20 employees

Pulse Value Chain Opportunities (2/3)

H - High Investment Institutional Partnerships	M - Moderate investment cooperatives	L - Low investment livelihood enablement
Rural Consumers 	Urban Consumers 	International Consumers 

05 Means to boost economic activity
Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 3: Pulse Flour (Besan)

Opportunity

Besan is used in a wide range of applications, including bakery and confectionary, extruded products, beverages, animal feed, and dairy products. The global Chickpea Flour market is expected to be growing at a **CAGR of 5.2 % between 2018 & 2026**



Operations

- Yellow chana dal can be procured at wholesale rates
- Processing Unit will require leasing land, procuring machinery, electricity connection
- Even with a capacity utilization of 50% in the first year, a gross profit upto 10 LPA can be obtained
- 6-7 Manpower will be required in operating it. **Capacity: 288000 kg per annum**
- Final product can be sold to established company or own brand can be started

 **Fixed Cost**
INR 11 Lakh

 **Earning Potential**
Avg INR 8,000 salary
per month

Financial Feasibility²

Details	Costs	Assumptions
Fixed Capital	INR 11 Lakh	Procuring Assets (Plant, machinery etc)
Working Capital	INR 8 Lakh	Procuring inputs, electricity
Labor and staff cost	INR 6.82 Lakh	7 employees, Average salary INR 8,000 per month
Gross Profit Projection		
Y1	INR 10.5 Lakh	50% capacity utilization
Y5	INR 21.31 Lakh	70% capacity utilization
Net Owner Profit	Y1 – INR 2.7 Lakh to Y5 – INR 10.7 Lakh	Monthly – 2.7 Lakh / 12 = INR 22,500

Opportunity 4: Hummus

Opportunity

Hummus is a good source of plant-based protein. It has fiber, vitamins & minerals like manganese, copper, iron, and is helpful in promoting heart health & support blood sugar management. The global hummus market is expected to grow at a **CAGR of 12.17%** in the 2021-28 period. Packaged hummus has a shelf life of 1 month



Operations

- Procure chickpea at wholesale rates
- Personal capital or subsidies from government schemes can be utilized to purchase equipment.
- Process includes soaking, pressure cooking, grinding, blending other ingredients & homogenization
- **Capacity: 300 Kg/hr**; Monthly Capacity: 48000 Kg, engaging 5 youth
- Final product to be packaged and sold. Key will be identifying the markets to sell the product.

 **Fixed Cost**
INR 1 Lakh

 **Earning Potential**
INR 1.12 Lakh
per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 1 Lakh	Boiler, Grinder, Mixer, Filler
Working Capital	INR ~20-50 Lakh	Cost of raw materials (Monthly, 40-100% capacity)
Revenue Stream		
Packaging & selling (@400/kg)	INR 0.76-1.92 Cr	Check for certifications like FSSAI that will be needed
Profit	INR 0.56-1.41 Cr	Monthly Profits (40-100% capacity Utilization) shared by the group of 5 people

Pulse Value Chain Opportunities (3/3)

H - High Investment
Institutional Partnerships

M - Moderate investment
cooperatives

L - Low investment
livelihood enablement

Rural
Consumers



Urban
Consumers



International
Consumers



05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 5: Packaging Enterprise



Opportunity

Youth can be engaged in a simple packaging enterprise where processed pulse products and polished / unpolished can be packed as per the requirement and supplied to local retailer and supermarkets. **They can have collaborations with enterprises and mills working in the area.**



Operations

- Setting up the packaging space and access to storage facility
- Printing labels and procuring packing bags of different sizes
- Rent, transport and labor cost will vary based on the district

Fixed Cost
INR 50,000

Earning Potential
INR 27,000 per month

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 50,000	Space for packaging set up and storage [Rent] Vacuum packing machine INR 40,000 + Label Printers INR 10,000
Working Capital	Refer to slide	Raw material of plastic vacuum bags INR 3 per piece: INR 9,000 Raw material of 3000 kg of products/pulses
Revenue Stream		Packets of 1kg size – 3000 bags can be packed in a month
Packaged Products		Packaged flour, papad, batter, pulses
Net Profit (Average monthly)	INR 27,000 (assuming 10%)	10-100% margin depending on product & branding 1 person is operating one unit

Opportunity 6: Cold Storage



Opportunity

Cold Storage are energy-efficient and portable appliances that help reduce food loss by storing perishable food commodities. Pulses are often stored for months at a time, so seasonal storage options are required.



Seasonal Model

- Leasing the cold storage to farmers/entrepreneurs for short time frame (3-5 months) to store produce that is seasonal and perishable. The same cold storages can be used for other grains, fruits & vegetables during rest of the year.
- The service model where the refrigeration service is paid according to the time frame of leasing.
- Each enterprise can employ around 5 people

Cost
INR 14,00,000 for a 5 MT capacity cold storage

Earning Potential
INR 4,500 per month per person

Small Millets



Small Millets Value Chain Overview

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Context/Description:

Small Millets are small-grained cereal grasses that are highly nutritional and widely known for food and fodder. **India is the largest producer of Small Millets** where 6 different varieties are cultivated across different states and regions.



FINGER MILLET



LITTLE MILLET



PROSO MILLET



KODO MILLET



FOXTAIL MILLET



BARNYARD MILLET

Key Characteristics:

- Very **high nutritional** value grain which is a rich source of magnesium, carbohydrates and dietary fiber while being gluten free.
- **Climate resilient crop** able to withstand dry/hot climate and can grow under drought conditions and very low rainfall regimes.
- **Very less water is required** to grow small millets and its cultivation is known to have a very low carbon and water footprint
- **Short cultivation lifecycle** of 12-14 weeks, often grown in rotation with other crops improving the soil fertility in the process.
- **Low investment is needed for cultivation and processing** and have become a great source of income for tribal and marginal farmers.

Production Statistics:

Country Data (2021-22) ¹	Area (000' ha)	Production (000' t)	Yield (kg/ha)
India	479	370	772

Market Trends:

The **global millet market size** reached USD 12.33 billion in 2022 and is expected to reach USD 16.27 billion by 2028, exhibiting a **growth rate (CAGR) of 4.60% in the next 5 years**. The escalating demand for large-scale millet cultivation as a staple crop, emerging trend of vegan and vegetarian diets, and growing awareness regarding health and fitness among the consumers represent some of the key factors driving the market.²

Millets export from India has continued its upward trend during 2021-22 and has attained an all-time high of USD 62.95 million mark for the first time in the history of millets export.³

With the aim to create awareness and increase production & consumption of millets, the UN, at the behest of the Government of India, declared **2023 as the 'International Year of the Millet'**.⁴

The estimated **millet yield in India has more than doubled since 1966**. India's average yield in millet farming (2021-22) is 1208 kgs per hectare and those of **small millets is 772 kgs per hectare**.

The **area and production of small millets have been decreasing** due to the cultivation of cereals, pulses, and commercial cash crops.

The **productivity of small millets is drastically increasing** due to the availability of high-yielding varieties and new cultivation technology adoption.⁵

Value Added Products:

The demand for small millets is increasing in upcoming markets due to value-added products like ready to eat snacks, beverages, ready to cook items, edible cutlery and even fodder for animals.

Small Millets Value Chain in Jharkhand

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Context/Description

Jharkhand being a tribal area has a rich history of millet-based diet system.³ As the **climate is very suitable** for the cultivation of millets in the state,¹ Pearl Millet (Bajra), Sorghum (Jo-war) and Finger Millet (Ragi) are the major millet are grown.

The Government of Jharkhand is promoting Millets specially Finger Millet, which is grown in the state in a very scattered manner.

Due to the high nutritive value of millets the state is also promoting millets and is mostly being served in **midday meals for schools, children & hospitals.**²

Challenges in value chain ecosystem

- Farmers have shifted from millets to more profitable crops in kharif such as soybean, maize, cotton, etc.
- Changing food habits and consumer preferences due to rapid urbanization and rising income levels.
- Non-availability of modernized millet processing machines and difficulty in processing of small millets
- Poor quality of the grains and lack of market support and linkages.
- Need for tailored marketing and development of recipes for ready-to eat products.

Schemes and initiatives

Jharkhand Small Millets Mission: This mission was launched in 2018 to promote the cultivation, processing, and marketing of small millets in the state. The mission provides subsidies to farmers for growing small millets and supports the development of processing and marketing infrastructure.

National Food Security Mission (NFSM): The NFSM is a central government scheme that provides subsidies to farmers for growing a variety of crops, including small millets. In Jharkhand, the NFSM is being used to promote the cultivation of **finger millet and kodo millet.**

Mukhyamantri Krishi Yojana: This state government scheme provides financial assistance to farmers for a variety of agricultural activities, including the cultivation of small millets.

Tribal Sub Plan (TSP): The TSP is a centrally sponsored scheme that aims to improve the socioeconomic conditions of tribal people. In Jharkhand, the TSP is being used to promote the cultivation and marketing of small millets among tribal farmers.

Examples of key stakeholders in the State

Government Bodies and Ministries



Agriculture Department The National Food Security Mission Ministry of Food Processing Industries

Academia/ Research and Skilling Institutions



Indian Council of Agricultural Research Indian Institute of Millets Research Birsa Agricultural University

Donors and Foundation



The Millet Foundation International Fund for Agricultural Development Reliance Foundation UNDP



Nestle ITC HUL Britannia

Enterprises / FPOs



Small Farmers Agribusiness Consortium Gramin Vikas Trust

NGOs / CSOs



Action for Social Advancement (ASA) Dhan Foundation Rural Self Employment Training Institutes Foundation for Ecological Security Green Peace

Bank / Financial Institutions



National Bank for Agriculture and Rural Development

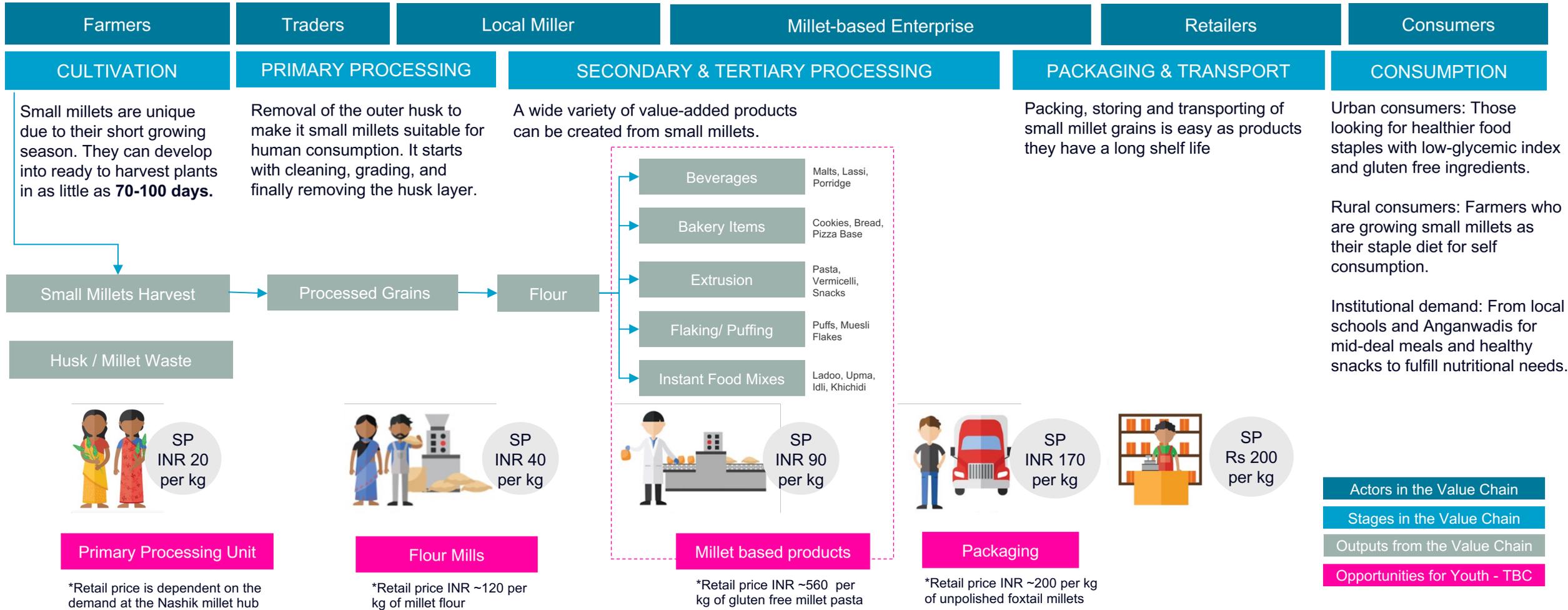
Small Millets Value Chain Stages

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Context/Description:

The millet value chain includes several intermediaries, including village-level aggregators, mandi traders, millers, brokers and commission agents, stockists, and retailers who buy and sell different kinds of small millets varieties and its value-added products at different prices and stages.



- Actors in the Value Chain
- Stages in the Value Chain
- Outputs from the Value Chain
- Opportunities for Youth - TBC

Note: Values of outputs at every stage of the value chains are taken from different publicly available sources and are subject to being updated if reliable data is available at district level. SP = Selling Price at Wholesale level

Small Millets Value Chain Opportunities (1/3)

H - High Investment
Institutional Partnerships

M - Moderate investment
cooperatives

L - Low investment
livelihood enablement

Rural
Consumers



Urban
Consumers



International
Consumers



05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 1: Primary processing mill



Opportunity

Small millets including foxtail, Little, Kodo, Proso, Barnyard are husked millets and require a primary processing of removing the outer husk. Youth can set up these processing mills in villages and enable farmers to get a better price for their grains and reduce the drudgery of manual processing prevalent across rural districts.



Operations

- Supporting in setting up the space and machinery required
- The enterprise can **offer milling service to local people** on a custom hiring basis and **function as a commercial small-scale processor**.
- Capacity of the processing mill is 500kgs in a day – (15000 kgs a month)
- Raw material can be procured from the mandis or directly from farmers

Fixed Cost
INR 75,000

Earning Potential
INR 17,500 per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 75,000	Machine, Space to install (Grader, Destoner, Dehuller)
Working Capital	INR 3,75,000	Raw material of 15000 kg @ INR 25/ kg of small millets Sources from farmers or shopkeepers at mandi rate
Revenue Stream		
Processed millets	INR 4,80,000	Selling 12000 kgs of processed millets (approx. 80% of raw material) to local retailers at INR 40/ kg
Milling services	INR 22,500	Service to 150 farmers (50kg millet each) @ INR 3/ kg
Net Profit	INR 52,500	The profit is equally shared between 3 family members

Opportunity 2: Flour Mills



Opportunity

Youth can look at setting up a local flour mill catering to the nearby villages and farmers to process their small millets into millet flour. These enterprises are suitable for communities who travel more than 5kms for milling. You can sell branded packets of flour to retailers as well.



Operations

- Support in setting up a solar powered AC flour mill
- Capacity of a 1 HP machine is 10kg per hour
- Can cater to a maximum of 30 households in a day
- Rent, transport and labor cost will vary based on the district
- Can employ 2 people in an enterprise

Fixed Cost
INR 45,000

Earning Potential
INR 36,800 per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 45,000	Machine, Space to install the machine
Working Capital	INR 1,10,000+ INR 10,000	Raw material of 2500 kg @ INR 40/ kg of small millets Packaging cost 10% of raw material INR 10,000
Revenue Stream		
Millet Flour	INR 2,25,000	Selling 2250 kg of Millet Flour (approx. 90% of raw material) to local retailers at INR 100/ kg
Chakki services	INR 3,600	Service to 30 households (20kg millet each) @ INR 6/ kg
Net Profit	INR 73,600	Monthly profits shared by a group of 2 people

Small Millets Value Chain Opportunities (2/3)

H - High Investment Institutional Partnerships	M - Moderate investment cooperatives	L - Low investment livelihood enablement
Rural Consumers 	Urban Consumers 	International Consumers 

05 Means to boost economic activity
 Value Chains Opportunities
 Small Business Opportunities
 Food System Opportunities

Opportunity 3: Millet Pasta & Vermicelli



Opportunity

Ready-to-eat millet products like Millet Vermicelli, Pasta, Flakes, and Puffs are emerging products and becoming more familiar in households today. Youth can set up small-scale enterprise that makes ready to cook millet products (vermicelli and pasta) and supply to retailers in nearby cities.



Operations

- Support required to set up the machines and processing plant.
- Pasta and Vermicelli can be made using the same machine by changing the dice.
- Youth can use the formula of ingredients, 350ml water per kg of millet flour. No salt or sugar
- Process of mixing the raw material, extruding, roasting or drying, and packing the output.
- Rent, transport and labor cost will vary based on the district
- Can employ 2 full-time people and 1 part-time person in an enterprise

 **Fixed Cost**
 INR 11,00,000

 **Earning Potential**
 INR 83,200 per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 11,00,000	Space for packaging set up and storage – Machine capacity 12kg/ hour
Working Capital	INR 3,05,000	Monthly raw material 3000kg millet flour @ INR 100/ kg Electricity INR 5000 (Packaging + Label cost INR 3/ pack)
Revenue Stream		90% output of raw material after processing 50% split in vermicelli and pasta being made and sold
Vermicelli	INR 2,43,000	1350kg- Selling price @ INR 180/ kg (Wholesale Price)
Pasta	INR 2,70,000	1350kg- Selling price @ INR 200/ kg (Wholesale Price)
Net Profit	INR 2,08,000	Monthly profit shared by 2 full-time and 1 part-time employee

Opportunity 4: Millet Cookies



Opportunity

Today, when we see biscuits in the market that are mostly made of refined cereals (maida) but when they are made with millets, will be a healthy choice. Youth can be engaged in a millet bakery unit making cookies. These can be sold in the district and supplied to retailers in nearby cities.



Operations

- Support required to set up the machines and processing plant.
- Youth can use the formula of ingredients, Water, millet flour, salt, baking powder
- Process of mixing the raw materials, baking, cutting and packing the cookies
- Rent, transport and labor cost will vary based on the district
- Can employ 2 full-time people and 1 part-time person in an enterprise

 **Fixed Cost**
 INR 3,50,000

 **Earning Potential**
 INR 94,000 per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 3,50,000	Planetary Mixer INR 1.2L capacity of 50kg/ batch Cookies cutting machines INR 80,000 Rotary Convection Oven INR 1.5L capacity 100kg/ batch
Working Capital	INR 3,05,000	Raw material 3000kg millet flour at INR 100/ kg Electricity INR 5000 (Packaging + Label cost INR 3/ pack)
Revenue Stream		
Cookies	INR 5,40,000	Selling price @ INR 180/ kg; 3000 no.s 1kg packs
Net Profit	INR 2,35,000	Monthly profit shared by 2 full-time and 1 part-time employee

Small Millets Value Chain Opportunities (3/3)

H - High Investment Institutional Partnerships	M - Moderate investment cooperatives	L - Low investment livelihood enablement
Rural Consumers 	Urban Consumers 	International Consumers 

05 Means to boost economic activity
Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 5: Millet Instant Mix (Laddoo)



Opportunity

Millet ready to eat mix are growing popularity and even being sent thousands of Aanganwadi Centers for children for their great nutritional value. They can also be a sweet substitute for diabetic patients, gluten free and safe for celiac patients and can be sold to hospitals. Youth can explore preparing millet mix which requires low to medium investment and has great demand.

Operations

- Setting up the enterprise at home or a commercial space
- Mixing raw material like millet flour, sugar, dry fruits etc.
- Formulated packs have a shelf life of 3 months
- Mix can be distributed to retailers in cities, schools, hospitals
- Can employ 2 people in an enterprise

 **Fixed Cost**
INR 10,000

 **Earning Potential**
INR 25,000 per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 10,000	Space, Equipment
Working Capital	INR 2,10,000	Raw material 1000kg millet flour at INR 100/ kg Other Raw material of powered sugar Packaging + Printing cost
Revenue Stream		
Millet mix	INR 20,00,000	Selling price @ INR 200/ pack; 10,000 packs
Net Profit	INR 50,000	Monthly profit shared by a group of 2 people

Opportunity 6: Packaging Enterprise



Opportunity

Nowadays retailers are dedicating separate aisles and shelves for millet-based products. Youth can be engaged in a simple packaging enterprise where processed millets can be packed as per the requirement and supplied to local retailer and supermarkets.

Operations

- Setting up the packaging space and storage facility
- Printing labels and procuring packing bags of different sizes
- Youth can source the best quality millets and build their brand
- Rent, transport and labor cost will vary based on the district
- Can employ 3 people in an enterprise

 **Fixed Cost**
INR 50,000

 **Earning Potential**
INR 57,000 per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 50,000	Space for packaging set up and storage [Rent] Vacuum packing machine INR 40,000 + Label Printers INR 10,000
Working Capital	INR 1,29,000	Raw material of plastic vacuum bags INR 3/ piece: INR 9,000 Raw material of 3000 kg of millets INR 40/ kg: INR 1,20,000
Revenue Stream		Packets of 1kg size – 3000 bags can be packed in a month
Processed millets	INR 3,00,000	Selling 3000 kgs of millets to retailers at INR 100/ kg
Net Profit	INR 1,71,000	Monthly profit shared by a group of 3 people

Goat



Goat Value Chain Overview

Context/Description:

Goat is a very important component in dry land farming system and are mostly reared by small & marginal farmers. Goats are reared for milk and meat. India is the largest exporter of goat and sheep meat to the world and exported 9,592.31 MT worth INR 537.18 Cr during 2022-23.



Black Bengal goat



Barbari



Jamnapari



Sirohi

Key Characteristics:

- **Low initial investment** required. Due to small body size and docile nature, housing and management problems are low
- Goats are **prolific breeders** and achieve sexual maturity at the age of 10-12 months. Gestation period in goats is short and at the age of 16-17 months it starts giving milk.
- The **goat meat is more lean (low cholesterol)** and relatively good for people who prefer low energy diet, especially in summer.
- It can reach the size suitable for butchering in **6-7 months**. Goats are sold on live weight basis.
- **50-55%** meat is available of the total weight of the goat.
- **Goat milk** is easy to digest than cow milk because of small fat globules and is naturally homogenized. It is non allergic, has anti-fungal and anti bacterial properties and can be used for treating urogenital diseases of fungal origin.
- Black Bengal goat is reared for meat; Osmanabadi, Sirohi and Barbari are reared for both meat and milk; and Jamnapari is reared for milk

Note:

1. Mutton often means goat meat in South Asian and Caribbean cuisine. In other parts of the world, mutton refers to lamb/ sheep meat

Source: 1. [OEC](#), 2. [Reportlinker](#), 3. [APEDA Report](#), 4. [Statista](#), 5. [Hindustan Times](#), 6. [Deccan Chronicle](#), 7. [Licious](#), 8. [SARE](#)

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Production Statistics:

- According to the 20th Livestock census (2019), India has a total goat population of **148.8 Million**

Market Trends:

- In 2021, Goat meat, fresh, chilled or frozen had a total global trade value of \$446M. In 2021 the top importers of Goat meat, fresh, chilled or frozen were United States (\$146M), United Arab Emirates (\$94.2M), Saudi Arabia (\$43.1M), South Korea (\$19.6M), and Portugal (\$16.4M).¹

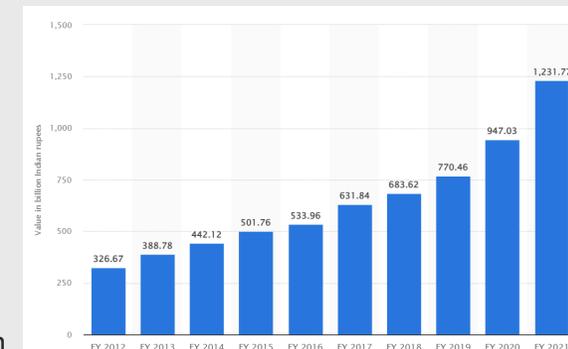
Global consumption for goat meat is expected to reach **14.4 million tons by 2026** with a CAGR of 0.1% from 2017.²

- India is the largest exporter of Sheep & Goat meat to the world and has exported 9,592.31 MT to the world worth INR 537.18 Crores/ \$ 66.92M during 2022-23.

Major Export Destinations(2022-23): UAE, Qatar, Kuwait, Maldives and Oman.³

- The **gross value added from mutton** was over **INR 1.23 trillion** across India in fiscal year 2021 and it has seen a steady increase over the past decade at a CAGR of 15.9% since FY12.⁴

- The increasing demand for mutton in the South Indian states and Maharashtra has pushed the price as high as **INR 600/ kg**⁵ which can go up to **INR 800/ kg** during festival season⁶ On online platforms like Licious the price of boneless mutton can be in the range of INR 1200-1400/ kg⁷



Gross value added from mutton in India from financial year 2012- 2021³

Value Added Products:⁸

Meat: Fresh chevon (goat meat), specialty cuts, frozen meat, sausages

Milk: Milk, milk powder, ghee, goat cheese (artisanal), soaps, lotion

Hide products: Kid gloves, drum tops, coats, boots, belts, art

Goat Value Chain in Jharkhand

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Context/Description

Jharkhand ranks 8th in goat production in India with a goat population of **9.12M** (2019 Livestock Census). It is a good opportunity for landless farmers.

Total meat is 50-55% of goat's weight. Goats are sold at ~INR 6000/ goat. Head, leg, skin, intestine earns retailers about 1500/ goat. Many layers of middlemen is present between farmers & consumers of meat which reduces the income earned by farmers. Minimum prices should be ensured by cooperatives to prevent distress selling.

There is not much scope for goat milk in Jharkhand.

Major breeds are **Black Bengal goat** and some mixed breeds.

Forward linkage: Purchase agreements can be made between Farmer Producer Organizations and corporates like Licious.

Challenges in value chain ecosystem

- **Housing management problem:** many farmers do not have proper sheds leading to health & sanitation issues
- **Lack of proper vaccination** (3-4 per year) can lead to high mortality rate. Animal husbandry department has limited resources which are focused on larger animals
- **Nutrition and diet management:** Mostly depend on natural grazing and leftover food in the household
- **Market linkage:** Currently the market is highly unorganized and highly dependent on middlemen. Need institutional marketing support from govt for cooperative
- The **govt. schemes** currently benefits only people who are close to the department personnel
- **Interbreeding** leads to reduced quality and growth rate
- **Lack of knowledge** on improved breeding practices, feed rate knowledge etc.

Schemes and initiatives

Establishment of breeding units: For breeding units with 500 females & 25 males of High Genetic Variety, up to 50% back ended subsidy will be provided for the capital cost of the project by the Central Govt. under National Livestock Mission¹

Genetic improvement of sheep & goat breeds: Regional Semen Production Laboratory and Semen Bank for sheep and goat, Import of exotic sheep and goat germplasm, Propagation of Artificial Insemination through existing cattle and buffalo Artificial Insemination centers¹

Livestock insurance: The benefit will be restricted to 50 goats per beneficiary per household. Subsidy for insurance premium will be paid as per following and will be implemented by State Animal Husbandry Department and State Implementation Agencies:¹

Category	Central share	State share	Beneficiary share
BPL/ SC/ ST	40%	30%	30%
APL	25%	25%	50%

Mukhyamantri Pashudhan Vikas Yojana (JH): Grant provided for buying good quality animals²

Examples of key stakeholders in the State

Government Bodies and Ministries	Academia/ Research and Skilling Institutions	Donors and Foundation	Corporate, Industry	Enterprises/ FPOs	NGOs / CSOs	Bank / Financial Institutions
 <p>DEPARTMENT OF ANIMAL HUSBANDRY AND DAIRYING</p> <p>Department of Animal Husbandry and Dairying</p>  <p>Dept. of Agriculture, Animal Husbandry & Co-operative, Govt of Jharkhand</p>	 <p>Central Institute for Research on Goats</p>	 <p>ICICI Foundation</p>	 <p>Licious</p>	 <p>New Jyoti Foundation</p>	 <p>Goat Trust</p>  <p>PRADAN</p>	 <p>NABARD</p> <p>National Bank for Agriculture and Rural Development</p>  <p>IDBI Bank</p>  <p>Canara Bank</p>

Note:

1. The meat production and export quantities are not available

Source: 1. DAHD, 2. MPVYJharkhand

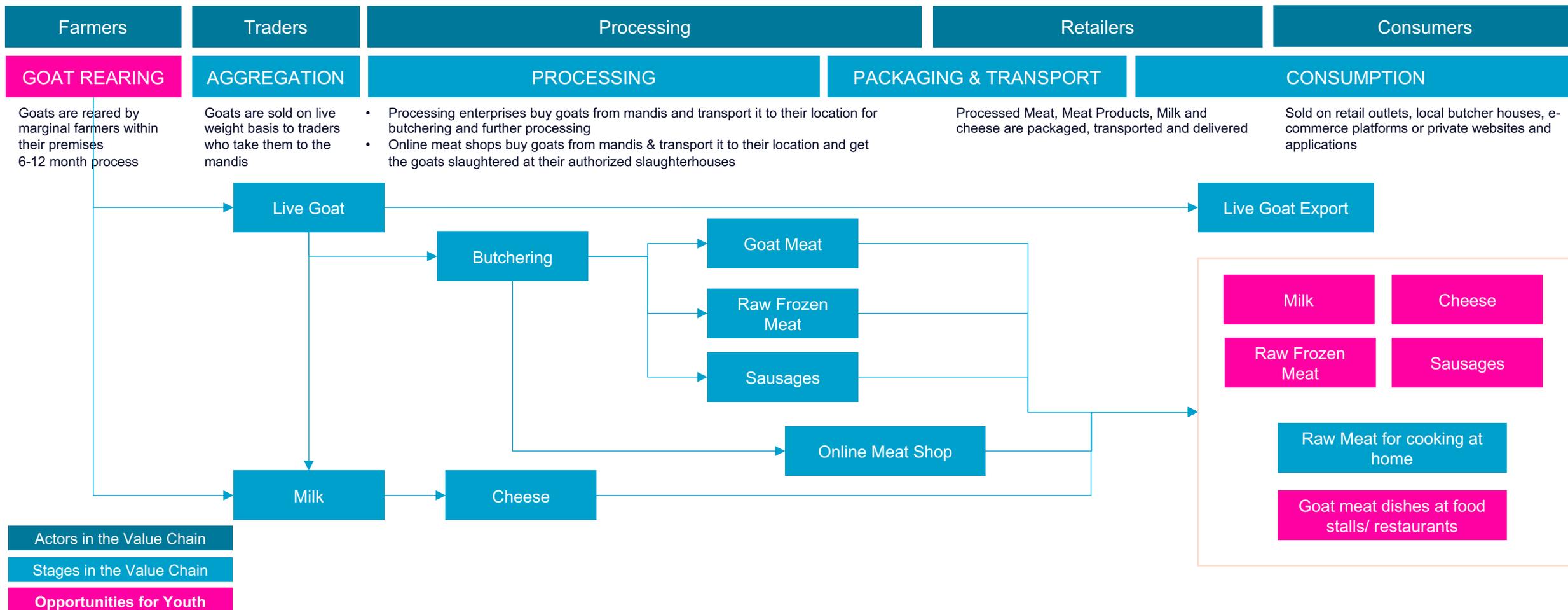
Goat Value Chain Stages

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Context/Description:

The goat value chain includes end products like fresh meat sold through physical/ online stores, mutton dishes sold in food stalls, processed items like frozen meat and sausages, milk and milk products like cheese. Below is a simplified view of the value chain to identify opportunities for youth which can be most suitable for the districts in scope.



Actors in the Value Chain

Stages in the Value Chain

Opportunities for Youth

Goat Value Chain Opportunities (1/3)

H - High Investment
Institutional Partnerships

M - Moderate investment
cooperatives

L - Low investment
livelihood enablement

Rural
Consumers



Urban
Consumers



International
Consumers



05 Means to boost
economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 1: Goat Farms



Opportunity

Young people can set up goat farms.

Products and services provided:

- **Goat Milk** (for consumption, medical and cosmetic products) - Pasteurized milk can be stored refrigerated for up to 6 months. If proper marketing can be done, milk and milk products can be exported to other states too. 1L of milk sold in glass bottles can be sold for up to INR 700 on e-commerce platforms. The demand for goat milk has gone up since the COVID-19 pandemic. The global goat milk market size was valued at USD 8.5 billion in 2018, and is expected to reach USD 11.4 billion by 2026, growing at a CAGR of 3.8% from 2019 to 2026.¹
- **Good quality kids (breeding stock)** - this can solve the issue of interbreeding which leads to reduced growth rate and quality



Other micro units within the farm:

- **Green Fodder/feed** - Hydroponic fodder stations² can be set up along with the goat farm to provide nutritious feed to the goat and sell excess fodder to farmers in the community. The fodder can be sold to other goat rearers or dairy farmers.

Operations

- Goats are prolific breeders and can produce 2-3 kids in 150 days.
- Generally, first-kidding have 1/ 2 kids, and in subsequent kiddings, there can even be 3-4 kids
- Lactation period generally lasts for 300 days
- Milk can be sold to cosmetics companies or to consumers directly
- Hydroponic fodder can be sold to other goat rearers or dairy farmers



Fixed Cost
INR 1,02,000



Earning Potential
INR 23,711
per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 1,02,000	Shed, feeding and watering equipment, land
Working Capital	INR 13,317	Monthly; Feed, healthcare
Revenue Stream		
Sale of kids	INR 12,500	Monthly; INR 3000 for 1 Jamnapari goat kid
Sale of milk	INR 62,500	Monthly; Goat milk is used in skin care products
Sale of hydroponic fodder	INR 9450	Monthly; @INR 7/ kg
Net Profit	INR 71,133	Monthly profit shared by a group of 3 people

Livelihood Opportunities

- Breeding farms can employ 2-3 individuals

Note:

1. If the 600L of milk produced in a month can be sold to wholesale buyers who would sell the pasteurized milk online, assuming a wholesale price of INR 300/ L, monthly profit from selling milk would be INR 1.63L

Source: 1. [AlliedMarketResearch](#), 2. [CEEW](#)

Assumptions

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Goat Value Chain Opportunities (2/3)

Opportunity 2: Goat meat dish stalls



Opportunity

OY can set up stalls in markets selling dishes like mutton curry, kebab etc. Many people don't eat mutton in restaurants as they fear that they might be served beef instead of mutton. By setting up stalls only selling mutton, this issue can be solved. The stalls can even sell take home meals and cater to small events.



Operations

- Setting up a stall in a market area after renting a space. The rented space could either be a room in a building or some land on which a kuccha stall can be set up.
- Procuring mutton from wholesale mutton dealers.
- Procuring masalas, vegetables and other ingredients that are needed for the dishes.
- Cooking in an open kitchen gives customers the opportunity to see the actual cooking process & meat used.
- This will act primarily as a retail outlet with the possibility of catering to larger events

Cost
INR 10,000

Earning Potential
INR 17,000
per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 10,000	Stall, Cooking Equipments
Working Capital	INR 1,28,000	Monthly; Rent, Mutton, Ingredients, Electricity
Revenue Stream		
Sale of mutton dishes	INR 1,62,000	Monthly; Selling @INR 180/portion, 30 portions per day
Net Profit	INR 34,000	Monthly profit shared by a group of 2 people

Livelihood Opportunities

- Mutton stalls can employ one person and if it is too busy it can employ 2 people

Note: Payment for mutton/ milk may be done daily or at end of the week payment arrangement

Source: 1. [Zionmarketresearch](#)

H - High Investment
Institutional Partnerships

M - Moderate investment
cooperatives

L - Low investment
livelihood enablement

Rural
Consumers



Urban
Consumers



International
Consumers



05 Means to boost
economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 3: Goat Cheese



Opportunity

OY can set up goat cheese manufacturing units. Goat cheese is suitable for people are lactose intolerant and is rich in nutrients like fats, protein, calcium, magnesium and potassium. It is used in salads, pizzas, tacos, wraps etc. Global goat cheese market is valued at USD 5.72 billion in 2022 and expected to grow to USD 8.64 billion by 2030 at a CAGR of 5.29% between 2023 and 2030.¹



Operations

- Milk can be procured from farms or cheese making can be combined with goat rearing
- Other ingredients include citric acid and salt (and flavoring ingredients like herbs)
- Citric acid (lemon/ vinegar) is the curdling agent and is added to the milk and heated till ~85°C and then left to cool
- The milk is sieved using a cheesecloth and allowed to drain for hours
- Salt is added to the drained cheese and placed in a mold. This is chilled to be set
- The cheese is packed and sold to wholesalers or to retail shops

Cost
INR 5,000

Earning Potential
INR 67,290
per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 5000	Utensils
Working Capital	INR 3,98,130	Monthly; Milk, LPG, ingredients, packaging
Revenue Stream		
Sale of goat cheese	INR 6,00,000	Monthly; 600 kg @ wholesale price of INR 1000/ kg
Net Profit	INR 2,01,870	Monthly profit shared by a group of 3 people

Livelihood Opportunities

- 3 people can be employed in the cheese making and packaging

Assumptions

Back

Goat Value Chain Opportunities (3/3)

H - High Investment Institutional Partnerships	M - Moderate investment cooperatives	L - Low investment livelihood enablement
Rural Consumers 	Urban Consumers 	International Consumers 

05 Means to boost economic activity
Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 4: Processed Items



Opportunity

OY can set up processing units for goat meat at district level to make value added products like sausages, ready to cook kebabs, frozen meat etc. Currently, there are no such processing facilities present in these districts. Currently, some brands sell seekh kababs and lamb sausages in India.



Operations

- Mutton can be directly procured from the farmers, hence cutting out the middlemen
- Slaughtering, cleaning, other processing activities and packaging
- Storage facility needs to be set up
- Market linkage- directly sell to restaurants or to supermarkets, BigBasket etc.

 **Cost**
INR 1,50,000

 **Earning Potential**
INR 1,17,400
per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 1,50,000	Equipment, electricity connection, food certifications etc.
Working Capital	INR 9,12,680	Monthly; Mutton, other ingredients, labor, electricity
Revenue Stream		
Sale of kabab	INR 15,00,000	Monthly; Assume INR 600/ kg for kababs
Net Profit	INR 5,87,320	Monthly profit shared by a group of 5 people

Livelihood Opportunities

- Processing units can employ 3-5 individuals

Opportunity 5: Cooling-as-a-service



Opportunity

Energy-efficient and portable cold storage appliances that help reduce food loss by storing perishable food commodities. Goat cheese, processed items, and meat can be stored in cold storage to improve shelf-life.



Cooling-as-a-service Model

- Leasing a portion of the cold storage to farmers/entrepreneurs for short time frame ranging from a few days to weeks.
- Service charges are a factor of storage volume and the time period of storage
- This service can be provided to multiple farmers for different commodities including milk and meat products
- Each enterprise can employ around 5 people

 **Cost**
INR 14,00,000

 **Earning Potential**
INR 4,500
per month per person

Note:
1. Payment for mutton may be done daily or at end of the week payment arrangement
2. 5MT capacity cold storage is considered for the calculations. 10 cold storages managed by groups of 5 people per district impacts over 1500 farmers

A top-down view of a white plate filled with numerous slices of ripe, yellow-orange mango. The slices are cut into various shapes, including cubes and wedges, and are arranged in a somewhat circular pattern. The background is a solid, light blue color. The word "Mango" is overlaid in white text on the left side of the image.

Mango

Mango Value Chain Overview

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Context/Description:

Mango is a tropical fruit that is indigenous to southern Asia and is widely cultivated in the different states in India. The trees are evergreen and reach up to 15-18 m in height. Mangoes can be as small as a plum or weight upto 1.8 to 2.3 kg. Mango is a rich source of vitamins and minerals including Vit A,B,C,E,K, copper and folate. It is a good source of antioxidants and immune-boosting nutrients.

Some popular varieties in India include:



Bombay Green



Chausa



Dashehari



Langra

Key Characteristics:

- The trees usually take at least **5 years to start bearing mangoes** and can remain in production for up to 40 years. Grafted trees can produce fruit in 3- 5 years.
- Ideal spacing of mango trees is 10 x 10 meters, around 82 trees can be planted in an acre.
- Mango trees grow best in **warm and tropical** climates with **well-draining soil**. It requires a **lot of sunlight** and must be protected from strong winds.
- Peak mango seasons runs from **May to September**
- Unusually **high temperatures** during the flowering season can affect the **mango harvest**.
- Intercropping can be done: Mustard, potato, turmeric, ginger etc. can be planted in between the trees. Beehives can also be placed in the orchard

Production Statistics:

- India is the **largest producer** of mangoes producing **24.7M tons** in 2023 followed by China (3.8M tons), Indonesia (3.6M tons), Pakistan (2.7M tons) and Mexico (2.4M tons)¹
- **UP** was the largest producer of mangoes **4.8 M tons** (23.64% of total production in India) in 2021-22 followed by Andhra Pradesh (4.6M tons) and Karnataka (1.7M tons)²
- **9.16%** of the total crop is lost as wastage. Loss at farm operations was 6.92% and the loss in storage was 2.24%.³

Market Trends:

- ✓ The global market for mango is expected to grow from USD 57.3 billion in 2021 to USD 77.9 billion in 2026 at a **CAGR of 6.3%**. The market size is then expected to grow at a CAGR of 8% to reach USD 114.7 billion in 2031. ¹¹
- ✓ India is the **leading consumer of mangos** worldwide and consumes most of the mangos it produces. ¹ Per capita consumption is estimated to increase by 3% p.a. during 2021-2030 (expected to be 28.4 kg ⁸ in 2030).⁴ Though India is the largest producer of mangoes in the world, it **exports less than 1%** of its total production.¹

- ✓ India is a prominent exporter of Fresh Mangoes to the world and has **exported 22,963.76 tons** worth **INR 378.49 Cr./ USD 48.53 million** during the year 2022-23.

Major Export Destinations (2022-23): UAE, U.K., USA, Qatar, and Kuwait.⁵

- ✓ India is also a major exporter of mango pulp and exported pulp worth INR 585 Cr. To major destinations like Saudi Arab, Yemen Republic, Netherlands, Kuwait and USA. Indian mango pickles are also in great demand and are mostly exported to the USA, Russia, Belgium, Netherlands, and France.⁶

Promotional activities: A **mango festival** was organized in Tokyo, **Japan** as a part of Azadi ka Amrit

- ✓ Mahotsav in March 2022⁹, and fresh mangoes (Alphonso and Kesar) were exported from Mumbai to Japan⁹ in March 2022. In June 2022, a Mango Festival was organized in **Brussels** to create awareness among the Europeans and create a market for Indian mangoes in Europe.⁴

- ✓ Globally, US and the European Union are the leading importers of mango. In January 2022¹⁰, the Indian government has secured the approval of the **United States** Department of Agriculture (**USDA**) for export of mangoes to USA. 1,095 tons of USD 4.35 million of mangoes were exported to USA in 2019-20.⁷

- ✓ **Challenges:** For longer transit routes, air shipments are the norm which makes the fruit expensive and therefore it can only reach a few select audiences, especially Indian/Pakistani consumers who understand the worth of these products. Local Europeans, Americans, Arabs or Europeans will not pay that high a price when cheaper alternatives are available. ⁴

Value Added Products:

Juice, pulp, puree, concentrate, jams, pickles, canned and frozen slices, wine, smoothies, chutney, leather, mango powder.

Mango Value Chain in Jharkhand

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Context/ Description

Jharkhand is the 14th largest producer of mangoes in India producing **0.41 M tons** (2.01% of total production in India) in 2021-22¹

The mango growing belt in Jharkhand consists of **Ranchi, Simdega**, Gumla, Hazaribagh, Dumka, Sahibganj, Godda²

The important varieties grown in Jharkhand are **Jardalu, Amrapalli, Mallika, Bombai, Langra, Himsagar, Chausa, Gulabkhas**.² These varieties are good for fresh consumption as well as processing.

Under **Birsa Harit Gram Yojana**, 25,000 acres of mango plantations were completed in Jharkhand by 2020-21.³

Strong domestic demand within the state was met by importing mangoes from other states which led to plantation of more mango orchards in the states especially in the tribal regions like Gumla⁴

Challenges in value chain ecosystem

- **Biennial bearing**: tendency of mango trees to bear a heavy crop in one year (On year) and very little or no crop in the succeeding year (Off year)¹⁵

Climate change has adverse impacts on mango cultivation....

- **Thunderstorms** at the start of the season and **heavy rainfall** leads to a significant decline in the mango production. Rainfall causes the mangos to fall of the trees before they are ready⁵
- Unseasonal rainfall, hailstorms and increased attacks by semi-looper caterpillars affected the quality of the mangoes.⁵
- High temperatures affects the insects that are responsible for pollination and damages the mango flowers reducing the production.⁶
- Erratic rainfall in Chhattisgarh also affects the crop⁷

Wastage of the crop:

- **9.16%** of the total crop is lost as wastage. Loss at farm operations was 6.92% and the loss in storage was 2.24%.⁸

Schemes and initiatives

- **Pradhan Mantri Kisan SAMPADA Yojana (PMKSY)**: Scheme to agro-marine processing covers mango as well⁹
- **Operation Greens**: Promotes Farmer Producers Organizations, agri-logistics, processing facilities and professional management for 22 perishable crops including mango¹⁰
- **Mission for Integrated Development of Horticulture (MIDH)**: Funds developmental programs for horticulture and provides technical advice & administrative support to State Govts/ State Horticulture Missions¹¹
- **Development of Commercial Horticulture through Production and Post-Harvest Management**: A credit-linked and back ended subsidy scheme supported by National Horticulture Board which covers mango¹²
- **Integrated Cold Chain and Value Addition Infrastructure Scheme**: To provide integrated cold chain and preservation infrastructure facilities, without any break, from the farm gate to the consumer¹³
- **Mango export promotion scheme**: financial assistance for purchase of insulated/reefer transport/mobile precooling units up to 40% of the cost subject to ceiling of Rs.100 lakhs¹⁴
- **Birsa Green Village Scheme**: Promotes mango & other fruit cultivation. Plantation work is being done in all districts under this scheme¹⁵
- **One District One Product (ODOP) Scheme**: This will provide the framework for value chain development and alignment of support infrastructure. Support for processing along with efforts to reduce wastage, proper assaying, and storage and marketing.¹⁶

Examples of key stakeholders in the State



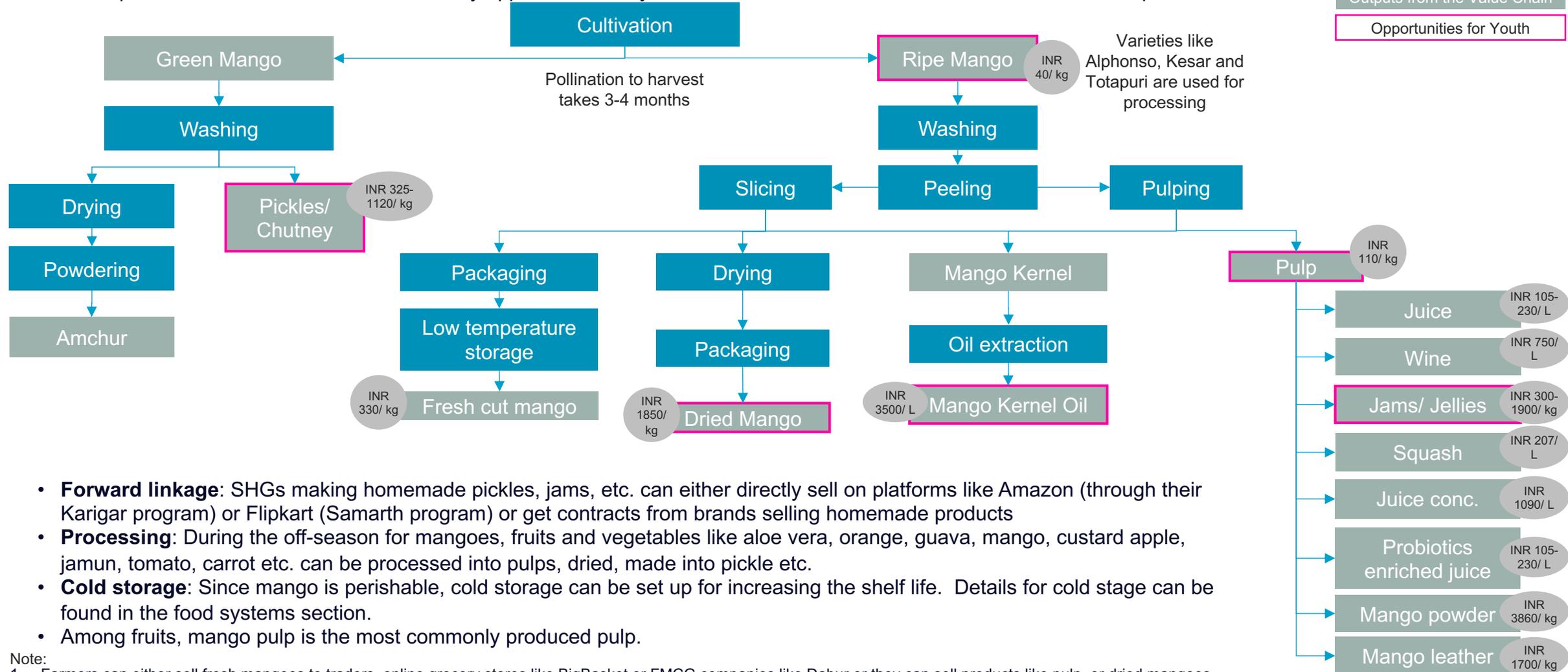
Note: Unable to identify donor foundations in the state through secondary research

Source: 1. [APEDA](#), 2. [APEDA](#), 3. [IndiaToday](#), 4. [ET](#), 5. [TOI](#), 6. [MOFPI](#), 7. [MOFPI](#), 8. [MIDH](#), 9. [NHB](#), 10. [MOFPI](#), 11. [PIB](#), 12. [UPHorticulture](#), 13. [TheWire](#), 14. [MOFPI](#), 15. [NHB](#)

Mango Value Chain Stages

Context/Description:

The mango value chain includes end products like fresh mangoes, pulp, ready to eat products like juice, wine, jam, pickle etc. Below is a simplified view of the value chain to identify opportunities for youth which can be most suitable for the districts in scope.



05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Stages in the Value Chain

Outputs from the Value Chain

Opportunities for Youth

- **Forward linkage:** SHGs making homemade pickles, jams, etc. can either directly sell on platforms like Amazon (through their Karigar program) or Flipkart (Samarth program) or get contracts from brands selling homemade products
- **Processing:** During the off-season for mangoes, fruits and vegetables like aloe vera, orange, guava, mango, custard apple, jamun, tomato, carrot etc. can be processed into pulps, dried, made into pickle etc.
- **Cold storage:** Since mango is perishable, cold storage can be set up for increasing the shelf life. Details for cold stage can be found in the food systems section.
- Among fruits, mango pulp is the most commonly produced pulp.

Note:

1. Farmers can either sell fresh mangoes to traders, online grocery stores like BigBasket or FMCG companies like Dabur or they can sell products like pulp, or dried mangoes.
2. Since Amchur is a captured market, it is not analyzed as an opportunity for youth.
3. Values of outputs at every stage of the value chains are taken from different publicly available sources/ interviews & are subject to being updated if reliable data is available at district level.

Mango Value Chain Products

05 Means to boost economic activity
Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Value added product	Description	Conversion Ratio (Fresh Mango : processed product)	Selling Price (INR per Kg or L of processed item)	Profit (INR per Kg or L of processed item)	Global Market CAGR
Pickle	Mango preserved in brine or vinegar with spices	1:1	600	300	2.8% over 2023-28 ¹
Pulp	Extracted by peeling and crushing the mango	1.67:1	110	36	8.7% over 2017-26 ²
Juice	Made by extraction or pressing of the natural liquids contained in the fruit	1.72:1	110	27	4.1% over 2016-24 ³
Wine	Alcoholic drink made from fermented fruit	2.25:1	750	570	10.32%* over 2022-28 ⁴
Jam	Spread made by boiling fruit and sugar to thick consistency	1.5:1	360	209	3.58% over 2023-28 ⁵
Squash	Made by combining concentrate and water	0.43:1	85	50	Not available
Juice concentrate	Made by heating the juice to evaporate a proportion of the fruit's water content	7.46:1	550	190	4.9%* over 2022-27 ⁶
Juice enriched with probiotics	Juice with added probiotics (live microorganisms) that have health benefits	1.72:1	110	27	Not available
Mango powder (fruit)	Mango fruit is cut, dried and powdered and can be used to make smoothies, milkshake etc.	5:1	1900	1500	4.2%* over 2023-28 ⁷
Mango fruit leather	Snack made by baking or drying mango puree	5:1	850	550	Not available
Mango kernel oil	Extracted from the mango seed commonly used in skin care products	333.33:1	1500	933	8.9% over 2022-28 ⁸

The most common varieties of mangoes used for processing are Alphonso, Kesar and Totapuri. Apart from these, Dashehari, Chausa, Langra and Bombay green are also used for processing.

Note:

1. Values of outputs at every stage of the value chains are taken from different publicly available sources/ interviews and are subject to being updated if reliable data is available at district level
2. The conversion rate is an average value for different type of mangoes
3. The selling prices are wholesale prices (assumed as 50% of the average retail price if wholesale prices are not available). The cost of mango is taken as INR 40/ kg
4. Since market growth for mango wine, mango juice concentrate and mango powder (fruit) were not available, CAGR for global market for fruit wine, juice concentrate, fruit powder respectively is considered.

Mango Value Chain Opportunities (1/3)

H - High Investment Institutional Partnerships	M - Moderate investment cooperatives	L - Low investment livelihood enablement
Rural Consumers 	Urban Consumers 	International Consumers 

05 Means to boost economic activity
 Value Chains Opportunities
 Small Business Opportunities
 Food System Opportunities

Opportunity 1: D2C Mango Delivery

Opportunity

OY can maintain their own mango fields or rent out mango orchards from farmers to manage the supply of fresh mangoes. They can undertake home delivery of farm-fresh mangoes to the customers reducing middlemen and hence, improved profits

Operations

- Mangoes are handpicked to avoid damages
- Mangoes are manually checked for wounds, sap marks, etc.
- They are graded into different quality and size
- Orders are received either via phone or website
- Proper packaging is done in cardboard cartons or crates
- Mangoes are couriered to the customers



 **Fixed Cost**
INR 80,000

 **Earning Potential**
INR 45,040
 per month (for 4 months) per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 80,000	Cost of leasing the orchard for a year
Working Capital	INR 44,800	Monthly; Labor, packaging, fertilizer, irrigation
Revenue Stream		
Sale of mangos	INR 2,70,000	Monthly; Mangoes are couriered to customers
Net Profit	INR 2,25,200	Monthly for the 4 months of fruiting season, shared by a group of 5 people

Livelihood Opportunities

- Opportunity and the labor requirement is seasonal
- ~10 Farms per district employing 4-5 youth in the season

Opportunity 2: Mango Pulp

Opportunity

Mango is a highly perishable fruit & becomes unconsumable very soon after ripening. ~30-35% of mango is lost in harvest and post-harvest phase.¹ Ripe mangoes can be made into pulp increasing the shelf life and can be sold to FMCG companies, restaurant chains etc. There is export demand. Global Mango Pulp Market is accounted for USD 995 million in 2017 and expected to grow at a CAGR of 8.7% to reach USD 2110 million by 2026.¹

Operations

- The mangoes are pulped in a pulping machine
- Pasteurization of mango pulp is done at 130-135°C to increase the shelf life of mangoes followed by packaging
- Packaging of pulp is done, and it is stored refrigerated till it is sold or processed further



 **Fixed Cost**
INR 60,000

 **Earning Potential**
INR 1,09,900
 per month (for 4 months) per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 60,000	Solar powered pulping machine
Working Capital	INR 3,92,000	Monthly; Mangoes (10.8 tons/ month), packaging
Revenue Stream		
Sale of mango pulp	INR 8,31,600	Monthly; for 4 months
Net Profit	INR 4,39,600	Monthly; Equally split between 4 people

Livelihood Opportunities

- Mango pulping is a seasonal activity and other vegetables and fruits can be processed during the rest of the year using the facilities

Mango Value Chain Opportunities (2/3)

H - High Investment
Institutional Partnerships

M - Moderate investment
cooperatives

L - Low investment
livelihood enablement

Rural
Consumers 

Urban
Consumers 

International
Consumers 

05 Means to boost economic activity
Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 3: Dried Mangoes

Opportunity

Ripe mangoes can be dried to increase the shelf life and it is used in desserts. Dried mangoes can be stored for 6-12 months. ~25% of mango is lost in post-harvest phase. So, processing mangoes into dried mangoes can help reduce the wastage of mangoes. Demand for dried mango in Europe is expected to grow at 5-6% per year.¹



Operations

- 13-14 kgs of mango is required to obtain 1kg of dried mango
- Mangoes are washed, peeled, sliced & blanched in hot water
- It is then placed in drying trays and into the drying chambers
- Packaged and sealed for increased shelf life

 **Fixed Cost**
INR 30,000

 **Earning Potential**
INR 22,800
per month (for 4 months) per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 30,000	Solar drier
Working Capital	INR 1,47,600	Monthly; Mangoes, Packaging
Revenue Stream		
Sale of dried mangoes	INR 2,16,000	Monthly; Assuming INR 600/ kg as the wholesale price
Net Profit	INR 68,400	This includes the salary of the entrepreneur and 2 family members

Livelihood Opportunities

- This is a seasonal activity (4 months) and other fruits and vegetables can be processed during the rest of the year

Opportunity 4: Mango Kernel Oil

Opportunity

Mango kernel oil is used in skincare formulations and moisturizers. It is also used in aromatherapy. OY can collect mango seeds from the mango processing units at minimal cost and can set up kernel oil extraction units. Global mango seed oil and butter market is anticipated to grow at a significant CAGR of 8.9% during 2022-28.²



Operations

- Mango seeds are washed, cleaned and dried
- Oil can be extracted from the seeds using hydraulic pressing
- Mango kernel contains 7-11% of oil¹
- The mango kernel oil is refined and then packaged suitably for sale
- By-products (kernel waste) can be used to feed livestock

 **Fixed Cost**
INR 12,10,000

 **Earning Potential**
INR 2,43,000
per month per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 12,10,000	Oil extraction machine
Working Capital	INR 4,15,417	Monthly; Kernel, electricity, packaging, transportation
Revenue Stream		
Sale of oil	INR 18,75,000	Monthly; Assuming wholesale price of INR 1500/L
Net Profit	INR 14,59,583	Monthly; This is shared by 6 people who have pooled in resources to set up the unit. INR 2,43,000 per person

Mango Value Chain Opportunities (3/3)

H - High Investment
Institutional Partnerships

M - Moderate investment
cooperatives

L - Low investment
livelihood enablement

Rural
Consumers



Urban
Consumers



International
Consumers



05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Opportunity 5: Mango Jam



Opportunity

~30-35% of mango is lost in harvest and post-harvest phase. So, processing mangoes into value added products can help reduce the wastage of mangoes. Handmade jams can fetch good prices. Youth can form collectives to make handmade jams. The global market is expected to grow at a CAGR of 3.58% between 2023 and 2028.¹



Operations

- 1.5kg of mango and 1 kg of sugar can make 1 kg of jam
- Mangoes are washed, peeled, sliced and mixed with the ingredients and boiled.
- Then it is thickened till it reaches the required consistency
- After cooling, proper packaging is done and is stored till sale
- Shelf life of jam is 6-12months



Fixed Cost
INR 15,000



Earning Potential
INR 66,800

per month (for 4 months) per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 15,000	Equipment, food certification
Working Capital	INR 2,42,000	Monthly; Mangoes, LPG, other ingredients, packaging, storage, etc.
Revenue Stream		
Sale of jam	INR 5,76,000	Monthly; Assuming INR 500/ kg as the wholesale price
Net Profit	INR 3,34,000	Monthly; INR 66,800/ person (5 people)

Livelihood Opportunities

- This is a seasonal activity (4 months) and other fruits and vegetables can be processed during the rest of the year

Opportunity 6: Mango Pickle



Opportunity

Mango pickles have a very good export as well as domestic market. On average, an Indian family consumes around 2 kg of pickle per year. Handmade pickles fetches a higher price as more people are becoming health conscious. The global market for pickles is expected to grow at a CAGR of 2.8% over 2023-28.²



Operations

- Mangoes are washed, cleaned and sliced
- 1kg of mango combined with other ingredients can produce 1kg of mango pickle
- After cooling, it is packed and stored properly till sold
- The collectives can either directly sell their pickle or take contracts from brands to make pickles



Fixed Cost
INR 15,000



Earning Potential
INR 1,19,000

per month (for 4 months) per person

Financial Feasibility

Details	Costs	Assumptions
Fixed Capital	INR 15,000	Equipment, food certification
Working Capital	INR 1.25 L	Monthly; Mangoes, LPG, other ingredients, packaging, storage etc.
Revenue Stream		
Sale of handmade pickle	INR 7.2 L	Monthly; Assuming INR 600/ kg as the wholesale price
Net Profit	INR 5.95 L	Monthly; INR 1,19,000/ person (5 people)

Livelihood Opportunities

- This is a seasonal activity (4 months) and other fruits and vegetables can be processed during the rest of the year

Tourism



Tourism

05 Means to boost economic activity

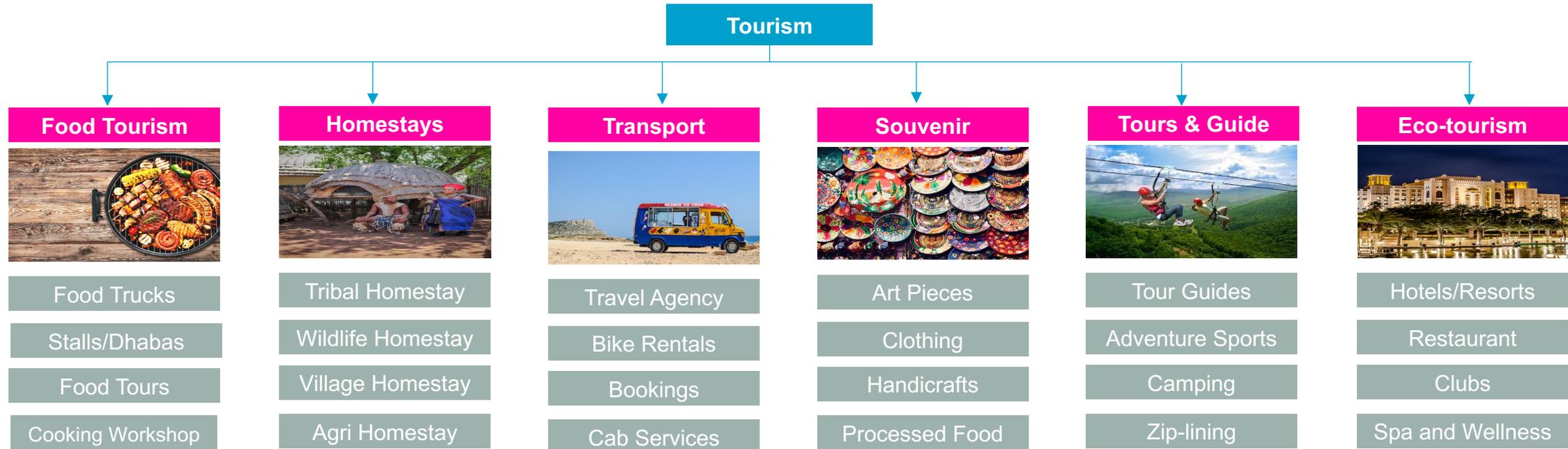
Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Context/Description:

Tourism offers a wide portfolio of business options which the youth can explore as employment opportunities to generate income. Eco-tourism, Homestays, Food Tourism, Transport, and Souvenirs are some components of the tourism value chain.

Market Trends:

- Revenue from tourism is expected to show an annual growth rate (CAGR 2023-2027) of **13.47%** in India, with projected market volume of **USD 31.35 billion by 2027**.
- The Government of India is working to achieve 1% share in **world's international tourist arrivals** by 2020 and 2% share by 2025.
- India received **677.63 million domestic tourist visits** in 2021. The percentage has increased by **11.05%** from 610.22 in 2020.
- Sector accounted for **8% of the total employment opportunities** generated in the country (2017) with **41.6 million people employed**.
- India needs to add **2.5 million rooms in the homestay** segment, as reflected by an increase in foreign tourist arrival in 2017 from 16.81 million to 17.81 million in 2019.
- **Food Tourism** in India is anticipated to increase at an astounding rate of **23% CAGR** from 2023 to 2033.
- **The ecotourism market** in India was valued at \$2.24 billion in 2019 and is projected to reach \$4.55 billion by 2027, registering a **CAGR of 15.7%**.



Tourism in Jharkhand

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Context/Description

104.19 lakh visits **by domestic tourists** and **same day visitors** were made in Jharkhand at the 59 important tourist destinations identified by the State Tourism Department.

In the year 2000, Jharkhand's number of **national visitors** were only 23,991 which increased to 33,60,000 in 2014. Similarly, with respect to **international visitors** in 2000, 172 visitors came to Jharkhand and it increased to 1,54,731 in 2014.

Ranchi (The city of Waterfalls and Manchester of the East for its rich mineral resources), **Jamshedpur** (The Steel city of India), **wildlife sanctuaries**, and **religious tourist places** are popular attractions of Jharkhand.

Tourist traffic follows a **seasonal trend** in Jharkhand. Total number of visits peaked in the period January – February. Visits by foreign tourists also peak in December but declined thereafter.

Competitive Advantage

Jagannathpur Temple, Hundru falls, Jonha falls, Dassam falls, Netarhat, Rock garden are popular tourist places in and around **Ranchi**.

Palamu is famous for Chero Fort, Betla Tourist Spot, Tiger Reserve Forest. The nearest airport is in Ranchi, the nearest railway station is in Daltonganj, which is about 25 km away from the district.

Simdhega district attracts tourists for Dangaddi Water Fall and Simdega Kela Ghagh. The nearest airport is in Ranchi, and the nearest railway stations are located in, Rourkela, Orissa which is 70 km from Simdega and Ranchi railway station which is 160 km from Simdega. Simdhega caverns and caves are popular archaeological tourist attraction.

Schemes and initiatives

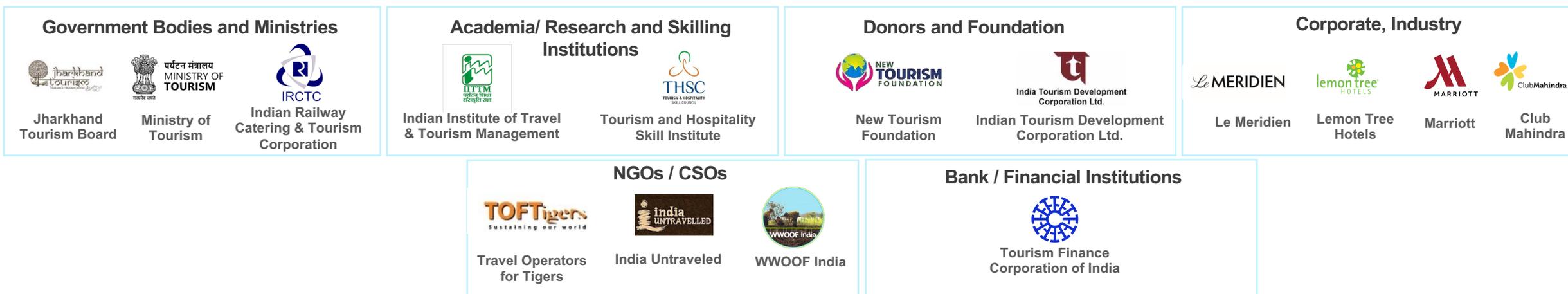
Jharkhand State Government provides a single-window system and 20-25 per cent **capital investment subsidy** (up to Rs 10 crore) and a reimbursement of 75 per cent of **net goods and services tax** paid for five years, to those investing in the state's tourism sector.

Indian and foreign private investment are actively encouraged by the state government. Through various models of **Public-Private Partnerships (PPP)** such as BOT (Build-Operate-Transfer), BOOT (build, own, operate transfer), BLT (Built Lease Transfer), etc., measures are taken to foster the establishment of such partnerships.

Series '**Postcards from Jharkhand**', highlighting the beauty and culture of Jharkhand, was produced by the Jharkhand government in collaboration with the National Geographic channel.

Le Méridien Ranchi and **Fairfield by Marriott Ranchi** hotels are slated to open between 2024 and 2026, thereby providing employment opportunities for the OY.

Examples of key stakeholders in the State



Opportunities (1/2)

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Food Tourism

Opportunity

Food trucks, food carts, stalls, dhabas, restaurants serving local cuisines are a good source of income, especially at the tourist destinations. Big advantage of the food truck and food carts is that it can change its location according to the reach of the customers.

- Food tours take travelers to local restaurants, markets, and traditional eateries, where they can sample the flavors of the region.
- Cooking classes and Traditional cooking demonstrations showcase ingredients, cooking techniques, and history behind the dishes to travelers.
- Dine-in at native's house and showcase family practices of cooking traditional meals.



Fixed Cost

INR 100,000 (stalls/carts) 700,000 (food trucks)



Earning Potential

INR 17,500

per month per person

Homestays

Opportunity

Renting out unused property for short spans to guests travelling in the city. Host shares the house with their guest and do not have to provide round the clock room or restaurant service, like in the hotels.

- Airbnb, Booking.com, Trip Advisor are some online platforms to list homestays. Airbnbs also provide village homestays in their listings.
- Agri-tourism can be combined with homestays at local farms and with local families.
- Tribal Homestays to experience the local tribal cultures up close and personal.
- Homestays in the forests with traditional hospitality and local culture.



Fixed Cost

INR 40,000 – 5,00,000



Earning Potential

INR 2,300

per month per person
(one enterprise can employ 3 people)

Transport

Opportunity

Tourism provides numerous travel business opportunities for youth which involve activities around travel and accommodation arrangements for the travelers. Some lucrative opportunities which the youth can explore are-

- Travel Agency
- Tour bookings
- Bike rentals
- Local transport within tourist destinations
- Inter-destination transport
- Transport to and from Airports, Railway stations, Bus stops - Cabs, Tempo Travelers, Auto rickshaws
- Travel services for hotel guests (tie-ups with hospitality service providers) – Buses, cabs, tempo travelers



Fixed Cost

INR 3.5 -10 lakh (optional purchase of vehicle)



Earning Potential

INR 50,000

per month per person
(one enterprise can employ 3 people)

Opportunities (2/2)

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Souvenirs

Opportunity

Arts and products indigenous to tourist places is an opportunity for the youth to sell as souvenirs, which travelers like to take back home from their visits as a token of memory, gifts, and nostalgia. These can also be sent to other high-footfall districts.

- These can range from clay to metal figures
- Clothing, dress material
- Craft items
- Carpets
- Custom magnets, cups, key chains



Fixed Cost
Upto INR 100,000



Earning Potential
INR 20,000
per month per person

Tour activities and guide

Opportunity

Providing services that instruct, direct and guide individuals or groups in tours, outdoor adventures, activities closer to nature to provide an immersive travel experience to the travellers. Tourists look forward in engaging in these activities which are specific to the travel destinations.

- Tour Guides
- Camping
- Water activities like kayaking
- Trekking and excursions
- Safaris in wildlife sanctuaries
- Cycling
- Ziplining
- Local shopping guide



Fixed Cost
Upto INR 50,000



Earning Potential
INR 15,000
per month per person

Eco-Tourism

Opportunity

Experiential stay provided by luxury hotels. There are a couple of hotels that are coming up in the Districts that can create employment opportunities for the youth. This includes all the economic activities that directly or indirectly contribute to, or depend upon, travel and tourism. Youth can be absorbed in hospitality service at various touchpoints like –

- Hotels and Resorts
- Restaurants
- Clubs
- Spa and Wellness centers
- Yoga Retreat



Salary Potential
INR 12,000 to 35,000
per month per employee

Potential activities in the District

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

District	Tourist Spots / Events	Food Tourism	Homestay	Transport	Souvenirs	Tour activities and guide	Eco-tourism
Ranchi	<ul style="list-style-type: none"> Jagannathpur Temple, Hundru falls, Jonha falls, Dassam falls, Netarhat, Rock garden are popular tourist places in and around Ranchi. 	<ul style="list-style-type: none"> ✓ Dhuska, Koinar ✓ Sag ✓ Dubki ✓ Litti-Chokha 	<ul style="list-style-type: none"> ✓ Village Homestay 	<ul style="list-style-type: none"> ✓ Rent-a-bike ✓ Cab services ✓ Tempo Traveler 	<ul style="list-style-type: none"> ✓ Dokra Art 	<ul style="list-style-type: none"> ✓ Local site-seeing ✓ Pilgrim visit 	<ul style="list-style-type: none"> ✓ Hotel Stays ✓ Wellness Retreats ✓ Spas ✓ Yoga
Palamu	<ul style="list-style-type: none"> Palamu is famous for Chero Fort, Betla Tourist Spot, Tiger Reserve Forest. The nearest airport is in Ranchi, the nearest railway station is in Daltonganj, which is about 25 km away from the district. 	<ul style="list-style-type: none"> ✓ Udad Daal ✓ Kurthi Daal 	<ul style="list-style-type: none"> ✓ Wildlife Homestay 	<ul style="list-style-type: none"> ✓ Rent-a-bike ✓ Cab services ✓ Tempo Traveler 	<ul style="list-style-type: none"> ✓ Grains like pulses and wheat 	<ul style="list-style-type: none"> ✓ Tiger Reserve visit ✓ Trekking 	<ul style="list-style-type: none"> ✓ Resorts
Simdega	<ul style="list-style-type: none"> Simdhega district attracts tourists for Dangaddi Water Fall and Simdega Kela Ghagh. Simdhega caverns and caves are popular archaeological tourist attraction. 	<ul style="list-style-type: none"> ✓ Pitha ✓ Khapada ✓ Kudurum ki chatni 	<ul style="list-style-type: none"> ✓ Village Homestay 	<ul style="list-style-type: none"> ✓ Rent-a-bike ✓ Cab services ✓ Tempo Traveler 	<ul style="list-style-type: none"> ✓ Cotton clothing ✓ Handicrafts 	<ul style="list-style-type: none"> ✓ Local site-seeing 	

Skilling Ecosystem in Tourism

05 Means to boost economic activity
Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Industry requirements for employment in tourism opportunities

Entrepreneurial Skills

People Management & Human Resource Skills

Tour & Travel Knowledge

Communication

Language Skills

Customer Service Skills

Specialist Tourism-Related Skills

Marketing Skills

Event Planning & Management Skills

Government-run skilling programs



प्रधानमंत्री कौशल विकास योजना
Pradhan Mantri Youth Training Program



N·S·D·C
RE·IMAGINE FUTURE
National Skill Development Corporation



Skill India
कौशल भारत - कुशल भारत
Skill India

Tourism & Hospitality Sector Skill Council

Courses

- Boat Jetty In-Charge
- Bartender
- Chef-de-partie
- Cleaner
- Food and Beverage
- Guest House Caretaker
- Front Office Associate
- Tour Manager
- Housekeeping Attendant
- Tour Guide
- Meet and Greet Officer
- Sales Executive
- Travel Consultant
- Travel Insurance Executive
- Ticketing Consultant
- Food Vendor
- Laundry Manager
- Travel Desk Manager
- Reservation Revenue Manager
- Reservation Desk Executive

Public/Private Educational Institutes



पर्यटन शिक्षा संस्कृति रक्षा
Indian Institute of Travel and Tourism Management



Ranchi University

Courses

- BSc. Travel and Tourism Management
- MSc. Travel and Tourism Management
- BSc. Hotel Management
- BSc. Airline, Tourism, and Hospitality
- Diploma in Hospitality and Tourism Studies
- Diploma in Reception Operation Service

Private / Corporate Training Providers



KESARI
Kesari Tours and Travels Academy



BLUE WHALE
Academy
Blue Whale Academy

Courses

- Certificate Course in Travel and Tourism
- Certificate Course in Tour Management
- Certificate Course in Tour Planning
- Certificate Course in Transportation
- Certificate Course in Ecology and Environment

A person wearing a plaid shirt is seated at a table, preparing food. The table is covered with several large metal trays containing different types of food items, including what appears to be fried lentils, chickpeas, and other grains. There are also several glass jars filled with similar ingredients. The background shows a simple outdoor setting with a wooden table and some boxes. The entire image has a blue tint.

Small Business Options

Small Business Opportunities

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

300+ potential opportunities were identified, analyzed and evaluated to create a knowledge bank of 130+ small business options* relevant for OY

1 Identification of long-list of opportunities through discussions and MSME Reports

2 Identification of six evaluation criteria

- ➡ Type of expense (Essential/ Discretionary/ Luxury)
- ➡ Potential for consumption within the district
- ➡ Potential for export
- ➡ Skill requirement
- ➡ Earning potential
- ➡ Livelihood potential

Note:

1. The Earning Potential is the monthly income of the small business option. It was determined through secondary research and interviews. The relative positions of Opportunity indicates the small business options' similarities.
2. The Livelihood Creation Potential (estimate) has three scores - Low, Medium, and High scores were given a value of 50, 150, and 450, respectively in order to aggregate the total impact.
3. Small business options with strong similarities regarding input supplies or required skills were clustered together and these can be developed to seed economic activity across different districts of Jharkhand.
4. Many of these small businesses are supporting the value chains discussed previously and some degree of overlap is expected

3 Evaluating the opportunities through secondary research, guesstimation and discussions with local experts

Entrepreneurship Opportunity	Description	Type of option (Essential, Discretionary, Luxury)	Potential for consumption within District	Potential for export to other parts of India	Skill requirement (High / Medium / Low)	Earning Potential from secondary research
Disorganized vegetable supply chain & shops	Disorganized vegetable supply chain	Essential	Medium	Medium	Low	20-25k
Food processor	Process and repackage local produce	Discretionary	High	High	Medium	40k-50k
Hotel Agriculture	Agri-tourism and hotel services	Discretionary	Medium	High	Medium	5k
Mechanics/Collection with international standard (i.e. repair services)	Quality repair services for machinery	Discretionary	High	High	Medium	6.5k-8k
Digital Agriculture	Online services for farmers	Discretionary	Medium	High	Medium	5k
Plant Oil	Production of plant-based oils	Essential	Medium	Low	Medium	15-20k
Riding, Street, Bicycles, Chaps	Specialized repair services for bicycles	Essential	High	Low	Medium	10k-
Cat repellent and insect repellent	Specialized services for pest control	Discretionary	Medium	Low	Low	10k-20k
Cap Hat	Production of caps and hats	Discretionary	High	Low	Low	10-15k/3k
Home-made masks like hand and paper of plastic	Production of masks	Discretionary	Medium	Low	Medium	5k
Apparels	Production of clothing items	Discretionary	Medium	Medium	High	5k
Jam, Jelly, Sauce, Tomato Ketchup	Production of food products	Essential	High	Medium	High	2k
Milk/Achee Cones	Production of dairy products	Essential	High	Low	Medium	20k-40k
Organic India and vegetable oil	Production of organic products	Discretionary	Low	High	Low	10k-15k
Powered Spices	Production of spices	Essential	High	Medium	Medium	5k
Grain Processing Mills	Production of grain products	Essential	High	Low	Medium	2k
Non-starchy/Leaves	Production of food products from leaves	Essential	High	Low	Medium	2k
Backpack Printing	Production of printed backpacks	Discretionary	High	Low	Medium	15k

Entrepreneurship Opportunity	Description	Type of option (Essential, Discretionary, Luxury)	Potential for consumption within District	Potential for export to other parts of India	Skill requirement (High / Medium / Low)	Earning Potential from secondary research
Discrete study and animal care for general and commercial use	Animal care services	Essential	Medium	Low	High	Medium
Flowers	Production of flowers	Discretionary	Medium	Low	Medium	10k
Food Packaging	Production of food packaging	Discretionary	Medium	Low	Medium	2k
Food Cakes	Production of cakes	Discretionary	High	High	High	High
Pigeons Farm	Production of pigeons	Discretionary	Low	Medium	Medium	20k-25k
Cold Storage & Transportation	Storage and transport services	Essential	High	High	Medium	High
Grinding Technology	Grinding services	Essential	High	Low	High	High
Furniture	Production of furniture	Discretionary	High	High	High	20k
Food & Confection Production	Production of food and confection	Discretionary	High	Medium	High	High
Garment Making	Production of garments	Discretionary	High	Low	Medium	20k-25k
Jam Bags	Production of jam bags	Discretionary	High	Medium	Medium	10k-20k
Leaf Production and Handling	Production of leaf products	Discretionary	High	Medium	Medium	10k
Agri-tourism	Agri-tourism services	Discretionary	High	Medium	High	40k-50k
Woolen Knitting Materials	Production of woolen materials	Discretionary	High	Medium	High	High
Woolen Products	Production of woolen products	Discretionary	High	Low	High	5k
Woolen Bags	Production of woolen bags	Discretionary	High	Low	High	20-25k
Woolen Toys	Production of woolen toys	Discretionary	High	Low	High	10k
Woolen Cutting and Finishing	Production of woolen goods	Discretionary	High	Low	High	20k

4 Clustering opportunities based on similar operational models, synergies and resource / skill requirements

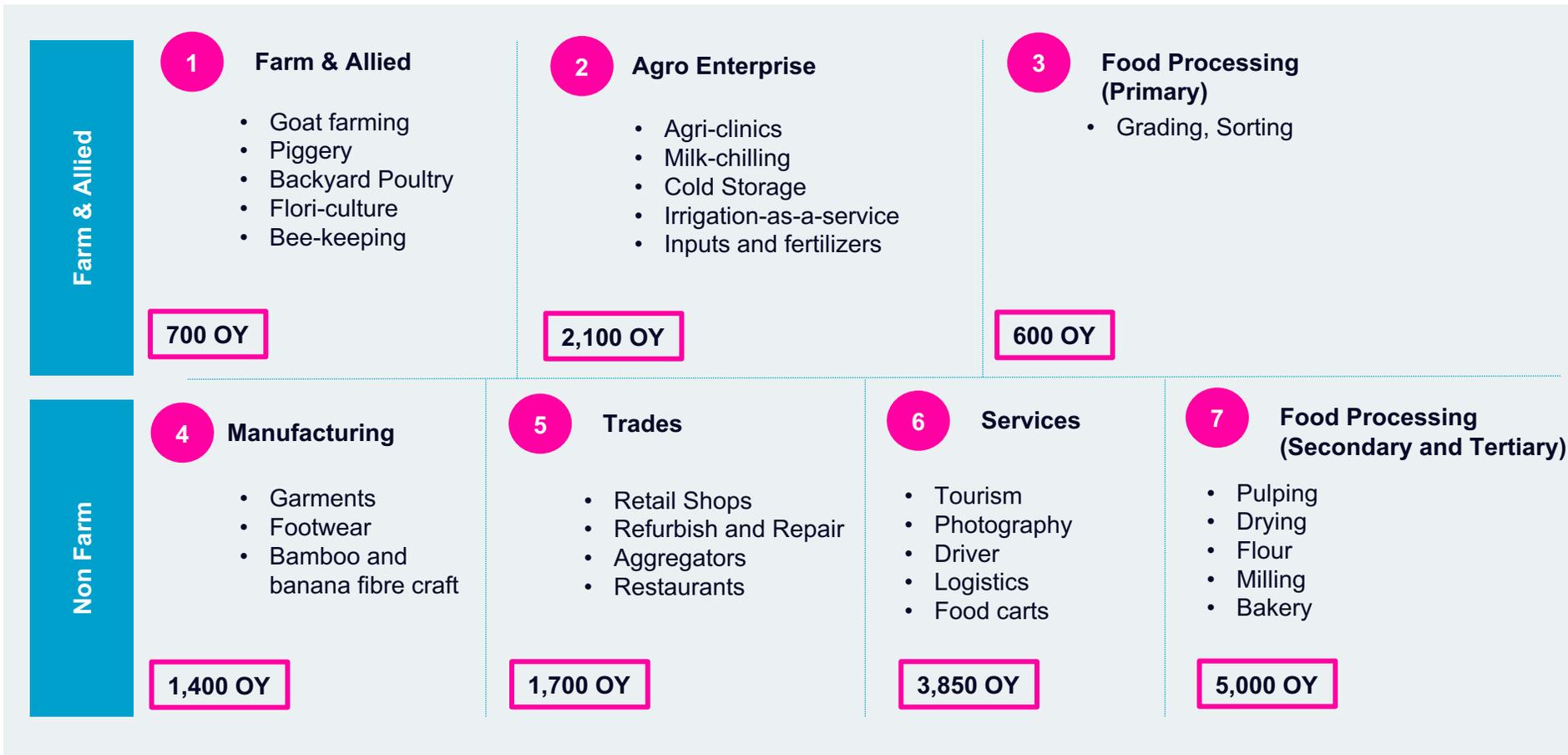


Small Business Opportunities

05 Means to boost economic activity

Value Chains Opportunities
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Food System Opportunities

Based on analysis 130+ opportunities can be set up as farm and non-farm businesses



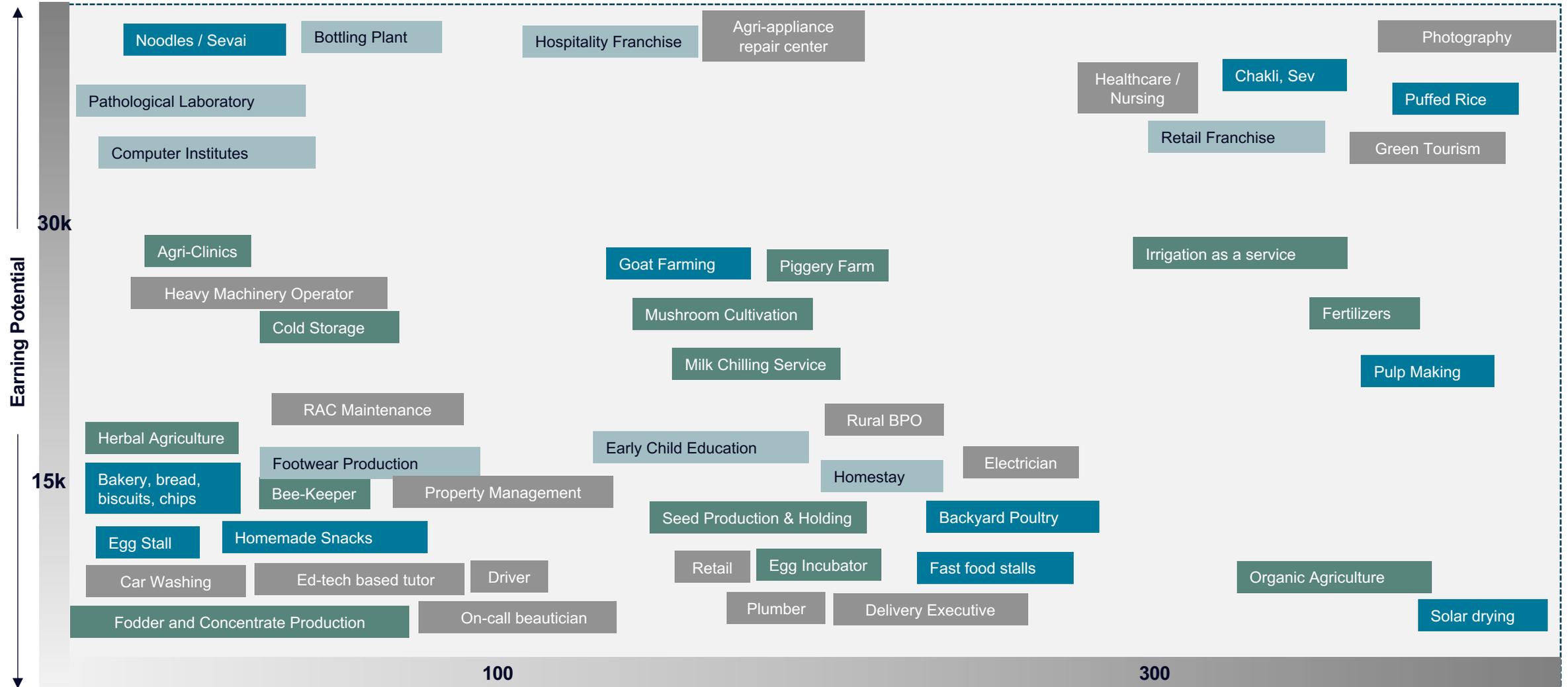
- 85% of the options have medium or high financial requirements indicating a strong need for **access to credit**.
- Applying for loans as part of a **co-op or a business group** would greatly lower the risk and interest rate.
- In terms of skills, **about 22% of the options had high skill requirements** implying that most of these options would be feasible for OY from a skilling perspective.

Small Business Opportunities

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
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Small Business Options were visualized and clustered based on Livelihood Creation and Earning Potential across 7 Types of Opportunities (1/2)



Legend



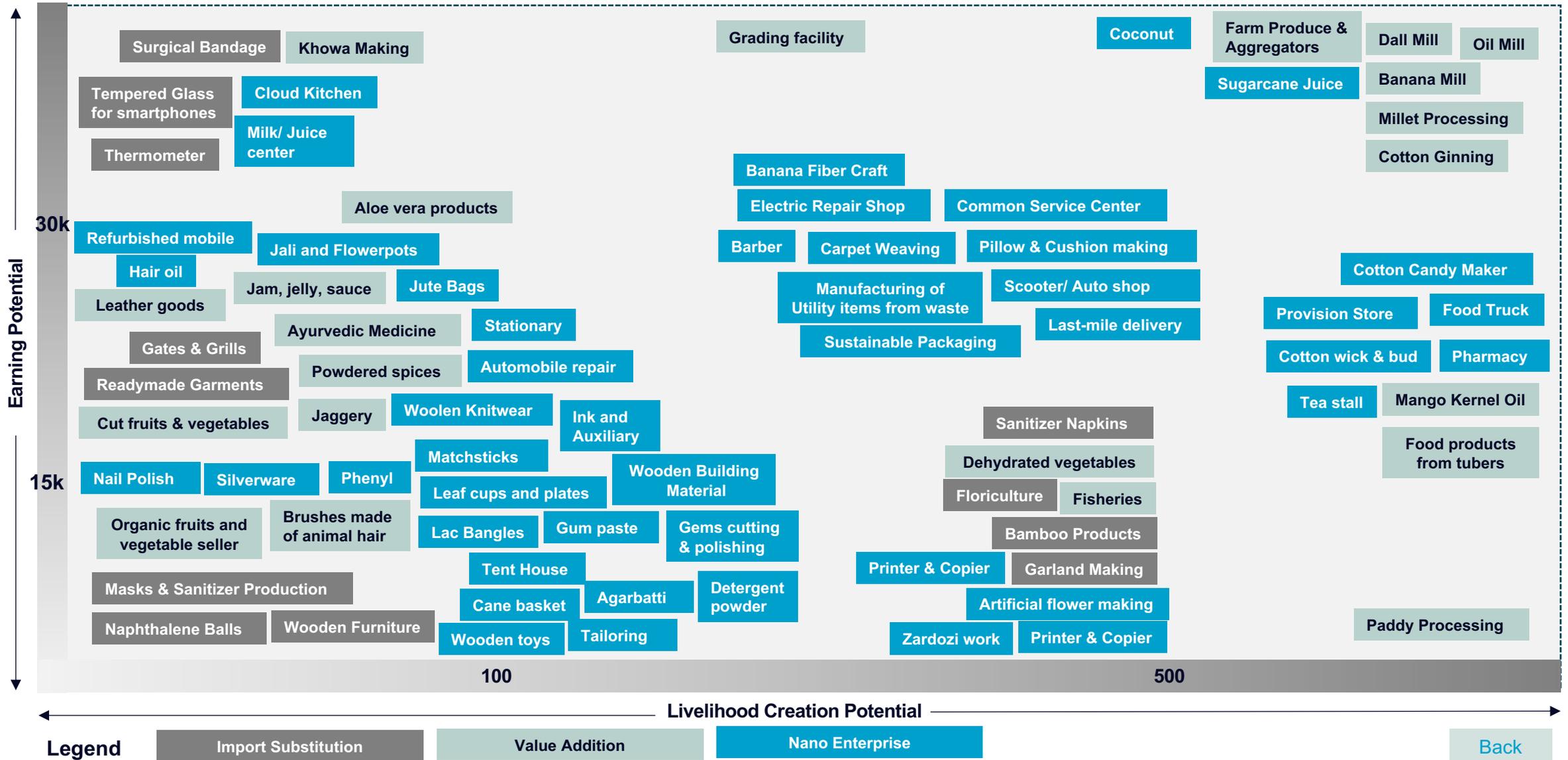
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Small Business Opportunities

05 Means to boost economic activity

Value Chains Opportunities
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Small Business Options were visualized and clustered based on Livelihood Creation and Earning Potential across 7 Types of Opportunities (2/2)



Small Business Opportunities

05 Means to boost economic activity
 Value Chains Opportunities
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 Food System Opportunities

Type of Opportunity	Opportunity	Monthly Earning Potential	Potential for Local Consumption			Export Potential			Financial Requirements			Skill Requirements		
			Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
Farm and Allied, NTFP	Herbal Agriculture	12,000		✓				✓		✓			✓	
	Piggery Farm	24,500	✓				✓			✓		✓		
	Bee-Keeper	13,000		✓		✓					✓	✓		
	Backyard Poultry	4,500			✓	✓				✓		✓		
	Goat Farming	21,000		✓		✓				✓		✓		
	Floriculture	11,250		✓				✓		✓		✓		
Agro Enterprise	Fodder & Concentrate Production	9,000			✓		✓				✓		✓	
	Seed Production and Holding	8,500			✓		✓			✓		✓		
	Mushroom Cultivation	24,250		✓				✓		✓				✓
	Organic Agriculture	12,000	✓				✓			✓			✓	
	Cold Storage	22,500			✓			✓			✓		✓	
	Bio fermenter/ Fertilizers	22,500			✓		✓				✓		✓	
	Irrigation as service	15,000			✓		✓				✓		✓	
	Milk Chilling service	17,500			✓	✓					✓	✓		
	Egg incubator	12,000			✓		✓				✓			✓
	Agri-Clinics	25,000			✓	✓					✓		✓	

Small Business Opportunities

05 Means to boost economic activity
Value Chains Opportunities
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Food System Opportunities

Type of Opportunity	Opportunity	Monthly Earning Potential	Potential for Local Consumption			Export Potential			Financial Requirements			Skill Requirements		
			Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
Food Processing (Primary)	Grading facility	57,000			✓	✓					✓		✓	
	Paddy processing	12,500			✓		✓				✓		✓	
Food Processing (Secondary)	Pulp Making	20,000			✓		✓				✓		✓	
	Solar drying	7,000			✓		✓				✓		✓	
	Puffed Rice	42,000			✓			✓			✓		✓	
	Dehydrated peas & ginger	23,500			✓		✓				✓		✓	
	Millet processing	48,750			✓		✓				✓		✓	
	Dal Mill	40,000		✓		✓				✓				
Food Processing (Tertiary)	Noodles/Sevai	30,000	✓			✓				✓		✓		
	Chakli, Sev	60,000			✓			✓			✓		✓	
	Mango Kernel Oil	24,000		✓				✓			✓		✓	
	Jam, Jelly, Sauce	20,000			✓		✓				✓		✓	
	Powdered Spices	15,000		✓			✓			✓			✓	
	Aloe Vera Products	5,000		✓			✓				✓		✓	
	Oil Mill	60,000			✓		✓				✓		✓	
	Banana Mill	38,250			✓		✓				✓		✓	
	Food Products from Tubers	15,000			✓		✓				✓		✓	

Small Business Opportunities

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Food System Opportunities

Type of Opportunity	Opportunity	Monthly Earning Potential	Potential for Local Consumption			Export Potential			Financial Requirements			Skill Requirements		
			Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
Manufacturing	Bottling Plant	57,000		✓				✓			✓		✓	
	Footwear production	12,000		✓				✓			✓			✓
	Gates & Grills	27,000			✓	✓					✓		✓	
	Naphthalene Balls	4,000			✓	✓				✓			✓	
	Sanitary Napkins	25,000		✓			✓				✓		✓	
	Thermometer	55,000			✓		✓				✓			✓
	Phenyl	10,000								✓			✓	
	Leaf cup and plates	12,500		✓		✓				✓		✓		
	Detergent powder/soap	12,500		✓			✓			✓			✓	
	Exercise book/ Register/ Paper envelops/ File covers/ boards [paper/plastic]	15,000		✓		✓					✓	✓		
	Gems Cutting and Polishing	25,000			✓			✓			✓	✓		
	Artificial Flower Making	11,000		✓		✓					✓			✓
	Zardosi Work	12,000		✓				✓	✓					✓
	Decorative Pillow and Cushion Making	25,000		✓			✓				✓			✓

Small Business Opportunities

05 Means to boost economic activity
 Value Chains Opportunities
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 Food System Opportunities

Type of Opportunity	Opportunity	Monthly Earning Potential	Potential for Local Consumption			Export Potential			Financial Requirements			Skill Requirements		
			Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
Services	Computer Institutes	37,500			✓	✓					✓		✓	
	Pathological Laboratory	34,000			✓	✓					✓		✓	
	Hospitality franchise	60,000			✓	✓					✓			✓
	Driver	8,000		✓				✓		✓			✓	
	Ed-tech based tutor	11,000	✓					✓		✓				✓
	RAC Maintenance	14,000			✓	✓			✓				✓	
	On-call Beautician/ Salon	16,000		✓		✓				✓				✓
	Delivery Executive	8,000			✓			✓	✓			✓		
	Healthcare / Nursing	11,000			✓		✓			✓				✓
	Property Management	15,000		✓			✓		✓					✓
	Agri-appliance Repair Center	30,000		✓		✓				✓			✓	
	Photography	30,000		✓		✓				✓				✓
	Car Washing	12,500		✓		✓			✓			✓		
	Rural BPO	13,000		✓				✓			✓	✓		
	Green Tourism	70,000			✓	✓				✓				✓
Garland Making	9,000			✓	✓			✓			✓			
Waste to worth items	5,000		✓			✓		✓				✓		

Small Business Opportunities

05 Means to boost economic activity
 Value Chains Opportunities
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 Food System Opportunities

Type of Opportunity	Opportunity	Monthly Earning Potential	Potential for Local Consumption			Export Potential			Financial Requirements			Skill Requirements		
			Low	Medium	High	Low	Medium	High	Low	Medium	High	Low	Medium	High
Services	Food Trucks / Food Tourism	17,500			✓	✓				✓			✓	
	Sustainable Packaging	20,000			✓			✓		✓			✓	
	Scooter/Autorickshaw Shops	25,000			✓	✓					✓		✓	
	Logistics (Last Mile Delivery)	28,000			✓			✓			✓		✓	
	Retail (upcoming malls)	15,000		✓		✓					✓		✓	
Trades	Tent House	7,000			✓	✓				✓			✓	
	Refurbished mobile sales	18,000		✓		✓					✓			✓
	Milk/Juice Centres	30,000			✓	✓					✓		✓	
	Printer and Copier	6,000			✓	✓					✓	✓		
	Pharmacy	24,000			✓	✓					✓			✓
	Cloud Kitchen	50,000			✓	✓					✓			✓
	Farm produce aggregators	39,000		✓				✓		✓		✓		



Food System Opportunities

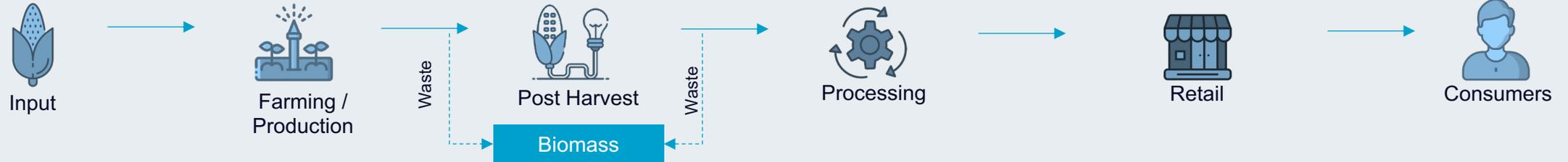
Food System Opportunities

05 Means to boost economic activity

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Opportunities across the food system value chain

A typical Farm-to-fork value chain of produce: Key opportunities for intervention



Opportunities for youth

Inputs	Production	Post-Harvest	Processing	Retail	Consumers
<ul style="list-style-type: none"> • Nursery/Agri-Clinics : <ul style="list-style-type: none"> • Farm inputs, selling or leasing implements to farmers • Selling fertilizers, seeds and saplings • Micro-finance linkages / Credit services 	<ul style="list-style-type: none"> • Irrigation-as-a-service: Providing irrigation services to farmers • ICT support: GIS, price discovery services • Harvesting/Picking implements: Service or lease model for small and marginal farmers 	<ul style="list-style-type: none"> • Post Harvest Handling Aggregator: Washing, grading, sorting • Cooling-as-a-service: Cold storage solution provider • Biomass Production 	<ul style="list-style-type: none"> • Food Processing: <ul style="list-style-type: none"> • Pulp Making • Solar Dryers • Packaging and Warehousing 	<ul style="list-style-type: none"> • E-commerce related services: Product photography, inventory management 	<ul style="list-style-type: none"> • Delivery Services

Note:

1. Entrepreneurs can pick multiple opportunities to pursue from this list based on capital availability and their risk appetite.
2. Depending on the district conditions, some opportunities like irrigation might be seasonal. Local environment conditions & demand needs to be considered before pursuing them.

Food System Opportunities

05 Means to boost economic activity

Value Chains Opportunities
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Inputs Production Post-Harvest Processing Retail Consumers

Nursery / Agri-clinic

Ecosystem Gaps

Unavailability of

- High quality seeds
- Organic fertilizers
- Mechanised farm implements for ploughing
- Credit linkage
- Easily accessible capital
- Quality methods to fight crop infections and diseases
- Efficient and skilled farm labor



Role of Youth

Type of Services

1. Set-up a nursery to produce and sell high-quality seeds
2. Fertilizer plants like Vermicompost
3. Provide Micro-finance and scheme benefits
 1. Through Common Service Centres
 2. Haqdarshaq - Young people can become Haqdarshaqs and help farmers avail government scheme benefits
 3. Business Correspondent to help farmers avail loans and insurance
4. Set-up leasing shops for mechanized farm implements

Government Pull and Skilling Ecosystem

- **Agri-clinic and Agri-business Center** - The Ministry of Agriculture and farmers welfare, Government of India, in association with NABARD has launched a program to help setup AgriClinic or AgriBusiness Centre and offer professional extension services to innumerable farmers. Committed to this programme, the Government is now also providing start-up training to graduates in Agriculture, or any subject allied to Agriculture like Horticulture, Sericulture, Veterinary Sciences, Forestry, Dairy, Poultry Farming, and Fisheries, etc.
- **Agriculture Skill Council of India (ASCI)** provides skill trainings for Agri-based occupations that are drafted as per occupational standards of Qualification Review Committee (QRC).
- **National Skill Development Corporation** run Industrial Training Institutes, Polytechnic and Skill Development Institutes that help youth earn employable skills

Impact

- Potential small business
- Farmers are able to access high quality farm inputs
- Financial aids and easily accessible credit facilities help farmers to increase area under cultivation and thus increase their income
- Employment opportunities as linkages between farmers and financial institutions
- Each enterprise can employ around 3 people

Services	Fixed Cost	Earning Potential (per month)
Nursery	80,000	21,000
Vermicompost	1,00,000	25,000
Micro-finance Services (CSC model)	-	6,000
Micro-finance Services (Haqdarshaq)	5,000-10,000 (Smartphone and Internet)	7,000
Micro-finance Services (Banking Correspondent)	8,000 (receipt generation machine)	15,000
Leasing Farm Implements	10,000-20,000 (cost of machinery)	18,000



Fixed Cost
Upto INR 2,18,000



Earning Potential
Upto INR 30,600 per month per person

Success Story

“Reduced risk and the convenience of getting many services at their doorsteps have enabled farmers like Khariya from Raidih block of Gumla district, Jharkhand to gradually increase the area under vegetable crops. This has encouraged agricultural entrepreneurs like Ekka to introduce more services and innovative ideas that not only help their business but also help the farmers earn more.”

Food System Opportunities

05 Means to boost economic activity

Value Chains Opportunities
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Food System Opportunities

Inputs **Production** Post-Harvest Processing Retail Consumers

ICT Support

Ecosystem Gaps

- Lack of access to internet and smartphones preventing convenient access to information & services
- Interrupted access to electricity for accessing internet (where internet infrastructure is available)
- Digital illiteracy within farmers
- Threat of data security and cyber attacks
- Insufficient access to knowledge, information and education
- Limited access to land
- Inadequate access to financial services
- Difficulties in accessing green jobs
- Limited access to markets
- Limited involvement in policy dialogue



Role of Youth

Types of services:

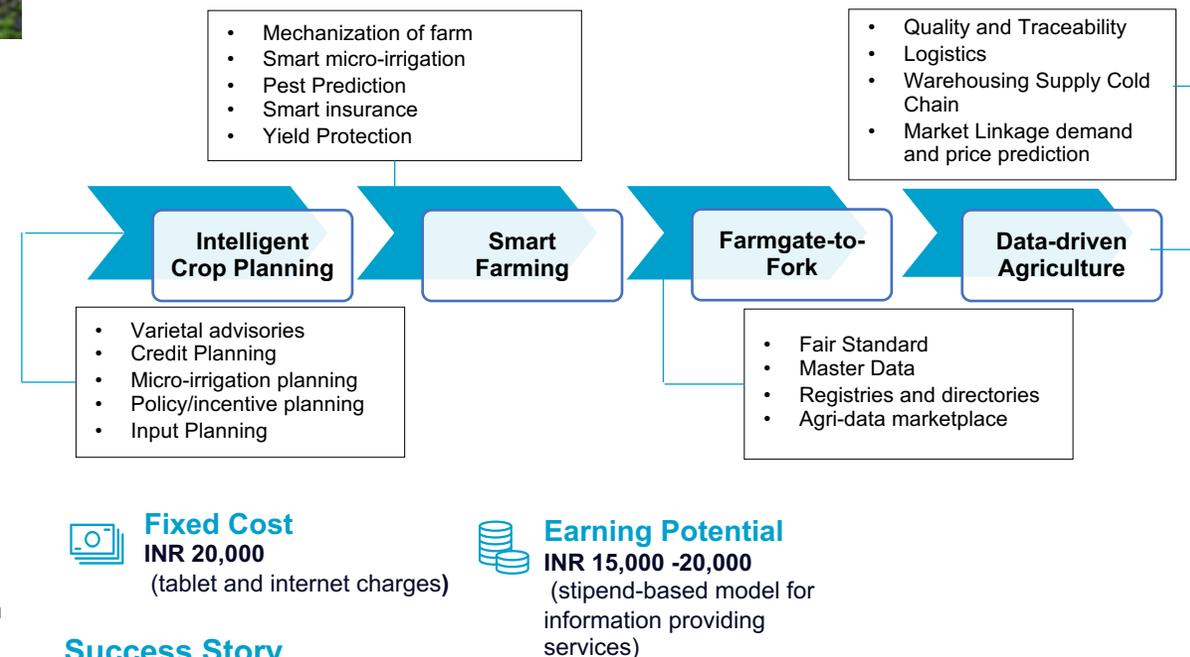
- Partnering with platforms and donors (like wadhvani.ai) as master trainers / counsellors / information providers for the farmers
- Automated irrigation systems through web app
- Prediction based services for detecting pest and disease outbreaks of crops
- Knowledge –based services on agriculture practices, government schemes and market
- Services to improve soil quality and improve farm productivity
- Disaster management services for responding in emergency situations and risk mitigation
- Access to information on financial services, affordable insurance policies, and credit via websites and mobile app.

Government Pull

- **National E-Governance Plan** - The Government of India is implementing National e-Governance Plan in Agriculture (NeGP-A) in the entire country aiming to provide information to farmers free of cost on seeds, fertilizers and pesticides, Government schemes, soil health, crop management, farm machinery, fishery inputs, irrigation infrastructure, weather and marketing of agriculture produces
- **Farmer's Portal** - Farmers' Portal is a one stop shop for farmers and covers information on four important pillars of agrarian economy namely, agriculture, horticulture, fisheries and animal husbandry.

Impact

- Cost-efficient method to improve farmer's knowledge of current agriculture practices and markets
- Enhances farmers' access to nearby markets and their awareness of current consumer demands through the transfer of information from the traders.
- Enable producers to capture and monitor reliable data and also comply with traceability and food standards



Success Story

“Santosh Sharma, farmer from Rajgarh district of Madhya Pradesh was helped by the participatory videos by Digital Green. He says “Not only do videos allow farmers to see a visual demonstration of the entire process, but they also feature practices that can easily be tested. For example, I planted Variety 322 on a small part of my land last year. When I saw that it gave me a bigger yield than the other variety, I decided to plant more of it this year”

Food System Opportunities

05 Means to boost economic activity

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Inputs **Production** Post-Harvest Processing Retail Consumers

Harvesting / Picking Implements

Context and Ecosystem Gaps

The Indian agricultural equipment market size reached **INR 1,023.2 billion** in 2022. The market will reach INR 1,852.6 billion by 2028, exhibiting a **growth rate (CAGR) of 10.5%** during 2023-2028.

While there exists market potential, certain gaps are prevalent in the ecosystem like:

- High cost of harvesters for small farmers
- Uneven height of cutting
- Ergonomic shortcomings
- Severe physical health issues due to manual harvesting
- Perishability of crops requires quick harvesting and selling



Role of Youth

- Advise farmers on crop planning and technology assistance
- Setup Farm equipment rental shops
- Provide soil fertility management services like smart harvesting, drone spraying, and soil mapping
- Provide smart-tech enabled harvesting services
- Automate harvesting activities like sensor-based controllers for equipment

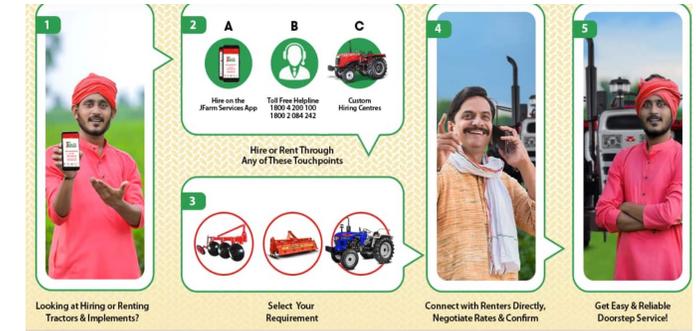
Government Pull

- **Pradhan Mantri Fasal Bima Yojna** - The Pradhan Mantri Fasal Bima Yojana (PMFBY) was launched in 2016. It is a scheme that provides coverage against financial losses suffered by farmers due to various unfortunate events. It covers crop failure due to localized risks, post-harvest losses, natural calamities, unseasonal rainfall, pests, crop diseases, and so on.
- **Paramparagat Krishi Vikas Yojana (PKVY)**: The PKVY helps farmers to increase their productivity by adopting sustainable agricultural practices.
- **PM Kisan Samman Yojana**: Under the scheme, the farmer will get up to 80 per cent subsidy for agricultural equipment.

Impact

- Farmers get assistance in using equipment and new technologies in their farm
- Farmers get access to high-end machinery without heavy investments of purchase
- Improved quality of harvest and increased farm productivity
- Each enterprise can employ around 5 people

JFarm Services help small and marginal farmers as well as farmers who own farm machinery by developing an ecosystem of leasing agriculture harvesting equipment like tractors on lease to farmers at very cheap rates. Farmers owning the equipment can also lease it to other farmers to generate additional income.



Krishee Smart Kit by Mahindra

Krishee Smart Kits are used to track and manage the farm equipment on rent to farmer. It provides protection from the theft of fuel and unauthorized use of your tractor. The Krishee Smart kit is used to track vehicle from the comfort of home via the app. It can be used to check tractor's diesel usage and keep track of all related expenses and income.

 **Fixed Cost**
INR 15,00,000
(for tractor)

 **Earning Potential**
INR 8,000 per month per person

Success Story

"By leasing out agricultural equipment from the owners, AgriTex Expo- increase its utilisation and often pay higher rentals than they would get just by serving their existing pool of customers. At the same time, they provide small and marginal farmers with the equipment they require at a 20-30 percent discount from the prevailing market rates"

Food System Opportunities

05 Means to boost economic activity

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Inputs Production **Post-Harvest** Processing Retail Consumers

Aggregator/ Trader

Context and Ecosystem Gaps

A variety of treatments are commonly used after fruit and vegetable harvesting as part of post-harvest treatment to keep the **produce clean, prevent moisture loss, and slow down unfavorable chemical changes**. During the projected period of 2022–2030, the global post-harvest treatment market is expected to increase at a **compound annual growth rate (CAGR) of 6.0%**.

Some challenges that exist in post-harvest ecosystem are:

- Poor storage facility and aggregators
- Poor food quality and safety conditions
- Physiological deterioration and infections
- Quality degradation during the drying stage
- Weight loss due to spoilage
- Demand-supply gap for organic fruits and vegetables
- High costs for quality checks in produce

Role of Youth

Provide services :

- Aggregating agricultural produce from farmers to retailers, buyers or markets. Multiple opportunities lie in this value chain from aggregation, logistics, billing, warehousing, cold storages, packaging and delivery.
- Sorting and Grading services to identify damaged and low-quality produce

Skilling Ecosystem

ASCI provides trainings for post-harvest business opportunities. Average skilling hours required for these trainings is **260 hours**. Some of these training include –

- Agriculture Warehouse Worker (Duration: 280 hours)
- Pack house worker (Duration: 280 hours)
- Supply Chain Field Executive (Duration: 360 hours)
- Ripening Chamber Operator (Duration: 200 hours)
- Agri Commodity Fumigation Operator (Duration: 200 hours)



Impact

- Farmers have less post-harvest losses, thus increasing their income
- Better quality produce
- Extended shelf-life and less food loss by preventing rotting, crop illness and bruises
- Better farm-to-market prices for the farmers
- Adherence to quality standards
- Increases marketability of produce
- Safeguards produce during exports
- Each enterprise can employ around 3 people

Services	Fixed Cost (INR)	Earning Potential (per month)
Aggregation of farm produce (Note - Logistics, warehousing, packaging, cold storages and delivery are discussed in depth in subsequent slides)	50,000 – 70,000 (rental truck and fuel)	40,000
Sorting	28,000	16,000
Grading	40,000	21,000



Fixed Cost
INR 28k-70k
(cost of rental truck and fuel)



Earning Potential
INR 5,300 – 13,300
per month per person

Success Story

“Post-harvest management of mango enhanced income of tribal farmers of Rayagada, Odisha. Ripening chamber was used to ripen the fruits with ethylene gas. Fruits were sorted and packed in the plastic crates and sent to Mandi. The interventions not only increased the fruit quality and income but also the marketable surplus by reducing the post-harvest loss (< 10%). The beneficiaries, who were selling fruits at the rate of Rs. 10-12/kg in local market, started selling of quality fruit at Rs. 20-25/kg”

Food System Opportunities

Inputs Production **Post-Harvest** Processing Retail Consumers

05 Means to boost economic activity

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Biomass (slide 1/2)

Context/Description

- The total **biomass power potential** for the state of Jharkhand is 90MWe in 2021.
- Jharkhand can sustain a minimum of 600 KL/day of **ethanol production** for the captive market available in eastern India given the availability of feedstock used for ethanol production.
- Ethanol is distilled from **sugarcane, molasses, maize and agro waste**. Since sugarcane cultivation is scarce in Jharkhand, investors will need to procure raw material from nearby states like Bihar, Uttar Pradesh, and Andhra Pradesh.
- Major contributing crops in biomass power potential in Jharkhand (2019-20) is **Rice** with 43.50 MWe followed by **Maize** (36.99 MWe), **Arhar / Tur** (26.51 MWe), **Potato** (8.64 MWe) and **Wheat** (8.41 MWe).
- Rapeseed and Mustard, Maize, and Lentil (Masoor)** have the highest biomass production in Jharkhand.



Government Push

- Jharkhand Ethanol Production and Promotion Policy 2021** - Aim to leverage the opportunities in Ethanol manufacturing which offers a sustainable source of income for farmers, entrepreneurs and workers who will be employed in the Ethanol units.
- Interest subsidy** of 3% is available from Ministry of Non-Conventional Energy Sources, Govt. of India, for Ethanol production projects utilizing raw-material root other than sugar cane /molasses.

Investors are planning to increase the Ethanol production capacity by 2.5x in Jharkhand up from 100KLPD by 2024

Upcoming Plants

- Samridhi Organic Pvt Ltd** plans to invest **Rs 600 crore** to set up an ethanol plant in **Ranchi**, Jharkhand.
- Eastern India Cements** proposed to setup 100 KLPD Grain based Ethanol Plant along with 3.0 MW Cogeneration Power Plant in **Bokaro** district of Jharkhand.

Existing Plants

- Ethanol unit in **Dhanbad**, with cost of Rs 150 crore, produces alcohol from grains with 200 KLPD and 4 MW.
- Rangarh Biomass plant** is a 23MW biopower project. It is located in Jharkhand. The project is currently owned by **Rake Power** with a stake of 100%.

Sources: 1. CEEW Biomass 2. MNRNE Govt. 3. NITI Ayog 4. BPCL Ethanol Booklet 5. IOCL Ethanol Brochure 6. Bokaro Power Plant

Key stakeholders in the State

Government Bodies and Ministries



Jharkhand
Renewable Energy
Development Agency



पेट्रोलिएम एवं
प्राकृतिक गैस मंत्रालय
MINISTRY OF
PETROLEUM AND
NATURAL GAS

Donors, Corporate, Industry



EthanolForIndia



Samrddhi Organic

Ethanol for Fuel



The India Cements Ltd

Eastern India Cements



Biezel Green Energy

NGOs / CSOs



CLEAN

Clean



Biomass India

Biomass India

Bank / Financial Institutions



Indian Renewable Energy
Development Agency Ltd.



Asian Development
Bank

Back

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Food System Opportunities

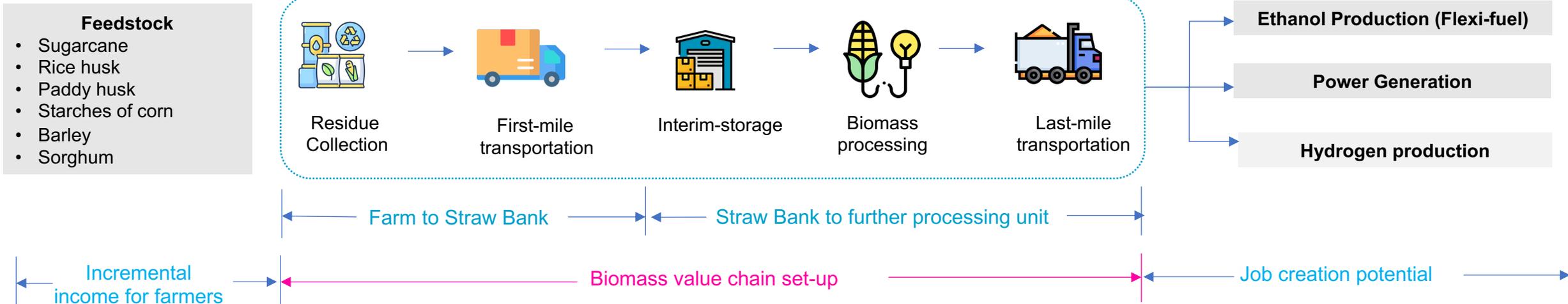
05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Inputs Production **Post-Harvest** Processing Retail Consumers

Biomass (slide 2/2)

Flexi Fuels are alternative source of fuel made with a blend of gasoline and conventional fossil fuels like ethanol which is generated as a by-produce of agricultural activities. Livelihood opportunities for youth occur at three specific touchpoints of the value chain – 1. Processing of Agri-waste/ feedstock 2. Biomass processing 3. Generation of Ethanol, Bio-energy, electricity from the biomass



Biomass Processing

- Jharkhand ranks **20th** state in India in Biomass production and accounts for **0.04%** of India's installed capacity based on Biomass and Waste To Energy.
- The biomass production in other leading states like **UP, Maharashtra, and Punjab** is **24x, 12x and 10x** the production capacity of Jharkhand.
- There are existing and upcoming ethanol projects in Jharkhand, but the **biomass generation potential of the state remains very low.**
- Jharkhand had **Rice, Maize, Arhar, Potato and Wheat** cultivation which can be seen as an opportunity of biomass processing by setting up biomass plants that support ethanol generation plants coming up in the state.
- Youth can be engaged in employment opportunities at various touchpoints of value chain like residue collection, transportation, storage, and biomass processing.

Fixed Cost INR 4,420 per ton **Earning Potential** INR 10,200 – 24,500 per month per person

Food System Opportunities

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Inputs Production Post-Harvest **Processing** Retail Consumers

Packaging and Warehousing

Context and Ecosystem Gaps

Agricultural warehousing remains highly fragmented and unorganized in India. However, overall capacity has grown rapidly, at a **compounded annual growth rate of around 4.4%** over the last decade. Some of the gaps that exist in this ecosystem in the present day are:

- Improper Packaging
- Damages caused due to mishandling
- Transport/Vehicle Vibration
- Development of microorganisms
- Inadequate storage infrastructure



Role of Youth

- Run a packaging enterprise where process food products can be packed as per the requirement and supplied to local retailer and supermarkets.
- Printing labels and procuring packing bags of different sizes
- Provide tertiary packaging like bulk or transit packaging
- Lease warehouses to farmers and retailers
- Provide storages as per produce like underground storage structures, surface storage structure and storage for grains

Government Push and Skilling Ecosystem

ASCI provides trainings for post-harvest business opportunities. Some of these training include –

- Agriculture Warehouse Worker (Duration: 280 hours)
- CA Store Technician (Duration: 210 hours)
- Reefer Vehicle Operator (Duration: 200 hours)

The **PEG Scheme** was conceptualized in 2008 to create warehousing capacity in the public-private partnership model. State agencies or private entrepreneurs invest in constructing the warehouse. Once the warehouse is created, its use for 9-10 years is guaranteed by the state. In 2013-14, 5.06 mt capacity was created under this scheme.

Impact

- Protects quality of perishable and semi-perishable produce from deterioration
- Seasonal demand can be catered better with warehouses
- Helps farmers strike stability in prices by managing demand and supply
- Price advantages lead to more income and employment opportunities

Warehousing Model	Storage Type	Warehouse Capacity
Conventional Godowns	Gunny Bags of 50kg or 100kg stacked upon each other. Each stack contains 140-150 tons of food grains stored in 2800 to 3000 gunny bags of 50kg each.	5,000 tons
CAP (Cover and Plinth) Storage	Typically, around 3000 jute bags in one stack	5,000 tons
Silo Bags	Hermetic storage- a technique of storage that consists of removing oxygen from the container to suppress the ability of insects, pests, or fungi to develop.	2,000 tons



Fixed Cost
INR 94,400

(Rate: INR 47.2 per ton for 2000 tons)



Earning Potential
INR 20,600 per month

(Profit: 10.3 per ton for 2000 tons)

Success Story

“Agrimin’s attractive packaging for fertilizers revolutionized the sales of their products. They encouraged dealers to proudly showcase their fertilizers. When the packaging seamlessly integrated with their shelves, it created an irresistible allure—a sense of sophistication and quality that draws customers in. This shift from storage to shelf represents a significant turning point in their journey, as they merge FMCG elements into the agricultural sector.”

Food System Opportunities

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Inputs Production **Post-Harvest** Processing Retail Consumers

Cold Storage

Energy-efficient and portable cold storage appliances are available that help reduce food loss by storing perishable food commodities

Ownership Model



Aggregator Model

- Aggregators such as FPO/FPC/SHG shall use the cold storage for storing the perishables for trading activities.
- The Cold storage can be purchased from manufacturer.
- The finance support shall be made through asset financing, through grants which could be from the government or a philanthropic organization.



Leasing Model (Seasonality)

- Leasing the cold storage to farmers/entrepreneurs for short time frame (3-5 months) to store produce that is seasonal and perishable.
- The service model where the refrigeration service is paid according to the time frame of leasing.
- Ecozen offers cold storage leasing model



Cold Storage as a Service Model

- The cold storage manufacturer/supplier owns the facility and leases the space out to a retailer or a farmer for a fee.
- The service model where the refrigeration service is paid according to the volume stored.
- Ecozen offers cold storage as a service model

Impact

- **Better Price Realization** - Farmers can avoid market glut by storing the crops and can trade when market prices are higher.
- **Better Market Linkage** - Storing a high quantity of crops helps in the selling at big markets and has high bargaining power.
- **Less Food Loss** - Reduced food loss as products are kept at a suitable and uninterrupted temperature conditions all the way from harvest to plate.
- **Transportation Savings** - Farmers can avoid transportation of crops daily throughout the harvest sessions.

Government Policy Interventions

Integrated Cold Chain and Value Addition Infrastructure Scheme

The scheme provides for promotion of cold chain facilities without any break from the farm gate to the consumer, end to end, to reduce losses by improving efficiency in collection of farmers produce, storage, transportation and minimal processing.

Centrally Supported Scheme for Cold Chain Projects

Govt. of India supports the development of cold chain through the mission on Integrated Development of Horticulture which provides incentives to interested stakeholders and promoters. Financial assistance of 35% to 50% of admissible cost of project is granted.



Cost

INR 14,00,000 (subsidies available)
for a 5 MT cold storage



Earning Potential

INR 4,500
per month per person
(one enterprise can employ
around 5 people)

Food System Opportunities

05 Means to boost economic activity

Value Chains Opportunities
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Inputs Production Post-Harvest **Processing** Retail Consumers

Food Processing – Pulp making

Context/Description

- Pulp Making is **food processing technique** to process fruits and vegetables into pulp which is used in food and beverages for juices, puree production, food additives and nutritional supplements.
- The fruit pulp market in India is estimated to grow at a **CAGR of 7.96%** between 2022 and 2027. The size of the market is forecast to increase by **USD 151.3 million**.
- The **fluctuation in raw material costs** is a major challenge impeding the market. Due to the growing gap between supply and demand, the price of raw materials has increased significantly in recent years.
- **Mango** is the fastest growing segment in the fruit pulp market in India. The mango segment was valued at USD 85.02 million in 2017 and continued to grow until 2021. Same setup can be used for processing pulp of multiple fruits throughout the year.



Ecosystem Gaps

- 40% of India's produced **food is lost or wasted post-harvest and during processing** (60 million tones of food; INR 92,000 crore annually).
- Small and marginal farmers (82% of all farmers) have **not seen any significant rise in their income**.
- Farmers bear losses due to a lack of **post-harvest storage, transportation, and secondary processing facilities**.
- Only 2.2 per cent of **fruits and vegetables** in India are processed.
- Only about 10 percent of the total **agriculture output** is processed. Indian government aims to expand it to 25 percent by 2025.



Cost
INR 60,000



Earning Potential
INR 9,150 per month per person
(one enterprise can employ 4 people)

Impact

- **Higher Market Prices** - Processed food adds value and increase income by creating higher value products.
- **Easier to transport** - Post-harvest/in transit wastages in high-value crops, such as fruits and vegetables, keeping farmers away from reaping benefits. Pulp is easier to transport, helping higher monetization of produce.
- **Value Chain Linkages** - Farmers can be directly connected to food manufacturers (secondary/ tertiary processors) and sell their produce.
- **Increased Shelf-life** – Farmers can process over-ripened fruits, which won't fetch good market value, into pulp which increases shelf life of the produce and fetches more income.

Government Policy Interventions

- The Government of India has approved more than 63 near **farm Agri-processing clusters** under its Scheme **SAMPADA Yojana**.
- Government has set up a special fund **called Food Processing Fund (FPF) of approx. US\$ 265 million** in the National Bank for Agriculture and Rural Development (NABARD) for extending affordable credit to designated food parks and food processing enterprises.
- **Production Linked Incentive Scheme for Food Processing Industry (PLISFPI)** with a budget of Rs. 10,900 crores is to be implemented from 2021-22 to 2026-27. It consists of three components: **incentivizing manufacturing in four major food product segments, promoting Innovative/Organic products of SMEs, and supporting branding and marketing abroad for Indian brands**.
- **PM FME Scheme** - Micro-enterprises, SHGs, FPOs, and producer cooperatives that have been in food processing for 3 years or more can upgrade processing facilities through the Ministry of Food Processing Industries' Prime Minister's Formalization of Micro Food Processing Enterprises scheme.

Food System Opportunities

Inputs Production Post-Harvest **Processing** Retail Consumers

Food Processing – Drying

Context/Description

- Solar dryer is a device that dries food substances in a controlled environment without affecting the quality of the materials. They help to eliminate the problems associated with conventional open sun drying like dust, UV radiations, and insects.
- The moisture content of grains remains generally higher than the desired for safe storage of grains (13-14%). Drying is the phase of the post-harvest system during which the product is rapidly dried until it reaches the “safe-moisture” level.
- Drying must be performed in a way that does not seriously affect their colour, flavour, texture or nutritional value.
- The use of solar dryers helps to eliminate the problems associated with conventional open sun drying.



Impact

- **Longer Shelf-Life** - Dried crops can be stored for a longer period
- **Better Price Realization** – Dried commodities are utilized for value-addition products which help farmers to increase income.

Government Policy Interventions

- The scheme for “**Development of Solar Parks and Ultra-Mega Solar Power Projects**” was rolled out in December 2014 with an objective to facilitate the solar project developers to set up projects expeditiously.
- The Horticulture Department is offering 50% subsidy for solar-powered poly-tunnel dryers to farmers from all categories under **the National Horticulture Mission**. Such dryers are available in 100 kg and 1,000 kg capacity, priced at ₹55,000 plus tax (subsidy ₹27,500) and ₹5.7 lakh plus tax (subsidy ₹2.85 lakh), respectively. Farmers may get the unit erected and claim the subsidy from the department.
- The Ministry has released a total assistance of Rs.105.22 crore to implement the **Food Parks Scheme**. It has so far approved 50 food parks for assistance across the country. The Centre also plans Rs.100 crore subsidy for mega food processing parks and will consider supporting the proposal for setting up one on the premises of ailing **PSU fertilizers and Chemicals Travancore (FACT)**.

Ownership Model

Farm Gate

Dryers can be owned by individual farmers based on the capacity requirement. Financial support shall be provided in terms of subsidies, financial loans, etc

SHG/FPO

Higher capacity Dryers can be purchased by the FPO for value-added commodities.



Cost

INR 1,07,000 for a 100 kg input capacity dryer



Earning Potential

INR 21,300 per month per person
(one enterprise can employ 3 people)

Food System Opportunities

Inputs Production Post-Harvest Processing **Retail** Consumers

Ecommerce Related Services

Ecosystem Gaps

The size of the global E-Commerce of agricultural products market was estimated at USD 33.8 Billion in 2022 and is anticipated to grow at a CAGR of 6.94% over the course of the forecast period, reaching USD 50.5 billion by 2028.

There exists some challenges for the farmers to explore this business opportunity like:

- Inadequate knowledge of technology
- Inefficient supply chain management for ecommerce
- Lack of quality control for products to meet standards
- Lack of capital for investments in technology, infrastructure and equipment



Role of Youth

- Act as service providers to assist farmers sell their produce on platforms like eNam, Amazon and Flipkart
- Provide e-commerce services like product photography, inventory management, branding and marketing, sales management, and operations for sale of agri-products on e-commerce platforms

Success Story

“Zizira is an organisation based out of the scenic city of Shillong in Meghalaya. Most of these farmers live by the mountains in remote locations and in adverse conditons. In order to help these farmers earn sufficient income and help sustain their family Zizira sources crops and other food products from them, packs them and sells them on Amazon. Today, a family in Kerala can easily order a packet of Khasi sticky rice and Zizira will fulfill their order.”



Fixed Cost

INR 50,000

(for product photography)

Impact

- Fast product sourcing and supply
- Easy management of retail and wholesale business
- Wider reach of customers across different geographies
- Network effect for sellers
- Diversification by sale of products online as well as in traditional mandis leads to sustainable income



Earning Potential

INR 15,000 per month per person

(for product photography enterprise employing 2 people)

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities

Inputs Production Post-Harvest Processing Retail **Consumers**

Delivery Services

Ecosystem Gaps

- Poor transport connectivity in rural areas
- High transportation charges
- Wear and tear of produce in logistics
- Lack of proper temperature control during transport
- Security concerns like theft, vandalism and attacks on transport vehicles



Role of Youth

Delivery from aggregation centres to customers

Skill Requirements

- Driving heavy vehicles like trucks and tempos
- Knowledge of transport ways
- Knowledge of produce being delivered
- Technicalities of delivering produce in right conditions with minimum wear and tear

Success Story

“NinjaCart helps farmers to directly sell their produce to the doorstep of customers. Ninjacart identifies vegetables that are in excess supply, as well as those that are going un-harvested within their farmer networks. They buy this excess produce directly from farmers to help them in recovering their investments. It utilizes its fresh produce supply chain across the country to distribute at a marginal cost from farms to consumers”



Fixed Cost

INR 40,000

(rental truck, fuel)

Impact

- Faster delivery of produce to customers
- Reduces transport damage and loss of produce
- Wider reach to different geographies
- Useful for quick delivery of perishable produce



Earning Potential

INR 17,500

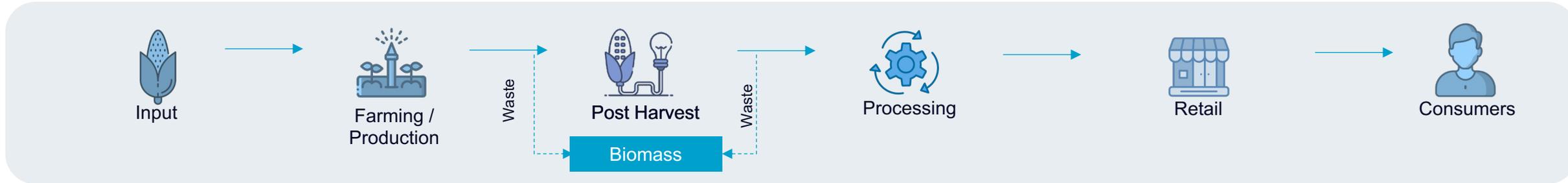
per month per person
(for a delivery enterprise employing 2 people)

Food System Opportunities

Ecosystem players in the food system value chain

05 Means to boost economic activity

Value Chains Opportunities
Small Business Opportunities
Food System Opportunities



Ecosystem players

Government Bodies and Ministries



Food and Safety Standards Authority of India (FSSAI)



Department of Food and Public Distribution, India



Ministry of Food Processing Industries



Ministry of Consumer Affairs, Food and Public Distribution



Food Corporation of India

NGOs / CSOs



PRADAN



Transform Rural India



Hindrise Social Welfare

Academia/ Research and Skilling Institutions



Food Industry Capacity and Skill Initiative



Agriculture Skill Council of India



Indian Institute of Food Processing Technology



National Institute of Food Technology Entrepreneurship and Management

Schemes and Initiatives



National Food Security



Pradhan Mantee Krishi Sanchayee Yojna

National Mission on Food Processing

National Mission on Food Processing



Agrclinic by GOI

Donors, Corporates and Industries



Mahindra's CSR Initiative



Cropin



Haqdarshak



Social Alpha



Villgro



KIVI



Sustain Plus



SELCO Foundation



Bill & Melinda Gates Foundation

06

Supporting Ecosystems

Policies and Schemes
Partnership & Funding Landscape
Skilling and Placement Ecosystem

Ecosystem Map

06 Supporting Ecosystems

Policies and Schemes
Partnership & Funding Landscape
Skilling and Placement Ecosystem

Policy Makers



Funders



Industries



Education and Skilling Providers

Mass skilling initiatives for youth sponsored by government schemes

Diploma programs in technology and vocational training



Collaborations

Rural Livelihoods Initiative



Tribal Empowerment & Livelihoods Project



Entrepreneurship in Education Initiative



Youva Compass



Livelihoods for Women



Saksham Jharkhand Kaushal Vikas Yojan



Lenders



Resources and Processes that can be leveraged

CSR Spending in **Jharkhand stands at INR 192.41 Cr** in 2021-22 with the largest spending towards **Education, Differently abled and Livelihoods (33.6%)**

Ranchi

- Ranchi saw the largest CSR spending in Jharkhand in 2021-22.
- CSR spending in the district has increased from INR 13.42 Cr in 2020-21 to **INR 51.49 Cr in 2021-22**
- Public and Private skill centers' have a capacity to train **59,000+ candidates**

Palamu

- CSR spending in the district has increased from INR 0.01 Cr in 2020-21 to **INR 5.19 Cr in 2021-22 in Palamu**
- Public and Private skill centers train **14,000+ candidates**

Notable initiatives that GOYN can leverage (Employability)

ICICI Academy for Skills

ICICI Academy for Skills provides industry relevant training for underprivileged youth by partnering with industry leaders as knowledge partners and placement support.

An opportunity for youth to acquire industry relevant skills and utilize the platform to get related jobs.

SkillsBuild



IBM's SkillsBuild program provides online course catalog including **cybersecurity, data, web development** etc. Learners will also gain important workplace skills aligned to in-demand jobs.

Youth can learn latest digital skills enabling them to join IT sector for long term employment.

Saksham Jharkhand Kaushal Vikas Yojana (SJKVY)



AISECT has partnered with JSDM for the execution of SJKVY and empower the youth of Jharkhand with **skill-based vocational education** courses like Beauty, wellness and electronics trade in Palamu & several skill development initiatives in Ranchi, through PMKVY training centers.

An opportunity for youth to acquire vocational skills locally in their districts without having to migrate to bigger cities. They can then create self-employment opportunities locally.

Digisaksham



Microsoft's Digisaksham program trains job-seekers registered on NCS portal on **digital skills (Excel, Python, Azure, Java, etc.)** with a focus on rural and socially disadvantaged youth.

After registering on NCS portal, youth can develop coding skills in trending languages enabling them to join IT sector for long term employment.

Resources and Processes that can be leveraged

06 Supporting Ecosystems

Policies and Schemes
Partnership & Funding Landscape
Skilling and Placement Ecosystem

Notable initiatives that GOYN can leverage (Entrepreneurship)

Skilling infrastructure and curriculum



MoRD-supported RSETI are set up in all districts to impart training and skill upgradation with the aim to help in self-employment. They are currently facing challenges to monitor post training success

GOYN can leverage the infrastructure and training curriculum to create **self-employment opportunities** in the districts and along with a pool of lending institutions to support the Youth with seed and working capital to set up their small businesses

Rural livelihoods initiative



A joint initiative of Jharkhand Government and the World Bank, the Jharkhand Opportunities for Harnessing Rural Growth (**JOHAR**) project has rural livelihoods interventions to enhance and diversify the incomes of targeted rural households across 68 blocks in 17 districts of Jharkhand.

Rural households can reduce their dependency on single income source (mostly agriculture) and diversify to obtain a sustainable income,

Entrepreneurship in Education Initiative



This collaboration with Central University is aimed at creating a conducive environment to **promote entrepreneurship** on and off campus through a series of value-added programmes, policies, and curriculum.

Eligible youth can leverage expert guidance from the initiative to acquire relevant skills and knowledge about starting their own business.

Market Linkage

Flipkart Samarth Program: Flipkart has MoU with the state government and livelihood mission to bring artisans, weaver & micro-entrepreneurs access to pan-India market through e-commerce.

Amazon Karigar: Offers a platform for selling handicrafts heritage sourced locally from across India and provides training, subsidized selling fee and other support to the sellers.

RUDI Sandesha Vyavahar: Vodafone Idea (VI) Foundation's android app helps to set up supply chain system from procurement of goods to selling the processed agro based food products to end customers.



Opportunity youth can leverage the Flipkart Samarth Program and Amazon Karigar opportunities to market and sell their products throughout the country. The VI app can similarly be utilized to streamline their product supply chain to achieve maximum efficiency.

Resources and Processes that can be leveraged

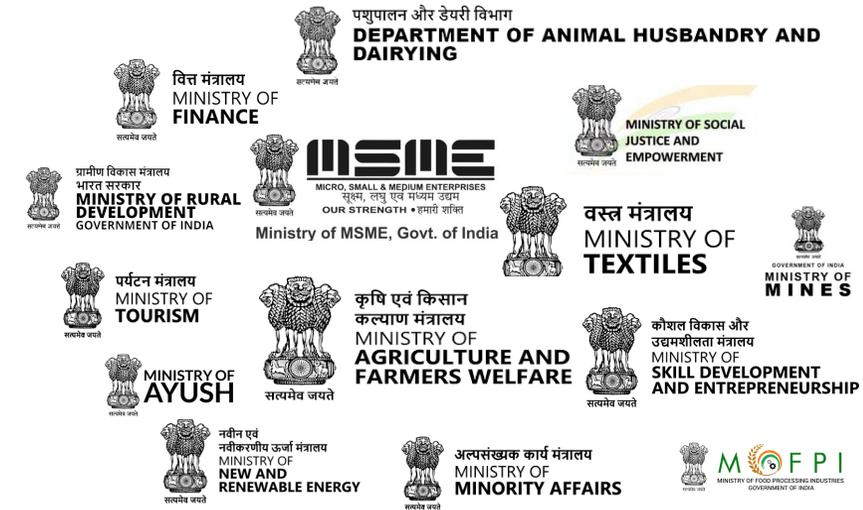
Partner with lenders to provide credit and loan support to Youth

Type of capital	Up to INR 1 Lakh	INR 1 - 5 Lakhs	More INR 5 Lakhs
Seed capital			
Working Capital			
Both			

Government Policies and Schemes

14 Government Ministries and departments are supporting Livelihoods & Skilling through 80+ policies and schemes

Ministry of Micro, Small and Medium Enterprises	20	Ministry of New and Renewable Energy	2
Ministry of Agriculture & Farmers' Welfare	17	Ministry of Food Processing Industries	2
Ministry of Textiles	12	Ministry of Tourism	1
Ministry of Animal Husbandry, Dairying and Fisheries	9	Ministry of Finance, Govt of India	1
Ministry of Social Justice and Empowerment	3	Ministry of AYUSH	1
Ministry of Rural Development	3	Ministry of Skill Development & Entrepreneurship	1
Ministry of Minority Affairs	3	Ministry of Mines	1



Livelihood promotion
8

Capacity building
6

Backward & Forward Market linkage
25

Credit/Loan
37

Note:

1. Numbers represent number of policy/schemes by respective Government body or in the category

Key schemes supporting Livelihood Promotion

Scheme	Level	Brief Description	Scheme outlay	Target Beneficiary	Impact
Pradhan Mantri Kisan Sampada Yojana	National	To supplement agriculture, modernize processing and decrease Agri-Waste	INR 4,600 crore till March 2026	Farmers, food processing industry	<ul style="list-style-type: none"> Expected to leverage investment of Rs. 31,400 crore for handling of 334 lakh MT agro-produce valued at Rs. 1,04,125 crore, benefiting 20 lakh farmers and generating 5,30,500 direct/indirect employment in the country by the year 2019-20
Formation and promotion of 10,000 FPOs by MA&FW	National	To provide a supportive ecosystem for the formation of 10,000 new FPOs and the development of sustainable, income-oriented farming.	INR 6,866 crore till March 2028	Small and marginal farmers (SMFs)	<ul style="list-style-type: none"> More than 5.87 lakh farmers have been mobilized under the Scheme. About 3 lakh farmers have been registered as shareholders of the FPOs. Equity contribution by farmer members amounts to INR 36.82 crores. The total equity base of the FPOs, including the Equity Grant released, amounts to INR 50 crores.
National Livestock Mission	National	Entrepreneurship development and breed improvement in poultry, sheep, goat and piggery including feed and fodder development.		Individual, FPOs, SHGs, Section 8 companies	<ul style="list-style-type: none"> National Livestock Mission (NLM) will help in creating rural Entrepreneurship and help in creating better livelihood opportunity for unemployed youth and livestock farmers in the Cattle, Dairy, poultry, sheep, goat, piggery, feed and fodder sector paving the way towards Atma Nirbhar Bharat
Market Intervention Scheme and Price Support Scheme (MIS PSS)	National	MIS - To protect the growers of these agricultural commodities in the event of a bumper crop during the peak arrival period PSS - To ensure profitable prices to the growers with a vision of encouraging higher investment and production		Farmers	<ul style="list-style-type: none"> Remunerative prices to the farmers in case of excess production and a fall in prices

Key schemes supporting Capacity Building

Scheme	Level	Brief Description	Scheme outlay	Target Beneficiary	Impact
Fodder and Feed Development Scheme	National	To assist and train state government and dairy farmers in feed and fodder development	INR 141.4 crore	Rural households	<ul style="list-style-type: none"> Establishment of Fodder Block Making Units Grassland Development including Grass Reserves Fodder Seed Production and Distribution. Biotechnology Research Projects
Deen Dayal Upadhyaya Grameen Kaushalya Yojana	National	To provide skill training and wage employment opportunities to rural youth		Rural youth	<ul style="list-style-type: none"> More than 7 lakh candidates placed from 2014-15 Currently, 1.28 lakh candidates are undergoing training in various training centers spread across the country
National Schedule Caste/Schedule Tribe Hub Centre	National	To provide professional support to Scheduled Caste and Scheduled Tribe Entrepreneurs to fulfil the obligations under the Central Government Public Procurement Policy for Micro and Small Enterprises Order 2012		SC/ST communities	<ul style="list-style-type: none"> Total SC-ST Candidates Assisted as on 31st August 2023 - 1,13,330 Total SC-ST Candidates Trained as on 31st August 2023 - 38,079 Candidates Trained as on 31st August 2023 - 1,485.16 Cr. Procurement from 10,139 SC/ST owned MSEs in FY 2022-23 (31st August 2023)
National Rural Livelihood Mission	National	Aims to reduce poverty by enabling the poor household to access gainful self-employment and skilled wage employment opportunities resulting in sustainable and diversified livelihood options for the poor.		Livestock Farmers	<ul style="list-style-type: none"> Number of households mobilized into SHG - 2,23,007 Number of SHGs promoted -24,477 Number of village organizations promoted - 37 Number of community resource persons developed - 1,776 Number of SHGs provided Revolving Fund - 1,41,035 Number of SHGs provided Community Investment Fund - 1,14,15
Pradhan Mantri Kaushal Vikas Yojana	National	To enable Indian youth to take up industry relevant skill training that will help them in securing a better livelihood.		Youth	Under PMKVY 3.0, 3.74 lakh people have been enrolled, 3.36 lakh trained, 2.23 assessed, and 1.65 lakh certified.

Key schemes supporting Market Linkages

Scheme	Level	Brief Description	Scheme outlay	Target Beneficiary	Impact
Khadi Reform and Development Program (KRDP) by KVIC	National	To reposition Khadi and align it to market demands and trends, enhance artisan welfare and empowerment, build capacity, and implementation of management information system	INR 666 crore	Khadi institutions	The program has impacted the lives of about one million artisans and their families employed in khadi, including (i) increased earnings (72% increase from FY2010 to FY2017) (ii) financial inclusion (more than 90% artisans receiving wages through bank account and insurance cover
Supporting dairy cooperatives and farmer producer organizations engaged in dairy activities	National	To provide a stable market platform by creating the necessary infrastructure for milk producers and distributors to gain access to organized milk sectors	INR 300 crore	Livestock Farmers	<ul style="list-style-type: none"> An infrastructure that would provide access to all dairy farmers to organized milk sector for better pricing Beneficial for more than 95 lakh in 50,000 villages
Pradhan Mantri Matsya Sampada Yojana (PMMSY)	National	It aims to modernize and strengthen the value chain, enhance traceability and establish a robust fisheries management framework while simultaneously ensuring the socio-economic welfare of fishers and fish farmers.	INR 20,050 crores	Fishers, Fish farmers, workers and vendors, Fisheries Development corporations	<ul style="list-style-type: none"> The fish production is likely to be enhanced from 13.75 million metric tons (2018-19) to 22 million metric tons by 2024-25. A sustained average annual growth of about 9% in fish production is expected. An increase in the contribution of GVA of fisheries sector to the Agriculture GVA from 7.28% in 2018-19 to about 9% by 2024-25.
Prime Minister Formalization of Micro Food Processing Enterprises Scheme (PM-FME)	National	To enhance the competitiveness of existing individual micro-enterprises in the unorganized segment of the food processing industry and promote formalization of the sector	INR 10,000 crore till March 2025	Groups engaged in Agri-food processing such as Farmer Producer Organizations (FPOs), Self Help Groups (SHGs) and Producers Cooperatives along their entire value chain	<ul style="list-style-type: none"> The fish production is likely to be enhanced from 13.75 million metric tons (2018-19) to 22 million metric tons by 2024-25. A sustained average annual growth of about 9% in fish production is expected. An increase in the contribution of GVA of fisheries sector to the Agriculture GVA from 7.28% in 2018-19 to about 9% by 2024-25.

Key schemes supporting Credit/Loan

Scheme	Level	Brief Description	Scheme outlay	Target Beneficiary	Impact
Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM) by MoAFW	National	<ul style="list-style-type: none"> To reduce farmers' dependence on conventional pumps and promote the adoption of solar pumps. To solarize existing grid-connected electric pumps. To enhance farmer incomes and to promote decentralized renewable power generation. To promote innovative and cost-effective solar pumps 	INR 34,422 crore	All farmers (special focus on marginal and small farmers)	<ul style="list-style-type: none"> 4.9 GW Capacity Allotted under Component A with 63.95 MW installed Capacity 8.07 lakhs Pumps Sanctioned under Component B with 1.37 lakh installed numbers 25.43 lakhs Pumps Sanctioned under Component C (IPS + FLS) with 1056 solarized numbers under IPS
Rastriya Krishi Vikas Yojana (RKVY)	National	<ul style="list-style-type: none"> RKVY scheme incentivizes States to increase public investment in Agriculture & allied sectors 	INR 10,433 crore	Farmers	<ul style="list-style-type: none"> Increase production and productivity of Agricultural crops, increasing farm income with the aim of minimum 4% annual growth in Agriculture.
Animal Husbandry Infrastructure Development Fund	National	<ul style="list-style-type: none"> To incentivize investments for establishing: (i) The dairy processing and value addition infrastructure (ii) Meat processing and value addition infrastructure (iii) Animal feed plants 	INR 15,000 crore	MSMEs, individual entrepreneurs, FPOs, private companies, Section 8 companies	<ul style="list-style-type: none"> ₹ 39.82 Cr Interest Subvention Released ₹ 5802.06 Cr sanctioned Loan Amount
Scheduled Caste Sub Plan (SCSP) - Central Silk Board	National	<ul style="list-style-type: none"> Providing families with various kinds of assistance, including support for machine purchases, silkworm rearing, and skill upgradation. 	INR 40 crore	SC community	There is a shift of 1.15% from Main Workers to Marginal Workers for the SC population from 2001 to 2011.
Interest Subsidy Eligibility Certificate by KVIC, MSME	National	<ul style="list-style-type: none"> To mobilize funds from financial institutions and banks 	INR 1,370 crore	Khadi institutions	<ul style="list-style-type: none"> Credit at a concessional rate of interest of 4% per annum for working capital, is made available as per the requirement of the institutions

Funding Landscape

A youth entrepreneur has multiple funding options that can be leveraged at various stages of development of their enterprise

<p>Aye Finance </p> <p>Lending platform</p> <p>Tech-enabled process building credit insights through available business & behavioral data. Offers up to INR 2 lakhs of a borrowing line in the form of working capital to micro-enterprise owners, who have annual sales of Rs 25- 50L</p> <p>Up to INR 2 lakhs Working Capital Up to INR 10 lakhs Fixed Capital</p>	<p>Lendingkart </p> <p>Non-deposit taking NBFC</p> <p>Provides short-term collateral-free working capital loans to MSMEs with minimal paperwork within 72 hours. The loan ticket size ranges between Rs 50,000 and 1 crore for a period of one to 36 months.</p> <p>INR 50K – 1 Cr Working & Fixed Capital</p>	<p>Satya MicroCapital </p> <p>NBFC- MFI</p> <p>Collateral-free credit to unbanked and underserved people through a strong credit assessment and centralized approval system.</p> <p>INR 25- 50K Working Capital INR 1- 5 lakhs Fixed Capital</p>	<p>Happy Loans </p> <p>Digital lending fintech</p> <p>Credit model based on merchant's level of business engagement with the partner, behavior towards borrowing, APIs, demographics, and business trends. It offers micro business loans from Rs. 2,000 for as short as 30 days.</p> <p>INR 2K or more Working Capital</p>
<p>Ziploan </p> <p>Fintech lending platform</p> <p>Ziploan is a tech-enabled RBI registered NBFC that provides loans to small businesses. The platform generates a unique ZipScore for each loan applicant by developing an automated underwriting algorithm. Business turnover of min. INR 10 lakhs required.</p> <p>INR 1- 7.5 lakhs Working & Fixed Capital</p>	<p>FlexiLoans </p> <p>Online lending platform</p> <p>FlexiLoans uses its differentiated technology to reach out to e-sellers and other financial lending institutions. It provides collateral-free loans within a short timeframe to those who do not have a credit history and hence, cannot avail of business loans from traditional banking channels.</p> <p>Upto INR 1 Cr. Working & Fixed Capital</p>	<p>LenDenClub </p> <p>Peer-to-peer lending platform</p> <p>Leverages AI-driven tech and an in-house assessment team to provide loans. LenDenClub has reportedly crossed more than one lakh lenders and borrowers to date.</p> <p>INR 25K – 10 lakhs Working & Fixed Capital</p>	<p>NeoGrowth Credit </p> <p>SME lending platform</p> <p>Innovative technology and a digital payment ecosystem along with flexible repayment options. They provide instant loan to retailers up to Rs. 15L, loan against property from Rs.10-75L and vendor finance to suppliers of large corporates from Rs. 25-75 L</p> <p>Up to INR 25 lakhs Working & Fixed Capital</p>

Note:

1. Aye Finance has also physical presence in Ranchi, others are fully digital/ app-based loan disbursement facilities

Source: 1. [Ayefin](#), 2. [Lendingkart](#), 3. [Satyamicrocapital](#), 4. [Happy](#), 5. [Ziploan](#), 6. [Flexiloans](#), 7. [Lendenclub](#), 8. [NeoGrowth](#)

Funding Landscape

A youth entrepreneur has multiple funding options that can be leveraged at various stages of development of their enterprise

Bharatiya Yuva Shakti Trust



Funding facilitator

Collateral free start-up finance to youth through partnership with financial institutions. Once the business is set up, additional support services including training, on-line information portal etc. are available to entrepreneurs

INR 1- 50 lakhs | Seed Capital

Samunnati



Agri financing

Customized financial solutions for agri value chain players to manage working capital gaps. Agri Receivable Finance is a bill discounting loan and term loans for purchasing equipment are also available.

Avg. INR 70 lakhs | Working Capital

Rang De



Peer to peer lending platform

Loans to farmers, artisans and entrepreneurs who are currently unbanked. The investors choose the investees who have applied for funding for a specific cause (like starting up or expanding existing business)

Up to INR 10 lakhs | Working & Fixed Capital

Small Industries Development Bank of India



Financial Institution

Provides loans to MSMEs and their products include:
For setting up new units (land, factory building, equipment), term loan assistance for new & existing MSMEs by for women and SC/ ST entrepreneurs

Up to INR 20 Cr | Fixed Capital
Up to INR 10 lakhs | Working Capital

National Small Industries Corporation



Credit facilitation

MoU with various nationalized and private sector banks to facilitate credit support to MSMEs. Hand holding support for loan applications provided at the NSIC branches at no cost to the MSMEs. The margin norms, interest rate, processing charge and security norms will vary from bank to bank

INR 10L- 5 Cr. | Working & Fixed Capital

Note:

1. SIDBI and NSIC branches are present in Ranchi. Samunnati and Rang De are active in Jharkhand.

Source: 1. [BYST](#), 2. [Samunnati](#), 3. [Rangde](#), 4. [SIDBI](#), 5. [NSIC](#)

Existing initiatives and partnerships

06 Supporting Ecosystems

Policies and Schemes
Partnership & Funding Landscape
Skilling and Placement Ecosystem

- Ranchi
- Palamu



Government of Jharkhand



Rural Livelihoods Initiative

A joint initiative of the Government of Jharkhand and the World Bank, to improve the livelihoods of rural households by providing them with **access to skills training, financial services, and market opportunities**.¹

The Jharkhand Opportunities for Harnessing Rural Growth (**JOHAR**) project is a holistic package of rural livelihoods interventions that work together to enhance and diversify the incomes of targeted rural households across 68 blocks in 17 districts of Jharkhand.²



Government of Jharkhand



UDYOGINI

Yuva Compass

Udyogini's most recent initiative Yuva Compass aims at providing a sustainable livelihood development program for the rurally disadvantaged youth.⁴



Jharkhand State Livelihood Promotion Society



Livelihoods for Women

Trickle Up is partnering with the JSLPS, state branch of India's National Rural Livelihoods Mission (NRLM) to design and implement livelihood initiatives for people living in ultra poverty.

Promoting sustainable livelihoods by **connecting women living in extreme poverty to existing markets**, strengthening the capacity of coaches to deliver high-quality services, and enhancing * data-driven decision-making for overall improvement of program quality”³



Government of Jharkhand



उद्यमी लभते सिद्धिम्
niesbud



Entrepreneurship in Education Initiative

This collaboration with Central University if aimed at creating a conducive environment to **promote entrepreneurship** on and off campus through a series of value-added programmes, policies, and curriculum.⁵



3SDMS



PRADHAN MANTRI KAUSHAL VIKAS YOJANA



Education. Empowerment. Enterprise.

Saksham Jharkhand Kaushal Vikas Yojana

AISECT has partnered with JSDM for the execution of 'Saksham Jharkhand Kaushal Vikas Yojana and empower the youth of Jharkhand with **skill-based vocational education**. Courses like Beauty and wellness and electronics trade for candidates in Palamu.

JSDM) is also coordinating and implementing several skill development initiatives in Ranchi, through its PMKVY training centers.



Government of Jharkhand



Tribal Empowerment & Livelihoods Project

An aim to improve the living conditions of tribal communities and empower 136,000 tribal households in Jharkhand to take up livelihood options based on equitable use of natural resources.⁶



Market linkage



ICICI Foundation Rural Livelihood

Skill training with focus on agriculture and dairy and helps forge trade relationships with other market participants.



Amazon Karigar

Platform for selling handicrafts heritage sourced locally from across India and provides training, subsidized selling fee and other support to the sellers.



Reliance Foundation Information Services

Connects rural communities to advisories, information & support on weather, farming, livestock rearing via digital platforms.



Rural Transformation Program

Nurtured and strengthened over 100 Farmer Producer Organisations (FPOs) and helping with market linkage and Minimum Support Price procurement centers.



Vodafone Idea Foundation

RUDI Sandesha Vyavahar

Android app to set up supply chain system from procurement of goods to selling the processed agro based food products to end customers.



Vodafone Idea Foundation

Financial literacy - Jaadu Ginni Ka

App-based customized financial literacy content for bottom of pyramid using stories & games. Mobile vans taking Jaadu Ginni Ka to communities in seven states..



Flipkart Samarth Program

MoUs with state governments and livelihood missions to bring artisans, weaver & micro- entrepreneurs access to pan-India market through e-commerce.

Note:

1. In FY 21-22, CSR spend in Ranchi was INR 51.49 Cr and in Palamu was INR 5.19 Cr
2. Details on the districts in which ICICI Foundation Rural Livelihood or the Reliance Foundation initiatives are present is not available.
3. The Amazon and Flipkart programs can be registered from all across India.
4. Vi's RUDI Sandesha Vyavahar and Financial literacy initiatives are both app-based programs that can be accessed from all across India.

Skilling



ICICI Academy for Skills

Industry relevant training for underprivileged youth by partnering with industry leaders as knowledge partners and placement support.



Digisaksham

Trains job-seekers registered on NCS portal on digital skills (Excel, Python, Azure, Java, etc.) with a focus on rural and socially disadvantaged youth.



Skilling & Vocational Training Programme

Skill training in manufacturing and services sectors & employment linkages for underprivileged youth implemented with leading skills training institutes



SkillsBuild

Online course catalog including cybersecurity, data, web development etc. Learners will also gain important workplace skills aligned to in-demand jobs.

Livelihood & Health



Infosys - Integrated livelihood initiative

Worked with the Collectives for Integrated Livelihood Initiatives (CINI) to provide year-round irrigation resources for 40% of the land of tribal households and bring around 13,000 households out of poverty

Note:

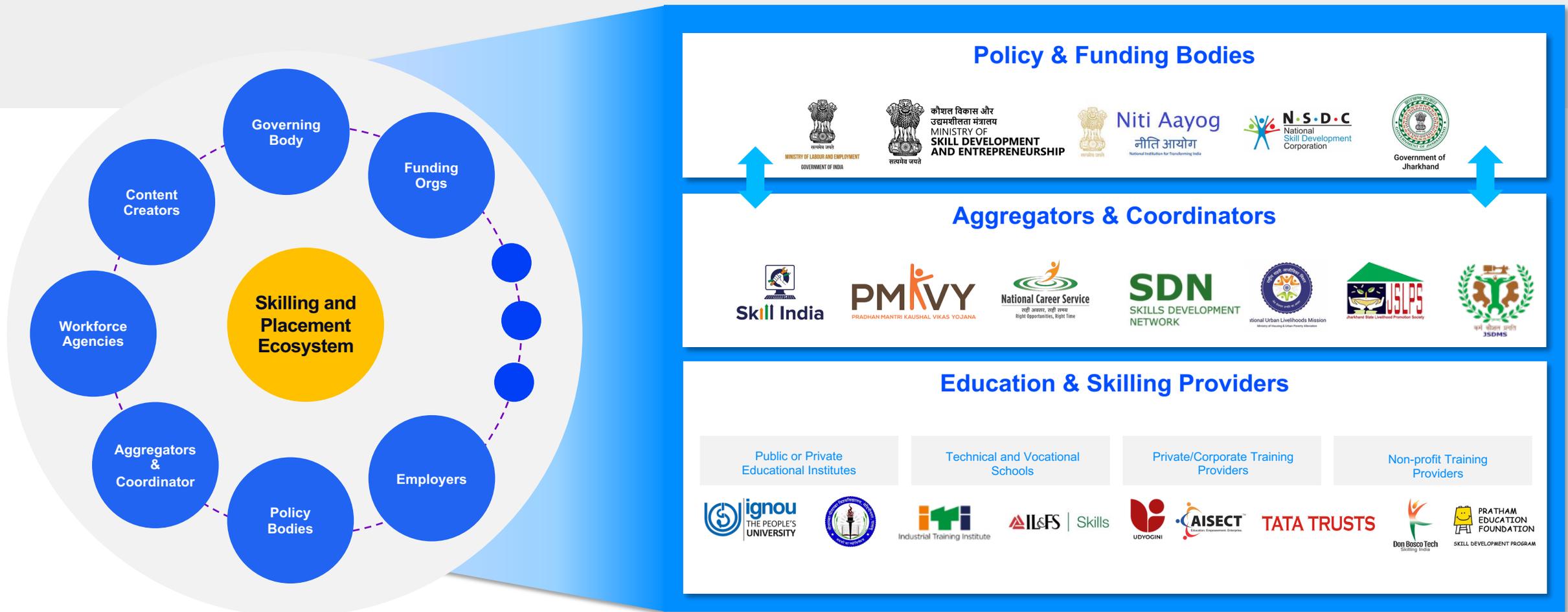
1. Digisaksham and SkillsBuild are available online.
2. Details on the districts in which ITC's Skilling & Vocational Training Programme or Infosys' Integrated livelihood initiative are present is not available.

Ranchi

Palamu

Skilling and Placement Ecosystem

The Jharkhand government plays an important role in the skilling ecosystem within the state and is responsible for formulating policies, funding and regulating the skill development programs to improve the workforce employability across its districts.



Skilling and Placement Ecosystem

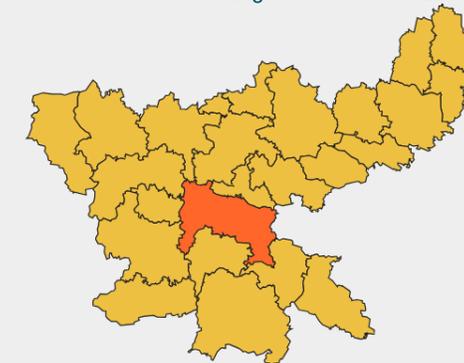
The skilling ecosystem in Ranchi is relatively developed. There are a number of skilling providers operating in the district, including government-run institutions, NGOs, and private training providers

Livelihood Programs for Industry Requirements in Ranchi

Apparel	IT & ITES	Electronics	Retail	Construction	Beauty & Wellness
Hospitality	Capital Goods	Auto Components	Telecom	Tourism	Security

06 Supporting Ecosystems

Policies and Schemes
Partnership & Funding Landscape
Skilling and Placement Ecosystem



Government-run skilling programs

Mass skilling initiatives for youth sponsored by government schemes



45+ Training Partners, 45,000+ trained

Courses

- Agriculture
- Automobile
- Beauty and wellness
- Construction
- Electronics and hardware
- Food and beverage
- Handloom and textile
- Health care
- Hospitality
- IT
- Retail and trade
- Security
- BSFI

Placements

Mass job fairs, online placement portal, vacancies listed on the district website

Public/Private Educational Institutes

Diploma programs in technology and vocational training to youth after Class 10



7 Govt ITIs 2 Polytechnic, 14,000+ trained

Courses

- Diploma in ComSc Eng
- Diploma in Electrical Eng
- Diploma in Electronics Eng
- Spinning technician
- Radiology technician
- Advanced machine tools
- Weaving technician
- Physiotherapy
- Vessel investigator
- Computer hardware
- Computer operator

Placements

Field visits, campus placements through employer partnerships for internships and jobs.

Private/Corporate Training Providers

Skilling centers run for the youth by the for-profit providers for several domains



50+ Private Training Providers

Courses

- Electrician
- Automotive Technician
- Food & Beverage Steward
- Sales Associate
- Data Entry Operator
- Carpentry
- Electrician
- Welding
- Mechanics
- Masonry
- Tailoring
- Agriculture
- Computer skills
- Language skills
- Soft skills

Placements

On the job trainings, placement through employer partnerships.

NGO Training Providers

Skilling centers run for the youth by the non-profit providers for several domains



30+ NGO Training Providers

Courses

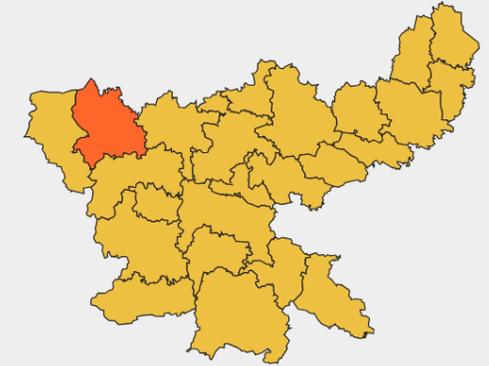
- Self Employment Skills
- Inverter repairing
- Two-wheeler repairing
- Doll making
- Soft Skill training
- Computer Basics
- Stitching

Placements

Mentorship and guidance, placement support through employment partnerships.

Skilling and Placement Ecosystem

The skilling ecosystem in Palamu is underdeveloped with fewer educational institutes and training providers operating in the district.



Livelihood Programs for Industry Requirements in Palamu

Apparel	IT & ITES	Electronics	Retail	Construction	Beauty & Wellness
Hospitality	Capital Goods	Auto Components	Telecom	Tourism	Security

Government-run skilling programs

Mass skilling initiatives for youth sponsored by government schemes



13+ Training Partners, 10,000+ trained

Courses

- Agriculture
- Automobile
- Beauty and wellness
- Construction
- Electronics and hardware
- Food and beverage
- Handloom and textile
- Health care
- Hospitality
- IT
- Retail and trade
- Security
- BSFI

Placements

Mass job fairs, online placement portal, vacancies listed on the district website

Public/Private Educational Institutes

Diploma programs in technology and vocational training to youth after Class 10



10 ITIs 2 Colleges, 4,000+ trained

Courses

- Diploma in ComSc Eng
- Diploma in Electrical Eng
- Diploma in Electronics Eng
- Spinning technician
- Radiology technician
- Advanced machine tools
- Weaving technician
- Physiotherapy
- Vessel investigator
- Computer hardware
- Computer operator

Placements

Field visits, campus placements through employer partnerships for internships and jobs.

Private/Corporate Training Providers

Skilling centers run for the youth by the for-profit providers for several domains



30+ Private Training Providers

Courses

- Electrician
- Automotive Technician
- Food & Beverage Steward
- Sales Associate
- Data Entry Operator
- Carpentry
- Electrician
- Welding
- Mechanics
- Masonry
- Tailoring
- Agriculture
- Computer skills
- Language skills
- Soft skills

Placements

On the job trainings, placement through employer partnerships.

NGO Training Providers

Skilling centers run for the youth by the non-profit providers for several domains



10+ NGO Training Providers

Courses

- Self Employment Skills
- Inverter repairing
- Two-wheeler repairing
- Doll making
- Soft Skill training
- Computer Basics
- Stitching

Placements

Mentorship and guidance, placement support through employment partnerships.

07

Appendix

Assumptions and Calculations (Mango)

Opportunity 1: D2C Mango Delivery

Details	Costs	Assumptions
Fixed Capital	INR 80,000	
Lease for orchard	INR 80,000	Annual; 4 acres that can produce 2-9 tons per acre Assume 4 tons/ acre, 16 tons/ season
Working Capital	INR 44,800	
Irrigation & Fertilizer	INR 20,000	Annual cost of fertilizer; 1 person is working 10 days in a month for 4 months & 4 days a month for the rest 8 months at INR 600/ day: INR 43.2K. This can be done by the entrepreneur himself, so labor is not charged
Harvesting & packing	INR 4800	Monthly; Family members are involved, and part time workers are hired for packaging (2 days a week for 8 weeks @ INR 600/ day)
Packaging material	INR 10,000	Monthly for 4 months; INR 45/ piece that can hold 11-25 kg
Other costs	INR 5,000	Monthly for 4 months; Transportation, miscellaneous etc.
Revenue	INR 2,70,000	
Sale of mangoes	INR 2,70,000	Monthly; Assume 10% of mangoes are defective/ wasted Selling price: INR 50-100/ kg; Average: INR 75/ kg $90\% * 4 * 1000 * 75 = \text{INR } 2,70,000$
Net Profit	INR 2,25,200	Monthly; Cost of couriering borne by the customer

Opportunity 2: Mango Pulp

Details	Costs	Assumptions
Fixed Capital	INR 34,500	Assuming the facility will be used for processing other vegetables and fruits during the rest of the year, we consider only 30% of this as the FC for mango
Pulping machine	INR 34,000	Solar powered pulping machine with capacity of 50-100 kg/ hour
Commercial refrigerator	INR 74,000	Pulp needs to be stored refrigerated until sold
Food certification and others	INR 7000	Other miscellaneous expenses
Working Capital	INR 3,92,000	
Mangoes	INR 3,78,000	Monthly; Assume 75 kgs of mangoes are processed for 6 hours for 6 days for 4 weeks a month. This requires 10.8 tons of mangoes @ wholesale price of INR 35/ kg
Electricity	INR 5,000	Monthly; for the refrigerator to store the pulp
Labor	-	Assume family members are working; 2 people are engaged
Packaging	INR 9,000	Monthly; INR 30/ bag of 25kg capacity
Revenue	INR 8,31,600	
Sale of mangoes	INR 8,31,600	Monthly; Mangoes produce 40-70% of its weight in pulp. Assume 70% pulp can be produced from mangoes. From 10.8 tons of mangoes, we get 7.56 tons of pulp Revenue: $7.56 * 1000 * 110 = \text{INR } 8,31,600$ L/ month
Net Profit	INR 4,39,600	Monthly; For for months for mango

Assumptions and Calculations (Mango)

Opportunity 3: Dried Mangoes

Details	Costs	Assumptions
Fixed Capital	INR 30,000	Assuming the facility will be used for processing other vegetables and fruits during the rest of the year, we consider only 40% of this as the FC for mango
Solar drier	INR 65,000	100 kg capacity
Food certification and others	INR 10,000	Other miscellaneous costs
Working Capital	INR 1,47,600	
Mangoes	INR 1,26,000	Monthly; Mangoes are made up of 60-75% flesh So, from 1 kg of mango you can get 675g of mango flesh. Since the processing capacity of the drier is 100kg, we need 150kg of mango/ day Assume the processing is done for 6 days a week for 16 weeks, mangoes required: 14400kg Price of mangoes: 35/kg Total cost of mangoes: INR 1.26L/ month
Labor	-	Assume 2-3 family members are involved in this Set up at home, so no rent and no electricity required as a solar drier is used
Packaging	INR 21,600	Monthly; INR 15/ bag of capacity 250g for packing 360 kg of dried mangoes 15*(360/.25)
Revenue	INR 2,16,000	
Sale of dried mangoes	INR 2,16,000	Monthly; Assume wholesale price of INR 600/ kg
Net Profit	INR 68,400	Monthly; For 4 months

Opportunity 4: Mango Kernel Oil

Details	Costs	Assumptions
Fixed Capital	INR 12,10,000	
Mango seed oil machine	INR 12,00,000	Capacity: 5 ton/ day
Licenses and other expenses	INR 10,000	Miscellaneous expenses
Working Capital	INR 4,15,417	
Mango kernel	INR 3,75,000	Monthly; Assume cost of kernel to be INR 10-50/ kg (average of INR 30/ kg) Assume 500 kg processed everyday for 300 days:150 tons/ year->12.5tons/ month Cost of kernels in a year: 150*1000*30=45L
Electricity	INR 10,000	Monthly
Rent	INR 10,000	Monthly
Transportation	INR 10,000	Monthly
Labor	-	Assume 6 people are pooling in money to start the unit and work full time there
Packaging	INR 10,417	Monthly; INR 125/ piece with 15kg capacity 125*(1.25*1000/15)
Revenue	INR 18,75,000	
Sale of mango kernel oil	INR 18,75,000	Monthly; Retail price: INR 3500/ L Assume wholesale price @ INR 1500/ L 10 kg of mango kernel produces 1 kg of oil So, 12.5 tons of kernels produce 1.25 tons of oil per month (1.25*1000*1500)
Net Profit	INR 14,59,583	

Assumptions and Calculations (Mango)

Opportunity 5: Mango Jam

Details	Costs	Assumptions
Fixed Capital	INR 15,000	Assume 5 people are forming an SHG Assume they work on mango jams for the 4 months and make other jams during the rest of the year
Equipment	INR 10,000	Utensils
Food certification and others	INR 5,000	Miscellaneous expenses
Working Capital	INR 2,42,000	
Mangoes	INR 96,000	Assuming price of mangoes @ INR 40/ kg and processing 2400 kg/ month
Sugar and other ingredients	INR 65,200	Sugar: 1600kg @INR37/kg-> INR 59,200/ month Other ingredients: @10% of cost of sugar-> INR 6,000/ month
LPG	INR 7,200	Assume 2 LPG cylinders will be used in a week @ INR 90/ cylinder: 2*4*900
Labor	-	The members of the SHG is making the jam and hence no labor cost is considered. They will share the profits.
Rent	-	Home made, hence no rent
Packaging	INR 55,000	INR 10/ piece for 300g capacity packages
Storage	INR 10,000	Jam needs to be stored in a cool place till stored as preservatives are not added
Transportation	INR 5,000	For bringing the ingredients etc.
Miscellaneous	INR 3,600	Other expenses
Revenue	INR 5,76,000	
Sale of jam	INR 5,76,000	Assume 1600kg jam is made monthly and wholesale price @INR360
Net Profit	INR 3,34,000	Monthly; Profit will be shared among the SHG members

Opportunity 6 : Mango Pickle

Details	Costs	Assumptions
Fixed Capital	INR 15,000	Assume 5 people are forming an SHG Assume they work on mango jams for the 4 months and make other jams during the rest of the year
Equipment	INR 10,000	Utensils
Food certification and others	INR 5,000	Miscellaneous expenses
Working Capital	INR 1,25,000	
Mangoes	INR 48,000	Assuming price of mangoes @ INR 40/ kg and processing 1200 kg/ month
Other ingredients	INR 20,400	Oil:120kg of mustard oil: (120/15)*1860=INR 14,880 Salt: 120kg ->6/kg->INR 720/ month Chilli powder: 12kg->225/kg->INR 2,700/ month Turmeric powder: 14kg->150/kg->INR 2100/ month
LPG	INR 3,600	Assume 1 LPG cylinder will be used in a week @ INR 90/ cylinder: 1*4*900
Labor	-	The members of the SHG is making the jam and hence no labor cost is considered. They will share the profits.
Rent	-	Home made, hence no rent
Packaging	INR 40,000	INR 10/ piece for 300g capacity packages
Storage	INR 5,000	Pickles need to be stored in a cool place till stored as preservatives are not added
Transportation	INR 5,000	For bringing the ingredients etc.
Miscellaneous	INR 3,000	Other expenses
Revenue	INR 5,76,000	
Sale of jam	INR 7,20,000	Assume 1200kg jam is made monthly and wholesale price @INR 600/ kg
Net Profit	INR 5,95,000	Monthly; Profit will be shared among the SHG members

Assumptions and Calculations (Goat)

Opportunity 1: Goat Farms

Details	Costs	Assumptions
Fixed Capital	INR 1,02,000	
Goat shed	-	Can be covered by subsidies (e.g. MNREGA in UP & MP)
Goat milk pasteurizer	INR 67,000	Pasteurized milk can be stored refrigerated for up to 6 months.
Goat	-	Goats of improved varieties are given to farmers by the state govt in MP and CH Goats typically reach sexual maturity at 6- 9 months. Assume 10 goats.
Hydroponic fodder system	INR 35,000	
Working Capital	INR 13,317	
Electricity	INR 3,000	Monthly; For pasteurization
Feed	INR 1,200	Monthly; INR 120/ goat *10: INR 1200 If the hydroponic fodder unit is set up, this will be reduced to INR 300/ month (assuming any supplements)
Healthcare	INR 1,667	Monthly; Assume INR 2,000/ goat a year
Artificial insemination	INR 250	Monthly; INR 150/ goat; Assume it is done 2 times a year for goats
Labor	-	Assume 2 family members are involved to handle all the labor requirements. (If not family members, Labour: 10,000/ month *2 people apart from the owner=2,40,000)
Hydroponic fodder	INR 7,200	Monthly; Average production cost @ INR 4/ kg Production: 23-100kg/ day: average of 60kg/ day

Details	Costs	Assumptions
Revenue	INR 84,450	
Sale of kids	INR 12,500	Monthly; 2-3 kids per litter twice a year for 10 goats: 50 (gestation period is 5 months)
Sale of milk	INR 62,500	Monthly; Goats produce 2-2.5L/ day per goat Lactation period of goat is 300 days; assume milk is available for 300 days Price of goat milk: INR 100/ L INR 100*2.5L*300*10=7,50,000/ year
Sale of hydroponic fodder	INR 9,450	Monthly; Selling price @ INR 7/ kg (average) Assume one goat would need ~1.5kg of feed/ day; 15 kg is required, and the rest 45 kg can be sold: 45*7*30
Net Profit	INR 71,133	
Retail price of milk online	INR 700/ L	Pasteurized milk packaged for a shelf life of upto 6 months
Wholesale price	INR 300/L	Assume, Wholesale price @ INR 300/ L to seller who will sell the milk on amazon
Packaging	INR 20/ piece	Bottle for packaging the pasteurized milk

Note: The OY numbers for this opportunity is applicable for all districts that are conducive to the growth of goats

Assumptions and Calculations (Goat)

Opportunity 2: Goat meat dish stalls

Details	Costs	Assumptions
Fixed Capital	INR 10,000	
Stall	INR 8,000	Stall is set up in a market with minimal cost
Equipment	INR 2,000	Secondhand equipment and other utensils can be obtained
Working Capital	INR 1,28,000	
Mutton	INR 81,000	Monthly; Assume 30 portions of mutton dishes are sold per day and 150 gram of mutton is required for 1 portion Mutton required: 30*30*150g=135 kg Assume price of mutton to be INR 600 Total cost: 600*135:INR 81,000
Other ingredients	INR 9,000	Monthly; Other ingredients like garlic, oil, pepper, onion etc. will cost ~INR 300/ day Total cost: 30*300:9,000
Cooking gas	INR 3,600	Monthly, Assuming 1 cylinder of gas will be used a week @ INR 900 per cylinder
Cutlery and others	INR 2000	Monthly; Disposable plates and tissues, Miscellaneous
Labor	-	Assume 1 person is managing the stall
Revenue	INR 1,62,000	
Sale of mutton dishes	INR 1,62,000	Monthly; Selling price @INR 180/ dish 30*30*180:
Net Profit	INR 34,000	Monthly

Opportunity 3: Goat Cheese

Details	Costs	Assumptions
Fixed Capital	INR 5,000	
Utensils	INR 5,000	Assumed that it is made at home
Working Capital	INR 3,98,130	
Milk	INR 3,17,760	Monthly; 6.62 L of goat milk is required to make 1 kg of cheese Assume wholesale price of milk @INR 80/ L
Other ingredients	INR 770	Monthly; Citric acid (500 g –INR 170) Salt (20 kg @ INR 30/ kg)
LPG	INR 3,600	Monthly; Assume 1 cylinder will be used in a week
Electricity	INR 2,000	Monthly; Cheese should be stored refrigerated until sold
Rent	-	Made at home
Transportation	INR 2,000	Monthly; For transporting raw materials
Labor	-	Assume, 2-3 family members help in making the cheese
Packaging	INR 72,000	Monthly; INR 30/ piece for 250g capacity
Revenue	INR 6,00,000	
Sale of goat cheese	INR 6,00,000	Monthly; 600 kg @ wholesale price of INR 1000/ kg
Net Profit	INR 2,01,870	Monthly; Profit shared among family members

Note: The OY numbers for this opportunity is applicable for all districts that are conducive to the growth of goats

Assumptions and Calculations (Goat)

Opportunity 4: Processed Items

Details	Costs	Assumptions
Fixed Capital	INR 1,50,000	
Mincer	INR 13,500	200kg/ hour capacity
Freezer	INR 80,000	100 kg capacity
Food certifications, electricity connection, deposit for building	INR 50,000	
Miscellaneous	INR 6,500	
Working Capital	INR 9,12,680	
Mutton	INR 8,84,000	Assume the unit has a capacity of 100kg/ day & operates for 300 days in a year. 1kg mutton is required to make 1.5 kg of kabab. So 67kg of meat is required. This means approximately 10 goats would be processed per day.
Other ingredients	INR 17,680	Monthly; Assume 2% of the cost of mutton
Electricity	INR 6,000	Monthly
Rent	INR 5,000	Monthly
Labor	-	Assume that 5 people are starting the unit, pooling the investment required
Revenue	INR 15,00,000	
Sale of kabab	INR 15,00,000	Monthly; Assume INR 600/ kg for kababs
Net Profit	INR 5,87,320	Monthly

Opportunity 5: Cooling-as-a-service

Details	Costs	Assumptions
Fixed Capital	INR 14,00,000	
Machinery	INR 4,65,000	Equipment and set up 5MT capacity cold storage
Space	INR 92,000	
Electricity supply & stabilizer	INR 1,00,000	
Insurance cover	INR 30,000	
Generator, accessories, & plastic crates	INR 3,90,000	
Installation and tax	INR 1,50,000	
Miscellaneous	INR 73,000	Other expenses
Working Capital	INR 6,30,000	
Expenses	INR 6,30,000	Cost of INR 0.175/ kg per day (for 300 days)
Revenue	INR 9,00,000	Annual
Revenue	INR 9,00,000	Renting charge of INR 0.25/kg per day (for 300 days)
Net Profit	INR 2,70,000	Annual

Note: The OY numbers for this opportunity is applicable for all districts that are conducive to the growth of goats

Assumptions and Calculations (Pulses)

Humus

Ingredients	For 1 kg Hummus	Unit	For 300kg	Unit	Price per kg or L or pc	Daily price for 300 kg & 8 hours a day (INR)
Chickpea (400 grams)	400	gm	120	Kg	72.5	69600
Tahini (45 grams) - 3 ts	45	gm	13.5	Kg	310	33480
Virgin Oil (100 ml)	100	ml	30	L	425	102000
Garlic (3 cloves)	3	260 cloves in a kg	3.461538	Kg	71	1966.154
Lemon Juice (2)	2	70 gm each	42	Kg	40	13440
Cumin Powder (1 ts)	6	1 ts=6gm	1.8	Kg	285	4104
Packing Container	2		600	pc	6	28800
Total Cost Price						253390.2

Inputs Cost per Kg	105.5
Selling Price per Kg	400
Daily Profit per Kg	294.4208

Assumptions and Calculations (Tourism)

District	Food Tourism	Homestay	Transport	Souvenirs	Tour activities and guide
Fixed Cost	INR 100,000 (stalls/carts) INR 300,000 (custom Auto/Tempo) INR 700,000 (food trucks) INR 25,000 Cooking appliance	INR 6,000 (Guest room amenities) INR 3,000 (Toiletries) INR 5,000 (Electricity and Internet) INR 10,000 (Entertainment) INR 15,000 (House helps and guards) INR 80,000 (Building washrooms) INR 2L-3L (Construction of homestays)	INR 3,00,000 – 10,00,000 (Renting vehicle)	Upto INR 1,00,000 (depending on the type of souvenir and its making charges) INR 10,000 (Small cart, stall, shop)	Upto INR 50,000 (renting vehicle or setting up tour activities setup)
Working Capital	INR 100,000 per month (food supplies, raw materials, LPG) INR 10,000 fuel cost	INR 5,000 per month (Housekeeping and Maintenance) INR 8,000 per month (Breakfast, snacks)	INR 5,000 per month (Maintenance) INR 10,000 per month (Fuel)	INR 2,000 (shop/stall maintenance)	INR 2,000 (Maintenance)

Finding across local and national job-portals for Ranchi & Palamu (1/2)

Portals	Ranchi	Palamu
 <p>District Employment Exchange झारखण्ड सरकार</p>	<ul style="list-style-type: none"> State government initiative with district wise registration of unemployed citizens There are total 25778 registered candidates from Ranchi district out of which 15335 are male candidates 19 job listings across the state of Jharkhand No district specific job listings, but the job listings can be filtered to search for particular city or district 	<ul style="list-style-type: none"> State government initiative with district wise registration of unemployed citizens There was no data specific to Palamu on the number of candidates registered for seeking employment on the portal. 19 job listings across the state of Jharkhand No district specific job listings, but the job listings can be filtered to search for particular city or district. There were no jobs specific to Palamu district.
 <p>naukri.com India's No1 Job Site</p>	<ul style="list-style-type: none"> There were 936 jobs listed for Ranchi district 914 of those jobs were hybrid or work from home-based jobs Majority of the jobs (615 jobs) were of pay range 3-6 Lakhs per annum Jobs ranged from Corporate, Indian and Foreign MNCs, startups and government jobs 	<ul style="list-style-type: none"> There were only 5 jobs listed for Palamu district All 5 of those jobs were hybrid or work from home-based jobs The pay scale of these jobs range from 2.25-7 Lakhs per annum Jobs listings were only for corporate companies
 <p>shine career plus</p>	<ul style="list-style-type: none"> There were 180+ job listings for Ranchi district Around 100 jobs for freshers (<1 year of experience) 80 jobs in the salary bracket of 0-2 lakhs 	<ul style="list-style-type: none"> There was only 1 job listing for Palamu district 280 job opportunities in the state of Jharkhand Majority of the job were located in Ranchi, Jamshedpur and Bokaro in Jharkhand.
 <p>National Career Service सही अवसर, सही समय Right Opportunities, Right Time</p>	<ul style="list-style-type: none"> 80 job opportunities listed for Ranchi district About 60 jobs listed were meeting the minimum wages requirement of Rs. 3 lakhs per annum Total 2540 opportunities listed in Jharkhand 	<ul style="list-style-type: none"> 4 job opportunities listed for Palamu district 2550 job listings for the entire state of Jharkhand About 380 jobs listed were meeting the minimum wages requirement of Rs. 3 lakhs per annum All the listed jobs were private sector jobs

Source: 1. <https://rojgar.jharkhand.gov.in/jharniyojan/vacancies> 2. https://www.naukri.com/jobs-in-ranchi?k=jobs&l=ranchi&nignbevent_src=jobsearchDeskGNB 3. <https://www.shine.com/job-search/fresher-jobs-in-ranchi?&q=fresher&loc=Ranchi> 4. <https://www.ncs.gov.in/> 5. https://www.naukri.com/jobs-in-palamu?k=jobs&l=palamu&nignbevent_src=jobsearchDeskGNB 6. <https://www.shine.com/job-search/fresher-jobs-in-palamu?&q=fresher&loc=Palamu>

Finding across local and national job-portals for Ranchi & Palamu (2/2)

Portals	Ranchi	Palamu
	<ul style="list-style-type: none"> There are around 140+ job listings for the district of Ranchi Job listings are across private sector and public sector Jobs range for 50+ different job roles Full time, part time and contractor type roles are listed 	<ul style="list-style-type: none"> There were around 44 job listings for the district of Palamu Job listings are across private sector and public sector Most of the jobs belonged to healthcare, information and manufacturing sectors Full time, part time and contractor type roles are listed
	<ul style="list-style-type: none"> There is no independent listing for Ranchi district Total 200+ jobs listed in Jharkhand Majority of listings are government job and government recruiting exams for various jobs across sectors 	<ul style="list-style-type: none"> There is no independent listing for Palamu district Total 200+ jobs listed in Jharkhand Majority of listings are government job and government recruiting exams for various jobs across sectors
	<ul style="list-style-type: none"> 19 job listings for Ranchi district specifically and 1019 job listings for Jharkhand as a whole 13 of the 19 jobs require Bachelor's degree, 8 required Master's degree Average pay ranged around 20k-25k per month 	<ul style="list-style-type: none"> 9 job listings for Palamu district specifically and 1019 job listings for Jharkhand as a whole 5 of the 9 were in the finance and banking sector. Average pay ranged around 15k per month
 	<ul style="list-style-type: none"> Official government website of Ranchi district of Jharkhand Only 2 job listings were available Only state government job listings are present 	<ul style="list-style-type: none"> Official government website of Palamu district of Jharkhand Only 4 job listings were available Only state government job listings are present

Source: 1. <https://www.jharkhandjob.in/> ; 2. https://in.indeed.com/?from=mobRdr&utm_source=%2Fm%2F&utm_medium=redir&utm_campaign=dt 3. https://ranchi.nic.in/notice_category/recruitment/ 4. <https://in.indeed.com/jobs?q=&l=palamu> 5. https://palamu.nic.in/notice_category/recruitment/