

© GDI/PDAG. Can be consulted as an example. Do not distribute without explicit consent from GDI/PDAG. If consent has been given, please credit GDI/PDAG when sharing materials.

ECOSYSTEM MAPPING REPORT

GOYN RAMGARH

AUGUST, 2020



GLOBAL OPPORTUNITY
YOUTH NETWORK

THE FUTURE IS YOUNG



ECOSYSTEM MAPPING

How can we accelerate the economic opportunities for opportunity youth in Ramgarh?

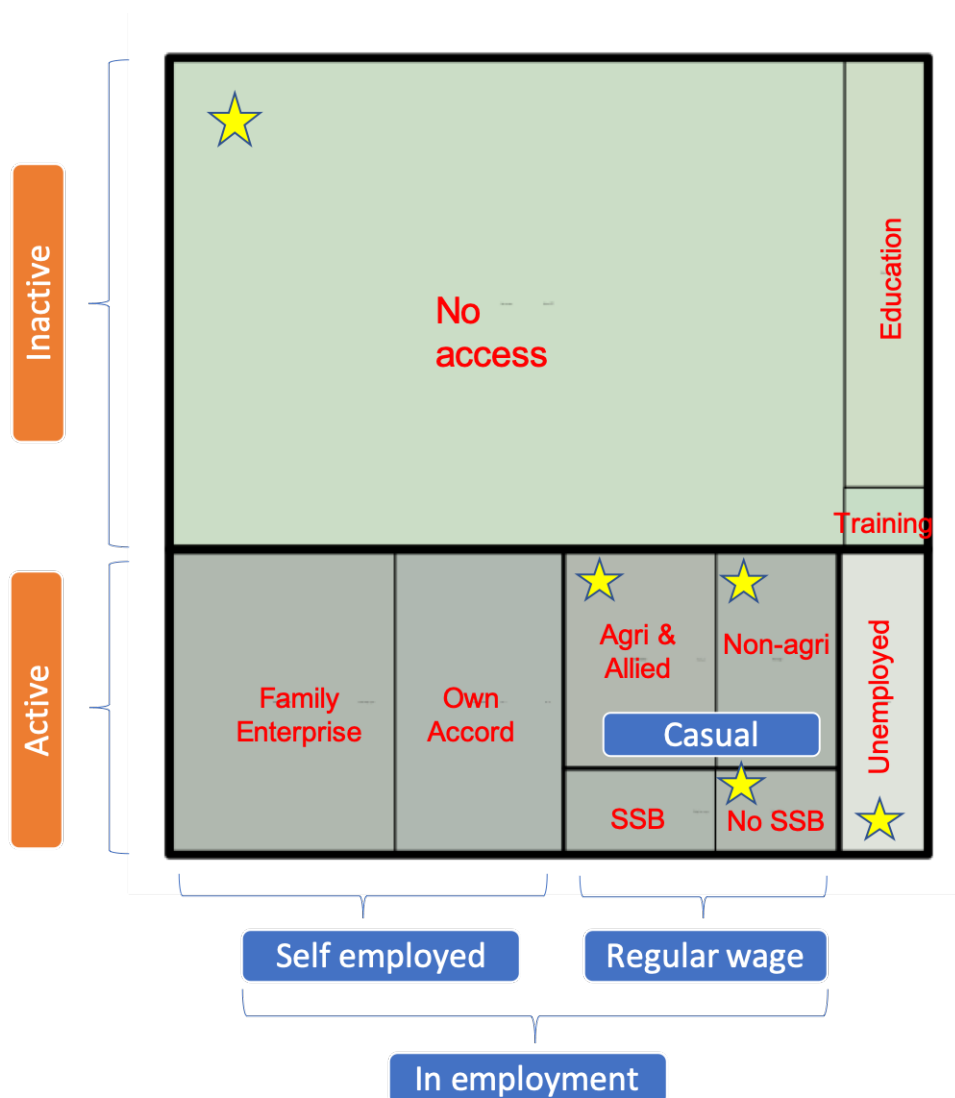


ECOSYSTEM MAPPING

How can we accelerate the economic opportunities for opportunity youth in Ramgarh?



Size of the challenge: A staggering 70% of the youth population in Ramgarh can be classified as opportunity youth



Youth population segments	Group	Estimate
No access *		191,613
In education	Inactive	20,788
In training		3,000
Self employed (family enterprise + own accord)	Active	69,502
Regular wage: SSB		7,542
Regular wage: No SSB *		6,146
Casual: agri & allied *		19,285
Casual: non-agri *		15,525
Unemployed *		15,710
Youth population (15-29)	Active + Inactive	349,111
OY estimate based on secondary data*		248,279
Returning migrants added to OY population		7,000
Current OY population in Ramgarh		255,279

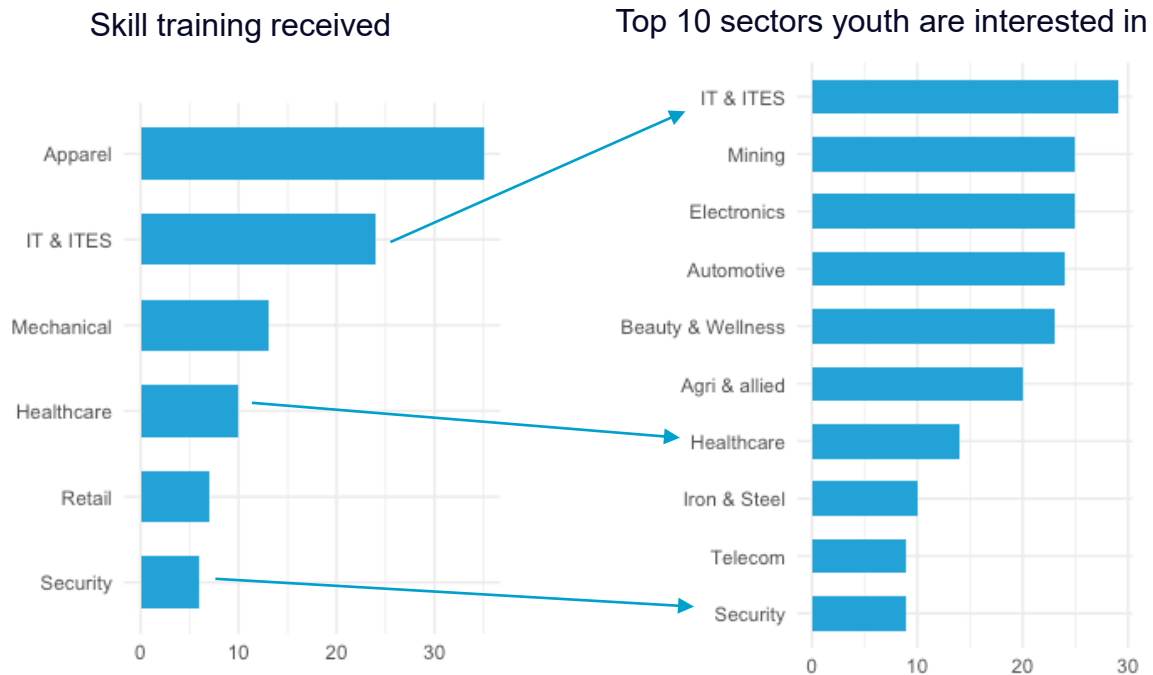
Assumptions and References

Terminology and Definitions

1b. Aspirations of Youth

Mismatch between skill training received and sectors which interest youth

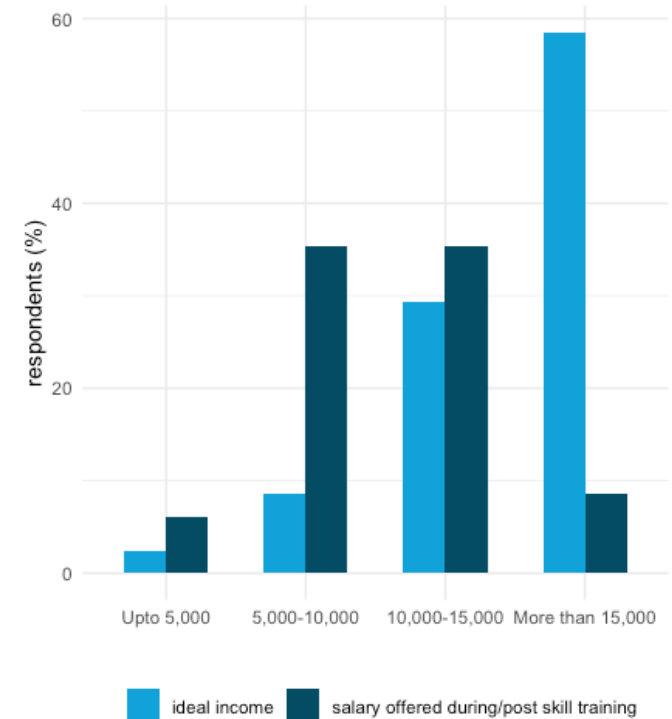
4 of the top 5 sectors that youth are interested in is not represented in the skill training received



* Multiple choice, hence count adds up to more than 100%

Mismatch between what youth aspire to earn and salary offered post training

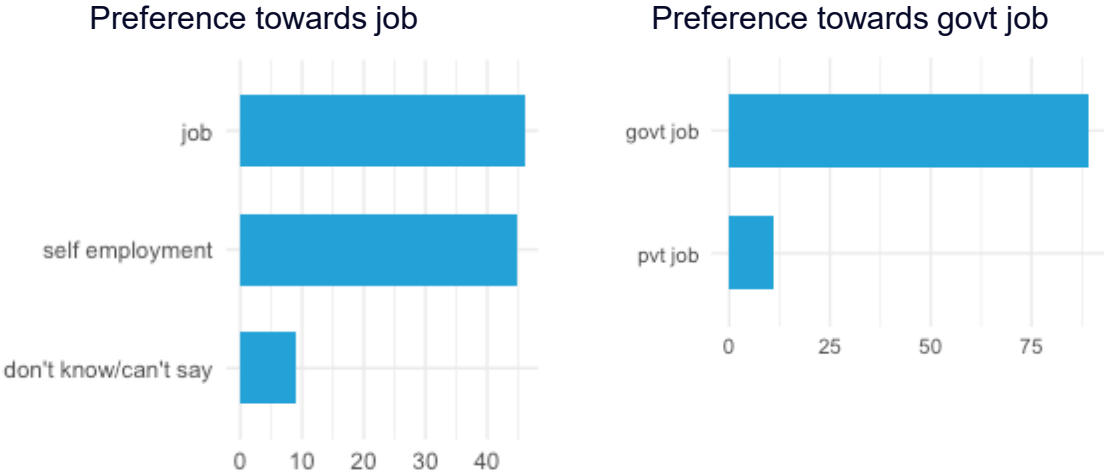
~75% of all salaries offered are in the range of 5,000-15,000 rupees, while ~60% aspire to earn above 15,000 rupees



Continued..

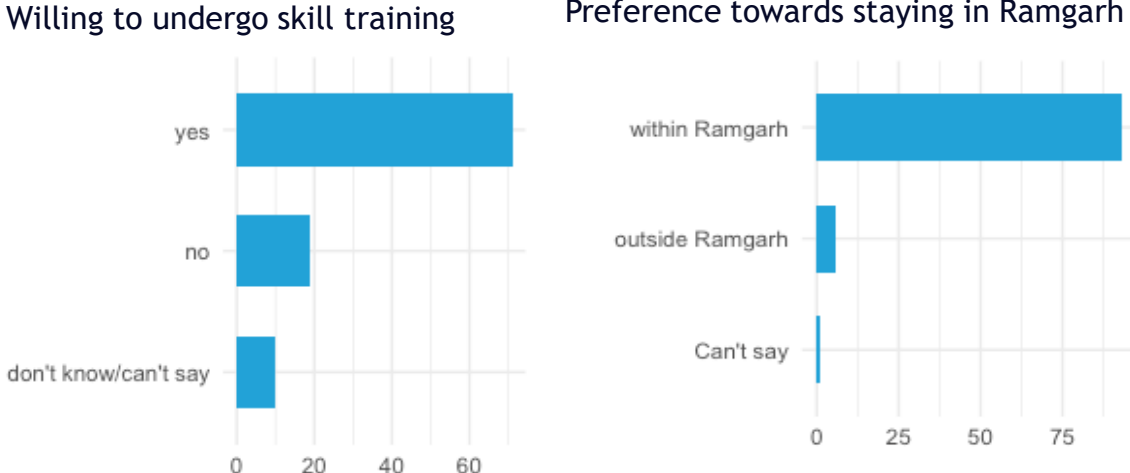
Both job and self employment are considered preferred options

90% of those who preferred job would prefer a government job



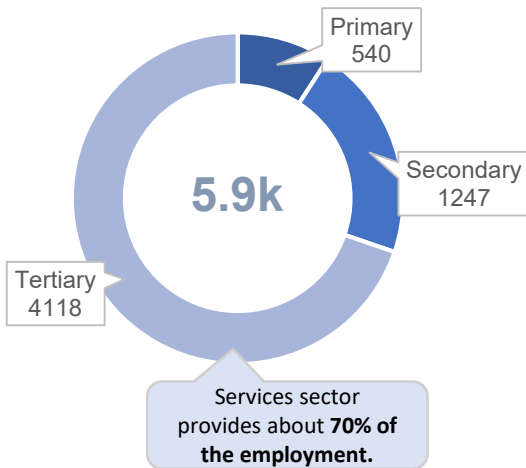
70% of all respondents without any skill expressed interest in undergoing training

93% of them would prefer to stay in Ramgarh post training

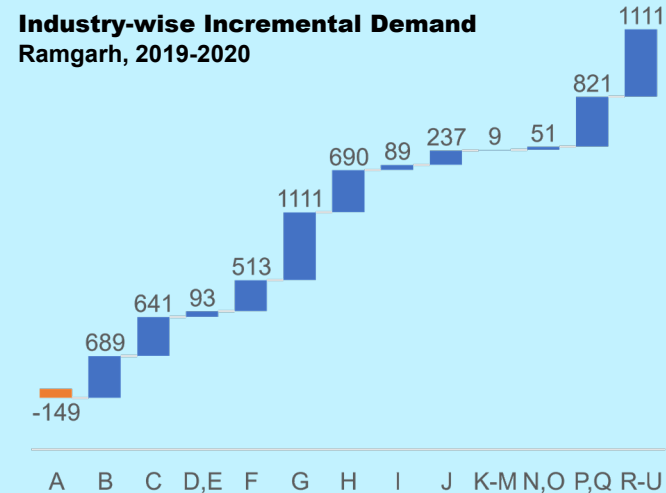


There are potentially **11k new jobs available each year** and the number of **OY stands at 255k** implying that the gap would be very difficult to bridge unless something changes drastically in Ramgarh!

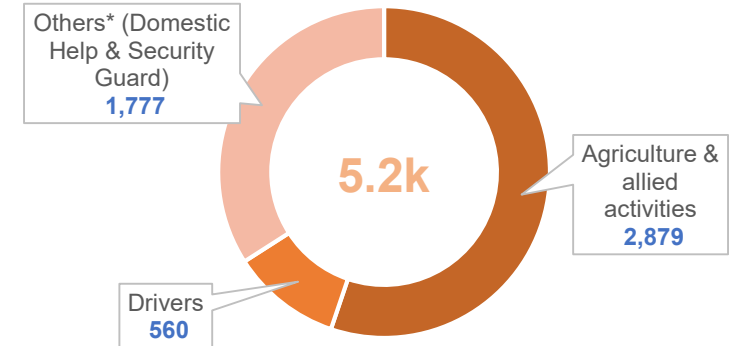
Formal Sector Incremental Demand Ramgarh, 2019-2020



Industry-wise Incremental Demand Ramgarh, 2019-2020



Informal Sector Incremental Demand¹ Ramgarh, 2019-2020



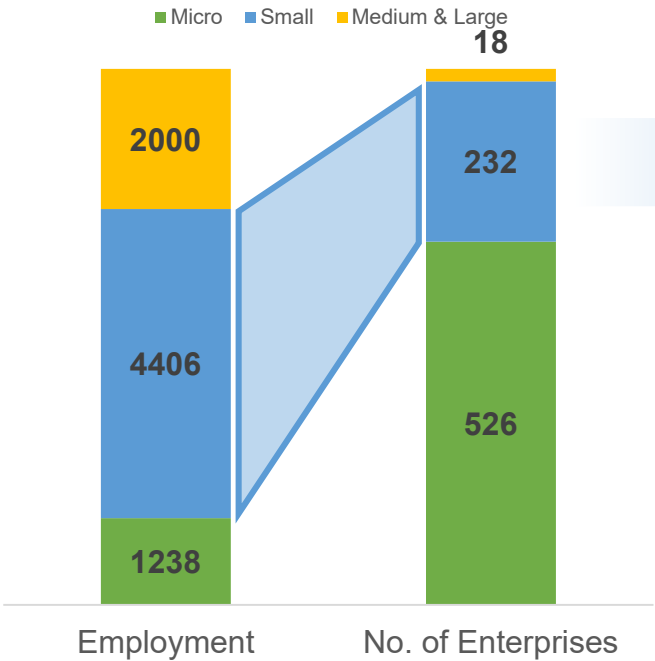
Growth	A- Agriculture, Forestry and Fishing	B- Mining and Quarrying	C- Manufacturing	D- Energy Water Supply	F- Construction	G- Wholesale and Retail Trade	H- Transportation and Storage	I- Accommodation & food service	J- Information and Communication	K - Financial and Insurance L- Real Estate M- Professional, Scientific and Technical activities	N- Administrative and support service activities O- Public Administration and Defence	P- Education and Social Work Q- Human Health and Social Work	R- Recreation S- Other Service T- Undifferentiated Goods and Services U - ET Organisations and Bodies
GDP CAGR (2011-2016) ²	2.3%	7.5%	6.8%	2.0%	2.5%	14.9%	13.2%	12.3%	25.4%	5.0%	2.8%	11.0%	11.0%
Employment Elasticity 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

- **Employment elasticity has declined** in recent years due to technological advancement, especially in agriculture. Another reason for this decline is the increasing **migration from formal to informal sector**.
- **Trade, Manufacturing, Mining & Quarrying, Construction, Transportation & Storage, Education and Health** emerged as the top 7 promising sectors for employment.



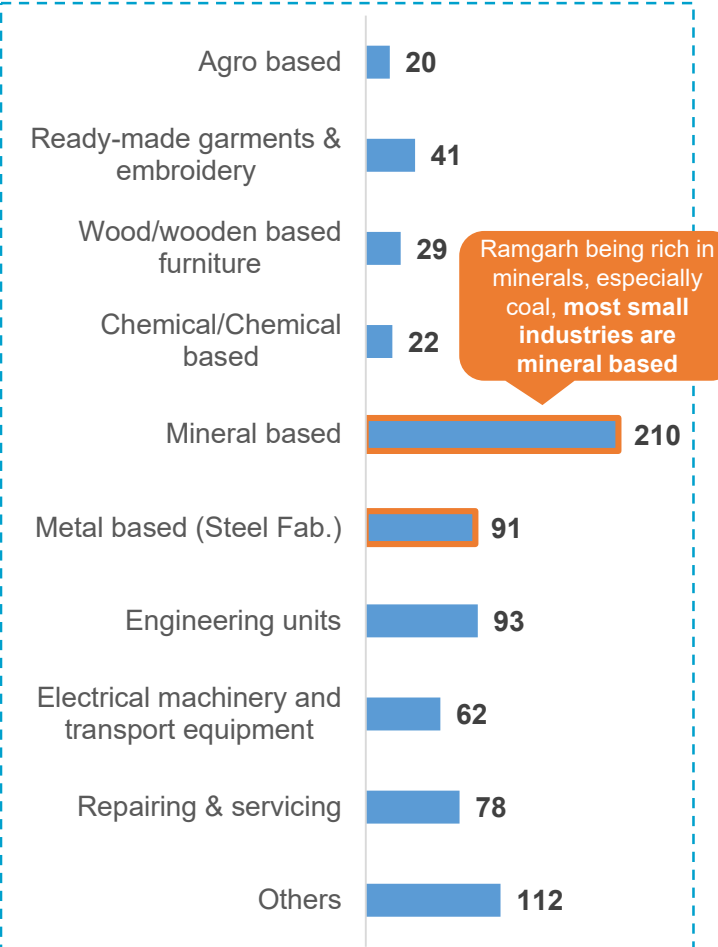
Micro-enterprises are the largest category by number in Ramgarh, but most of these enterprises create informal jobs or no jobs at all

Enterprises Breakdown¹ in Ramgarh based on scale (total – 776)



67% of the registered enterprises in Ramgarh are micro-enterprises, which account for only 16% of the total employment* generated.

Enterprise break-down in Ramgarh based on Industry¹ in Ramgarh



Details of Existing Clusters

Manufacturing Sector	Service Sector
3	0

Mini Cement Plant Cluster, Ramgarh
Employment: 1000
Jewellery Cluster, Sukrigarha, Ramgarh
Employment: 1100
Blacksmith Product Manufacturing Cluster, Barkilari, Ramgarh
Employment: 170



Sources: [1] [MSME Report](#) * The employment numbers pertain to workers covered under Labour Act as per GM DIC Ramgarh

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

JOB PORTALS

- The job portals like Naukri.com don't have **Ramgarh specific listing** on their website
- Even for listing covering the entire state of Jharkhand, the job listing are very dismal **~1k listings** per portal
- We analysed the following portals:



JOB LOCATION

- 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.
- Based on interviews we found that the number of formal jobs available in the district are negligible and OY need to go to **Ranchi or Bokaro** in search for jobs
- Few training providers provide managed placement services in metros outside of Jharkhand for service sector jobs

GOVERNMENT EFFORTS

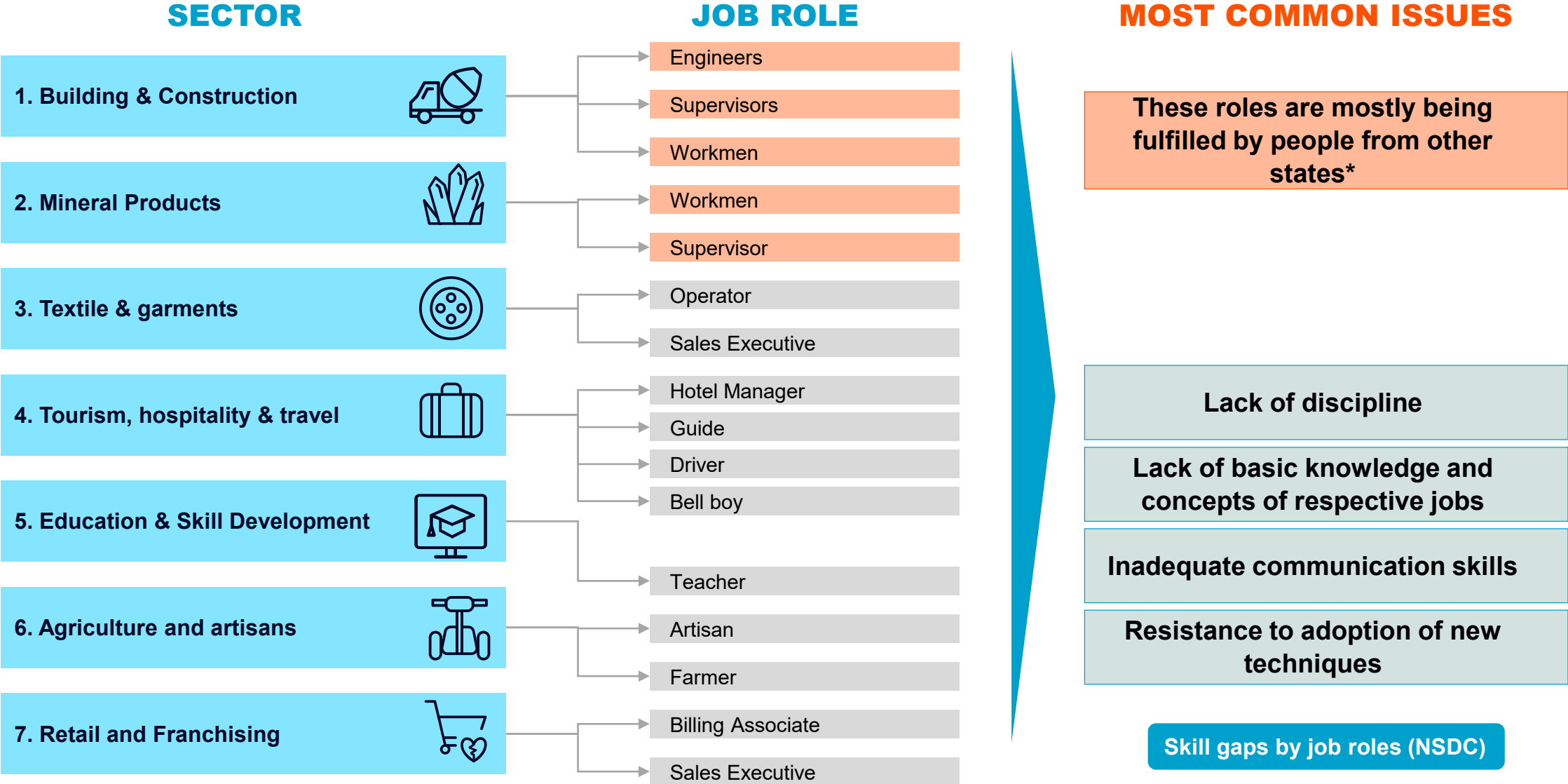
- Established **DEE (District Employment Exchange)**
- There are total **16,367 registered candidates** at the Ramgarh DEE out of which 11,498 are male candidates.
- **1804 employers registered** with Department of Labour Employment & Training Jharkhand
- There was a **sudden spike in the registrations** overall in April and May 2020 due to people migrating back to their homes because of COVID-19.



झारखण्ड सरकार



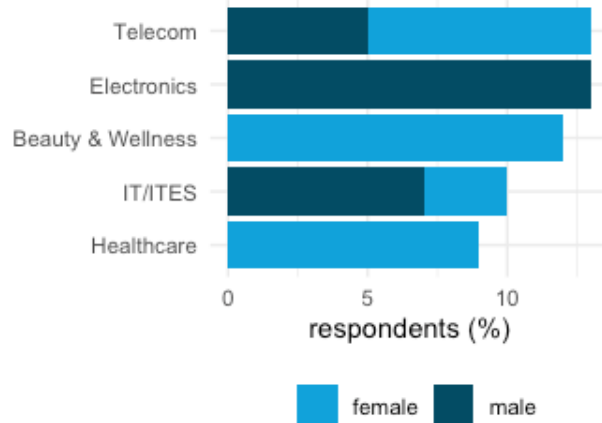
Skill gaps in major sectors in Ramgarh across job roles show that even for the limited jobs available, local youth don't have the requisite skills



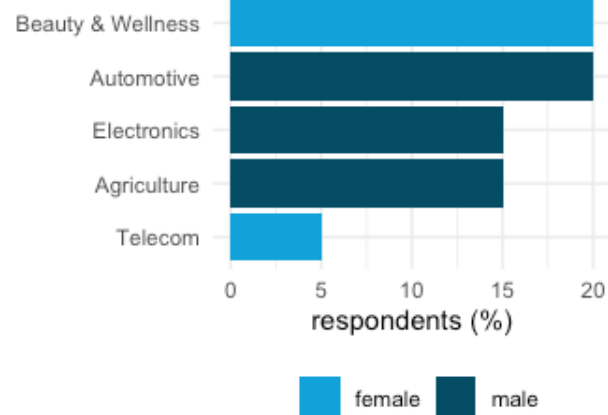
* Further investigation required to understand how to avoid this import, both for highly skilled (engineer) and moderate skill (workmen & supervisor) roles

Youth aspirations also vary significantly in terms of preferred course across key youth segments

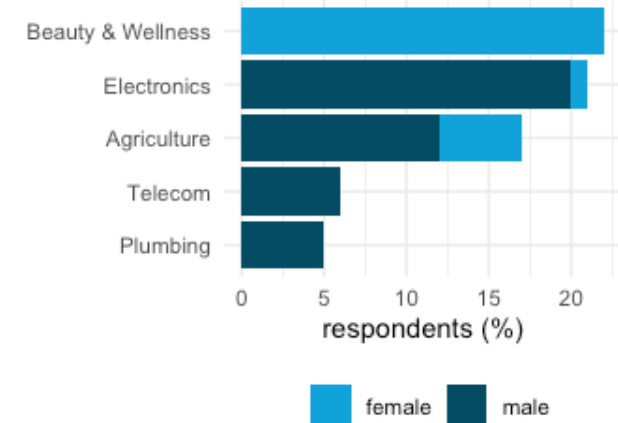
Top 5 courses students are interested in



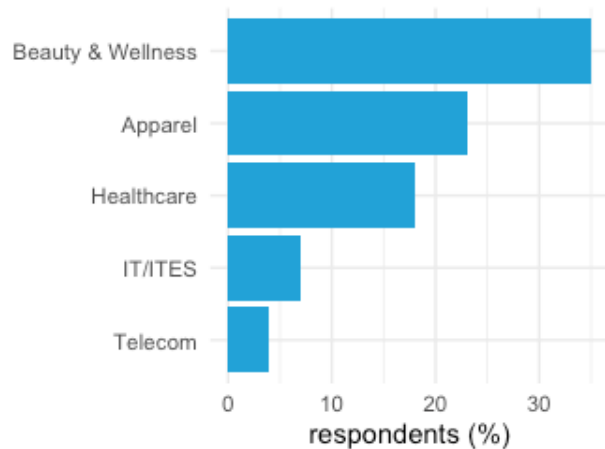
Top 5 courses self employed youth are interested in



Top 5 courses youth in agriculture are interested in



Top 5 courses housewives are interested in



The choice of sectors were found to be highly gendered across these key segments

- Across segments only females had preference towards Beauty & Wellness and Healthcare, with only some students preferring Telecom & IT/ITES
- Males overwhelmingly preferred Electronics, Automotive & IT/ITES

Other findings:

- Only 17% of all youth currently involved in agriculture expressed interest towards continuing in the sector
- Apparels is a preferred sector only for housewives

ECOSYSTEM MAPPING

How can we accelerate the economic opportunities for opportunity youth in Ramgarh?



Youth in Ramgarh are not a homogenous group, yet they could be grouped into few major personas



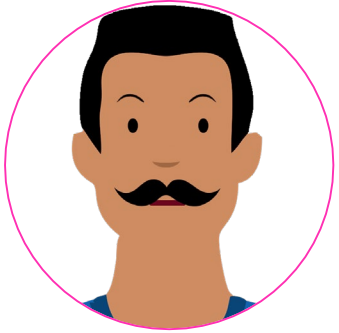
The Dispirited

Troubled by lack of meaningful opportunities in the region, even after undergoing skilling, he has lost all hope. Being part of the older youth group, he has no goals for the future and no aspirations. Just wants to get by with his life.



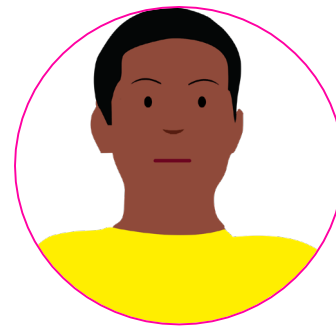
The Inactive

Had an early marriage due to societal pressure. Constrained by household chores and logistics, she is unable to participate in skilling programmes which require her to commute everyday. She hopes of some institutional support that would help start her own home-based business



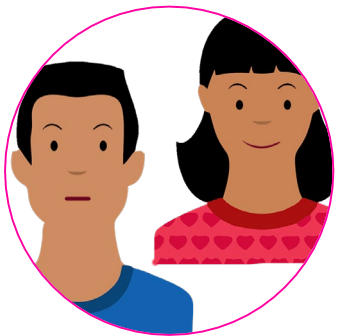
The Determined

Migrated outside Jharkhand at an early age with the hope of a better economic future. In absence of a specific skill set, he joined the trade that was common within his community. Returned to his village post-lockdown and now wants to find a job within the state. He is ready to undergo a skill training if it helps him land a better job



The Ignored

Belonging to a community that is a minority in the region, he dropped out of school at an early age due to increasing opportunity costs. Working as a wage labourer, he barely earns 150–200 rupees per day. He has no exposure towards skill training and just wishes that he would somehow be able to land a job that will be physically less taxing



The Entitled

Equipped with higher social and economic capital, s/he is currently preparing for competitive exams post a college degree. S/he hopes to land a government job in the near future. S/he is also ready to migrate within/outside Jharkhand for better economic opportunities.

The Dispirited



Gender: Male
Age: 25-29
Education: 10th pass/12th pass
Skill: Semi-skilled/skilled

Bio

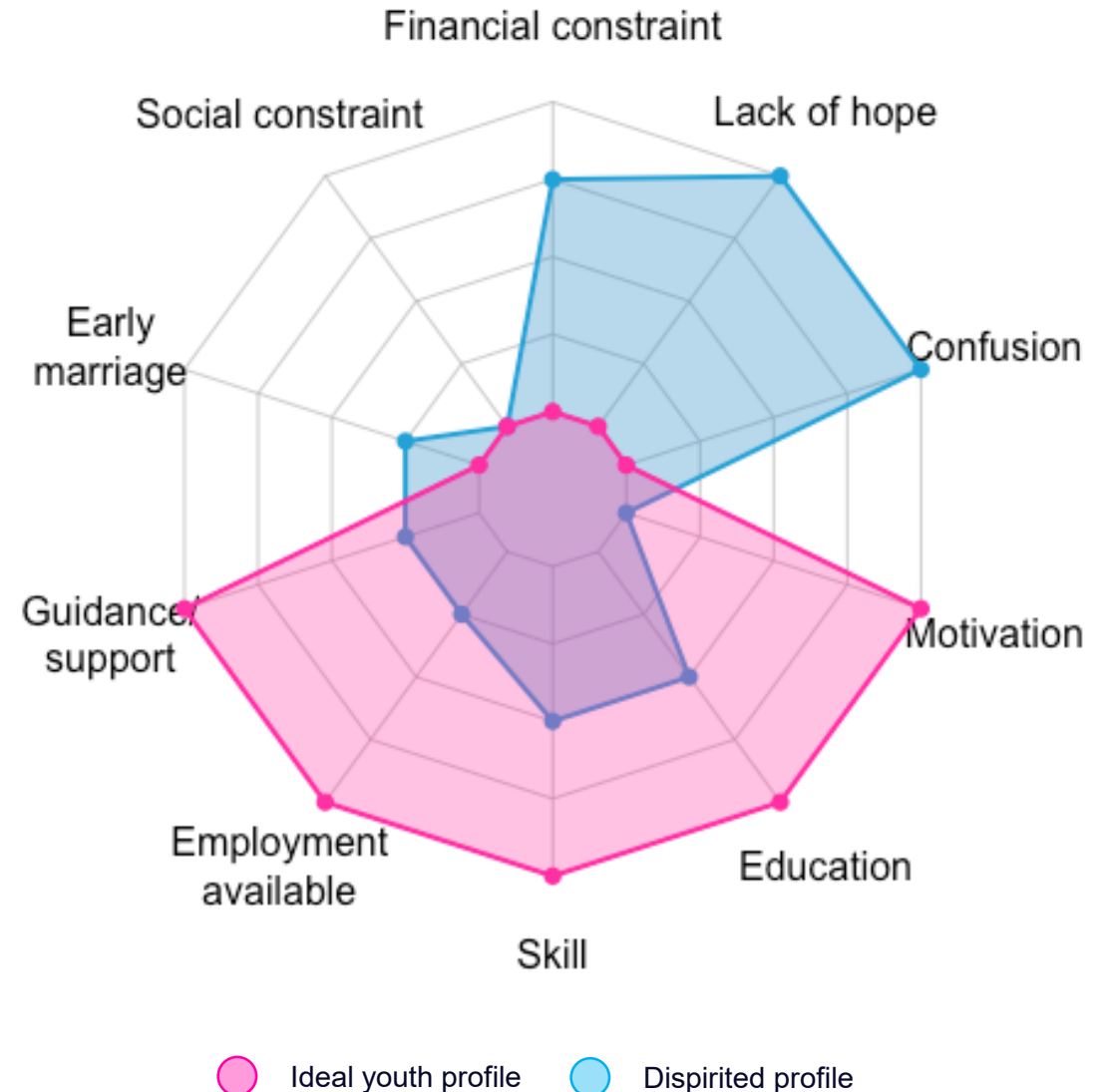
Troubled by lack of meaningful opportunities in the region, even after undergoing skilling, he has lost all hope. Being part of the older youth group, he has no goals for the future and no aspirations. Just wants to get by with his life.

Goals

No present or future goals. Lives on a day-to-day basis

Aspirations

Hopes that jobs requiring his skill sets become available in the region



The Inactive



Gender: Female
Age: 20-24
Education: 10th pass
Skill: Un/Semi-skilled

Bio

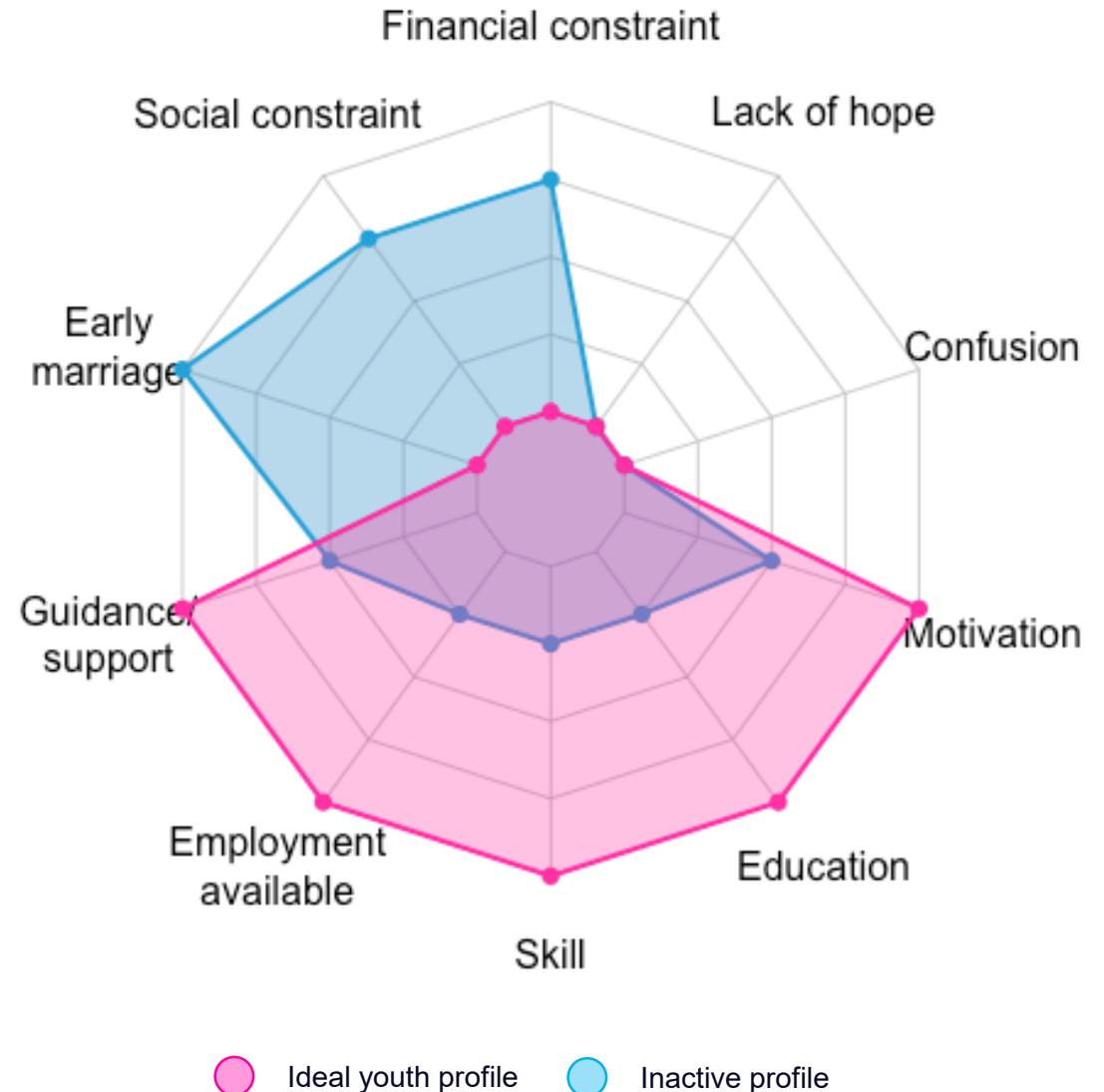
Had an early marriage due to societal pressure. Constrained by household chores and logistics, she is unable to participate in skilling programmes which require her to commute everyday. She hopes of some institutional support that would help start her own home-based business

Goals

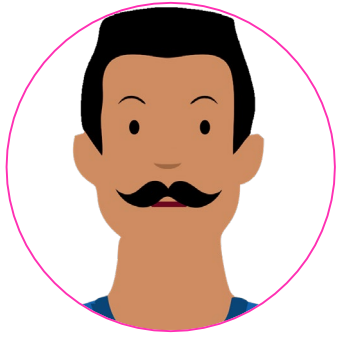
Wants to get some form of skill training, if such training gets provided locally

Aspirations

Hopes to have a home-based business where she can use her skills like sewing, knitting etc



The Determined



Gender: Male
Age: 20-24, 25-29
Education: Secondary/10th
Skill: Semi-skilled/skilled

Bio

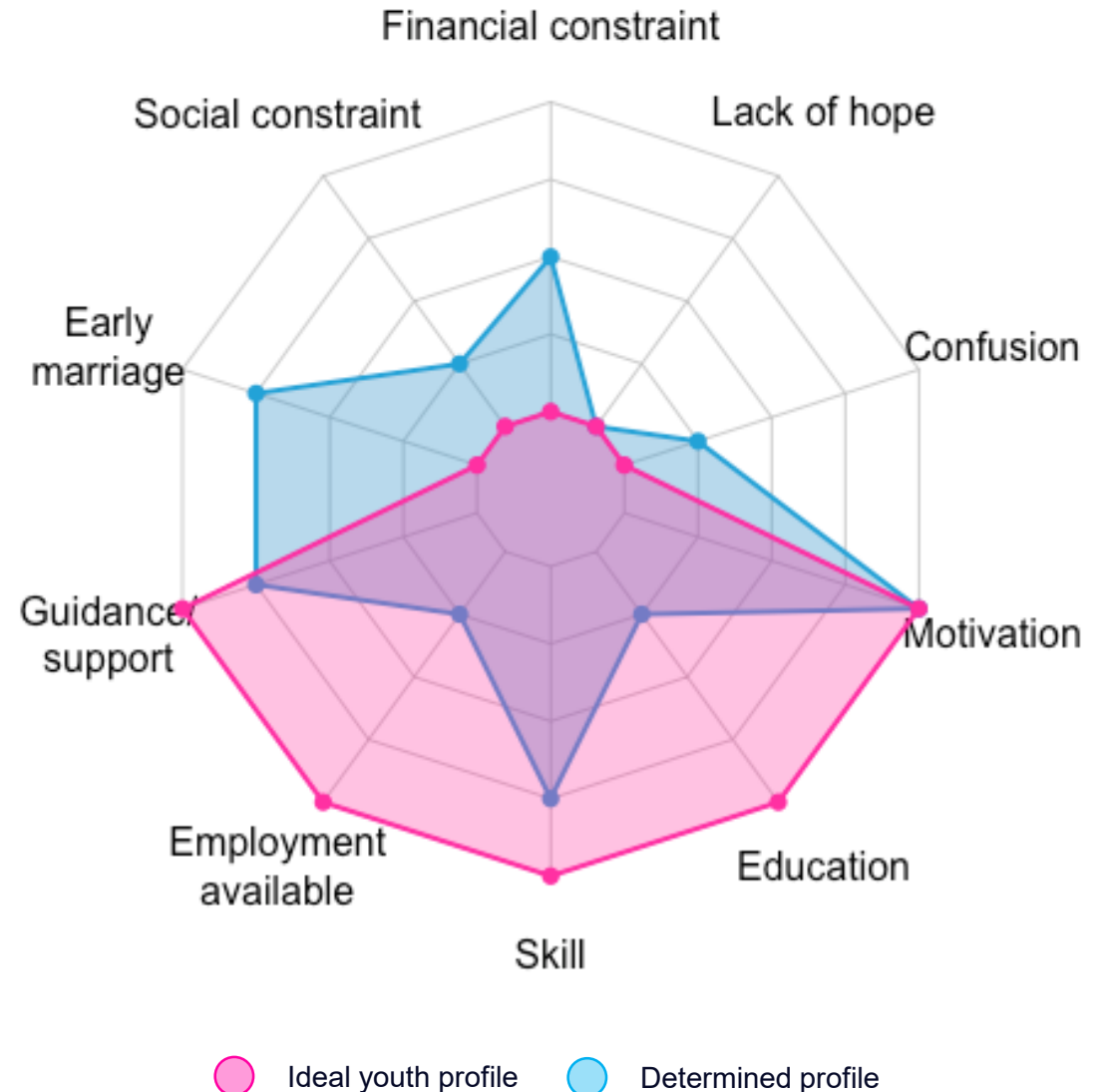
Migrated outside Jharkhand at an early age with the hope of a better economic future. In absence of a specific skill set, he joined the trade that was common within his community. Returned to his village post-lockdown and now wants to find a job within the state. He is ready to undergo a skill training if it helps him land a better job

Goals

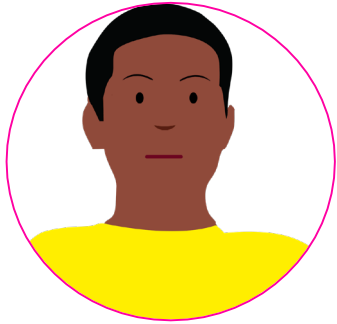
Wants to find a job within Jharkhand even if it means lesser pay than previous job

Aspirations

Aspires to undergo some form of skill training, that will help him land a job. Looking for some counselling support



The Ignored



Gender: Male
Age: 15-19
Education: Secondary/10th pass
Skill: Unskilled

Bio

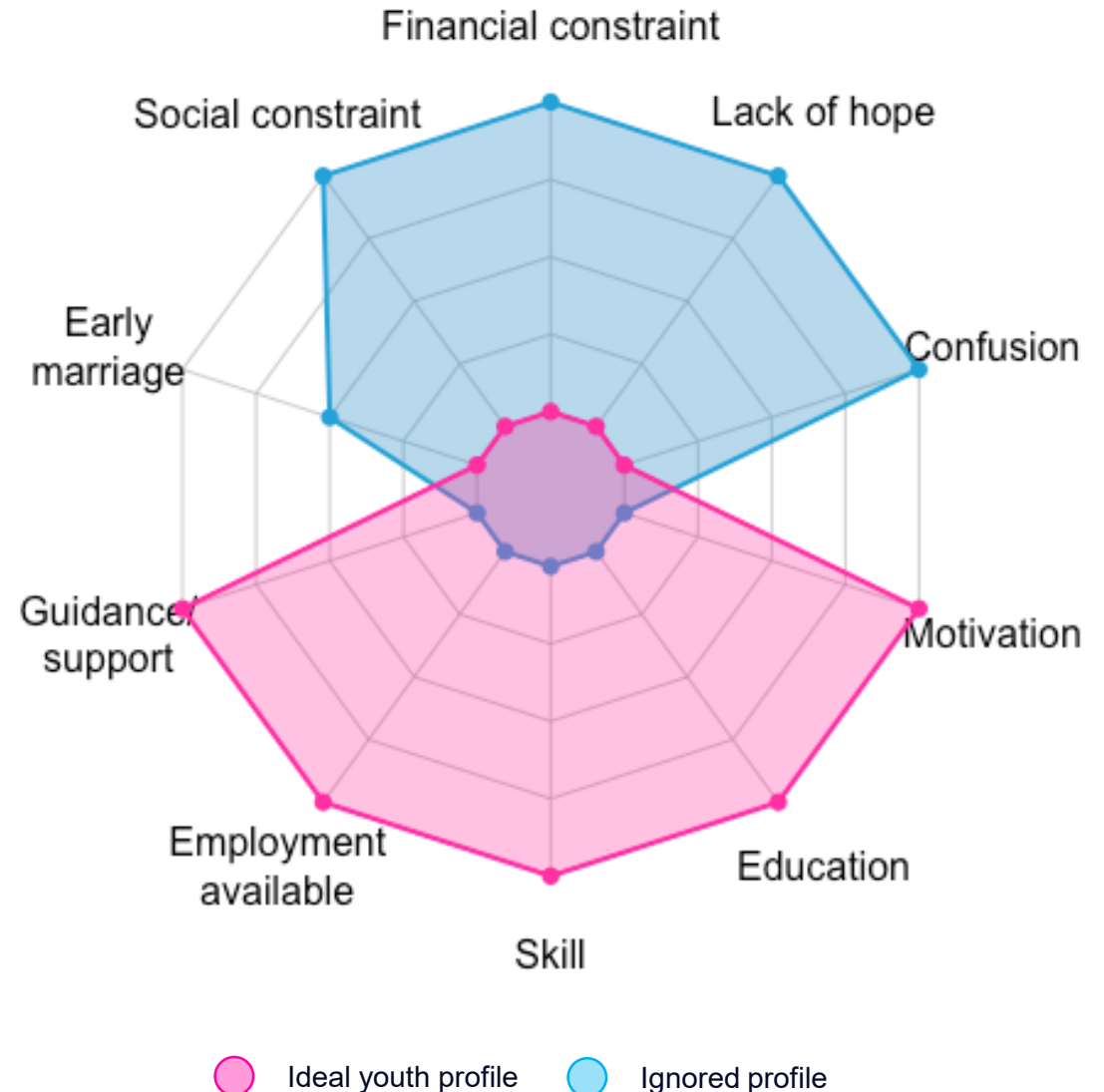
Belonging to a community that is a minority in the region, he dropped out of school at an early age due to increasing opportunity costs. Working as a wage labourer, he barely earns 150—200 rupees per day. He has no exposure towards skill training and just wishes that he would be able to land a job that will be physically less taxing

Goals

Looking for a job that is less physically taxing and is more regular

Aspirations

Hopes that life will eventually get better and will be able to keep his family happy



The Entitled



Gender: Fe/male
Age: 20-24
Education: Graduate
Skill: Semi-skilled

Bio

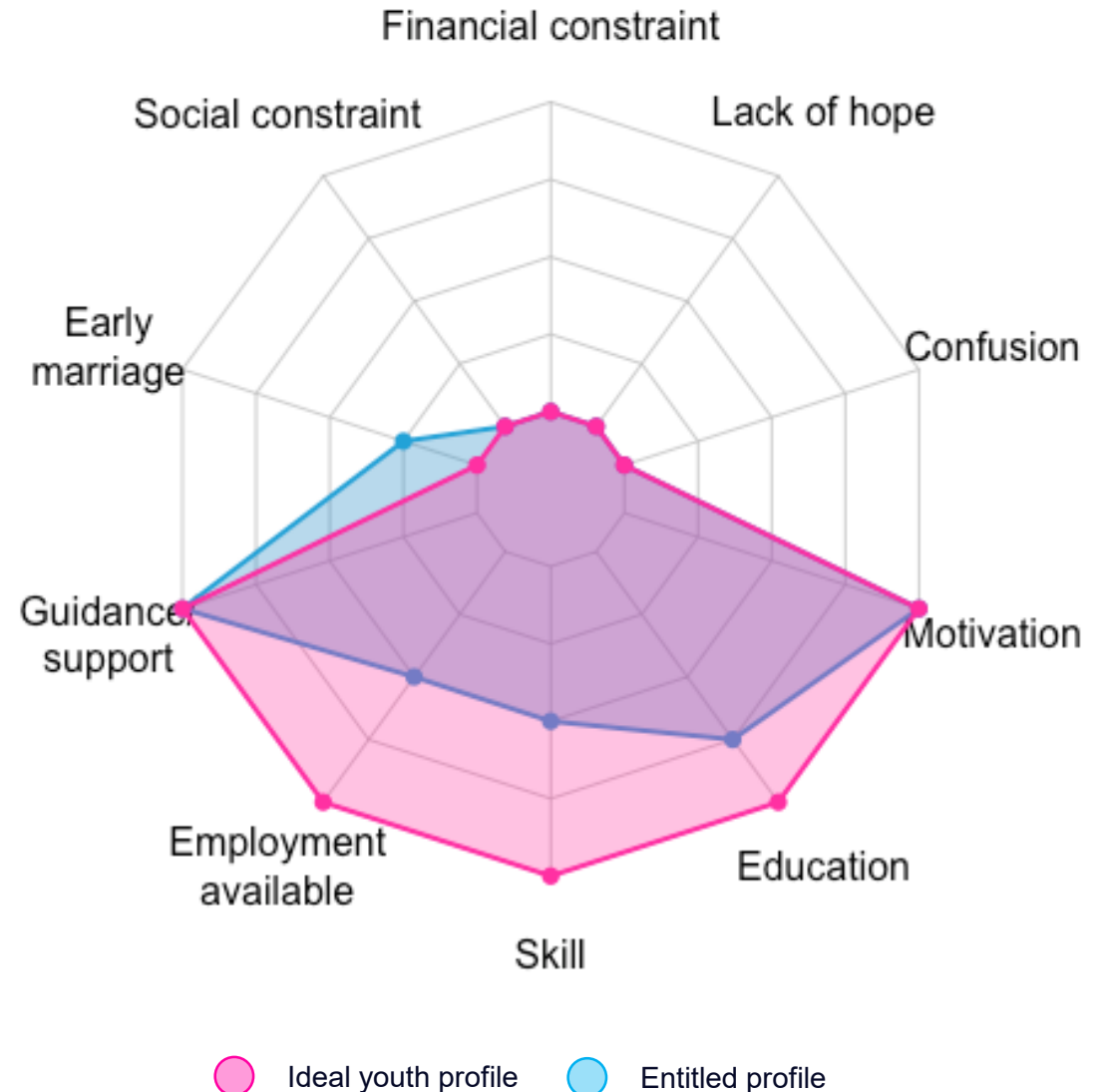
Equipped with higher social and economic capital, s/he is currently preparing for competitive exams post a college degree. S/he hopes to land a government job in the near future. S/he is also ready to migrate within/outside Jharkhand for better economic opportunities.

Goals

Plans to move to Ranchi or even outside Jharkhand due to better availability of coaching institutions

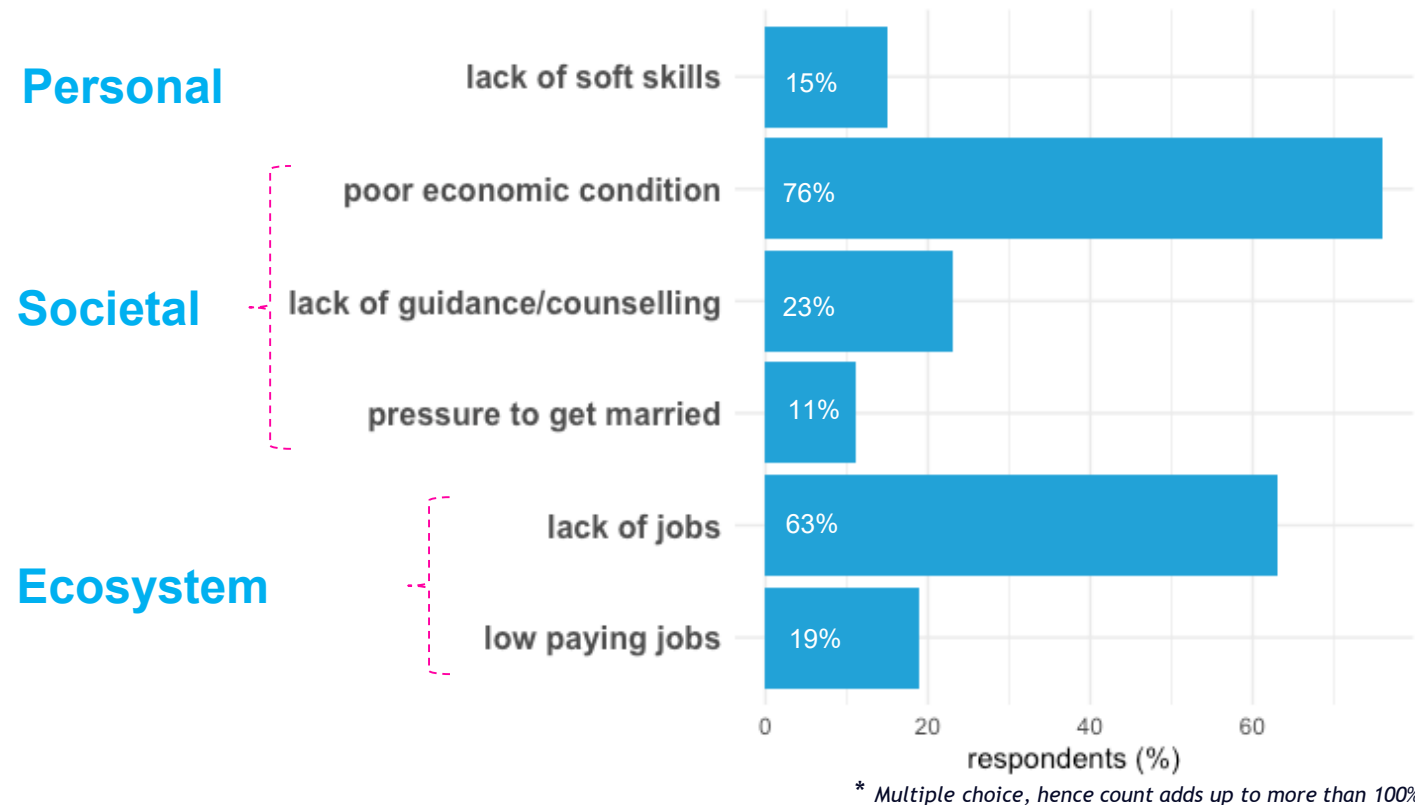
Aspirations

Aspires to land a government job in the near future



Youth face several personal, societal and ecosystem related challenges, many of which make them helpless as the situation seems to be beyond their control

Top Challenges from survey ¹



Other challenges from FGD ²

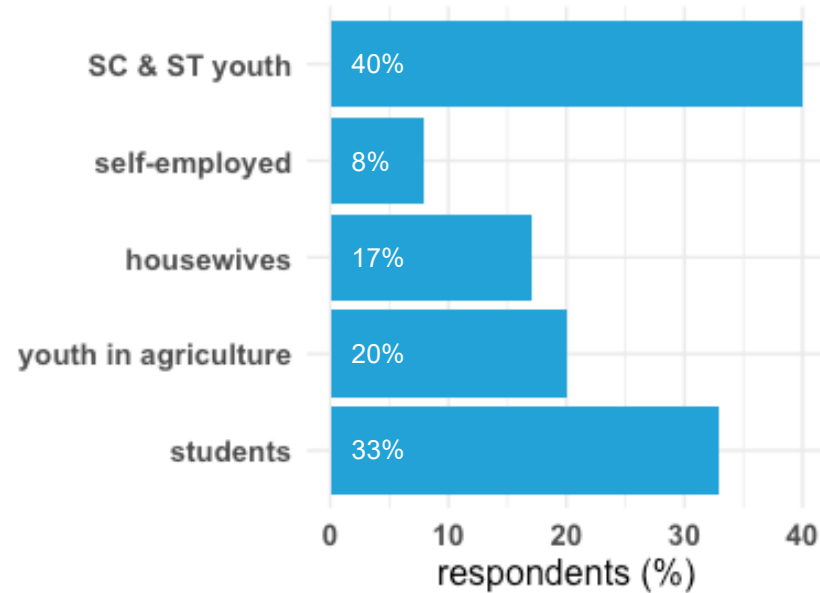
- Lack of clarity regarding what they would like to do or aspire to become
- Lack of local role models
- Societal pressure against women working outside home till late
- Discrimination against SC youth while landing jobs
- Mismatch between in demand jobs & youth aspirations
- Mismatch between expected salary & salary offered
- Low exposure & inclination towards entrepreneurship
- Reluctance of banks to provide capital for entrepreneurs

High digital illiteracy is visible within the youth as a mere 7% of the respondents use smartphone / internet for checking job vacancies

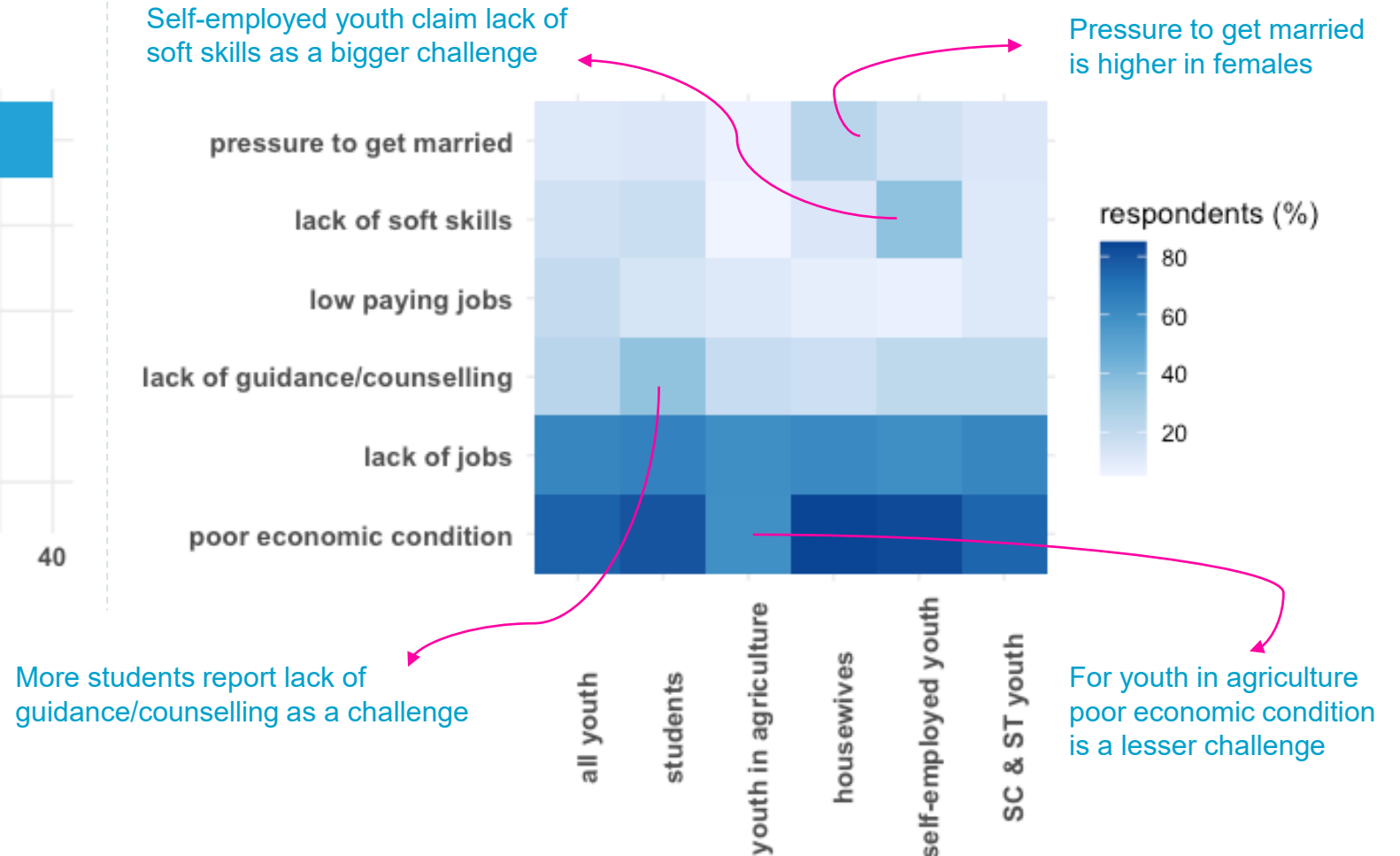


The challenge is not homogenous though and different youth segments report varying challenges

Key youth segments from survey ¹



Challenges faced by Key youth segments¹



Continued..

Top 3 challenges

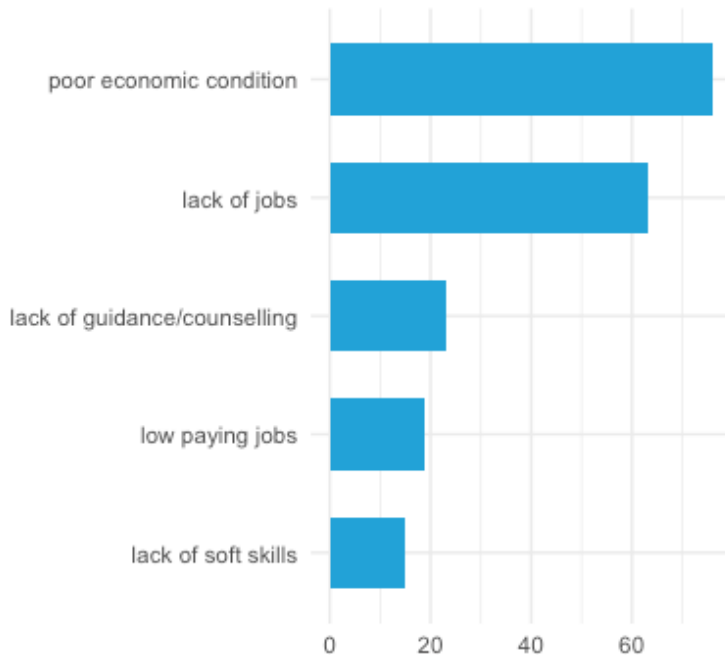
1. Poor economic condition
2. Lack of jobs
3. Lack of guidance/counselling are

For females, the pressure to get married creates another layer of challenge

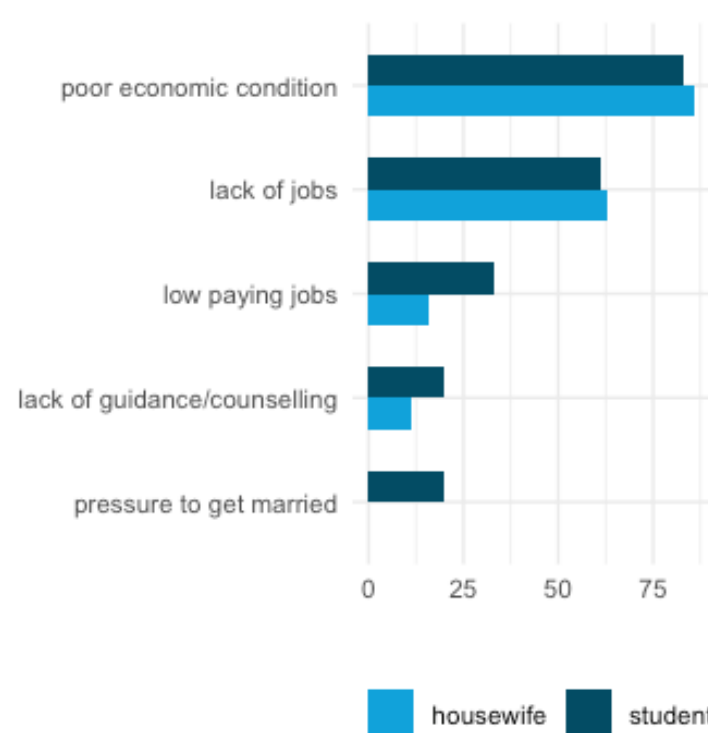
Poor digital literacy is a big issue in OY

While more than 80% respondents use a smartphone for entertainment/social media
Only 7% use it check job vacancies

Challenges faced by Youth



Challenges faced by female Youth



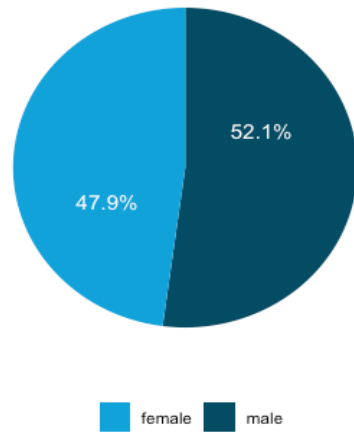
Digital literacy in Youth



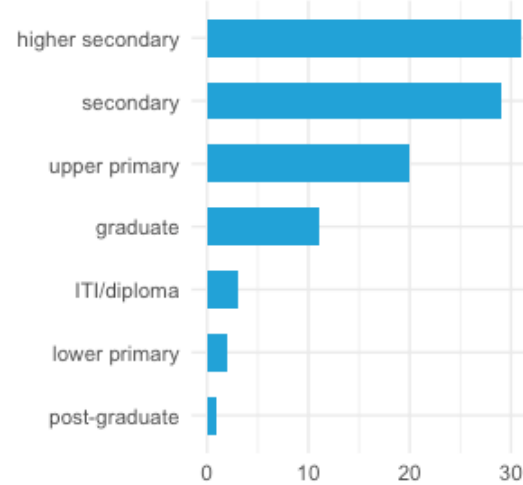
* Multiple choice, hence count adds up to more than 100%

2b. Youth segments in Ramgarh

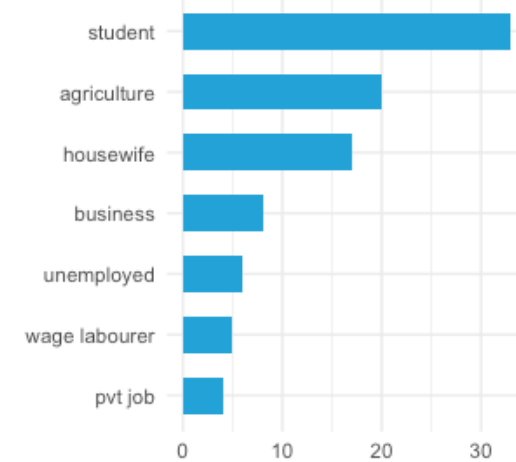
Gender distribution
(Census 2011)



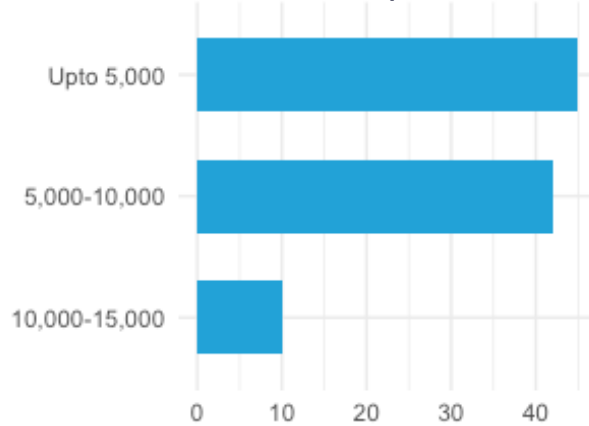
Education profile



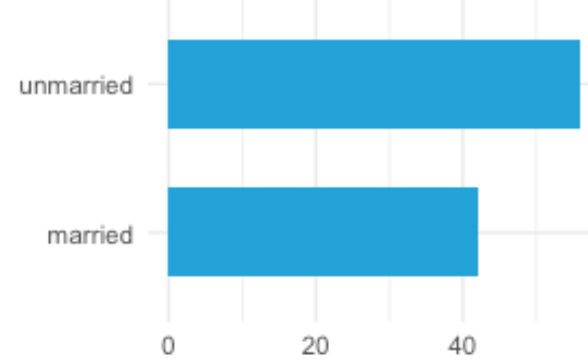
Occupation profile



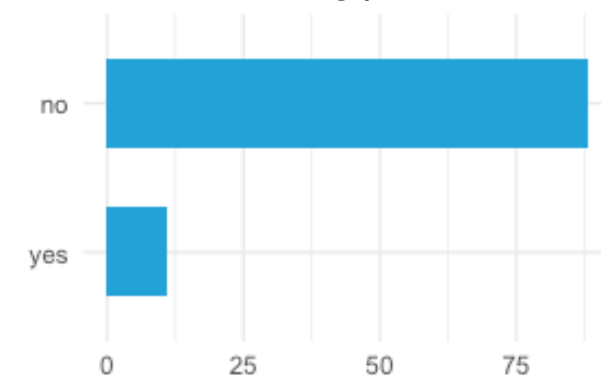
Household income profile



Marital profile



Skill training profile



Reverse migration in Ramgarh: A critical moment to tackle youth unemployment

The return of migrants back to their villages amidst the Covid-19 pandemic highlights the fact that **livelihoods focused heavily on youth migrating to cities are not sustainable**, and there is a need to promote job and entrepreneurship opportunities locally as well.



YOUTH UNEMPLOYMENT CHALLENGES

- Thousands of youth migrants have returned to their native villages
- Majority of migrants are factory workers, construction laborers and drivers
- ~27 million Indian youth in the age bracket of 27-30 years lost job in April 2020 due to COVID-19
- Limited local employment opportunities



LIMITED SCALABLE SOLUTIONS

- Existing programs and solutions reach only a fraction of need
- Responses are fragmented
- Young people are not considered partners in solution development
- Business case not well defined – unclear ROI
- Limited opportunities in the Ramgarh ecosystem



IMPACTED YOUTH

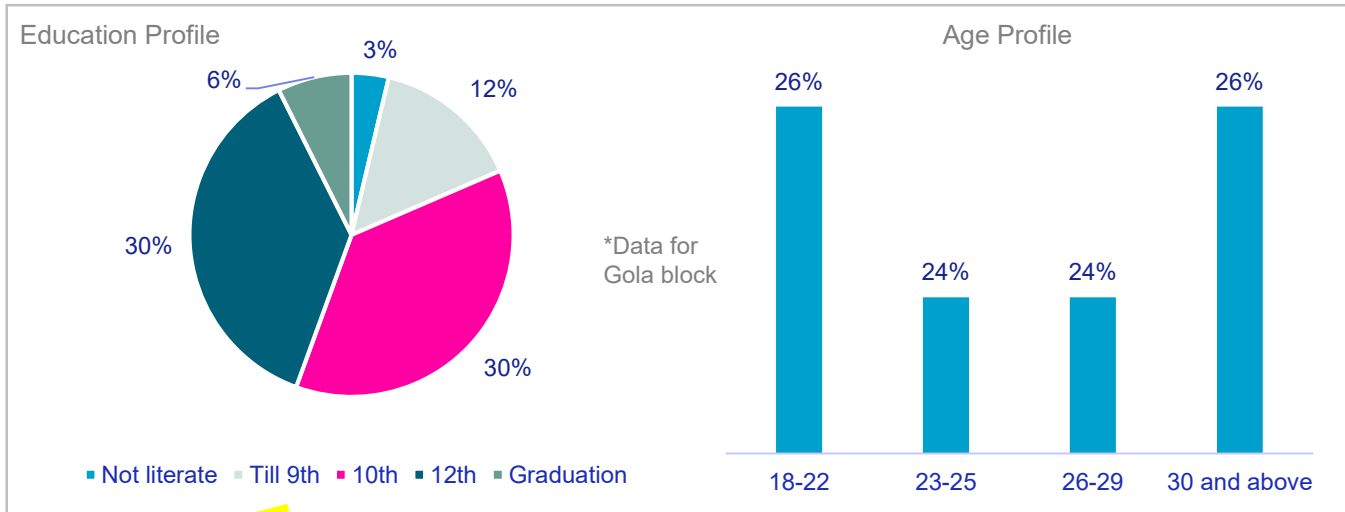
- 74% of the migrants fall under the OY category
- Rural areas like Ramgarh experience highest unemployment due to COVID-19
- 30% of the migrant population is illiterate and only 3% are graduates

~ 10,000 people have migrated back to Ramgarh due to COVID-19 and about 7k are youth who were employed before the pandemic struck



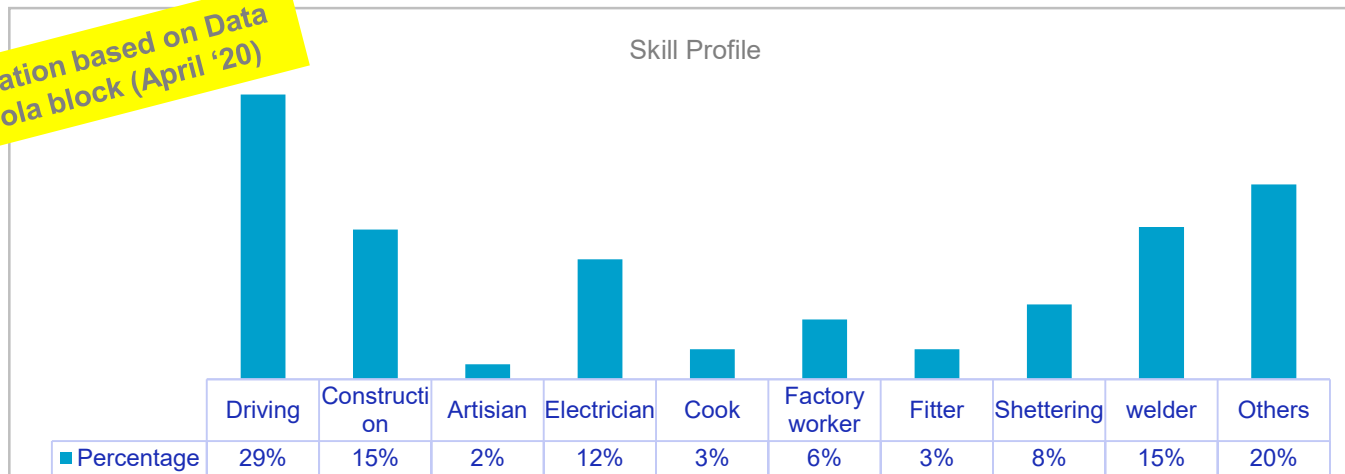
Ramgarh: Current outlook and action plan

The first round of mapping shows 70% of migrant workers are skilled



Government Interventions

- 2.5 lakh migrant workers have been registered and skills mapping is being done. On completion, they will be absorbed in SMEs, various ancillary units, hotel industry, etc. Those who are not skilled or are semi-skilled will be given special training.
- Jharkhand is also planning to launch an urban wage employment scheme that will guarantee minimum wage to workers in urban areas.
- State leans on MGNREGS for rural employment.



Further Action Plan (TBD by TRI)

- Support skilling organizations to transition to demand-based skilling programs.
- Support small businesses & informal workers to survive, adapt, grow
- Develop meaningful, career pathways for OY in the health care supply chain

*Illustration based on Data for Gola block (April '20)



ECOSYSTEM MAPPING

How can we accelerate the economic opportunities for opportunity youth in Ramgarh?



Public sector perspective

Departments interacted with:

- District Collector
- District Employment Officer
- Tribal Welfare Department
- KVK Ranchi and Ramgarh
- IINRG

Key takeaways:

• Challenges

- Job placement is low in Jharkhand is due to uncompetitive pay (32%-58% lower). **Migration out of state is a problem.**
- Many industries **discriminate** by refusing to hire married women.
- “Employment Exchange” is not mandated to be used by all industries, diluting the exchange’s status.
- There is information asymmetry between Department of Higher, Technical Education and Skill Development that interacts with the training providers and Labour and Training department which has the data regarding in-demand skills in the region.

• Institutions are able to succeed by

- Ensuring classrooms have healthy representation of demographics by reserving seats for women and recruiting youth of varying backgrounds from across the state.

• Proposed solutions

- Institutions must work with current leaders in the industry to hire based on skills and disregard marital status.
- Revise the current legal framework so that all industries must employ people through the exchange in order to leverage the MSME industries.



Corporates, SMEs, and Donors

Organizations interacted with:

- SME Association
- Tata Strive

Key takeaways:

• Challenges

- There is requirement for skilled labour and professionals such as plumber, electrician, carpenter, tiles installation, mechanic, etc. Since locals are not having sufficient skills, even these jobs are being taken up by people from West Bengal.
- Bank loan policies are good on paper but difficult to access for MSMEs and youth entrepreneurs

• Segments with successful results

- Healthcare has lot of options for OY (telemedicine, basic diagnostics, data services) and there is also govt. support for improving primary healthcare
- Desi Crew has had good success in employing 50k women in textile and also established rural BPO in Ranchi

• Proposed solutions

- More industrialization in the district would have many spillover benefits and create opportunities which are currently very limited
- Enablement of women in the workforce through women-centric programs
- Marketing Ramgarh / Jharkhand well to promote local products and services
- Upgrading polytechnics to also provide life skills training and improve absorption of ITI graduates



NGOs / Value-chain development partners

Organizations interacted with:

- VB Net
- SUPPORT
- Udyogini
- Nirmana
- Agragati
- MASS
- JASCOLAMPF
- TRI

Key takeaways:

- **Challenges**
 - There may be four to five thousand, **vulnerable families and OY's engaged in illegal mining**, which has led to casualties.
 - There are limited possibility of hyper local economic opportunities due to lack of 1) processing units, 2) storage facilities (including cold storage), 3) marketing infrastructure, and 4) transportation facilities.
 - **No studies** are available on youth aspiration in Ramgarh. **Limited data** on opportunities that can be fulfilled by locals or youth.
- **Segments with successful results**
 - **Agri-Entrepreneurship** is working well. Farmers focus on their core area while OY provides non-agri value addition.
 - Some **clusters** have been developed around lac and artisan related industries (silver, brass, blacksmith, and sewing).
- **Proposed solutions**
 - Revive government youth initiatives and clubs which have been discontinued.
 - Programs working with market linkages must focus beyond production.
 - There needs to be organizations focused solely on youth development.



Academia & Skilling perspective

Organizations interacted with:

- Prejha Foundation (PAN IIT)
- Star PMKK
- Ujjwal Bhavishya

Key takeaways:

• Challenges

- At some institutions, trainees are told from day-1 that they should be able to move wherever there is a demand. This attitude worsens the outward migration challenge.
- Many institutions aim to produce 30% of graduates as entrepreneurs. However, graduates often have difficulties obtaining the necessary loans due to banks not having the requisite funding to provide such (unsecure) loans.

• Successful institutions **provide support for trainees beyond education.**

- Pick-up & drop-off facilities can be offered to lower travel cost. If such facilities cannot be provided, trainees' travel cost is partially covered.
- A retention team can be formed to operate a call center where employers and former trainees can call to raise their issues.
- For long-term courses, institutions can help with graduates negotiate for other benefits (e.g. insurance, bonus, etc.)

• Proposed Solutions

- More training centers should provide agricultural training since many trainees have access to agricultural land. It is also a good avenue for self employment.
- To improve placement, the curriculum should not be fixed. Instead, it should be custom-made based on the industry needs.



Discussions with multiple stakeholders within the district indicated that most of the challenges for youth can be addressed by providing them economic opportunities

GOYN could play an important role by connecting isolated interventions to support livelihoods and by seeding new economic activities that have high potential for scaling up.



CHALLENGES

- No studies are available on youth aspiration in Ramgarh.
- Limited data on opportunities that can be fulfilled by locals or youth and information asymmetry across stakeholders involved in employment
- Limited appetite for funding small businesses with unsecured loans
- Lucrative illegal options taking precedence over skilling and employment
- Inherent bias against employing married women



WHAT IS WORKING?

- Demand linked programs focused on outcomes
- Few cluster development initiatives
- Interventions addressing last-mile connectivity issues
- Interventions where a tangible benefit can be explained to producers (Agri and NTFP)



POSSIBLE SOLUTIONS

- Increase involvement of women through women centric programs
- Interventions tailored to industry and focused on market linkages
- Govt. and non-govt. organizations and departments focusing on youth
- Focus on marketing of Ramgarh / Jharkhand based products
- Orientation towards the future of work and agriculture

ECOSYSTEM MAPPING

How can we accelerate the economic opportunities for opportunity youth in Ramgarh?



Ramgarh is abundant in natural forest resources and minerals which has led to the establishment of many mineral-based industries in the area

FOREST-BASED

Ramgarh District is well endowed with forest in an area of 487.93 Sq.km, which is 28.25% out of total area. The large important products comprise of wood for timber and bamboo for a variety of uses.¹

Bamboo is available abundantly and has huge export potential

Furniture

Bamboo Handicraft

Laminates

Flooring

Bamboo Shoots

NTFP (NON-TIMBER FOREST PRODUCE)

Forests are an important natural resource for an area as they provide basic raw material to a number of important industries, namely furniture, match box, paper, rayon construction, railway slippers, wooden poles, etc.

The region has large forest cover which serves as reservoir for large number of medicinal and aromatic plants species. 22 out of 26 medicinal & aromatic plants are found in the State.²

Bee-Keeping: Honey, Balms, Wax

Lac Production

Lemongrass Oil

Spices and Oleoresin of spices

Aloe-vera

Stevia

Ashwagandha

AGRI & ALLIED

Ramgarh District has greater than average land holding as compared to other areas.

Goat rearing, pig farming, bee-keeping and backyard poultry has increased with there still being potential for cross-breeding, value-addition and other products due to unmet demand.

Value addition opportunities lie in growing export-oriented or niche crops with growing demand

Horticulture & Floriculture

Fruits: Jams, Pulps, Pectin, Squash

Exotic Fruits & Vegetables

Organic Fruits & Vegetables

Cross-breeding of goats and pigs

Agri-Entrepreneur Model: Providing quality Seed Holding, Grading, Storage and Transportation, fertilizer and Concentrate

MINERAL & MINERAL BASED

Ramgarh district is endowed with mineral resources, especially coal.

In 2016-2017, the state produced more than 126.4 million tonnes (MT) of coal, accounting for nearly 19.1% of the total production in the country. Of this, about 13% came from Ramgarh alone

Overall, Jharkhand supplies 29% of India's mineral 83,150 million tonnes, of which Ramgarh accounts for 1.2% or 1,059 million tonnes.

Silverware: Art and Jewelry

Raw material for industries like ingots

Sources:
 [1] MSME Report
 [2] Survey of Medicinal Plants in Ramgarh Forest

As Agri-Entrepreneurs, OY can improve existing farm productivity or lead new value chains via cooperatives or social enterprise models as one-stop service provider for agriculture needs.

Negotiation Power

- Reduce input supply cost for farmers.
- e.g. access to affordable veterinary service, quality seeds, fertilizer, etc.

Knowledge Sharing

- Encourage the adoption of cross-bred varieties
- Promote the benefits of veterinary service
- Share best practices to improve farm yields.



Pricing Data

- Ensure that farmers gain a fair price on their products
- Recommend in-demand crops to maximize returns.
- e.g. growing demand for organic and exotic vegetables zucchini, kale, etc.

Establish Linkages

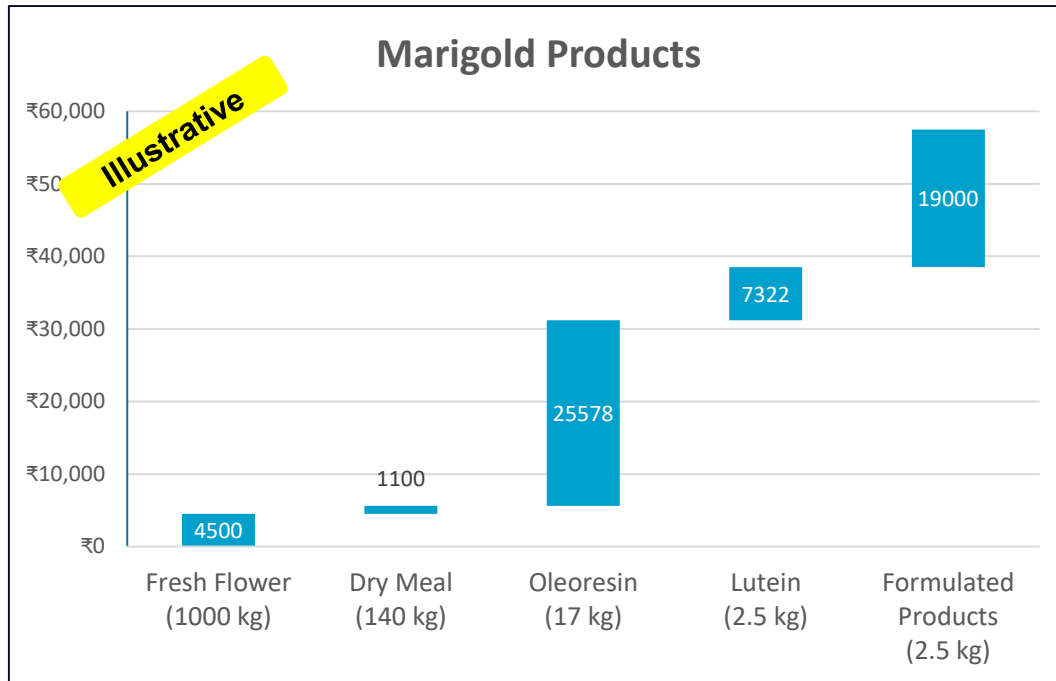
- Connect farms to new markets
- Bridge producers of primary markets with prospects of value-added processing.
- e.g. face packs, capsules, etc. made with herbal agriculture

AE's derive their **revenue** by providing the above services to farmers on a paid-basis.
There is a potential to create 400-950 new AE's in Ramgarh.

AE Estimation



Value addition is possible in existing agricultural and NTFP activities through processing and focusing on exports



Processing

- The value addition at the end of an enrichment process can be over **10x the farm value**.
- This is achieved through a combination of contract farming, processing technology, and large set up cost.





Agri-Solutions during COVID-19



- FPO's (Farmers Producer Organization) can be formed with support from organizations like KVK.
- Restrictions in the domestic market limited many FPO's access to their market linkages.
- With the help of APEDA (Agricultural and Processed Food Products Export Development Authority), FPO's were able to export chilli and calabash to London. This strategy not only saved the FPO members from substantial economic losses but also ensured **lucrative returns**.
- Export channels to Dubai were established and farmers were earning a **net profit of Rs.8000/ton** instead of possible losses due to breakdown of supply chains.







We looked at several products and services that can **improve the productivity of producers**

Product or Service	Description	Benefits
 <p>Animal Breeds</p>	<ul style="list-style-type: none"> • Poultry: Desi birds have lower egg and meat production. • Pigs: Desi pigs attain low weight on maturity. This leads farmers to raise them for 2+ years. 	<ul style="list-style-type: none"> • Poultry: Transition away from desi or introduce cross breeds that are more suitable for backyard rural poultry production • Pigs: Promote the <i>Jharsukh</i> breed which is able to gain double the weight of a desi breed at age of one year with less feed.
 <p>Homogenized Products</p>	<ul style="list-style-type: none"> • Tomato: When supply is high during peak harvesting season, market price can reach below cultivation cost. 	<ul style="list-style-type: none"> • Processed products (sauces, juice, etc.) have longer shelf life in addition to year-round demand with a more stable market.
 <p>Tamarind</p>	<ul style="list-style-type: none"> • Tamarind is currently sold with little to no processing – not even sorting or deseeding. 	<ul style="list-style-type: none"> • Major opportunity to provide value-added service at multiple value chain stages. • Bricks can be exported to state level traders with better margins.
 <p>Pork Products</p>	<ul style="list-style-type: none"> • Leftover parts are sold at half of the rate of meat. • There is a social stigma associated with pork rearing and consumption. Demand still outweighs supply. 	<ul style="list-style-type: none"> • Sausages made of pig intestine are sold at the same rate as meat. • Pig products (bacon, ham, etc.) have a good demand in domestic as well as export markets.







Continued...

Product or Service	Description	Benefits
 <p>Chips, Snacks</p>	<ul style="list-style-type: none"> • Corn: 72% of production is uncompetitively sold as animal feed or starch & oil prodn. • Potato: Surplus from Uttar Pradesh is sold in Jharkhand. • Sweet potato: Area under cultivation has been declining due to the lack of processing 	<ul style="list-style-type: none"> • Starchy crops has potential to be processed into snacks or chips. • The snacks and chips markets are expected to grow at a CAGR of 10.2% and 18.7% respectively, much higher than the base crop.
 <p>Frozen, Packed</p>	<ul style="list-style-type: none"> • Currently, only 2% of the production of vegetable production in India is frozen. 	<ul style="list-style-type: none"> • There is opportunity to supply frozen vegetables in urban areas where there is a higher percentage of refrigerator ownership. • Frozen food expected to grow at CAGR of 17.6%
 <p>Extract Oleoresin</p>	<ul style="list-style-type: none"> • Marigold: Predominantly used and sold in its unprocessed state as fresh flowers or garlands. 	<ul style="list-style-type: none"> • Applications of pharmaceutical technology can convert the value of the end products to be 10x that of its farm value. • US, Mexico, Spain, Taiwan, China, Germany, etc. have high demand for such products.
 <p>Cultivation as-a- service</p>	<ul style="list-style-type: none"> • Crops in Ramgarh are suffering from the unavailability of affordable input supplies. • Potato and sweet potato cultivation is a labour-intensive activity. 	<ul style="list-style-type: none"> • Supply of quality seeds and vines from a nursery would improve the yield. • Mechanized irrigation, transplantation, and harvesting can save the farmers labour cost.



However, there are some **gaps in local infrastructure** that impose constraints on small and medium scale livelihood opportunities and inhibit local value addition

Infrastructure Gaps	Description	Potential mitigation measures
 <p>Power</p>	<ul style="list-style-type: none"> • AT&C* loss of 32% in 2017. 2021 target of 14%. • In Jharkhand, average supply is 22 hrs. • Interviews find rural Ramgarh has no power 4-6 hrs/day 	<ul style="list-style-type: none"> • Expand gas-fired stations power capacity • Incentivize distributed generation (solar) • Explore micro-grids to address power shortage • Explore Combined Heat and Power (CHP) and District Cooling
 <p>Soil and Irrigation</p>	<ul style="list-style-type: none"> • The cultivable land is divided into upper and lower – Uplands are mostly barren. • Due to soil conditions, crop productivity in Ramgarh is lower than other regions. 	<ul style="list-style-type: none"> • Expand the use of green houses, mulching, and drip irrigation • Diversification to income-earning crops that can be grown with limited water
 <p>Access to Veterinary Service</p>	<ul style="list-style-type: none"> • Just 2% of the households have access to government veterinary service [1] • Private services are more costly. • Remote farms incur even more cost for transportation 	<ul style="list-style-type: none"> • Expand government setup camps to include more villages. • Promote farmers to form co-ops to gain negotiating power on input supplies.
 <p>Cold Storage</p>	<ul style="list-style-type: none"> • Farmers have no place to store surplus crops which leads to pricing erosion or waste. • In 2018, there was 52% gap in capacity [2] • 92 new cold storages planned (Feb, 2020) in Jharkhand including 2 in Ramgarh 	<ul style="list-style-type: none"> • Construct new cold storage facilities within proximities of farmers to mitigate transportation cost and avoid wastage • Processing options that reduce the need for storage



Power: An enabler for improving economic opportunities in Ramgarh!

Access to electricity is critical for the operations of many of the small business options considered. For many existing businesses such as tailor or carpenter, access to electricity will improve productivity.

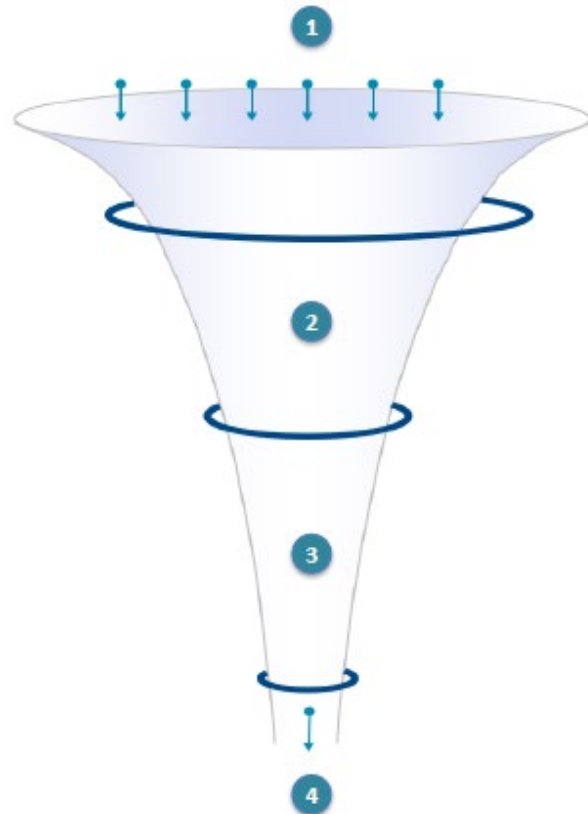
Small Business Options	Machinery	Power	Per day Usage
Farms	Irrigation Pumps	2,200 W	6.6 kWh
Mini Grain Mill	Small Mill	2,200 ~ 3,700 W	6.6 kWh
Sanitary Napkins	“Jayaashree” Machine	750 W	3.4 ~ 5.9 kWh
Leaf Cup/Plate	Press	750 ~ 1,000 W	2.3 kWh
Juice Centers	Beverage Coolers	300 W	1.8 kWh
Carpenter	Saw Drill	1,000 ~ 1,500 W 500 W	2.4 kWh 0.5 kWh
Tailor	Sewing Machine Iron	200 W 1,000 W	2 kWh
Primary Lac Processing	Integrated Small-scale Lac Processing Unit	1,500 W	12 kWh
Rural BPO (20 seats)	Infrastructure (lighting/fans) Computer	115 W 250 W	3.3 kWh

Provision of reliable and cheap electricity could be a game-changer for promoting economic activity in Ramgarh and could have many positive spill-over benefits as well.



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

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



1. Identification of long-list of value chain development opportunities – 20+ value chains

We evaluated 21 value chains to identify the most promising value chains for future implementation

 Marigold	 Stevia	 Aloe Vera	 Vegetable Processing
 Watermelon	 Cauliflower	 Capsicum	 Tomato
 Chili	 Tamarind	 Onion	 Mango

The value chains aim to leverage the existing resources in Ramgarh but by having new value addition stages where OY can be employed

 Sweet Corn	 Potato	 Sweet Potato	
 Chironji	 Sisal	 Lac	 Lac
 Poultry	 Pig	 Goat	

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 2 prioritized value chains

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



We evaluated 22 value chains to identify the most promising value chains for future implementation



Marigold



Stevia



Aloe Vera



Vegetable Processing



Watermelon



Cauliflower



Capsicum



Tomato



Chili



Tamarind



Onion



Mango



The value chains aim to leverage the existing resources in Ramgarh but by having new value addition stages where OY can be engaged



Sweet Corn



Potato



Sweet Potato



Chironji



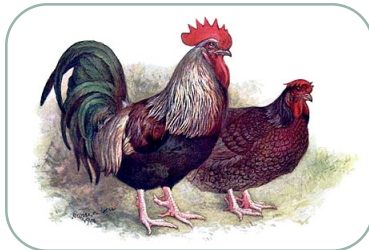
Saal



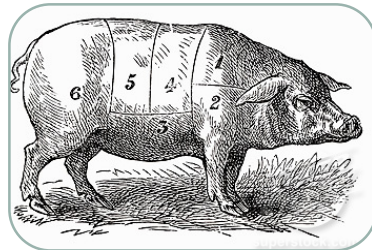
Lac



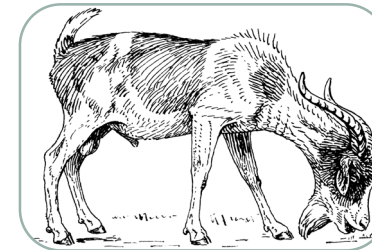
Bamboo



Poultry

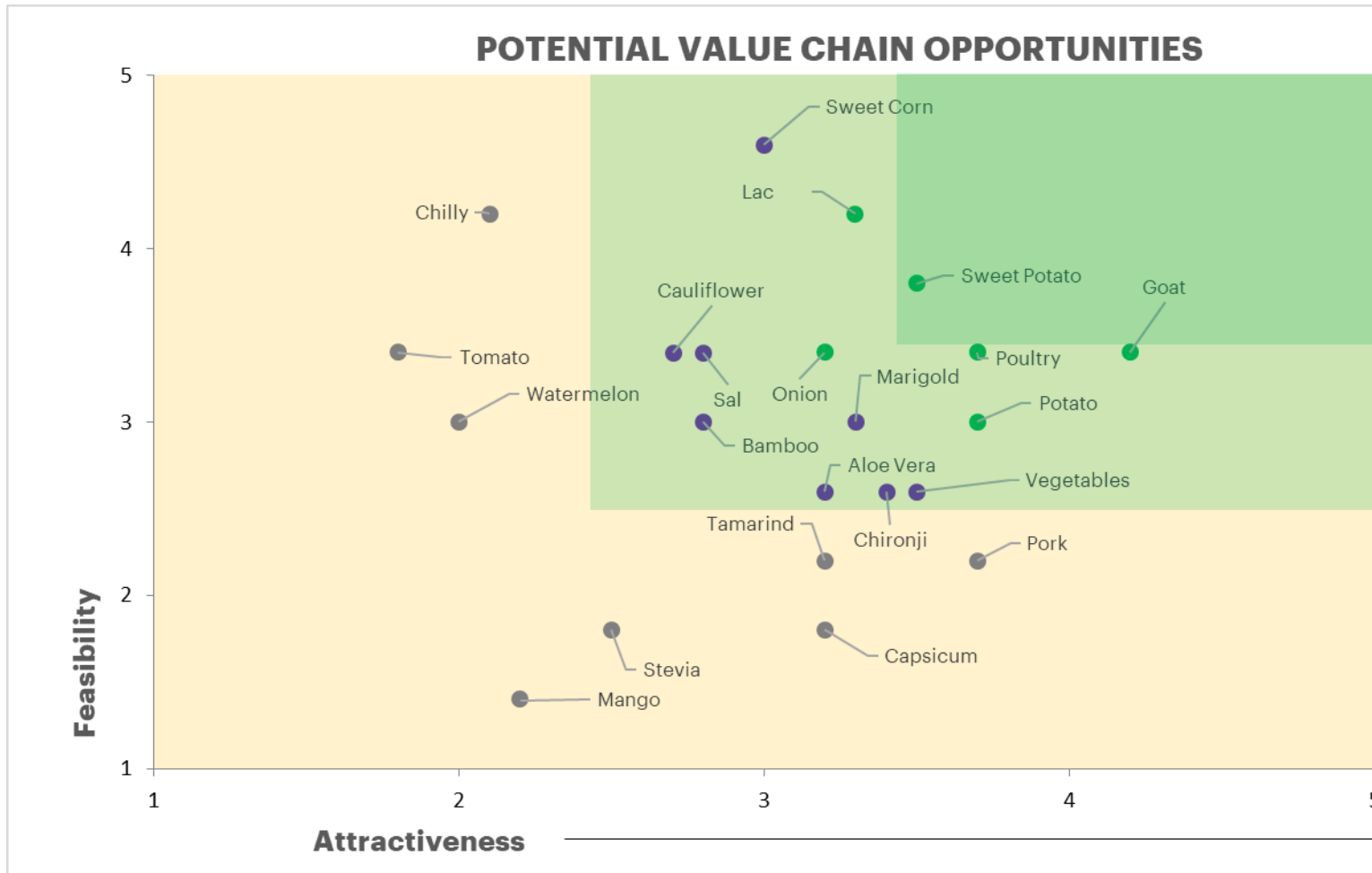


Pig



Goat

The preliminary analysis and multiple discussions have thrown some light on the most promising value chains and demonstrated the need for a dedicated working group for value chain development in Ramgarh



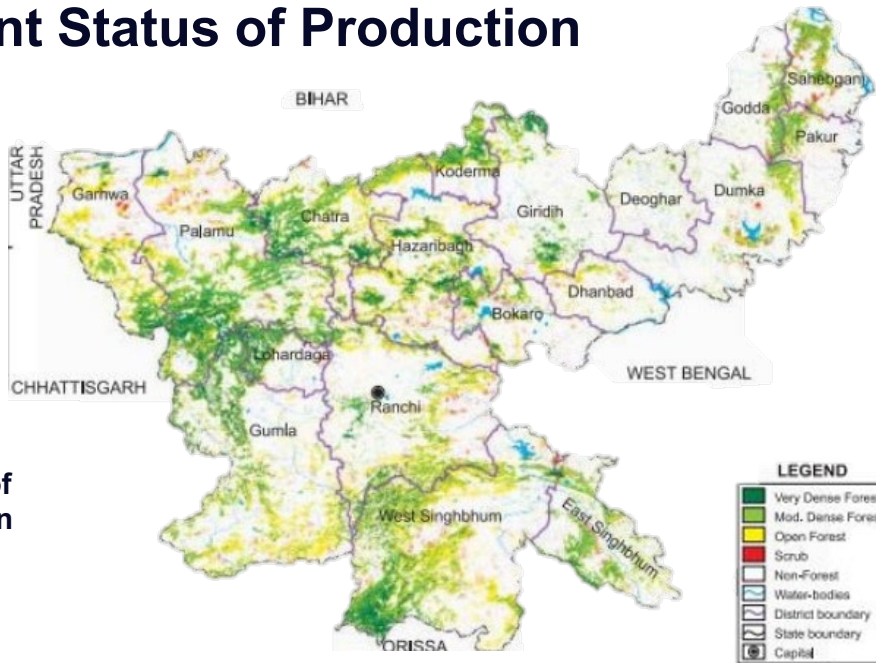
- ✓ **Sweet Potato and Lac** emerged as options which show good potential on both criteria. Other promising options are highlighted in green.
- ✓ Since many of the activities are seasonal, there is a need to **identify combinations which promote resilience** by hedging the risks for farmers and / or OY engaged in these value chains
- ✓ Detailed analysis of these value chains would focus on the **incremental jobs for OY and increased earnings for the primary producers.**





**VALUE CHAIN
ANALYSIS:
LAC**

Current Status of Production



Roughly 29% of the landmass in Jharkhand is under forest cover.

Current Processing Status in Jharkhand [1, 8]

Markets with annual arrival of 500+ tons during 2013-14:

- Primary: Bandgaon, Jaldega, and kolebira
- Secondary: Khunti

Processing (2013-14):

- **Jharkhand had 16 processing units for Lac** located in the following districts – Jharkhand, Khunti, Ranchi, Simdega, Daltonganj, Saraikela-Kharsawan, and West Singhbhum.
- Jharkhand processed 6,865 tons of stick lac accounting for approximately 18% of the total lac processing in the country. Chhattisgarh processed a similar quantity.
- The most lac was processed in WB at 22,149 tons, accounting for approx. 60% of the country’s processed lac.
- **By 2015-16, over 90% of Jharkhand’s lac was processed in Ranchi (~25%) and Khunti (~70%).**

Export

Ramgarh and Jharkhand Scenario

- Ranchi, Simdega, Khunti, and Gumla are the top four lac producing districts in the country.
- **Recent data shows Ramgarh is not a major lac cultivator.** However, Gola block has good potential for cultivation.

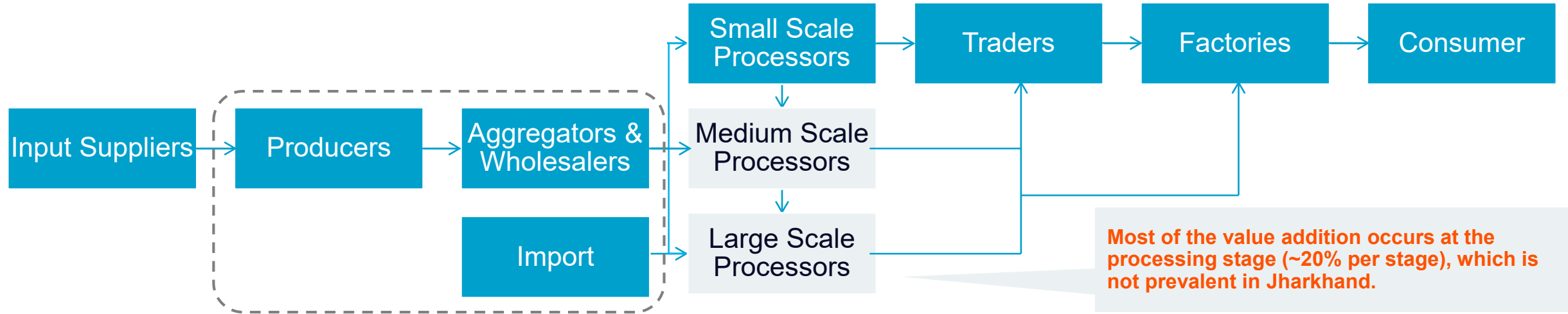


Minimum Support Price (as of 24.07.2020) [8]

- Kusumi Stick Lac (60% recovery): Rs 275/kg
- Rangeeni Stick Lac (40% recovery): Rs 200/kg



Value Chain Mapping



Production and Aggregation

Producer:

- Many still practice traditional methods as opposed to scientific methods of cultivation.
- Lac cultivation is usually a secondary source of income for the producers.
- Producers with bulk quantities may sell directly to the cluster level market (better price than the village level).

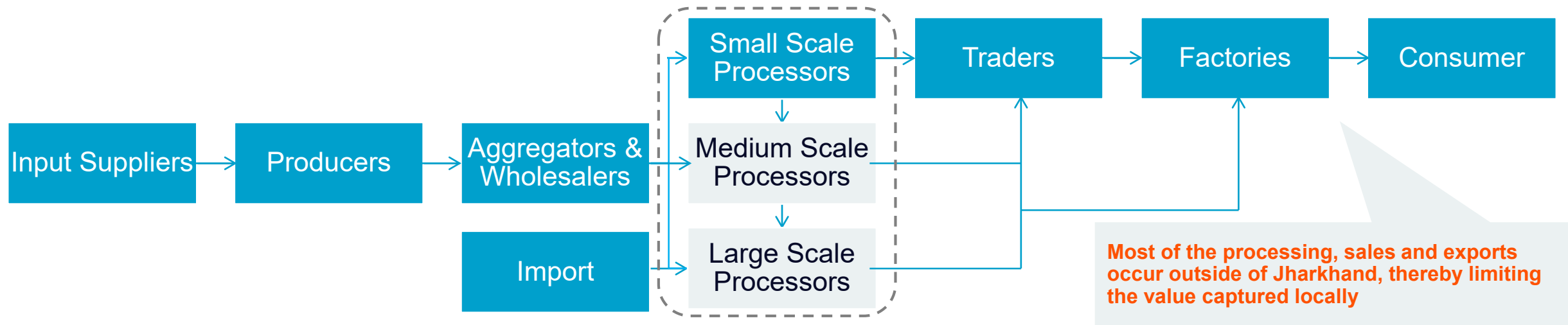
Middlemen (aggregators and wholesalers) and Traders:

- Middlemen purchase stick lac from various levels ranging from the village to the district.
- Margins vary at each level: village (2%) to cluster (8%) to block (15%) to district (10%) level.
- Traders of processed products, on average, earn 5 to 10% above the processor's selling price.

Note: Adulteration (mixing of impurities to falsify the quantity) of scraped lac at the intermediary level is widespread and common practice.



Value Chain Mapping [contd.]



Processing: Currently very limited processing is happening in Ramgarh or even Jharkhand

Small scale processing unit (<150 kg/day) are prevalent in Balrampur, Simdega, Tulin, etc.

- Primarily procures raw material from block and district level middlemen
- Primarily convert stick lac to seedlac.

Medium scale processing unit (<1000 kg/day) are prevalent in Balrampur and Khunti.

- Primary functions are to grade seedlac and process it into button lac.

Large scale processing units (>1000 kg/day) are established in Khunti and Balrampur.

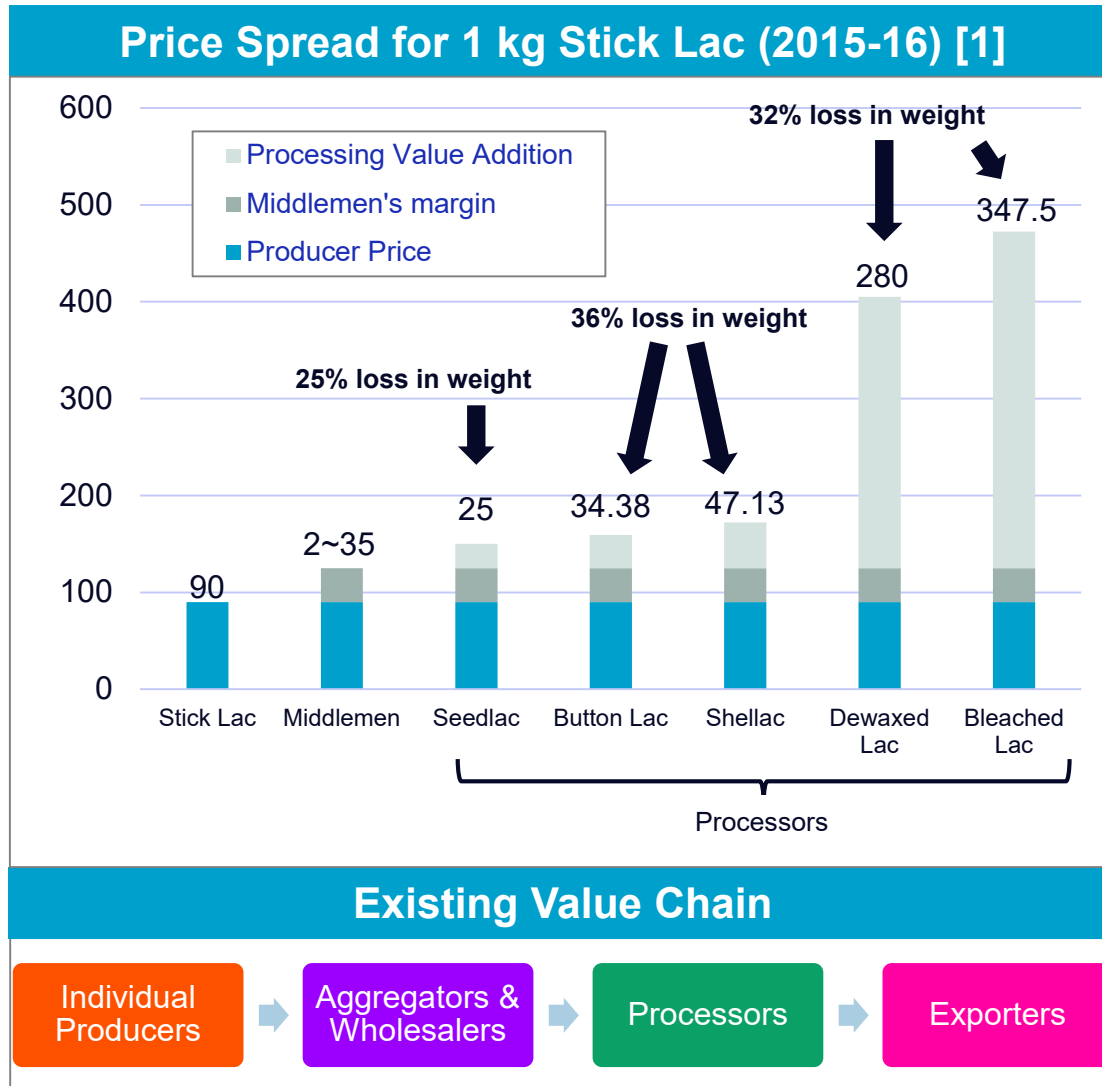
- Are generally processors of shellac, bleach lac, dewaxed lac, aleuritic acid, etc.
- Are major exporter of lac products



[Integrated Small Scale Lac Processing Unit \(ISSLPU\) designed by IINRG](#)



Value Addition in the Traditional Value Chain



- Between the producers and the processors, there are multiple middlemen. They each earn a margin ranging from 2 to 15%.
 - Lower margins for the village/cluster level, **2~8%**. Village and cluster level producers have low holding power due to stick lac's short shelf life.
 - Higher margins for the block/district level, 10~15%.
- A small-scale processing unit, which converts stick lac to seedlac, can capture approximately 20% value addition.
- If this primary processing is available at the village or cluster level, the producer and the processor can capture the middlemen's margins.
- Processing units are the key player who dominates the value chain in terms of value realization.**
- Dewaxed lac and bleached lac capture the most value addition, but they are both process intensive and require high upfront investment.
- Data is limited for pricing related to lac's processed products. Need to verify the latest market price with a local expert.**



Summary of Inefficiencies and Constraints

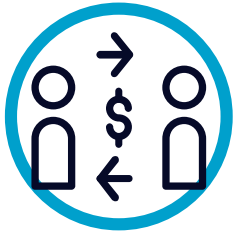


Lack of Awareness

- New host trees
- Scientific cultivation method



- The use of non-traditional host plants opens doors for new producers. New host trees (shorter) allows for women to also partake in harvesting.
- Many producers still practice traditional cultivation which has lower yield and higher risk related to infestation.



Market

- Poor Market Linkages and Services
- Price Fluctuation
- Monopoly buyers



- Make weighing equipment and grading facilities accessible.
- Establish market rate for quality products
- Develop proper sales channel and **long-term contracts**.



Support Services

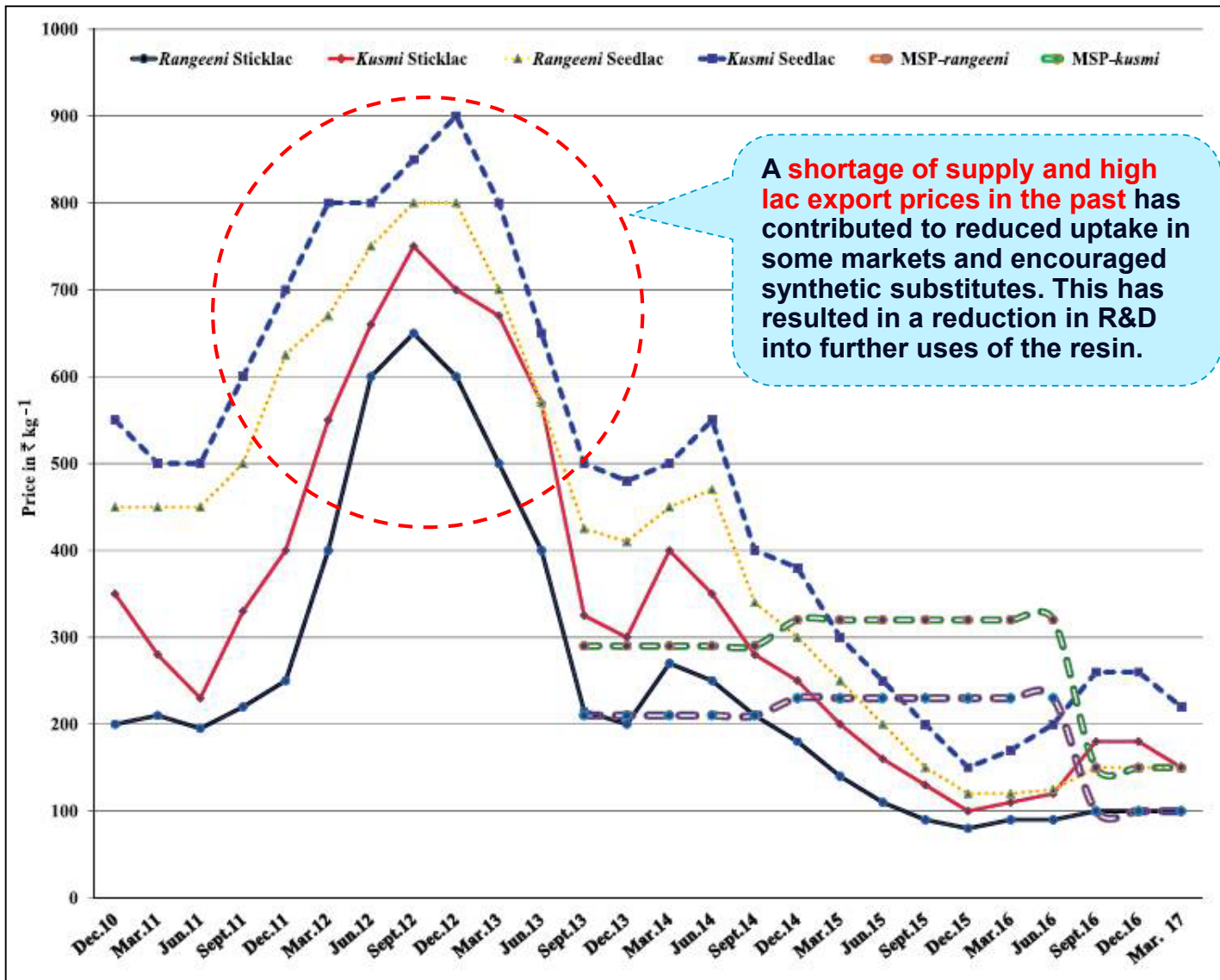
- Lack of Insurance
- Cooperative farming
- Credit facilities



- The producers need a way to minimize their losses. Government supported insurance mechanism is needed.
- Gain negotiating power on input supplies and share knowledge.
- Scientific cultivation methods have greater yields but requires more input cost. Additionally, primary processing requires high working capital.



Inefficiencies and Constraints: Price Fluctuation [1, 2]



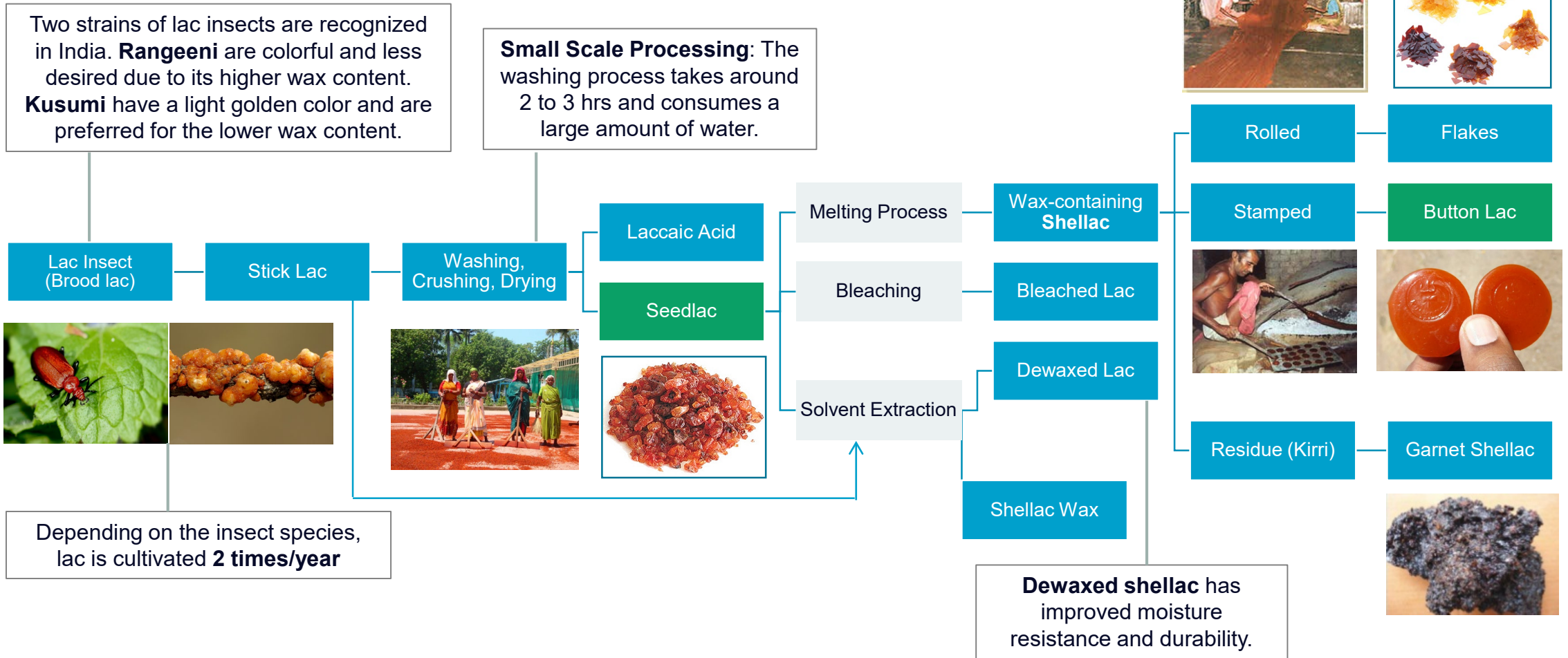
- Price fluctuation is a challenge to every party from producers to consumers. The price fluctuation is not limited to just stick lac but also the brood lac and processed products.
- Prices peaked in end of 2012 and since then there has been a downward trend with prices consistently under Rs 300 in the last few years
- Price can fluctuate up to $\pm 40\%$** in one year. Some of this is driven by price manipulation of export traders.
- To overcome the adverse effect of price fluctuation on the producers, the **Indian government initiated Minimum Support Price (MSP) for lac in 2013**. However, even in the MSP the variation is quite high as seen from the graph.



Role of OY in the Value Chain

Process Diagram

* Blocks in **green** show the processed products that OY could produce locally in Ramgarh



Potential impact through OY involvement in the Value Chain

Scientific Production

- As a lead of a SHG or co-operative organization, OY can be enabled to engage with and train producers.
- A trained household can earn [67% to 114% more in net profit](#) than an untrained household [14]
- Around 500k households are engaged in lac production in Jharkhand and at least 30% still use traditional techniques
- Under the assumption that 20% of lac in Jharkhand can be processed in Ramgarh, [~30k households \(outside of Ramgarh\) could be trained in scientific production](#) and get better income & stability.

Lac Nail Polish

- OY can be a business owner of a small nail polish manufacturing unit.
- Lac based nail polish has better drying time, gloss, and durability vs. the commercial products. It is also eco-friendly and is cheaper. [14]
- There is potential in Ramgarh to establish [24 small manufacturing units employing 60 people](#) if the product can be exported to other states.

Nail Polish

Small Scale Processing

- OY can aggregate stick lac, process it, and sell seedlac **OR** offer primary processing as a service to the producers.
- The producer benefit by gaining a new potential buyer or have the option to improve the crop's shelf life.
- Since Lac production in Ramgarh is low, focus will be on processing produce from nearby districts such as Ranchi.

Substituting 20% of Jharkhand's stick lac export with local primary processing within Ramgarh can generate employment for 220 workers and 40 OY's.

Processing

Bangles

- OY can be a business owner of a small lac bangle manufacturing unit.
- The demand for lac bangles is showing an increasing trend in the international market. [14]
- There is potential in Ramgarh to establish [74 manufacturing units employing 185 people](#) if the product can be exported to other states and overseas.

Bangles



Market Linkages and Role of GOYN Ramgarh

Within a value chain like lac or sweet potato, there are **multiple products, and these could require a different go-to-market strategy. Accordingly, the role of GOYN would vary** and so would the level of investment both financially and in terms of the personnel mobilized. We broadly categorized this investment or involvement from GOYN into 3 categories:

1 High Investment Institutional Partnerships (HIIP)

Some products require **long term contracts with large companies** for production of quality products at scale. Since OY or smaller NGOs working locally may not have the required capacity to establish such institutional partnerships, GOYN can step into the role of **Ecosystem orchestrator:**

- Leverage network to connect with corporate buyers
- Facilitate long-term partnerships
- Establish guidelines for partners
- Ensure interests of all stakeholders are met
- Liaison with local / state govt.

2 Moderate investment cooperatives

For many products, fragmented action is already taking place through CSOs, small cooperatives or ad-hoc govt. initiatives. However, to scale-up, improve economic output and **leverage synergies among various isolated interventions**, there is a need for a **Trusted Convener:**

- Bring together multiple CSOs working in a fragmented manner
- Common vision & collective targets
- Improve end-to-end linkage between CSOs, govt. and industry
- Support OY mobilization and selection of the right beneficiaries

3 Low investment livelihood enablement

Few products can **support small locally distributed businesses** but do not necessarily require a cooperative structure. In such cases, individuals often struggle to start up as they lack awareness or resources. To allow such small businesses to thrive, there is a need for a **Youth Enabler:**

- Create awareness about feasible local opportunities
- Connect to existing opportunities – training, funding, buyers, etc.
- Guidance on availing govt. support
- Selection of the right beneficiaries for entrepreneurship support



Lac Value Chain: Market Linkages and Role of GOYN Ramgarh

For the lac value chain, we identified multiple products and shortlisted the ones where OY have a role to play. We can now form an initial assessment of role of GOYN and relevant stakeholders that need to be brought together to bring these value chain opportunities to life.

Products

Partners

1 High Investment Institutional Partnerships (HIIP)

1. Lac sealing sticks

Procured by **India Post** for sealing envelopes but difficult to get long-term contracts / tenders

2 Moderate investment cooperatives

2. Seedlac

Has broad market & many CSOs are working on quality but struggling with price fluctuation

3. Lacquer

Industrial product requiring scale and quality

3 Low investment livelihood enablement

4. Lac bangles

5. Natural nail polish
In both cases, OY need help in reaching market in Rajasthan and other parts of India through e-commerce and direct channels



Relevant stakeholders and potential partners



Indian Council of Agricultural Research

The ICAR is an autonomous body responsible for coordinating agricultural education and research in India.

- One of the largest national agricultural systems in the world.
- ICAR is engaged in cutting edge areas of science and technology development. ICAR scientists are internationally acknowledged in their fields.



Indian Institute of Natural Resins & Gums

IINRG is an autonomous institute, established under the umbrella of ICAR, for advanced research on lac and other natural resins and gums.

IINRG's division:

- Lac Production
- Process and Product Development
- Transfer of Technology



Udyogini

Udyogini's goals are to develop a replicable and scalable model for tribal women to have sustainable earning lac. Udyogini collaborates with IINRG and ICAR.

Udyogini's services:

- Skill & Entrepreneurship Training
- Institution Building
- Business Counseling
- Financial Linkages
- Market Linkages
- Functional Literacy



Jharkhand State Co-operative Lac Marketing & Procurement Federation Ltd.

JASCOLAMPF is the only apex commodity co-op body specifically for Lac.

JASCOLAMPF's objectives:

- To facilitate, coordinate, and promote the marketing and trading activities
- Procurement of stick lac from growers
- To institutionalize core values and create a culture of team building, empowerment, and innovation

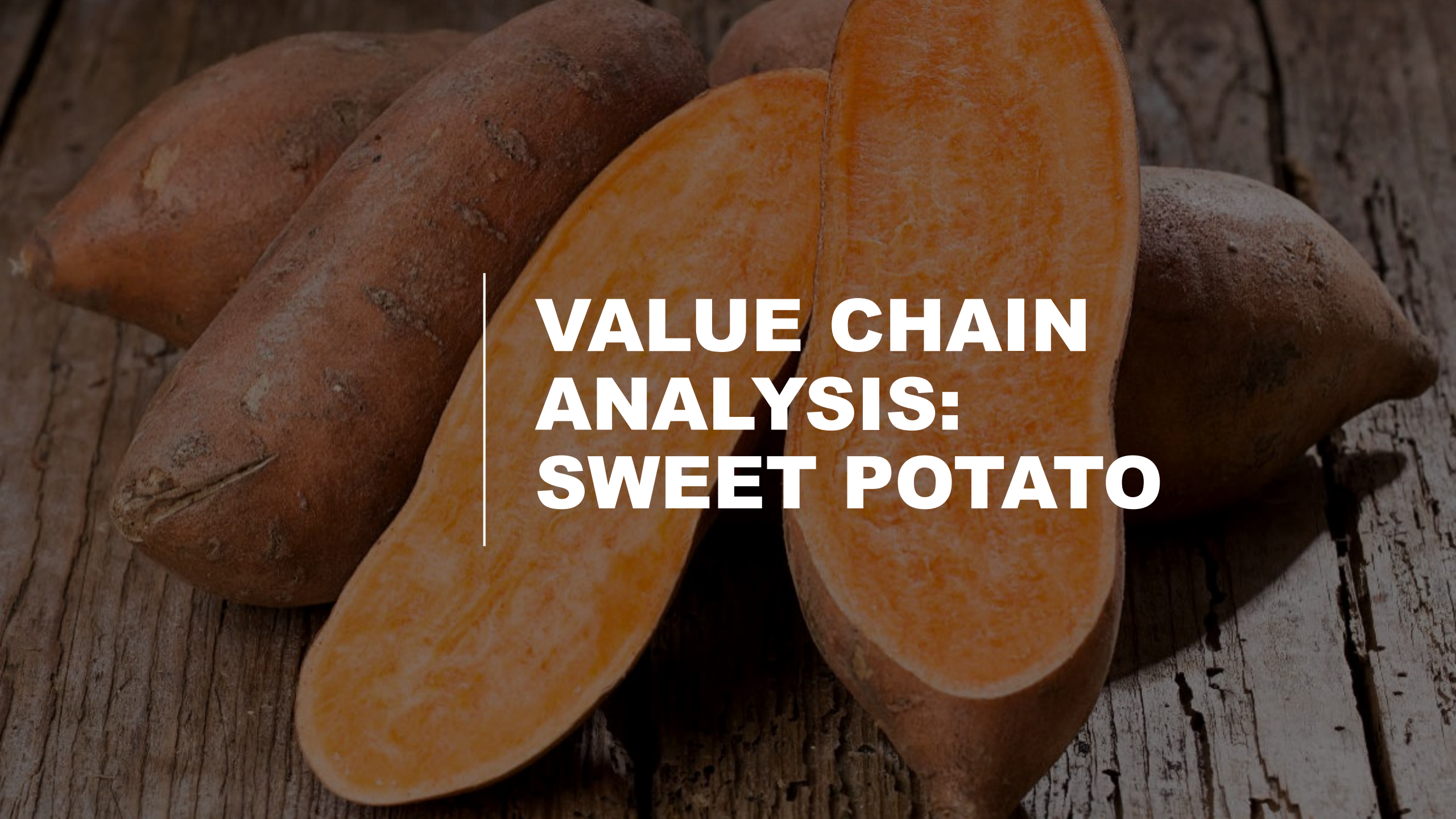


JHAMFCOFED

JHAMFCOFED - Jharkhand State Minor Forest Produce Co-operative Development and Marketing Federation, is a two-tier co-op structure with JHAMFCOFED at the apex with 88 primary co-op societies at the lower level.

The objects of the federation is in general to promote Minor Forest Produce (MFP) industries on Co-operative basis

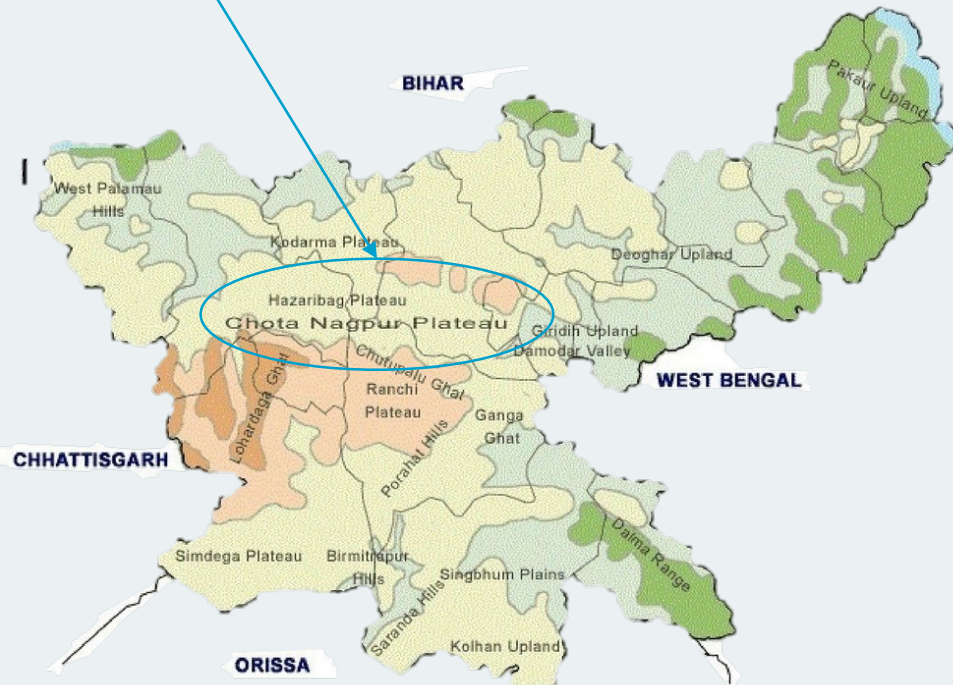


A photograph of several sweet potatoes on a rustic wooden surface. Some are whole with their brown, slightly wrinkled skin, while others are sliced lengthwise, revealing a bright orange, moist interior. The lighting is soft, highlighting the textures of the potatoes and the wood.

**VALUE CHAIN
ANALYSIS:
SWEET POTATO**

Value Chain Overview

Sweet potato is cultivated mostly in **Chota Nagpur Plateau** belt.



Chokrabeda and Beyang villages from Ranchi district are known for sweet potato cultivation.

Ramgarh/Jharkhand Scenario*

- At the state level, Jharkhand imports sweet potato from West Bengal and Uttar Pradesh.
- At the district level, Ramgarh is an exporter of sweet potato to West Bengal and Bihar.

Land availability in Jharkhand





- Sweet potato requires well drained, light textured soil and mild climate, well suited for uplands of Jharkhand.
- Jharkhand has net cultivated area of 1.8 Mha out of which the uplands comprises of 1.3 Mha. The commercially growing belt of the Jharkhand region is not too large.

Farm Gate Price (per Kg)

- Price varies greatly between states.
 - Odisha: average of Rs 9.75 (2016 survey) [3]
 - Jharkhand: Rs 5.50 – 6 (2015 survey) [5]
- As of 2020, there is a temporary increase in subsidy from 50% to 90% on seeds and fertilizers for kharif crops from the state authority. [9]



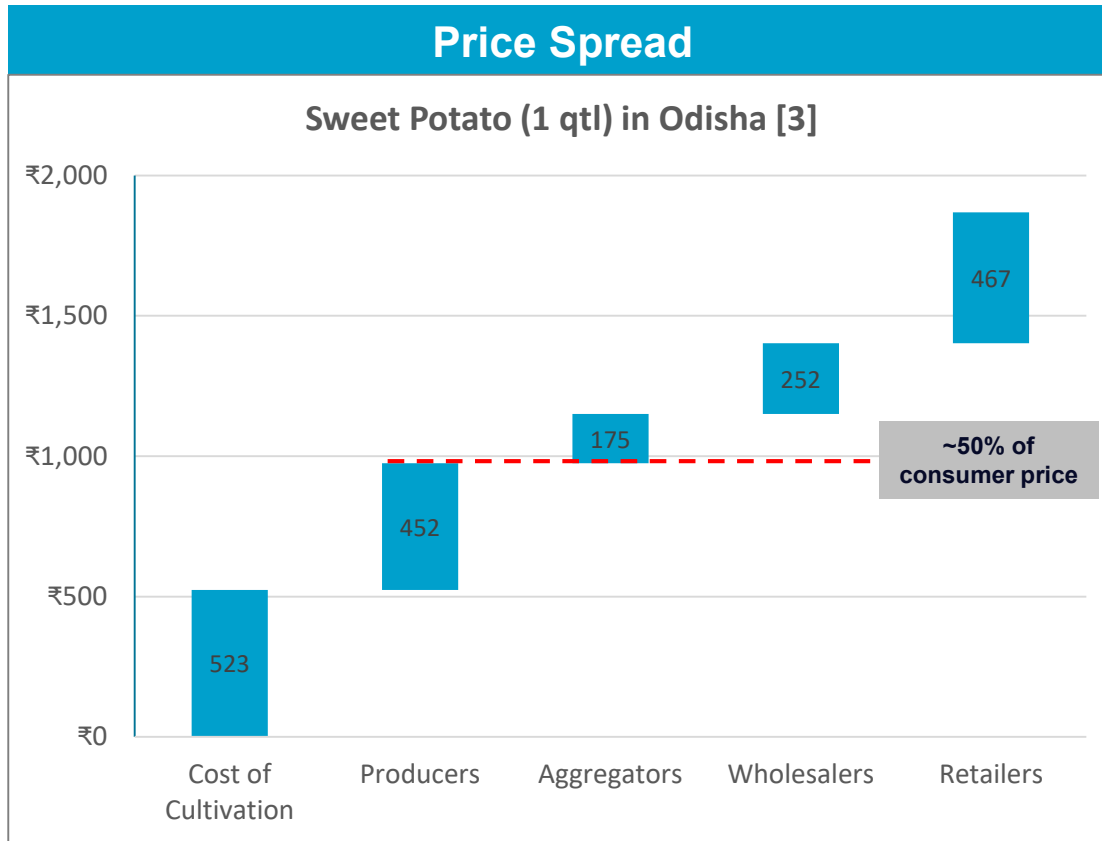
Current Status of Cultivation

Availability of resources in Ramgarh	
 <p>Labour</p>	<p>Sweet potato cultivation is a labor-intensive activity. Hired labour is usually used only for land preparation and harvesting and during Kharif Season there is conflicting demand on labour for paddy and sweet potato therefore, mechanization will be imperative to ensure successful cultivation during the monsoon.</p>
 <p>Land</p>	<p>Farmers in Ramgarh have an average operational holding of ~2.50 acres [7]. Surveys indicate that farmers devote one-fourth of their land to sweet potato, i.e. ~0.5 acres. There are isolated clusters of sweet potato farms in the Gola block. Sursu village is also known for sweet potato cultivation. [5]</p>
 <p>Agri inputs</p>	<p>Input supplies are usually purchased from the nearest market in Gola. The planting materials are vines, which take about two months to be ready for propagation. If not available from previous year crop, vines are bought @ Rs. 20 per kg. (2015) [5]</p>
 <p>Water</p>	<p>During monsoon season the agro-climatic and soil condition are very congenial for good productivity of sweet potato. While one crop is possible but there is limited irrigation in uplands to allow for a second crop.</p>

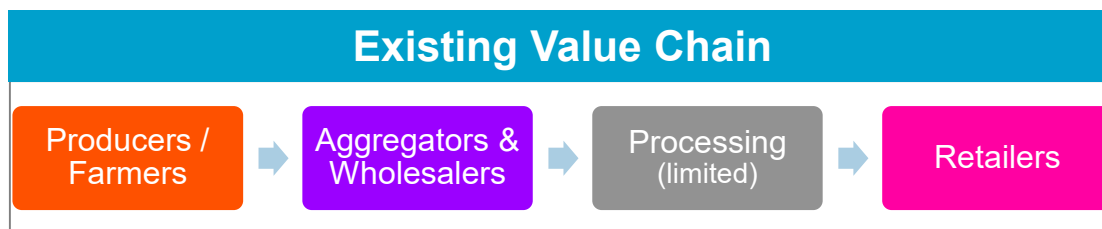
Local Demand vs. Supply
<ul style="list-style-type: none"> The crop is attractive for the markets, and traders pickup from the farm gates. Local variety is in demand throughout the year thanks to its taste. Since there is only one cultivation cycle each year, shortage starts around May due to seasonal production. As a result, prices fluctuate a lot: <ul style="list-style-type: none"> Early in the season, price can be as high as Rs 20/kg. In peak production season, the price can decline to as low as Rs 4/kg. [5] Prices for farmers are highest during the festival season and auspicious times of the year. To overcome the seasonality, OFSP (orange fleshed sweet potato) varieties were introduced to provide sweet potato throughout the year. However, it was not accepted by the locals due to taste and inferior storage life. <ul style="list-style-type: none"> In other states, only 11% of farmers grow OFSP. OFSP also does not command any price premium.



Value Addition in the Traditional Value Chain



- There is significant potential for value capture by the producers as they **can earn about 80-90% profits** over the cost of cultivation
- However, price fluctuations and outdated farm techniques can erode this profit margin
- At times of oversupply, **the price can go below the cost of production**, forcing farmers to dump their produce at a loss
- Thus, there is a need to **provide farmers with alternate market channels** and also introduce local processing options to improve the resilience of farmers. **OY have a role to play in building this resilience.**
- As the retail price is twice of the selling price paid to the farmer, **there is potential for D2C models** such as DeHaat



Inefficiencies in Existing Value Chains: Lack of Awareness



Horticulture

- New cultivars of sweet potato
- Disease and pest control

- New variety of plants exist with improved yield and climate resilience.
- Plant protection can be improved through bio-control and IPM methods.



Soil & Water Management

- Soil health and testing
- Proper use of fertilizer
- Conservation techniques

- Soil Health and testing intervention such as acidic soil reclamation.
- Urea, DAP, and potash are not utilized at the recommended doses.
- Benefits of poly house, net house, and drip irrigation are not well known.



Support Services

- Smart production planning
- Cooperative farming
- Credit facilities

- The choice of crop should be planned according to the market demand.
- Gain negotiating power on input supplies and share knowledge.
- Very few farmers get advanced payments and even fewer sell on credit.

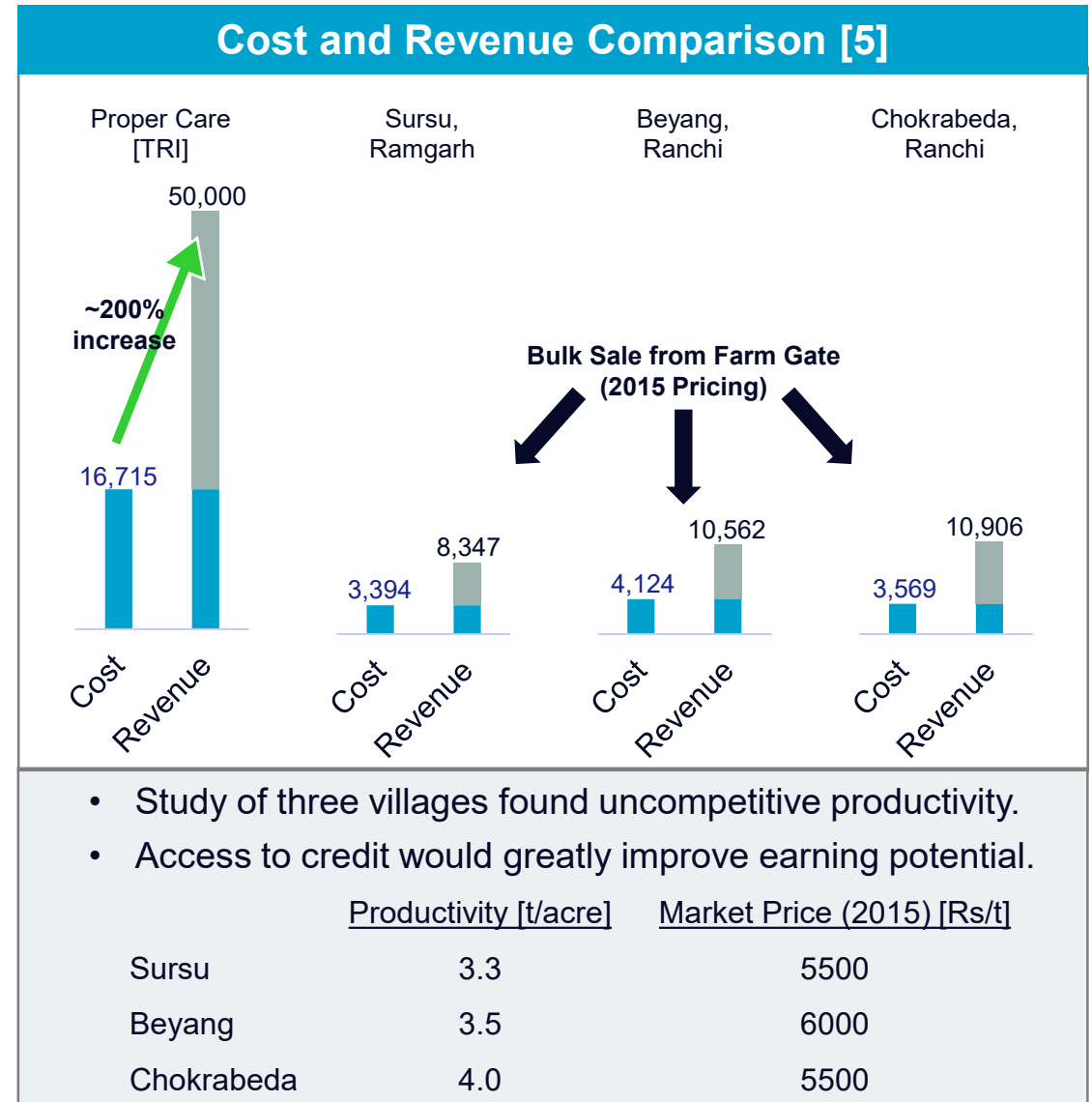
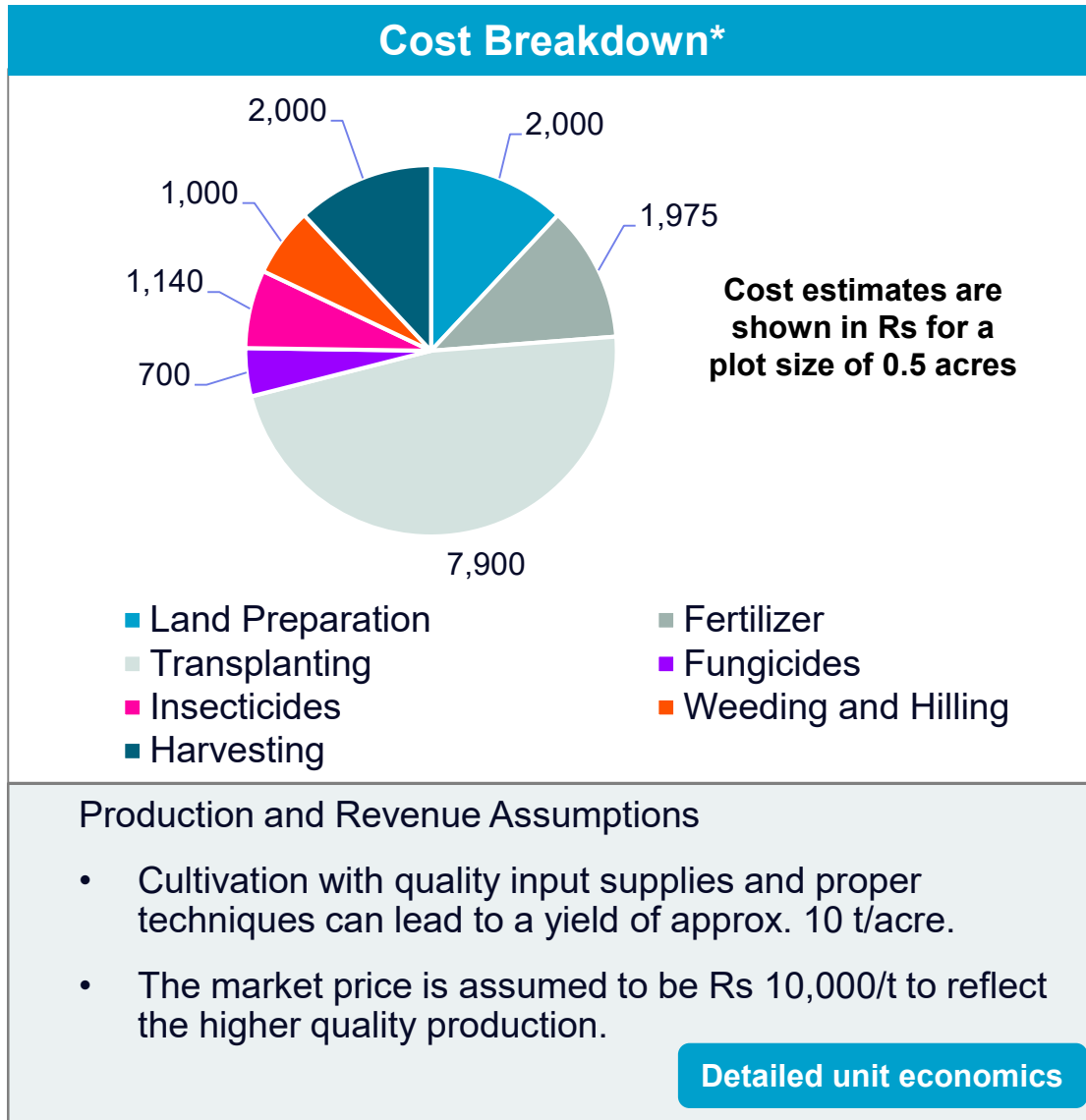


Local Constraints and possible interventions

Local Constraint	Description	Emerging Needs	Proposed Intervention
Non-availability of quality seed (vine)	Low quality vines lead to poor yield which limits the livelihood potential	To be competitive against other regions, farmers need to have access to quality vines.	<ul style="list-style-type: none"> Provide a line of credit so that farmers can afford quality vines. Gain negotiation power through cooperative farming to make vines more affordable.
Limited water resources for irrigation	Farmers have pointed out the water shortage in other seasons as a severe issue.	Farmers need access to water or a way to better utilize their existing supply.	<ul style="list-style-type: none"> Construct water harvesting structures near the growing belt to help vines survive the drought seasons. Implement drip irrigation to curb water loss
Limited local storage	Lack of storage options lead to shortages and uneven supply.	Farmers need tools to minimize post harvest losses and grant them the option to sell when the price is higher	<ul style="list-style-type: none"> Attract investors to fund the construction of a cold storage unit. There is high potential for cold storage to meet demand throughout the year.
Seasonal availability of affordable labour	Conflicting demand on labour for paddy and sweet potato during Kharif Season	Sweet potato cultivation is a labour-intensive activity, particularly during land preparation, hilling, and harvesting. Farmers need tools and hired labour to be efficient.	<ul style="list-style-type: none"> Reduce capital investment burden through cooperative farming and share tools, resource, and knowledge.
Minimum mechanization	Lack of capital means that most tasks are performed manually.		



Unit Economics indicates a lower ROI but substantially higher earning per acre, making strong case for facilitating the larger investment



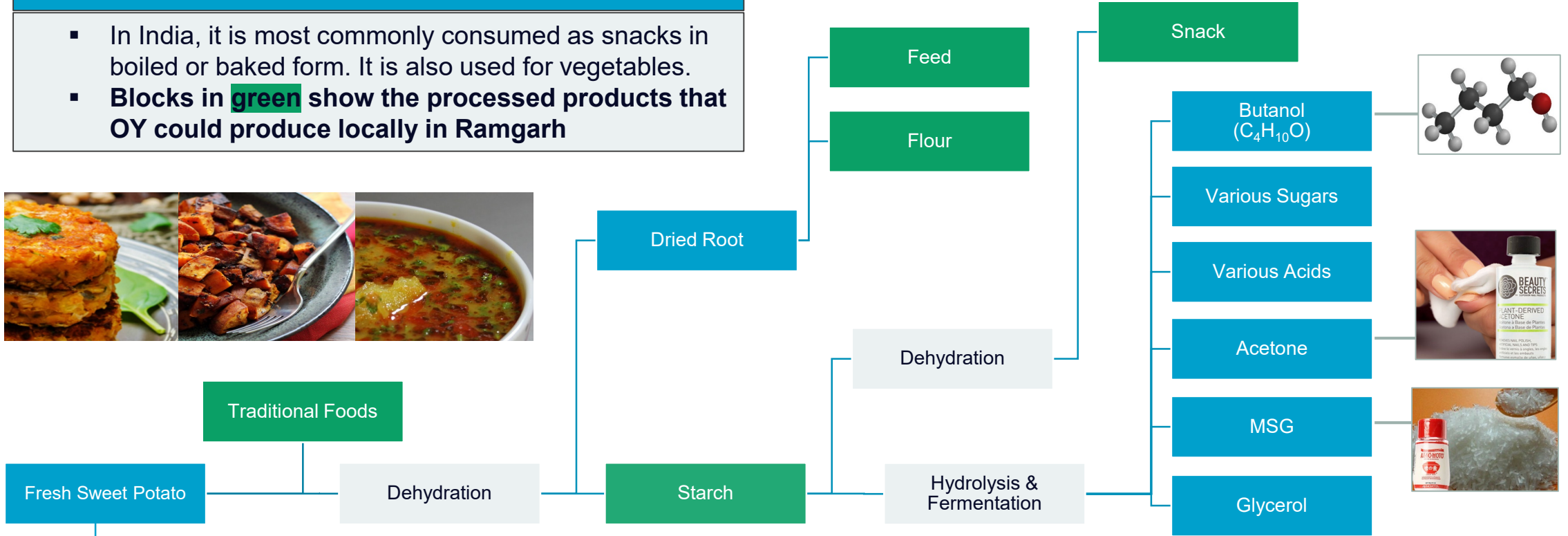
Sources: * Based on discussions with TRI, [5] Global Journal for Research Analysis - [Sweet potato as a worthy option for rural livelihood: A study on Tribal dominating villages of Jharkhand](#)



Role of OY in the Value Chain

Processes and Products

- In India, it is most commonly consumed as snacks in boiled or baked form. It is also used for vegetables.
- Blocks in **green** show the processed products that OY could produce locally in Ramgarh



Opportunity for OY to address **three major constraints** at the input supply stage.


- | | | |
|--|--|---|
| <ol style="list-style-type: none"> 1. Non-availability of quality seeds (vines) 2. Labor shortage during kharif season 3. Lack of mechanization | | <ul style="list-style-type: none"> • Provide quality vines through a nursery business. • Offer transplantation and harvesting as-a-service. |
|--|--|---|




Role of OY in the Value Chain

Traditional Food [13]

- OY can be a business owner of a food cart using sweet potato as the main ingredient to serve traditional foods.
- The setup cost to start a food cart is much cheaper than a food truck.



Rs. 8 to 10 lakhs



Rs. ~1 lakh
- The price of street food is low, but its gross profit margins are generally high, ~50%.
- Adding just one food cart per village in Ramgarh will create over 300 jobs.**



Snacks: Chips

- OY can be employed as a factory employee or a vendor of chip company. Vendor acts as a liaison between farmers and the company
- Premium brands in India includes Terra and TBH.



- Chip companies **require “process-grade potatoes”** which requires a higher production cost but also results in a higher gross margin for the farmers.
- With large companies like PepsiCo, the companies also has ties with banks to provide credit to the farmers.
- A long-term contract with a major chip producer in Ramgarh would employ **30 OY's** with the firm and additionally **impact 580+ farmers** in year-1.
- Converting 25% of the district's current cultivation to chip production would impact **4600 farmers and ~240 OY's**.

Traditional Food and Chips Estimation



Role of OY in the Value Chain (contd.)

Local Aggregation

- Potato has lot of local aggregators. In sweet potato, it is only traders coming from outside and picking up the produce.
- Sweet potato aggregation has potential, but it would need high capex to operate. **(Feasibility needs to be confirmed)**
- In Chhath festival time, traders make money. AE can connect directly with buyers in UP and Bihar

Starch production

- Sweet potato has less starch per weight than potato.
 - Potato: 14~15 g of starch per 100g
 - Sweet potato: 8~12 g of starch per 100g
- Note that potato is a direct competitor to sweet potato.
- **Further validation is needed from experts. Key questions:**
 - Is there a premium demand for sweet potato starch?
 - What variety is grown Ramgarh today?

Further questions for local experts

Harvesting As-a-Service

- Most farmers that produce sweet potato dedicate only one quarter of their land to the crop, approx. 0.5 acres. Even though the crop is labor intensive, the small-scale farming makes the investment for mechanization to be financially prohibitive.
- OY can provide equipment as a service for transplantation and harvesting. A single row harvester is shown below.



- This will help alleviate the competing labour demand during Kharif season between paddy and sweet potato.
- There is potential in Ramgarh to establish **125 worker-year worth of OY employment** (seasonal) if the service is offered to nearby districts for multiple tuber crops. (20 for sweet potato, 85 for potato, and 20 for other crops)

Harvesting As-a-Service Estimation



Sweet Potato Value Chain: Market Linkages and Role of GOYN Ramgarh

For the sweet potato value chain, we identified multiple products and shortlisted the ones where OY have a role to play. We can now form an initial assessment of role of GOYN and relevant stakeholders that need to be brought together to bring these value chain opportunities to life.

Products

Partners

1 High Investment Institutional Partnerships (HIIP)

1. Chip-grade sweet potato

Premium chips are produced by Terra and TBH, but long-term contracts are difficult to obtain.



Credit (TBD)

Buyers



Technology



CSOs

2 Moderate investment cooperatives

2. Agri-Entrepreneur

3. Harvesting As-a-Service

Agri-entrepreneurs & service providers need to be connected to multiple value chains in order to be profitable and thus value-chain initiatives across Ramgarh need to be connected.

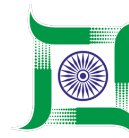
CSOs



Skilling partners (TBD)



Credit



Subsidy

3 Low investment livelihood enablement

4. Traditional Foods

Homemade snacks and fast-food stall can be established with low startup cost, but OY will still require training in basic finance and food safety along with facilitation of small business loans.

CSOs



Licenses

Skilling partners (TBD)

Tech / Equipment (TBD)



Subsidy and credit

Note: Further discussion is required to identify potential partners.

Relevant stakeholders and potential partners



Indian Council of Agricultural Research

The ICAR is an autonomous body responsible for coordinating agricultural education and research in India.

- One of the largest national agricultural systems in the world.
- ICAR is engaged in cutting edge areas of science and technology development. ICAR scientists are internationally acknowledged in their fields.



Terra To Be Honest

Contracts with Frito Lays have been explored in the past and may be re-established with the right set of protections for the producers and other value chain partners.

Smaller players such as Terra may also be relevant for successful pilot with sweet potato given that it is not as well-established as potato chips.



Krishi Vigyan Kendra, Ramgarh

A KVK is an agricultural extension center in India.

ICAR established KVK, Ramgarh on 26th August 2014 under the administrative control of ICAR-Research Complex for Eastern Region, Patna.

KVK's objectives include

1. On-Farm Testing
2. Front-line Demonstration
3. Capacity Building
4. Multi-sector Support
5. Advisory Services



Urban Platter

Urban platter is an e-commerce platform selling many gourmet foods, flours, vegan alternatives, etc. to urban affluent consumers

This platform offers an option to supply in limited quantities at a good margin instead of doing bulk deals which require lot of investment and challenging to broker



Central Tuber Crops Research Institute

CTCRI is a constituent institute under the Indian Council of Agricultural Research (ICAR) is the only research organization in the world dedicated solely to the research on tropical tuber crops.

CTCRI's divisions include

1. Crop improvement
2. Crop production
3. Crop protection
4. Crop utilization
5. Extension and social sciences



200+ potential opportunities were identified, analyzed and evaluated to create a knowledge bank of 80+ small business options* relevant for OY

1. Identification of long-list of opportunities through discussions and MSME Report for Ramgarh

2. Identification of six evaluation criteria

Type of expense (Essential/ Discretionary/ Luxury)

Potential for consumption within Ramgarh

Potential for export

Skill requirement

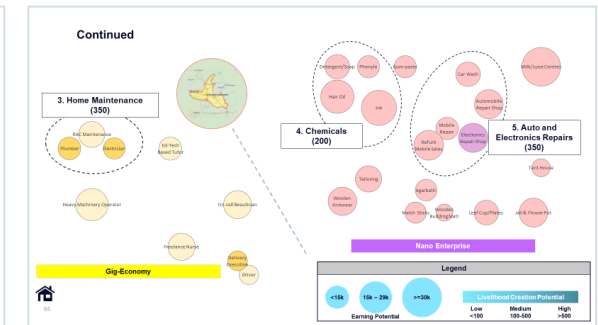
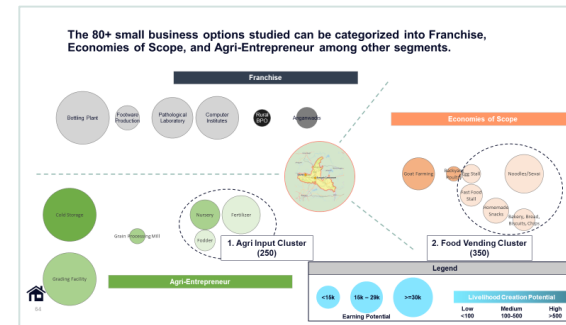
Earning potential

Livelihood potential

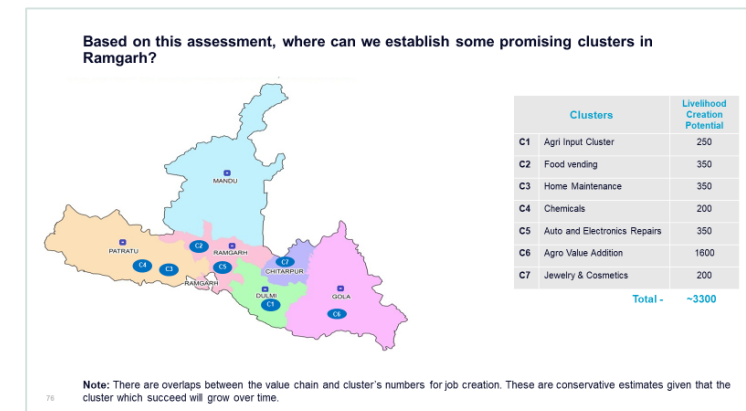
3. Evaluating the opportunities through secondary research, guess-timation and discussions with local experts

Entrepreneurial Opportunity	Description	Type of expense (Essential/ Discretionary/ Luxury)	Potential for consumption within Ramgarh	Potential for export to other parts of India	Skills requirement (High / Medium / Low)	Earning Potential from recurring sources
Organized vegetable supply chain and distribution	Organized vegetable supply chain and distribution	Essential	Medium	Medium	Low	20-25%
Food safety	Food safety	Discretionary	High	High	Medium	10-15%
Medical appliances	Medical appliances	Discretionary	High	High	Medium	10%
Mechanism Calibration with International standard (i.e. export oriented)	Mechanism Calibration with International standard (i.e. export oriented)	Discretionary	High	High	Medium	100-150k
Organic Agriculture	Organic Agriculture	Discretionary	Medium	High	Medium	10%
Plant Oil	Plant Oil	Essential	Medium	Low	Medium	20-25%
Bakery, Bread, Biscuits, Chips	Bakery, Bread, Biscuits, Chips	Essential	High	Low	Medium	10%
Car vegetable and fruit seller	Car vegetable and fruit seller	Discretionary	Medium	Low	Low	20-25%
Tap Water	Tap Water	Discretionary	High	Low	Low	10-15% / 10%
Home made ready to eat and ready to drink	Home made ready to eat and ready to drink	Discretionary	Medium	Low	Medium	10%
Jaggery	Jaggery	Essential	Medium	Medium	High	10%
Jan, Jolly, Saree, Tunic, Kurta	Jan, Jolly, Saree, Tunic, Kurta	Essential	High	Medium	High	10%
Milk/Airer Cakes	Milk/Airer Cakes	Essential	High	Low	Medium	20-25%
Organic fruits and vegetable seller	Organic fruits and vegetable seller	Discretionary	Low	High	Low	10-15%
Processed Spices	Processed Spices	Discretionary	High	Medium	Medium	10%
Grain Processing Mills	Grain Processing Mills	Essential	High	Low	Medium	10%
Ready-to-eat	Ready-to-eat	Essential	High	Low	Medium	10%
Biogas Plant	Biogas Plant	Essential	High	Low	Medium	10%

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



5. Mapping selected clusters by blocks in Ramgarh through govt. data and expert consultation



* Many of these small businesses are supporting the value chains discussed previously and some degree of overlap is expected



The 80+ Small Business Options on the subsequent slides were **visualized and clustered based** on the Type of Opportunity, Livelihood Creation Potential, and Earning Potential

Livelihood Creation Potential		
Low <100	Medium 100-500	High >500

The **Livelihood Creation Potential** (estimate) has three scores. The color darkness of the bubble indicates score.

- Low: <100 people
- Medium: 100 to 500 people
- High: >500 people

Low, Medium, and High scores were given a value of 50, 150, and 750, respectively in order to aggregate the total impact.



Earning Potential

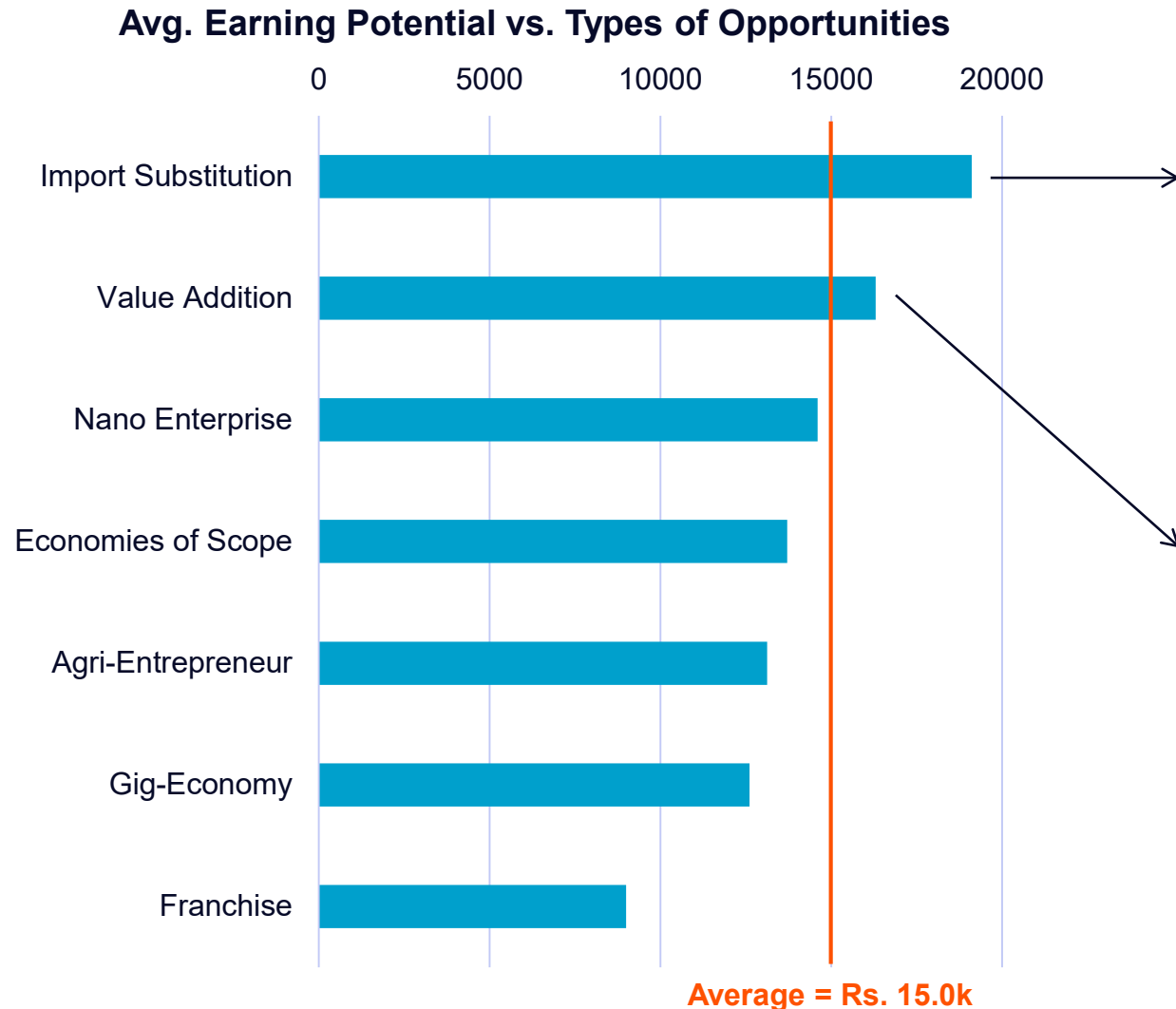
The **Earning Potential** is the monthly income of the small business option. It was determined through secondary research and interviews, is indicated by the size of the bubble.

The relative positions of the bubbles also indicate the small business options' similarities.

- **We estimate a direct livelihood impact of 7,500.** Detailed estimates are available in the [Appendix](#) for several small business options.
- 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 blocks of Ramgarh.



When segmented for the type of opportunity, small business options focusing on **Import Substitution** and **Value Addition** show the greatest earning potential



- Over half of the small business options considered for Import substitutions **have high financial requirements**.
- Income related to production of medical goods greatly boosts the average within import substitution.

- 14 out of the 24 small business options within **Value Addition** are categorized under the industry “Agri & Agri-Allied”.
- However, it is worth noting that 19 out of the 24 Value Addition small business options produced **discretionary and luxury** products. These products tend to have a weaker market in rural areas.

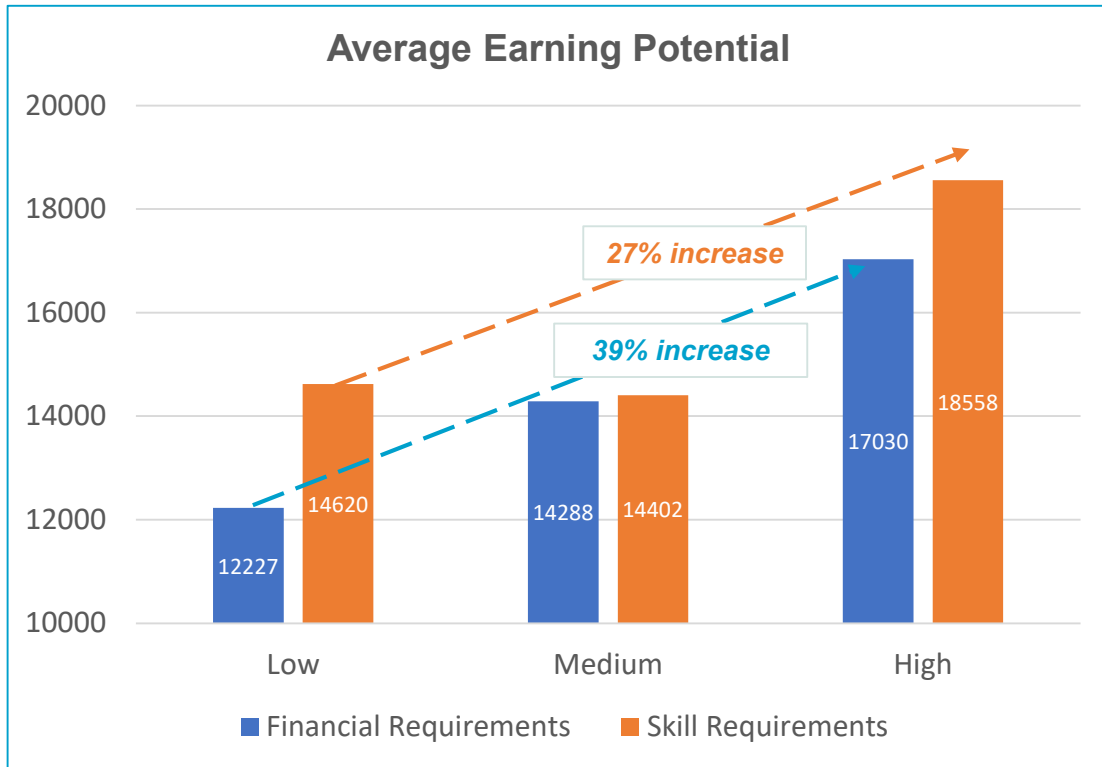
Organic Farming (inclusive of AE) and Rural BPO had the highest livelihood creation potential and may be scaled up after successful proofs of concept.

Organic farming potential

Rural BPO potential

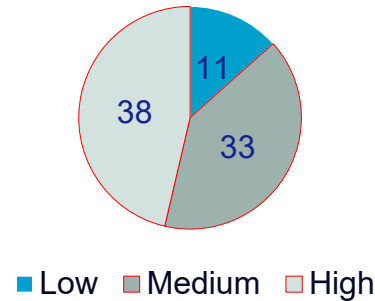


Analysis of the estimated earning potential shows that options with high financial and skill requirements result in an increase in earning potential by approximately 39% and 27% respectively, over options with lower requirements



Opportunities such as cold storage, grading facility, and bottling plants were excluded from the analysis since these require massive investment which is not attainable by OY.

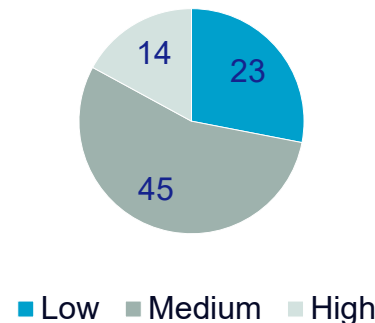
Financial Requirements



Vast majority of the options required 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.

Skills Requirements



In terms of skills, only about 1/6th of the options had high skill requirements implying that most of these options would be feasible for OY from a skilling perspective.



We saw that there are some clusters that emerge based on common resources and inter-connected value chains. Thus, there is an opportunity to promote some clusters across different blocks in Ramgarh

What do we mean by “Clusters”

The co-location of partners, service providers, educational and research institutions in related branches of industry that complement each other by joint relations of exchange and activities along one (several) value creation chains.

What factors do we need to consider while identifying the most appropriate block for setting up a cluster?

- Logistics and connectivity by rail and road for
- Availability of power for mechanized processing activities
- Agro-ecological situation of the block for agri-related and NTFP value chains
- Infrastructure such as internet and telecom for knowledge-based opportunities
- Proximity to the target market
- Local support in the block
- Existing MSME clusters that can support additional activities

Inspiration from “One District, One Product”

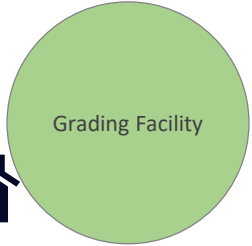
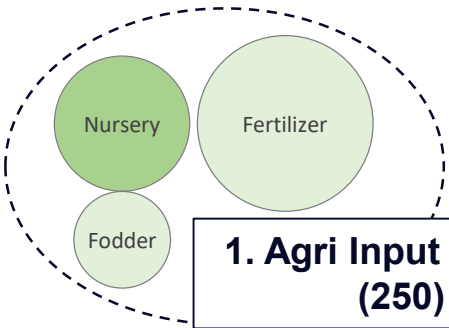
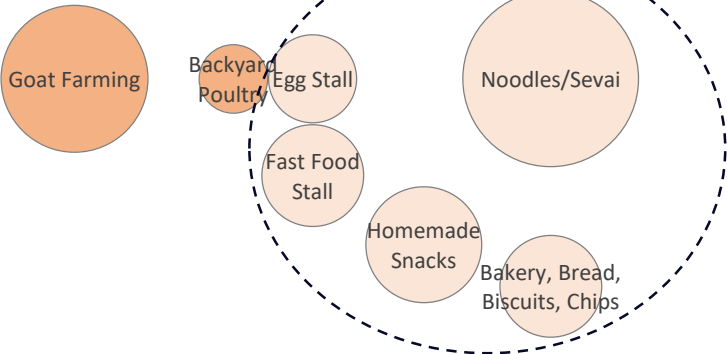
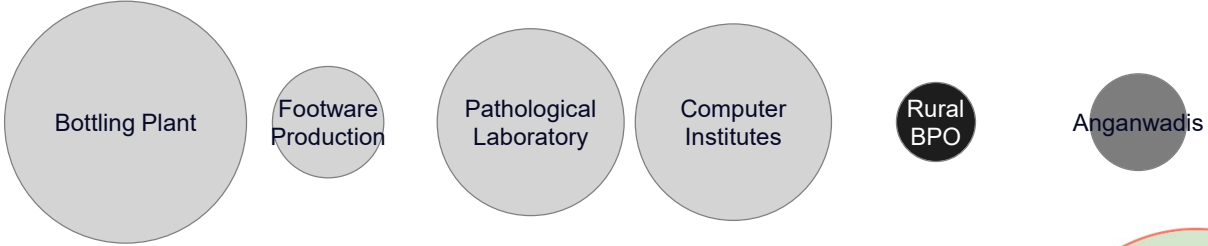
- For each block, we can identify one cluster and/or value chain for which the block will become well recognized and develop strong market linkages
- For example, [Flipkart has signed an MoU with ODOP](#) to connect rural artisans and something similar could be done for Ramgarh



The 80+ small business options studied can be categorized into Franchise, Economies of Scope, and Agri-Entrepreneur among other segments.

Franchise

Economies of Scope



Agri-Entrepreneur

Legend

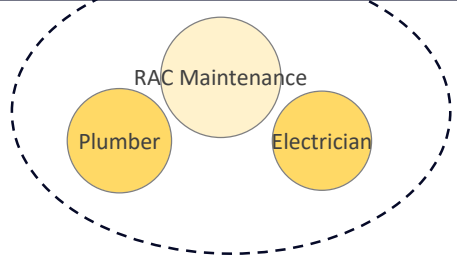
			Livelihood Creation Potential		
Earning Potential			Low	Medium	High
			<100	100-500	>500



Continued



3. Home Maintenance (350)



Ed-Tech Based Tutor

Heavy Machinery Operator

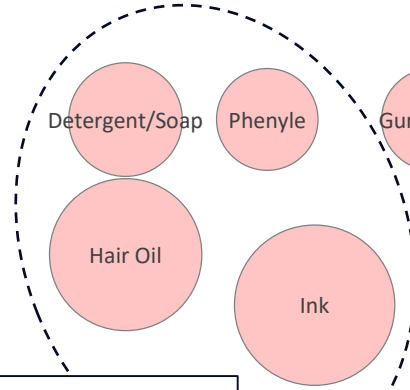
On-call Beautician

Freelance Nurse

Delivery Executive
Driver

Gig-Economy

4. Chemicals (200)



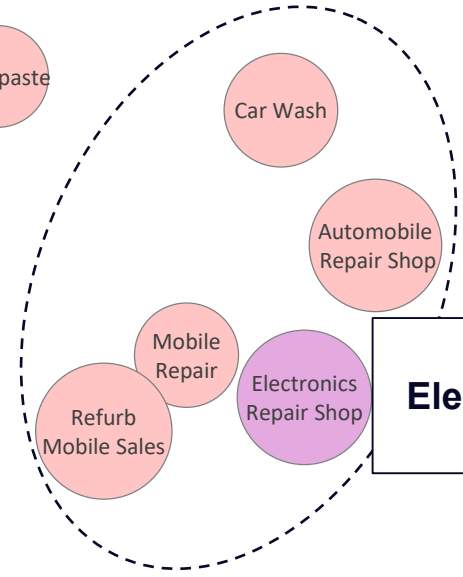
Tailoring

Woolen Knitwear

Agarbatti
Match Sticks

Wooden Building Matl

Nano Enterprise



Leaf Cup/Plates

Jali & Flower Pot

5. Auto and Electronics Repairs (350)

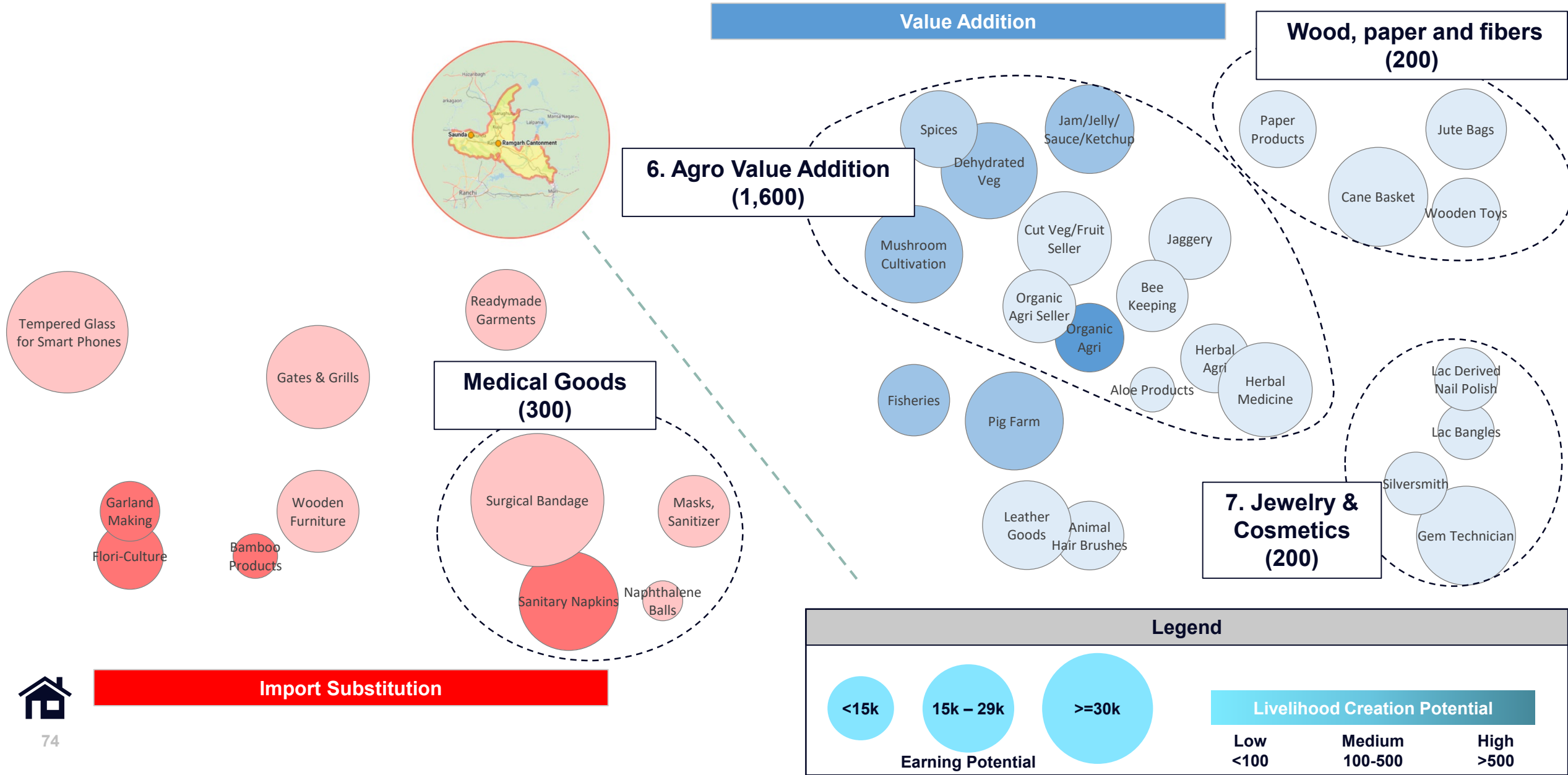
Milk/Juice Centres

Tent House

Legend		
<15k	15k – 29k	>=30k
Earning Potential		
Low	Medium	High
<100	100-500	>500
Livelihood Creation Potential		
Low	Medium	High
<100	100-500	>500



Continued



What are the key advantages of each block in Ramgarh which can help us identify the best place for incubating such clusters?

Mandu was traditionally rich in forest resources so NTFP value chains and related small businesses could thrive here. Has some mines also and well-connected. Fish production is practiced in some belts.

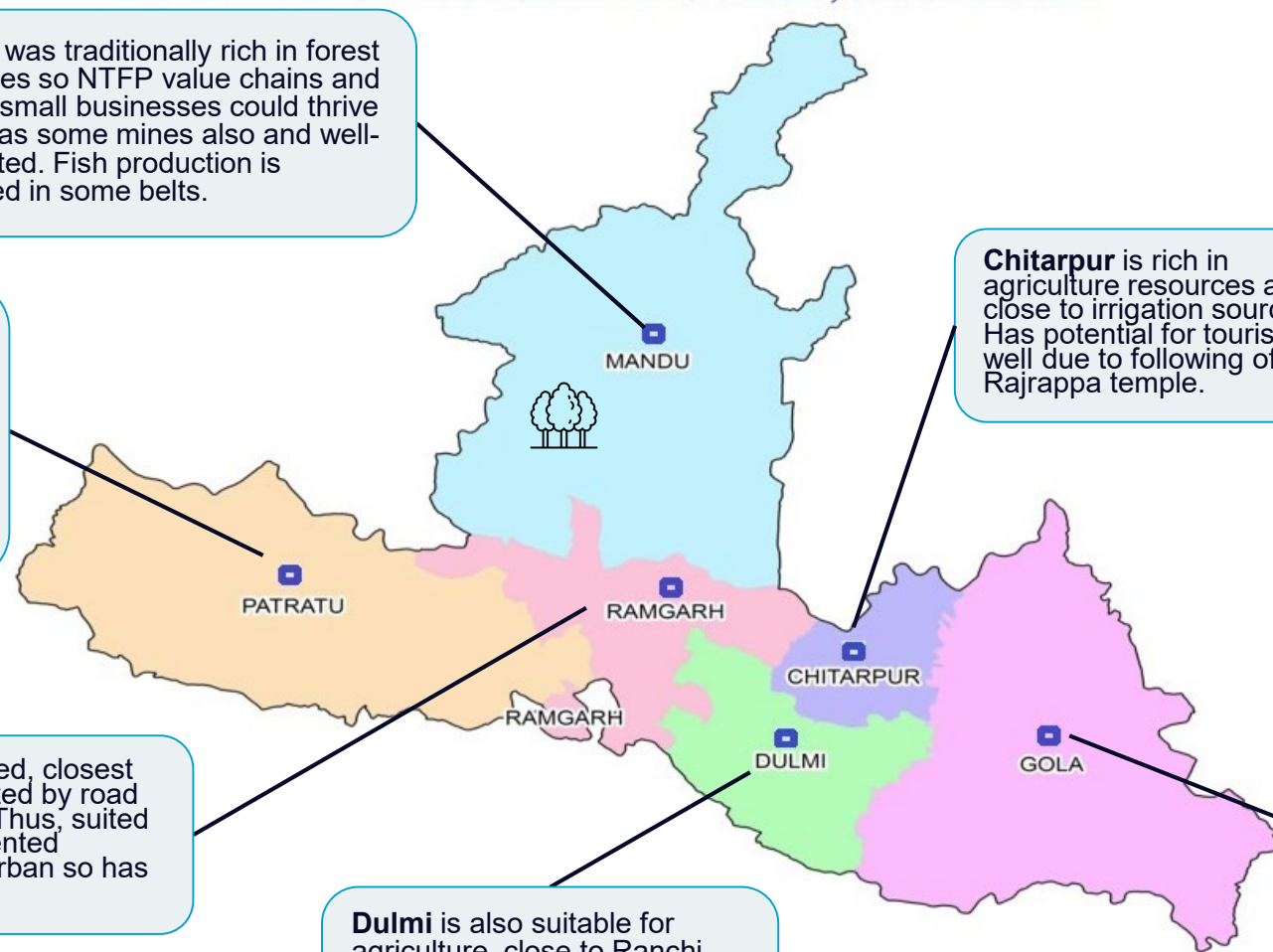
Patratu mostly relies on mineral resources. It can potentially have chemical, industrial clusters which can be set up in degraded land. Has some potential for tourism and fisheries also due to dam. There are few agricultural patches for paddy, mango and vegetables, creating some potential for processing and exports.

Chitarpur is rich in agriculture resources and close to irrigation sources. Has potential for tourism as well due to following of Rajrappa temple.

Ramgarh is centrally located, closest to Ranchi and well connected by road (NH-23, 33) and railways. Thus, suited for logistics and export-oriented opportunities. It is mostly urban so has demand for services.

Dulmi is also suitable for agriculture, close to Ranchi but not very well connected by rail or road. Dam located nearby and can promote fisheries.

Gola is rich in agriculture resources, has high crop intensity and connected to West Bengal by rail. Already has agri cluster and cold storage.

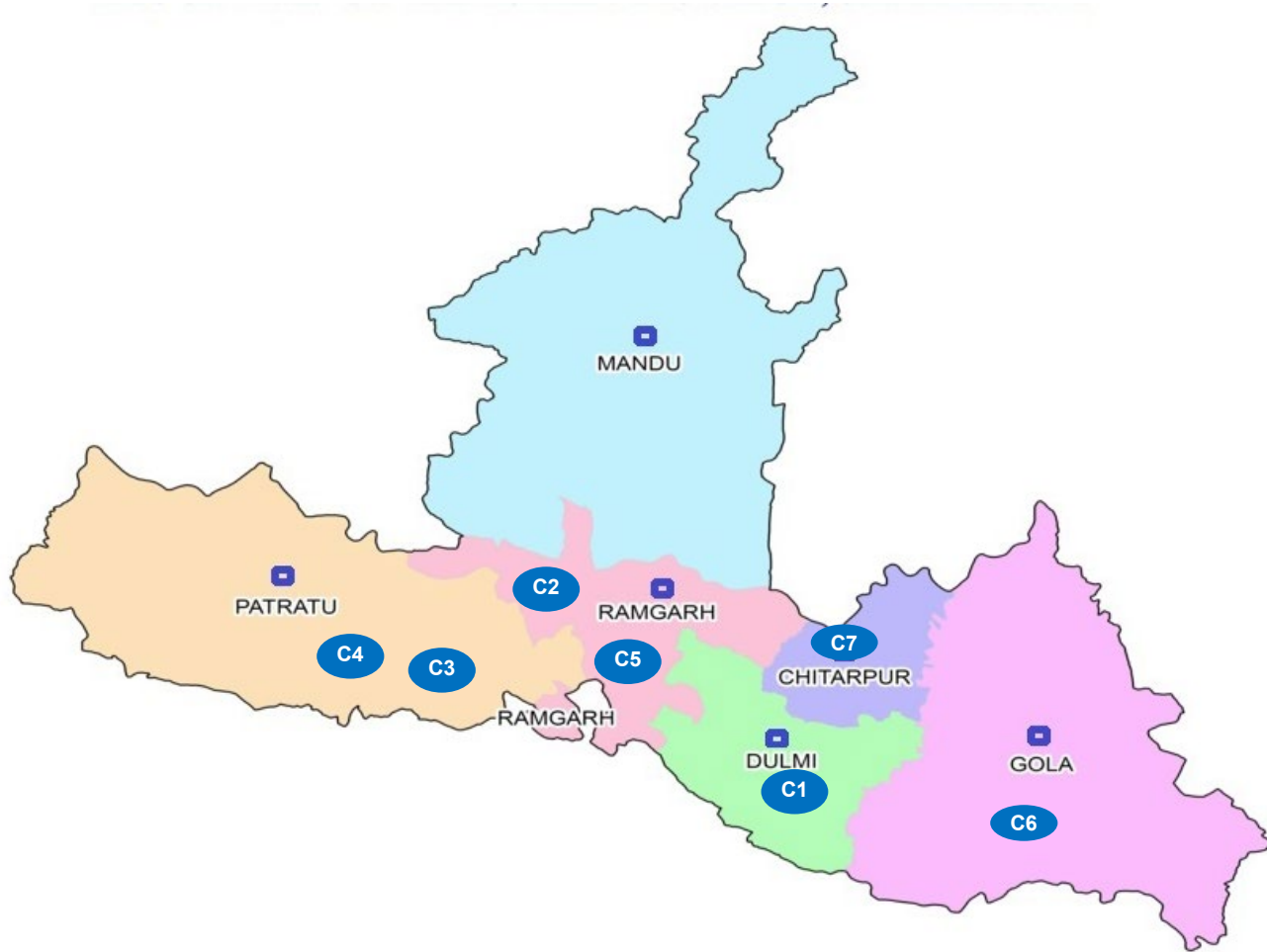


District Profile - KVK

Ramgarh Maps



Based on this assessment, where can we establish some promising clusters in Ramgarh?



Clusters		Livelihood Creation Potential
C1	Agri Input Cluster	250
C2	Food vending	350
C3	Home Maintenance	350
C4	Chemicals	200
C5	Auto and Electronics Repairs	350*
C6	Agro Value Addition	1600
C7	Jewelry & Cosmetics	200

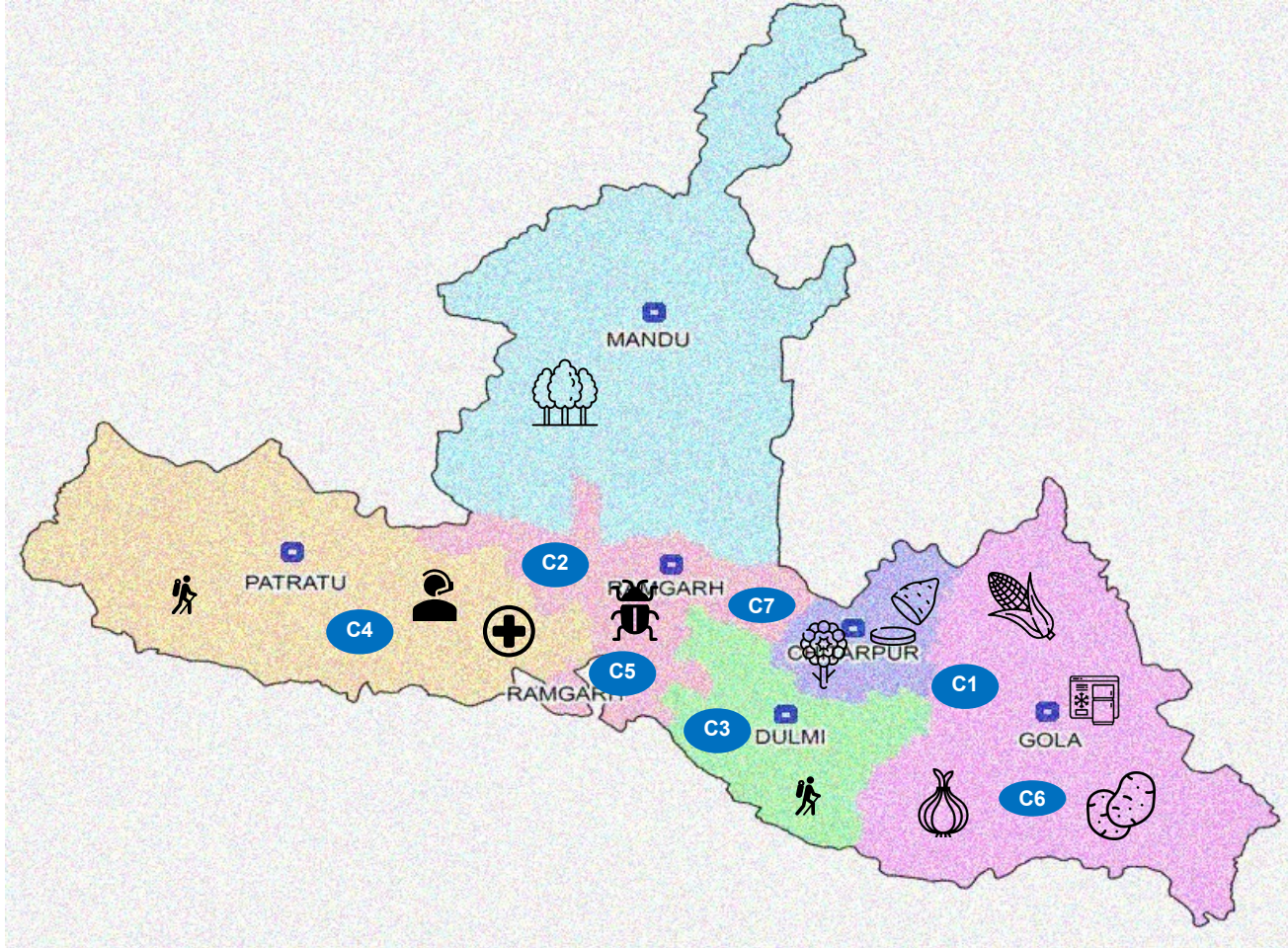
Total - ~3300

* Can be spread across multiple blocks and involve a larger number of OY based on the initial discussions



Note: There are overlaps between the value chain and cluster's numbers for job creation. These are conservative estimates given that the cluster which succeed will grow over time.

The preliminary assessment of the ecosystem shows that there is no ‘silver-bullet’ to address the challenges in Ramgarh and **a basket of services, value chains and small businesses need to be supported** in order to envision a different future for Ramgarh



Economic Activity Supported		Direct Impact*	Indirect Impact#
Small businesses	C1	Agri Input Cluster	250
	C2	Food vending	350
	C3	Home Maintenance	350
	C4	Chemicals	200
	C5	Auto and Electronics Repairs	350
	C6	Agro Value Addition	1,600
	C7	Jewelry & Cosmetics	200
	NC	Other discrete businesses	4,200
Services		Lac	490
		Sweet Potato	1,054
		Potato	220
	AE	Agri-entrepreneur	1,900
		Health care^	9,250
		Rural BPO^	1,000
		Tourism	TBD
	Cold Storage	50	
TOTAL		21.5k	100k farmers 30k NTFP HHs

* There are overlaps between the value chain and cluster’s numbers for job creation. These are conservative estimates given that the clusters, value chains and service sector jobs which succeed will grow over time. The value chains which were not assessed in detail are not a part of the livelihood estimation

These are just high-level estimates for initiating discussion ^ 5-year impact for healthcare and assuming a ramp-up to 1k OY in rural BPO after the initial pilot



ECOSYSTEM MAPPING

How can we accelerate the economic opportunities for opportunity youth in Ramgarh?













Central and State Government schemes aimed at supporting skill training

Scheme	Level	Nodal Agency	Brief Description	State Budget	Target Beneficiary	Impact
Pradhan Mantri Kaushal Vikas Yojana (PMKVY)	National	Jharkhand Skill Development Mission Society (JSDMS)	<ul style="list-style-type: none"> • Skilling program to train 10 million youth across the country (2016-2020) • Covers 16 districts through 116 training centres with 24 allocated Kaushal Centres in the state • 9 training centres in Ramgarh 	₹88.79 crores (2017-20)	Youth in the age group of 15-35 years	<ul style="list-style-type: none"> • 7,159 individuals from Ramgarh trained till 2017 • 34.11% of trainees placed upon completion
Deen Dayal Upadhyay – Grameen Kaushal Yojana (DDU-GKY)	National	Jharkhand State Livelihood Promotion Society (JSLPS)	<ul style="list-style-type: none"> • Formal vocational training for rural youth aimed at poverty reduction • Training provided across 24 key sectors through 195 training centres covering 14 districts • 1 active training centre out of 3 allotted in Ramgarh (Dec, 2017) 	₹653.91 Crores (2016-19) ₹706.36 cr planned (2019-22)	Economically vulnerable rural youth in the age group of 15-35 years	<ul style="list-style-type: none"> • 2,373 rural youth from Ramgarh trained till 2017 • 54.2 % youth were placed
Tejaswini Yojana	State	Jharkhand Mahila Vikas Samiti	<ul style="list-style-type: none"> • Impart & improve market-driven skills training & secondary education for adolescent girls and young women 	₹190 crores (2020-21)	Adolescent girls and young women between 14-24	NA
Shilpakar Prashikshan Yojana	State	Directorate of Training & Planning Dept	<ul style="list-style-type: none"> • Skill training for youth interested in manufacturing sectors 	₹1.5 crores (2020-21)	Individuals in the age group of 15-40 qualified 8-12 th class in schooling	NA

Scheme	Level	Nodal Agency	Brief Description	State Budget	Target Beneficiary	Impact
Model Career Centre	National /State	District employment office	<ul style="list-style-type: none"> Provide soft skill training & career counselling facilities to interested youth Pilot project across 3 districts in the state with Ramgarh being one 	₹3.98 crores (2020-21)	Any unemployed youth	NA
Prashikshan & Kaushal Vikas	State	District employment office	<ul style="list-style-type: none"> Provide training to youth who are interested in hospitality, housekeeping, hotel management etc 	₹1 crore (2020-21)	900 BPL youth in the state who has qualified 8 th standard schooling	NA

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





 Public sector funders* Civil organization funders Funding facilitators	Startup India 	Micro Units Development & Refinance Agency (MUDRA) 	District Industries Center (DIC)	Ministry of MSME 
	<u>Atal Bihari Innovation Lab</u> Providing fiscal and non-fiscal benefits in form of patent incentive, rental assistance, utility bills, one-time marketing grant of Rs. 10 lakhs.	<u>Pradhan Mantri Mudra Yojana (PMYY)</u> Loans from 50k to 10 lakhs to micro enterprises through banks, NBFCs and NFIs for growth/development of micro business.	<u>Seed Money Scheme (SMS)</u> For unemployed people to start their self-employment venture by providing soft loans to meet the margin money (up to 3.75 lakhs).	<u>PM Employment Generation Program</u> 90% loan available for general groups from public sector banks. 15% margin subsidy for General, 25% for special* group. Includes SHGs.
	I Create India 	Centre for Youth Development Activities (CYDA) 	Bharat Rural Livelihoods Foundation (BRLF) 	Lend-A-Hand India 
<u>MAGIC Fund</u> Donation based seed capital fund to aspiring entrepreneurs trained by I Create and have a viable business plan and implementation strategy.	<u>Seed Capital Support</u> Provide seed capital grant (in the range of 10k) to potential unemployed youth to support their self-employment venture.	<u>Funding Support</u> BRLF funds the support cost (e.g., Human Resource Cost, Capacity Building Cost, Capital Cost etc.) of an organization.	<u>Micro-Enterprise Development Program</u> Provides bridge loan , covering capital cost and working capital for 6 months, after feasibility study is performed.	
CII SME Finance Facilitation Centre 	deAsra Foundation 			
<u>Loan facilitation</u> Offering Advisory & Facilitation support via better access to Finance, Insurance, Credit Rating, and Compliances.	<u>Loan facilitation</u> Provide guidance in creating funding ready proposals as per funder's requirements, assist with documentation and clarifications.			

*** Note:** The District Mineral Fund is operating on a deficit budget and may not fund any new initiatives for the next 2-3 years. Thus, it has not been explored further

*Special- Women, SC/ST/OBC/ minority/ physically challenged/ ex-servicemen









Central and State Government schemes aimed at supporting entrepreneur

Scheme	Level	Funding type	Brief Description	2020-21 Budget	Target Beneficiary	Impact
PM Employment Generation Program	National		<ul style="list-style-type: none"> Credit-linked subsidy program for enterprises in the non-farm sector Max cost of the project in manufacturing sector is ₹25 lakhs and in the business/service sector, it is ₹10 lakhs 	₹2,500 crores	Rural and urban entrepreneur	1,93,818 units set up providing employment to 14.75 lakh people
Credit Linked Capital Subsidy Scheme	National		<ul style="list-style-type: none"> Facilitate technology upgradation in enterprises by providing capital subsidy of 15% (on institutional finance of up to ₹1 crore) 	₹653.91 crores	Rural and urban, new and existing MSEs	48,618 MSEs have availed subsidy worth ₹2,908 crore till 2017
Micro & Small Enterprises Cluster Development	National		<ul style="list-style-type: none"> Financial assistance for establishment of clusters to improve productivity and competitiveness of enterprises Restricted to 70% of the cost of project of maximum ₹20 crore 	₹391 crores	Rural and urban MSE clusters and industry associations	330 Common Facility Centers and infrastructure Development projects till 2018
PM-Kisan Scheme	National		<ul style="list-style-type: none"> Rs 6,000 is being provided to eligible farmers per year in three equal instalments 	₹54,370 crores	Farmers	Disbursed over Rs 43,000 crore to more than 8 crore farmers so far






Central and State Government schemes aimed at supporting entrepreneur

Scheme	Level	Funding type	Brief Description	2020-21 Budget	Target Beneficiary	Impact
Deendayal Antyodaya Yojna - National Rural Livelihoods Mission	National	 	<ul style="list-style-type: none"> Revolving Fund (RF) of ₹10k-15k, Community Investment Fund (CIF), interest subsidy ; Startup Village Entrepreneur Program is a sub-scheme 	₹9,210 crores	Rural women self help groups	SHGs promoted: 52 lakhs
Dairy Entrepreneurship Development Scheme	National	 	<ul style="list-style-type: none"> Back-ended capital subsidy (25% for GEN and 33% for SC/ST) for projects in the dairy sector, including entire milk value chain activities Different upper limit for amount based on activity 	₹323 crores (2019-20)	Rural and urban dairy entrepreneur	Beneficiaries from Apr 2018 to Oct 2018 were 9,219
Capital Investment Subsidy Scheme for Commercial Production Units for Organic/ Biological Inputs	National	 	<ul style="list-style-type: none"> Subsidy scheme for capital investment for units that involve organic crops or inputs 50% of outlay as loan from bank, 25% as back ended subsidy, remaining as margin money (max amount varies between ₹1.5-40L depending on activity) 	₹101 crores (2018-19)	Rural and urban farmers	NA



Central and State Government schemes aimed at supporting entrepreneurs















Scheme	Level	Funding type	Brief Description	2020-21 Budget	Target Beneficiary	Impact
New Agricultural Marketing Infrastructure	National		<ul style="list-style-type: none"> Back-ended capital subsidy for credit linked investment in eligible agricultural storage Under scheme, minimum capacity of 100 tons and maximum capacity of 30,000 tons is sanctioned 	NA	Rural and urban farmers	Up to June 2016, 37,371 godowns were sanctioned for renovation/ construction
Weavers Package	National		<ul style="list-style-type: none"> Interest subsidy (6% for a period of three years) and credit guarantee for fresh loans for the handloom and weaving sector Overall ceiling of ₹50k per individual beneficiary 	₹386 crores	Rural and urban weavers	15,000 cooperative societies and 300,000 weavers across the country
Mukhya Mantri Krishi Ashirwad Yojana	State		<ul style="list-style-type: none"> Marginal and small farmers will be given Rs 5000 per acre per year(max upto 5 acres) through DBT in their bank account. 	₹2,250 crores	Farmers	Transferred a total of Rs 452 crore to the bank accounts of 11,51,137 farmers in the state



NGO programs: Focused on livelihood creation, and there are hardly any programs in Ramgarh focusing on youth empowerment or leadership development. This is an important gap that can be addressed by GOYN!

~ 30 relevant organizations focusing on skilling, livelihood, agriculture and marginalized sections of society were assessed

Clusters of NGO interventions

Fishing & Livestock	Demand Based Skills	Digital Empowerment	Agripreneurs	Agri Allied and NTFP	Artisan Upliftment	Soft Skill & Entrepreneurship
 Centre for Aquatic Livelihood - Jal Jeevika  BAIF  Yuva Mitra  PRADAN	 Tata Project Community Development Trust (TPCDT)  LEADS	 Digital Empowerment Foundation	 Indian Society of Agribusiness Professionals  Syngenta Foundation India (SFI)	 Udyogini  Yuva Mitra  PRADAN	 SARDA	 MeJoi

* The organizations in **green** font have their presence/projects in Ramgarh

- **Artisan upliftment, digital empowerment and soft skills development** are areas where very limited NGO interventions were found in the preliminary analysis and could be a focus area in the partnership strategy moving forward.
- Youth empowerment is a component of some of the interventions but **there is hardly any dedicated initiative focusing on youth voice, empowerment and agency building**



Private sector solutions: Successes from Ramgarh and elsewhere in India could be aligned to the initial pathways identified by GOYN Ramgarh through strategic partnerships

Relevant for-profit and start-up initiatives

Initiative	Implementer	Description	Relevance for GOYN Ramgarh
AgroStar Farmer App	Agro Star	AgroStar is a AgTech start-up working on the mission of #HelpingFarmersWin by providing a complete range of Agri solutions at the fingertips of farmers. AgroStar's tech platform provides a combination of agronomy advice coupled with service and Agri input products that enable farmers to significantly improve their productivity and income.	With increasing digital literacy amongst the youth Agri focused apps like this can help them gather more and more information about world-class agronomy. Also they can get information on credit and market linkages at their fingertips.
Rural BPO	DesiCrew	DesiCrew is creating meaningful opportunities that create better and sustainable lives. They are building the long-term employability skills of our employees, thereby empowering them towards a financially and socially secure future. Through various employee engagement and training programs they enable them to be more efficient in their current and future responsibilities.	Rural BPOs being a very opportunity, similar initiatives can help the OY in Ramgarh area get steady source of income with good working environment.
Agent Network Management Platform	MIMO Tech	MIMO works with Financial Inclusion, Logistics & Distribution companies, MFI & NBFCs, Entertainment-including broadband and Telecom, Banking and Insurance companies to take these products to semi-urban and rural India.	With MIMO Tech's vision to engage local resources at the rural level in the agent network this would help generation of employment in the area.
Powering Livelihoods	CEEW-Villgro	Powering Livelihoods, aims to boost India's rural economy by scaling up the penetration of clean energy-powered appliances for livelihoods. Over three years, the initiative will support at least five enterprises to undertake large-scale commercial deployment of their solutions and use the generated evidence to catalyze the sector.	Electricity being a major constraint in Rural areas CEEW-Villgro's take on boosting rural economy through clean energy can help the local business overcome this basic hurdle.



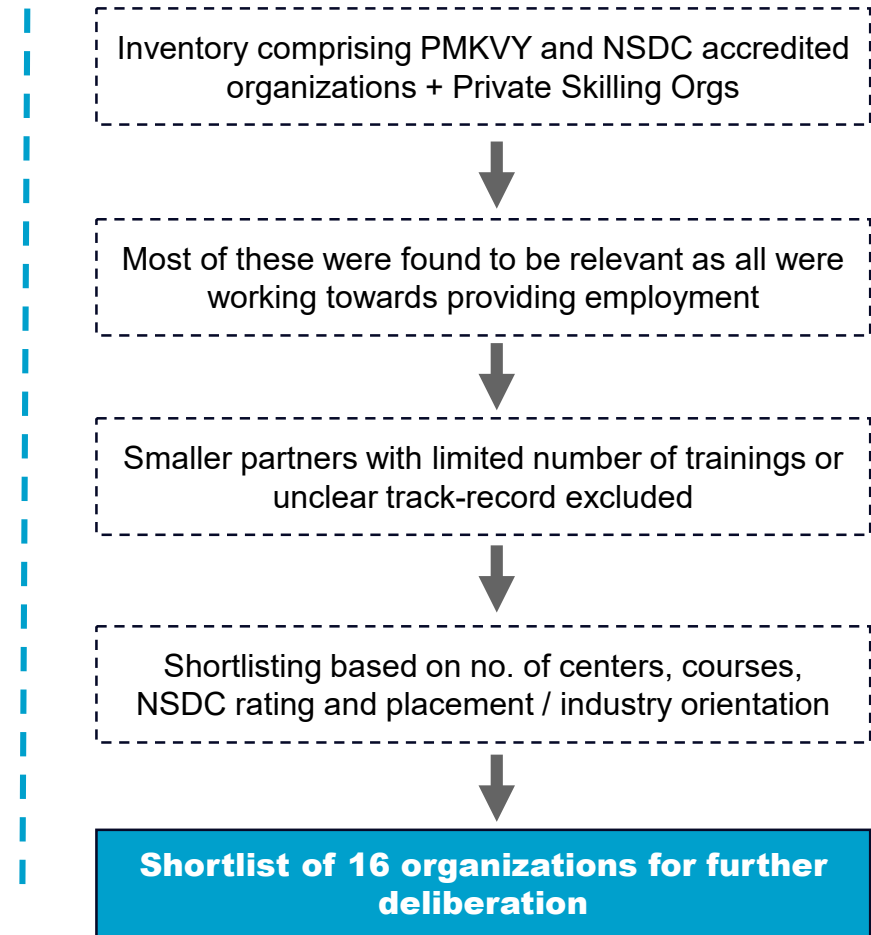
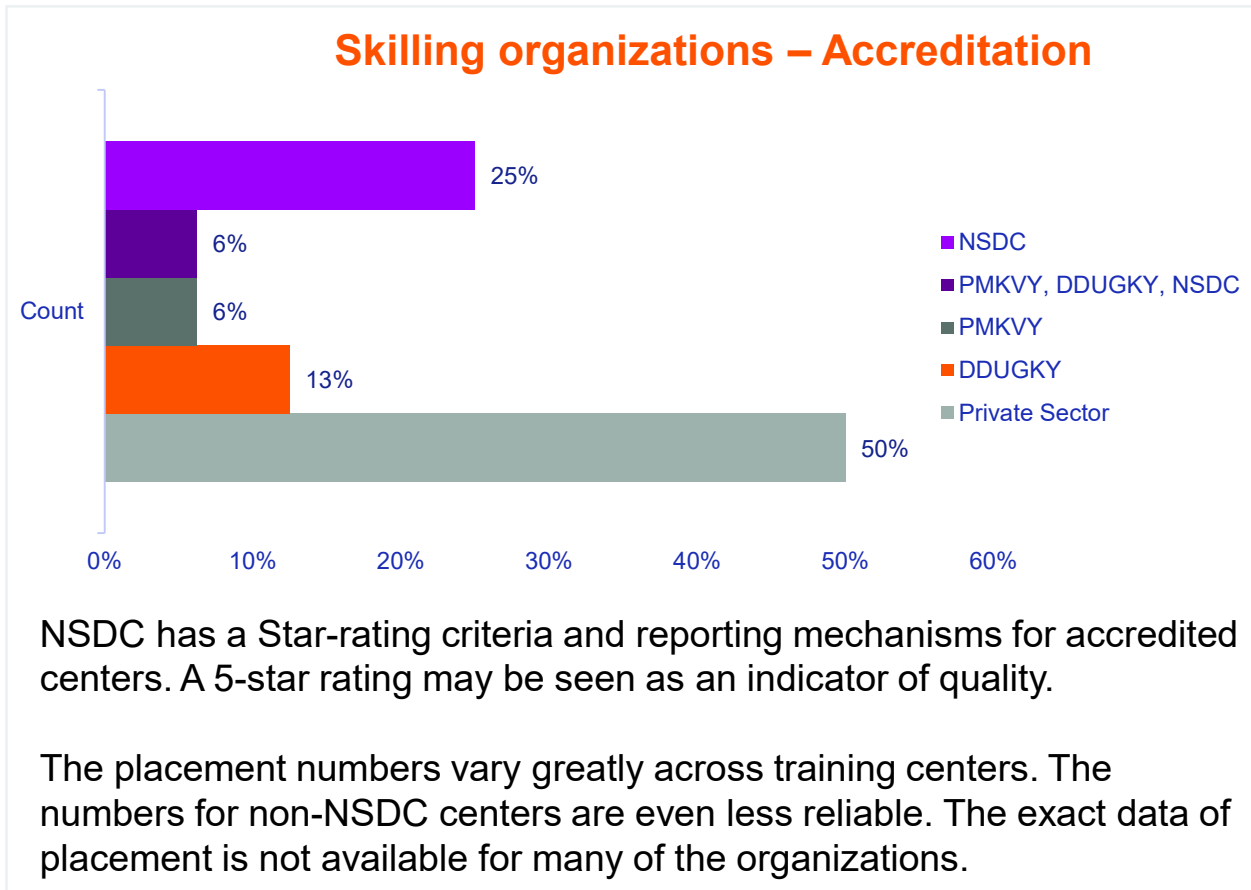
Continued..

Relevant for-profit and start-up initiatives

Initiative	Implementer	Description	Relevance for GOYN Ramgarh
Farmer Franchises	Our Food	Our Food is a technology driven agribusiness platform that works to decentralize the food processing industry with an innovative farmer adoption and engagement supply-chain platform. It has come up with "Farmer Franchises" that deploy new age, low cost micro-processing units with the help of rural entrepreneurs to process the raw material at the farm gate	Increment in the product cost with just one level of processing is clearly evident in Agri and NTFP sectors e.g. LAC, Tomatoes. With low cost processing solutions OY would be increase their incomes substantially.
Rural BPO	Rural Shores	Rural Shores offers its employees an opportunity to support their seasonal family income with a steady monthly income without having to migrate to the next big city. It supports people looking for livelihood, operating only at sub-taluk level in backward areas with undergraduate educated youth from surrounding villages.	With the COVID outbreak and our discussions we have seen an inclination amongst OY to stay near by their native places. Initiatives like Rural Shore can help the OY earn their livelihood without migrating.
Online skill development	Subhe	Subhe is an online skill development initiative, where they use technology and innovative ways to make quality education accessible to all the students at affordable price. Students can learn skills of their interest from anywhere, at anytime and in their own language.	Communication and language skills are major constraints in the rural areas. Subhe like start ups bridge this language gap and will help the OY learn their favorite skills in local language.
Digital Pradhan	Pay Nearby	Pay Nearby works on a B2B2C model, where they partner with neighborhood retail stores who can offer Assisted Digital Financial Services like Aadhaar ATM, SMS Payment, Khata Service, Utility Payment, Prepaid Cards, Mutual Funds & Insurance, Money Transfer, Hyperlocal Services and payment services like Bharat QR and UPI using the PayNearby App..	Rural areas have very limited banking options and initiatives like this would bring more financial options to the OY and also help the local retailers with some extra income.



Skilling Ecosystem: Skilling organizations lack common performance metrics and exhibit large variation in employment outcomes among organizations and courses

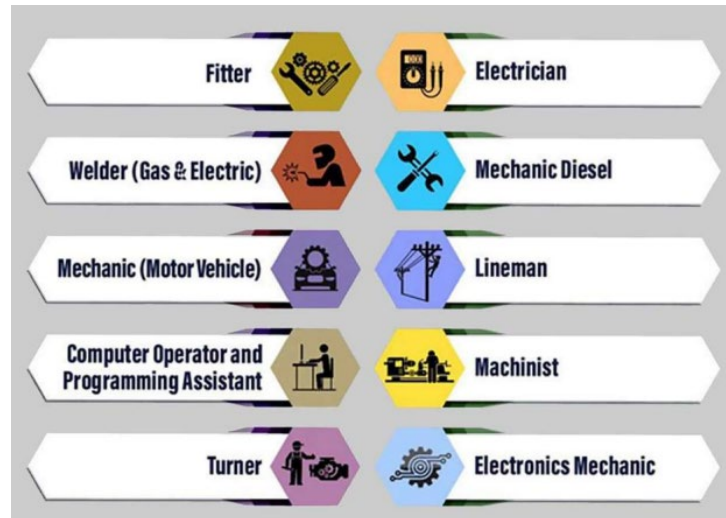


Since many skilling organizations are mandated to provide placement data to NSDC or JSLPS, they could be a natural partner for GOYN, particularly for a possible working group working on skilling outcomes.



Very few of these organizations have kept pace with the future of work and most of them continue to focus on traditional trades with saturated demand

At an India level, the Directorate General of Training (DGT), has identified the top 10 courses under the craftsman training scheme:



Source: <https://dgt.gov.in/sites/default/files/newsletter.pdf>

Skilling Landscape of Ramgarh

A. Skills with high training availability but low local demand



Retail



BFSI

B. Skills with balanced demand and supply



IT-ITEs



Electronics & Hardware



Apparel

C. Skills in high local demand but limited training availability



Healthcare



Mobile Repair



Masonry



Heavy Machinery Operators

GOYN Ramgarh would need to identify progressive partners which are focusing on promising opportunities in healthcare, electronics, IT-ITeS, etc.

The business environment is one of the best in the country and throws up many opportunities for investors and funders to invest in Jharkhand



The state currently ranks **fourth** in Ease of Doing Business ranking by the World Bank. **Jharkhand Municipal Trade License can be processed in 22 working days.**



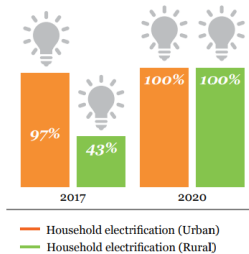
The state ranked **fifth** in top FDI destinations amongst all Indian states in 2016.



About **63% of Jharkhand's population** is in the working age group of 15-59 years.



The state has about **1.8 M tons of high-quality surplus vegetables** available for processing or export, and the climate is conducive for round-the-year cultivation of high value crops.



By end of 2020 and 2021, Jharkhand aims to provide **100%** of its urban and rural households, respectively, with electricity.



Continued...

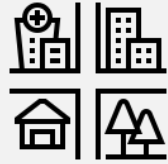
The state provides investment opportunities in sectors such as...



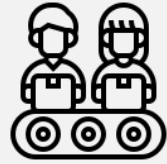
Mining & Metals



Power



Infrastructure



Manufacturing



Food Processing

The state's industries enjoy a **unique location-specific advantage** as it is close to the vast market of eastern India.



Jharkhand recorded more than 1 billion USD worth of export in 2017-18, a **56% growth** over the previous year.



Jharkhand's Policies & Schemes

- Insurance Scheme for Health Workers Fighting COVID-19
- Automobile & Auto Components
- BPO (Business Process Outsourcing) and BPM (Business Process Management)
- ESDM (Electronics System Design and Manufacturing)
- Export Policy
- Feed Processing Industry Policy
- Film Policy
- Food Processing Industry Policy
- Industrial & Investment Promotion Policy



On-Going Major Projects with Ramgarh

Several projects in Ramgarh and Ranchi are at the planning stage and could create several jobs in the coming years. The upcoming projects are largely owned by the government.

Ramgarh Project	Sector / Subsector	Ownership	Cost [USD]
Patratu Tourism Development Project Phase-III	Tourism / Tourism	Government	7.93 MM
Rajrapa Tourism Development Project Phase-I	Tourism / Tourism	Government	2.97 MM
Rajrapa Tourism Development Project Phase-II	Tourism / Tourism	Government	11.17 MM
Ramgarh Common Biomedical Waste Treatment Facility Project	Waste & Water / Solid Waste Treatment	Private	0.66 MM

Ranchi Project	Sector / Subsector	Ownership	Cost [USD]
Elevated Corridor Project	Transport / Roads & Highways	Government	28.1 MM
Radhu Reservoir Project	Agriculture / Irrigation	Government	208.37 MM
Ranchi Railway Colony Re-development Project	Real Estate / Residential	Government	TBD
Student Resource Centre Project	Education / Education	Government	11.69 MM



ECOSYSTEM MAPPING

How can we accelerate the economic opportunities for opportunity youth in Ramgarh?



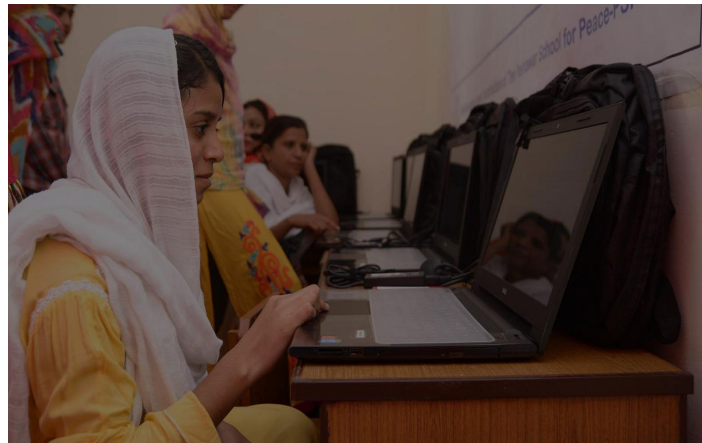
GOYN has identified few livelihood options to focus on in the short-term and potential partners who are already working in these areas

Through research and discussions with relevant stakeholders, agro-processing, rural BPO and community healthcare emerged as livelihood opportunities to focus on within the next one year and GOYN is engaging with potential partners



Agro-processing

- Grain mills
- Sweet Potato
- Potato
- Green Vegetables
- Pigeon Peas



Rural BPO

- Customer support
- Tele-marketing
- Data entry and processing
- IT Help Desk
- Online Research



Community Healthcare

- Staff Nurse
- Auxiliary Nurse Mid-wife
- General Duty Assistant
- Lab-technician
- Phlebotomist

A large industrial machine, likely a corn flake processor, is shown in operation. A central hopper with a blue top is filled with yellow agricultural products, which are being processed into flakes. The flakes are falling into several collection trays arranged in a circular pattern around the hopper. The machine is made of stainless steel and has various mechanical components visible. The background shows a clean, industrial setting with a white wall and some equipment.

Agro-processing options for OY in Ramgarh

Need for agro-processing

The **impact of COVID-19 lockdown** on Indian agriculture has been complex and diverse across various segments of agricultural value chain. It was the **peak of rabi season** when the lockdown was announced and crops like wheat, chickpea, mustard etc. were to be harvested. It was also the time for the farm produce to reach markets for procurement by government agencies.

The immediate challenge, therefore, is **market access** for the farm produce, which is challenging due to **absence of transportation** and **unavailability of workers** for operations at farm and mandis. The very livelihood of various actors of the supply chain of **perishable commodities** such as milk, vegetables, fruits, fish etc. is at risk.

Challenges at hand



DISRUPTION OF MARKETING CHANNELS

The shut down of retail outlets due to the COVID-19 has heavily affected the marketing channels of produce



ESTABLISHING NEW MARKET LINKAGES

Even if the farmers manage to harvest the produce, there is a tough task ahead of them to take the produce to the marketplace



HANDLING PERISHABLE ITEMS

Uptake by the organized industry players has been affected due to shortage of workforce and transport issues



REVERSE MIGRATION

More than 9000 migrant workers have returned to Ramgarh further adding to the OY population



Some relevant Agri-processing options for Ramgarh were identified based on discussions with local experts and these may be pursued in 2020 itself

RAMGARH near farm Agri-Enterprise opportunities (Short and Mid Term)



Short Term

- Sweet Potato
- Potato
- Green Vegetables
- Pigeon Peas

- Sale of Raw Paddy
- Maize
- Stevia

Mid Term





Short Term Opportunities (within next 3 months)

Challenges Addressed

1. Sweet Potato		<ul style="list-style-type: none"> • All the produce being procured by traders from Bihar & Uttar Pradesh • Major market in the months of September and October during the Chath festival • Very good demand in starch industry and making of sweet potato flour • June, July, Aug & September are highly suitable for planting • Industrial variety, sorting- grading, aggregation, are some of the enterprise possibilities 					
2. Potato		<table border="0"> <tr> <td data-bbox="810 805 1437 972"> <p>Potato Seeds</p> <ul style="list-style-type: none"> • Mid August is the sowing time of the crop • Good quality seeds are not available locally and are being imported from U.P • Seed production can be introduced by OY </td> <td data-bbox="1447 805 2007 972"> <p>Potato</p> <ul style="list-style-type: none"> • West Bengal is the prominent buyer of the current produce • Potential for the local chips making market </td> </tr> </table>	<p>Potato Seeds</p> <ul style="list-style-type: none"> • Mid August is the sowing time of the crop • Good quality seeds are not available locally and are being imported from U.P • Seed production can be introduced by OY 	<p>Potato</p> <ul style="list-style-type: none"> • West Bengal is the prominent buyer of the current produce • Potential for the local chips making market 			
<p>Potato Seeds</p> <ul style="list-style-type: none"> • Mid August is the sowing time of the crop • Good quality seeds are not available locally and are being imported from U.P • Seed production can be introduced by OY 	<p>Potato</p> <ul style="list-style-type: none"> • West Bengal is the prominent buyer of the current produce • Potential for the local chips making market 						
3. Green Vegetables		<table border="0"> <tr> <td data-bbox="810 1005 1437 1172"> <p>Nursery</p> <ul style="list-style-type: none"> • Nurseries is an enterprise option – all farmers need it to get seedlings • Suitable even for migrant youth as its not more of skilled work and less messy </td> <td data-bbox="1447 1005 2084 1172"> <p>Vegetables</p> <ul style="list-style-type: none"> • Aggregation and FPOs are major opportunity • Cut vegetables like raw mango and jack fruit can be a good option • Organic vegetables have good demand </td> </tr> </table>	<p>Nursery</p> <ul style="list-style-type: none"> • Nurseries is an enterprise option – all farmers need it to get seedlings • Suitable even for migrant youth as its not more of skilled work and less messy 	<p>Vegetables</p> <ul style="list-style-type: none"> • Aggregation and FPOs are major opportunity • Cut vegetables like raw mango and jack fruit can be a good option • Organic vegetables have good demand 			
<p>Nursery</p> <ul style="list-style-type: none"> • Nurseries is an enterprise option – all farmers need it to get seedlings • Suitable even for migrant youth as its not more of skilled work and less messy 	<p>Vegetables</p> <ul style="list-style-type: none"> • Aggregation and FPOs are major opportunity • Cut vegetables like raw mango and jack fruit can be a good option • Organic vegetables have good demand 						
4. Pigeon Peas		<ul style="list-style-type: none"> • Sale of raw grain is the easiest option if there is proper market linkage • Unpolished daal is a value item and has good demand • This opportunity can be implemented from next day • The cultivation of pigeon peas can be mixed with vegetable farming as well 					



Partnership opportunities: Some relevant public and private organizations which can help in addressing the problems were identified

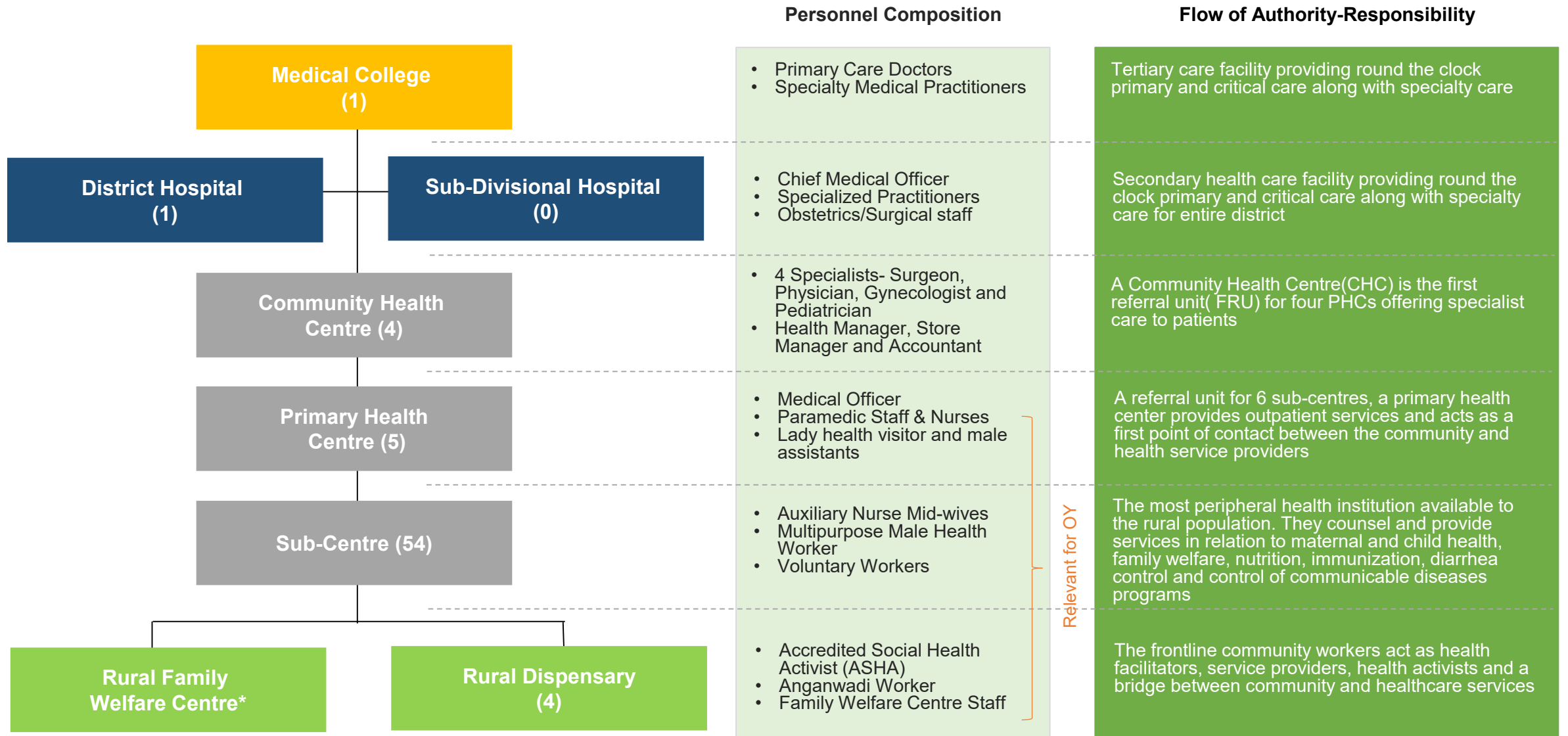
Organization	Focus Areas
<p>AGROEVOLUTION has come up with DeHaat App that provides frequent crop reminder notification voice calls in local language to the farmer specific to their crop requirements.</p> <p>➤ Gives farmers flexibility to order inputs through its App and even sell their output directly to Dehaat through the app, removing middle-men.</p>	 <ul style="list-style-type: none"> • Agri Financing: Facilitating credit and insurance • Agri related advisory and support helpline • Agri Input: Provide Agri input of right Kind of right Quality at right Price and at right Time. • Provide direct market access to farmers
<p>OUR FOOD is a technology driven agribusiness platform that works to decentralize the food processing industry with an innovative farmer adoption and engagement supply-chain platform.</p> <p>➤ The organization has developed "Farmer Franchises" network model that deploys new age, low cost micro-processing units with the help of rural entrepreneurs to process the raw material at the farm gate</p>	 <ul style="list-style-type: none"> • Low cost processing equipment along with financial assistance • Eliminate the middlemen in the supply chain thus reducing the transactional costs and providing the best price to the farmer and consumer. • Bridge the gap between the farmers and consumers through our platform thus reducing wastage, lead time and operational inefficiencies.
<p>EASY KRISHI is an Agri-tech startup working towards, bridging the Agri-info gap within rural India. It provides mobile based technology-oriented aggregation platform and entrepreneurial interventions to help small and marginal farmers.</p> <p>➤ Using aggregation Easy Krishi uses Group Buy for FPOs to reduce the high input costs. Easy Krishi uses an agent driven system in which local youth are employed to collect info from the farmers by registering using Aadhaar number.</p>	 <ul style="list-style-type: none"> • Input Cost Reduction by Demand Aggregation • Credit Facilitation for FPOs from NABARD & NBFCs • Direct Communication Channel through Digitized tools • Billing Platform for FPOs • Supply aggregation for better selling price
<p>KRISHI VIGYAN KENDRA / DISTRICT COLLECTOR, Ramgarh came forward to during the lockdown to build functional linkage with FPOs, wholesalers, retailers and growers.</p> <p>➤ KVK also encouraged FPOs to facilitate transportation at procurement sites and direct supply to consumers.</p>	 <ul style="list-style-type: none"> • Identify the location specificity of agricultural technologies under various farming systems. • Organize Frontline Demonstrations to establish production potential of technologies on the farmers fields. • Training of farmers. to update their knowledge and skill in • Supporting initiatives of public, private and voluntary sector for improving the agriculture economy of the district.





Health Options for OY in Ramgarh

Health system in Ramgarh: A multi-tiered integrated chain of primary, secondary and tertiary healthcare providers



Gaps in community healthcare infrastructure: There is a huge gap between the required and existing number of healthcare centers in Ramgarh

The number of healthcare centers in Ramgarh are less than one-third across the three tiers of community healthcare and there is a need to bridge the infrastructure gap. **Thousands of new jobs would get created if budget is sanctioned** to address the infrastructure gap in healthcare in Ramgarh and Jharkhand at large.

Ramgarh has 1 SC and HWC* per 16,657 people

Region	Number of SCs and HWC-SCs
National Rural Health Mission (NRHM) Norms	3,000
Required SCs and HWC-SCs	316
Ramgarh District	54
Shortfall	262

Staffing

Medical Staff: Each sub-centre is manned by an Auxiliary Nurse Midwife (ANM) and one Male Multi-purpose health worker (MHW). There is provision for a second ANM under contract basis. Further, one Lady Health Visitor (LHV) is entrusted with the supervision of 5-6 Sub-centres.

Support Staff: Voluntary Worker paid INR 100 per month as honorarium

Ramgarh has 1 PHC and HWC-PHC* per 189,889 people.

Region	Number of PHCs and HWC-PHCs
NRHM Norms	20,000
Required PHCs and HWC-PHCs	47
Ramgarh District	5
Shortfall	42

Staffing

Medical Staff: A PHC is manned by a Medical Officer (MO) supported by Para-medical staff (ANM, Staff Nurse, Lady Health Visitor, Male Health Assistant, Health Educator). They may have a lady MO and a MO (AYUSH)

Support Staff: Pharmacist, Lab Technician, Driver, Clerk, Class IV Staff

Ramgarh has 1 CHC per 237,361 people

Region	Number of CHCs
NRHM Norms	80,000
Required CHCs	12
Ramgarh District	4
Shortfall	8

Staffing

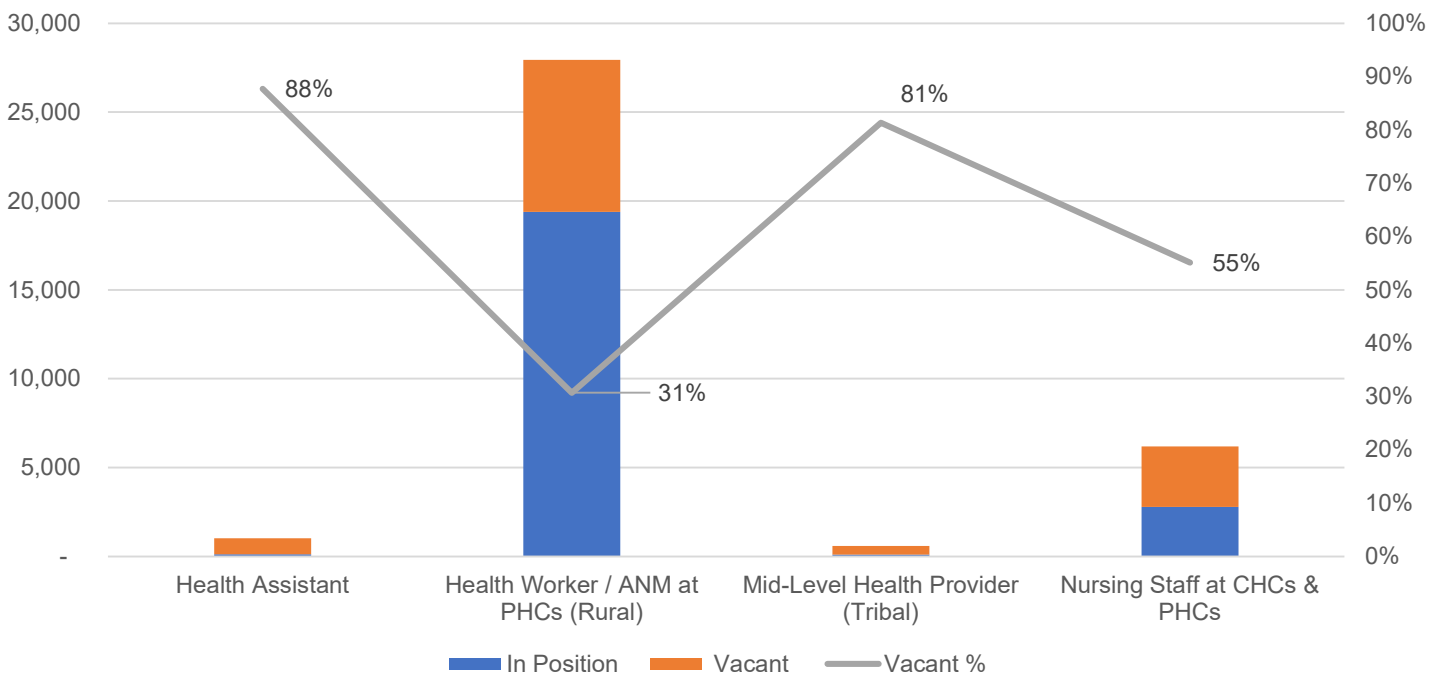
Medical Staff: A CHC is manned by four medical specialists- surgeon, physician, gynecologist and pediatrician supported by staff nurses and anesthetist.

Support Staff: Pharmacist, Lab Technician, Dresser, Radiographer, Ward boys, Cleaning staff, security staff, Accountant/Statistician, Clerks



Manpower in Healthcare in Jharkhand: There is an acute shortage of skilled healthcare professionals, particularly in Nursing and Health Worker roles. OY from Ramgarh could potentially capture these vacancies.

Vacancy in Public Healthcare in Jharkhand



37% Vacancies in community healthcare (**13,346**)

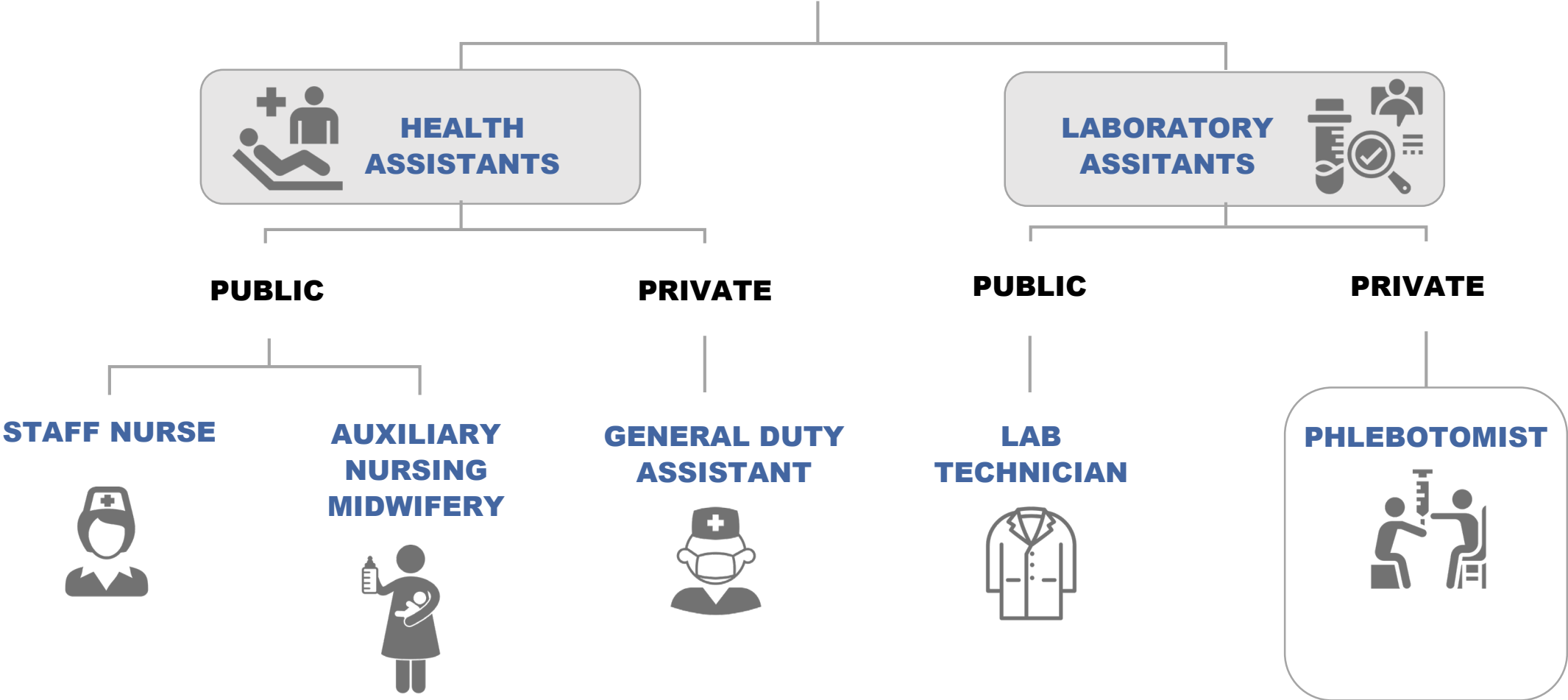
59% Lab Technician positions vacant in the public sector (**752**)

- The high percentage of vacancies across different healthcare roles highlights the potential opportunities for the OY in Ramgarh who can get trained in long term or short-term courses and get employed within Ramgarh or other parts of the state
- There is high **shortfall of 88% in Health Assistant roles** due to lack of infrastructure (CHC, PHC, HWC-SC) to absorb such workers
- Once health budget is increased to make up for this shortfall in infrastructure, **thousands of new roles should get sanctioned across Jharkhand**



Options in Healthcare for OY in Ramgarh: A number of public and private sector options hold promise for OY since a 2-6 month can lead to a steady income of 10k+ across multiple roles

HEALTHCARE SECTOR OPPORTUNITIES FOR OY



Job roles in Healthcare: Health Assistants (Staff Nurse / ANM / GDA - General Duty Assistants) have shortage in the public healthcare system of Ramgarh; GDA roles have good demand in the private sector outside Ramgarh

The post of Health Assistant is common at various government run hospitals, medical education institutions, health centers, ESIC (Employee State Insurance Corp.) and CGHS (Central Government Health Scheme), different municipal health centers, various health related projects or various health and hygiene related campaigns, etc. within the country.

More than **13000 positions** related to healthcare workers are vacant in Jharkhand. These positions may be fulfilled over the next 3 years, subject to training availability, which currently stands at **780*** seats per year.

Eligibility	Selection Process	Remuneration	Colleges and Skilling Orgs	Seats Available
<p>PUBLIC SECTOR:</p> <ul style="list-style-type: none"> Staff Nurse: Age: Min. 21 years and max 40 years (gender, caste and physical ability based) 12th pass or Inter with 3 years General Nursing and Midwifery (GNM) training from Govt. recognized Institution. ANM: Age: Min. 21 years and max 40 years (gender, caste and physical ability based) 12th or equivalent examination & should have completed ANM course from Institution recognized by Govt. and approved by INC 	<ul style="list-style-type: none"> The selection of Staff Nurse and ANMs is done based on exam conducted by the state. If there is a need, a skill test is conducted to further shortlist the candidates. Only residents of the districts of Jharkhand are allowed to fill in the vacancies. 	<ul style="list-style-type: none"> Staff Nurse salary as per the govt. recruitment notification is Rs. 15015 – 16,564 per month. ANM salary as per the govt recruitment notification is Rs. 10395/- per month. 	<ul style="list-style-type: none"> PreJHA Foundation AILLSG skills Dr. Zakir Hussain Institute Vivo Healthcare Bhola Institutional Trust Sankalp India Foundation Dhanbad School of Nursing Indiabulls Foundation Saksham, Adani Future India Group Charitable Trust Generation India Capital University 	<ul style="list-style-type: none"> 700 - Nursing
<p>PRIVATE SECTOR:</p> <ul style="list-style-type: none"> GDA: 12th pass GNM/ Nursing Diploma/BSc Nursing The candidate should be registered under State Nursing Council for most of the job roles 	<ul style="list-style-type: none"> Candidates are selected based on academic record and personal interview. Screening exams also may be conducted in case of high number of applications. 	<ul style="list-style-type: none"> Average salary Rs. 14,784/- per month 	<ul style="list-style-type: none"> Capital University 	<ul style="list-style-type: none"> 80 – GDA Diploma



Job Roles in Laboratory Testing: Lab Technician and Phlebotomist are job roles which already had good potential and have become even more relevant due to the COVID-19 outbreak

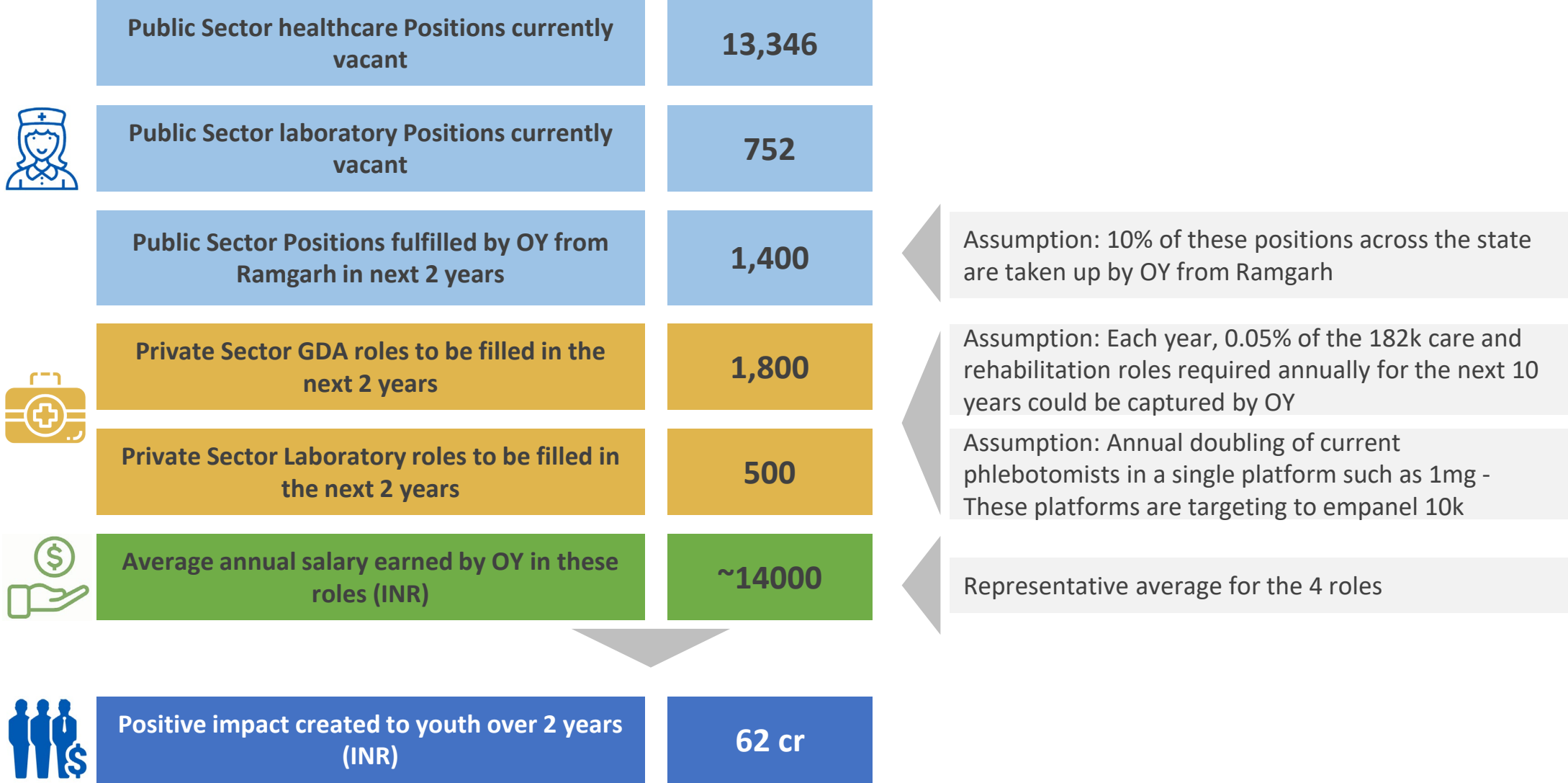
The Medical laboratory technicians are responsible for supporting and assisting doctors/ scientists in their day to day working in a variety of roles. They function as the main support to biomedical scientists in pathology laboratories. Phlebotomist need to draw quality blood samples from patients and prepare those specimens for testing.

752 Lab Technician positions are vacant in Jharkhand. However, we can train only 150* OY for these roles due to limited seats.

Eligibility	Selection Process	Remuneration	Colleges and Skilling Orgs	Seats Available
<p>PUBLIC SECTOR:</p> <ul style="list-style-type: none"> As per the state requirement notification the applicant should be minimum 21 years of age and maximum 45 years of age based upon the gender, caste and physical ability. The minimum qualification required for this position is 10+2 or Intermediate and Diploma in Lab Technician from Govt. recognized Institution with one year experience. 	<ul style="list-style-type: none"> The selection of Staff Nurse and ANMs is done based on exam conducted by the state. If there is a need, a skill test is conducted to further shortlist the candidates. 	<ul style="list-style-type: none"> Rs. 10,000-19,000/- per month as per government recruitment notification. 	<ul style="list-style-type: none"> AILLSG skills Dr. Zakir Hussain Institute Vivo Healthcare Apollo MedSkills Future India Group Charitable Trust Ushamartin University RIMS Ranchi 	<ul style="list-style-type: none"> DMLT – 60 seats MLT – 90 seats
<p>PRIVATE SECTOR:</p> <ul style="list-style-type: none"> Diploma in Medical Laboratory Technology (DMLT), Certificate In Phlebotomy Technician Two wheeler license for doorstep collection The age requirement can be lower for private openings. 	<ul style="list-style-type: none"> Candidates are selected based on academic record and personal interview. Screening exams also may be conducted in case of high number of applications. 	<ul style="list-style-type: none"> Rs. 11,000 – 15,000/- per month in private companies like Thyrocare, Dr. Lal Pathlabs, Apollo Hospitals, etc. 		



Potential Impact: There is potential to fill vacancies in public healthcare and laboratories in Jharkhand and also to train OY for similar roles in other cities



A woman wearing a yellow dress and a white headscarf is seated at a desk, focused on her laptop. She is in a computer lab or training center, with several other laptops and people visible in the background. A dark backpack is hanging on the wall behind her. The text "Rural BPO opportunity for OY in Ramgarh" is overlaid on the image in white, bold font.

Rural BPO opportunity for OY in Ramgarh

Need: Rural BPOs provide a cheaper and more attractive alternative for the growing offshore business services market against the rising costs and high attrition rates of urban BPOs

Rural BPOs provide sustainable cost advantages due to lower average salaries, low attrition and reduced investment

Reduced Capex

Cost savings of up to **10%-25%²**, due to lower rentals, shared services and cheaper workforce.

Very Low Attrition

Youth want to retain these jobs because BPOs provide salaries comparable to urban employment opportunities

Abundance of Local Talent

Proximity of well-paying jobs recruiting local talent incentivizes youth to stay within rural areas

Lower Average Salaries²


INR 6000 starting for lowest level of employees compared to INR 18,000 for urban employees.


Services offered include

 Customer support

 Technical support

 Telemarketing

 IT help desk

 Insurance

 Data entry & processing

 Data conversion

 Bookkeeping & accounting

 Form processing

 Online Research








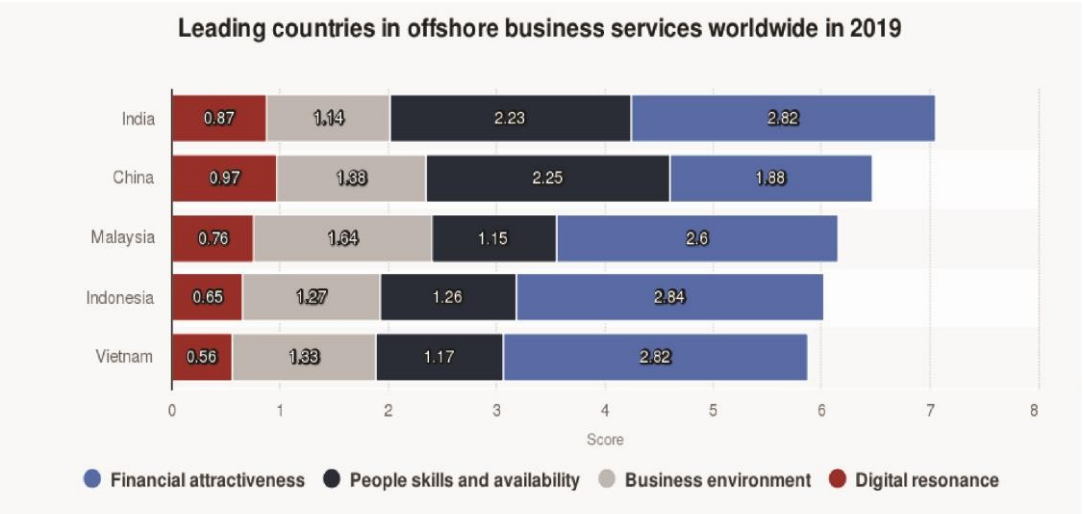
Ramgarh has the potential to set up 2 BPOs within the next year, formally employing a total of 225 - 300 youth

Jharkhand BPO/BPM Policy aims to create at least 15,000 jobs in the sector by 2021⁴

India is the **most attractive** location for offshore business services in the world.¹

Ramgarh Overview

	Youth Population	~ 300k
	Sex ratio	921 Females / 1000 Males
	12th pass unemployed	TBD*
	Incremental jobs in IT	237
	Average Employment by a single BPO under IBPS	100 - 150



The IT-BPM industry contributes **7.9% to India's GDP** and employs around **41 lakh professionals**.²

In 2017, Nasscom claimed IT-BPO firms plan to increase the cumulative rural BPO employee **base by more than 10 times over the next three years**.³

Estimation of employment potential of Rural BPOs

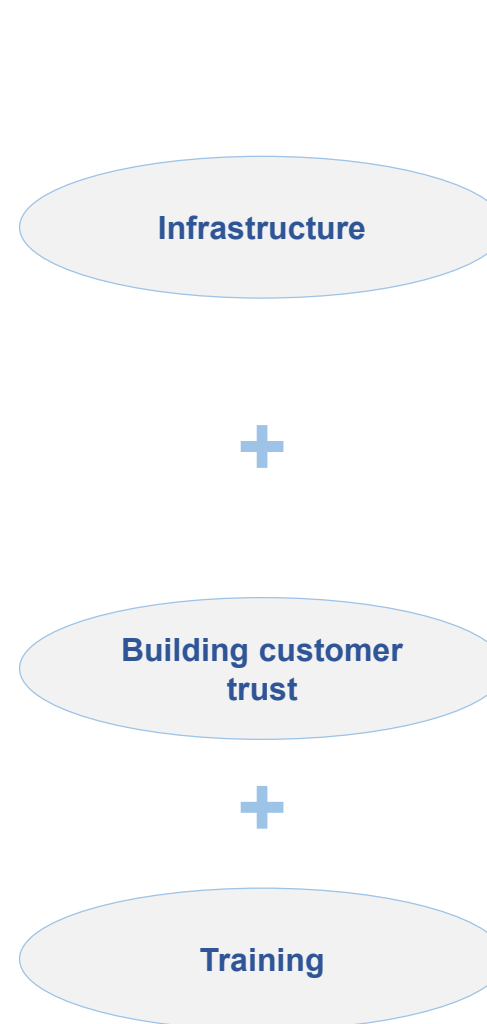
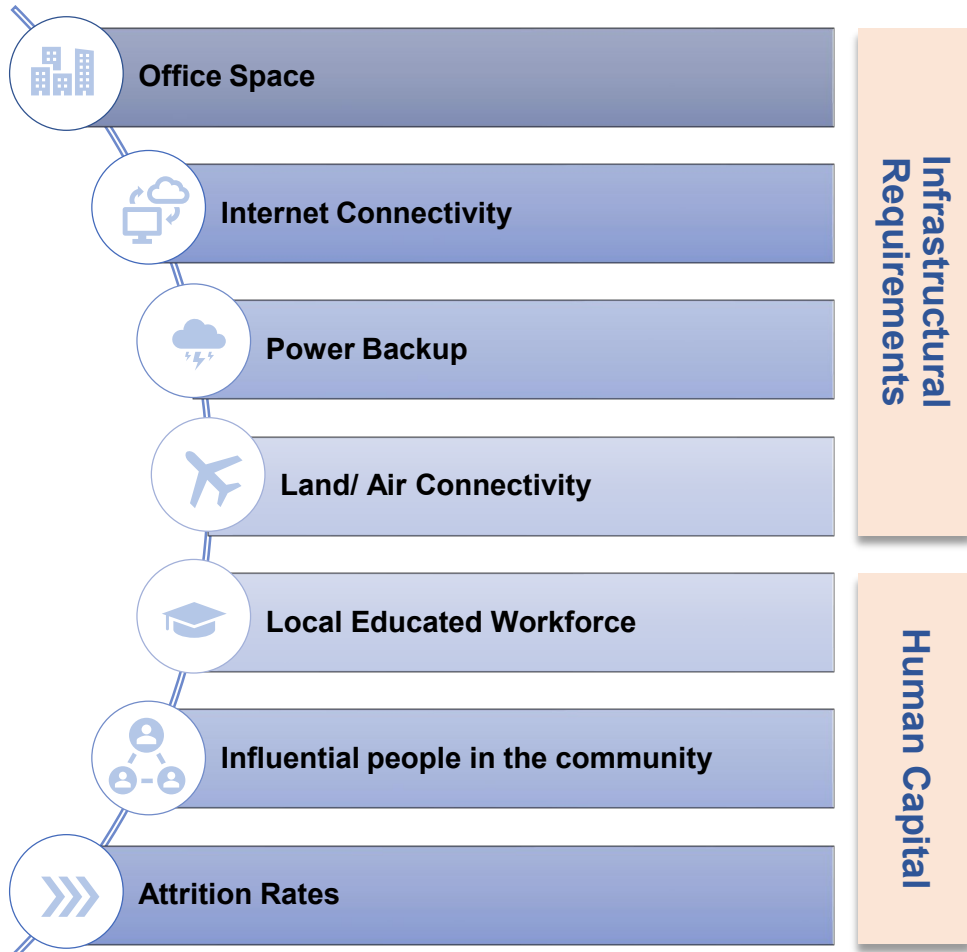
Rural BPOs have been opened under the Common Service Centres (CSC) Scheme with an average of **10 seats**.

Each seat generates **1.5 - 2x** employment

Sources: [1] Statista [2] FinancialExpress [3] EconomicTimes [4] Jharkhand BPM/BPO Policy 2016 * this data could not be collected from DEE after multiple attempts

While rural BPOs can fulfil many of the criterion used by companies while shortlisting outsourcing institutions, they face three primary challenges










Criteria for choosing location



- **Employee Connectivity:** Ramgarh is well connected to all nearby cities by buses.
- Ramgarh has multiple internet service providers including **BSNL, Jio, Airtel and Vodafone.**
- Though Ramgarh has poor power supply with a cumulative **power outage of 4-5 hours a day**, commercial complexes provide power backups.
- **Client Connectivity:** Nearest Airport is Birsa Munda Airport, Ranchi, 31km away from Ramgarh
- Ramgarh's overall literacy rate is **slightly below India's average** of 74%. However, it's percentage of workers with **high school diploma is slightly above** the India average of 9%, according to the 2011 Census.
- The challenge of **monotony can be overcome by training** youth in new skills that will also help in acquiring more complex projects.



Case study: Rural Shores | DesiCrew

Parameters		
 No. of Centres	12	4
 Employee Strength	1200	363
 Investment	1 lakh per employee	To recruit and train an employee: 1,23,870 INR. An employee has to work for 8 months for the company to break even . Employees working for beyond two years prove expensive as compared to new recruits. ³
 Employee Connectivity	Most employees live within 10 km of the RuralShores centre	Most employees live within 15 km of the DesiCrew centre.
 Educational Qualification	They have to be 12th standard pass to be employable.	They have to be 12th standard pass to be employable. However, most employees are graduates or postgraduates with diverse degrees.
 Avg. Employee Age	The average age of a RuralShores employee is 22 years .	80% of the workforce is aged below 25 years .
 Women Participation	Almost 50% of the employees are women.	Above 70% of the employees are women.

Impact

- **Migration:** When it comes to rural BPOs, shift occurs from amongst **rural areas itself**.
- **Women upliftment:** While some women still lack family support, even facing resistance, overall the change has been positive for the gender giving them **financial independence and increasing their social status**. There has been an increase in marital age and respect from other family members due to income generation and acquired English speaking and computer skills.
- **Mindset creation:** **Individual counselling is provided for employee's families**, especially women, to provide safety reassurance is necessary.

STPI Ranchi interview



Jharkhand has been allotted ~ 2950 seats under the India BPO Promotion Scheme, a step in the government's target employment of 15,000 in the state

Ramgarh has the potential to set up 2 BPO centres employing between 100-150 people each



Existing Support

Jharkhand BPO/BPM Scheme 2016¹
Minimum Seats – 20

India BPO Scheme²
Minimum Seats – 100

BharatNet Programme³
For better internet connectivity

National Optical Fiber Network
being laid down to connect all the
2,50,000 Gram Panchayats in India*



50% Financial Support

up to 1 Lakh per seat



Special Incentives

towards employment of women
and specially-abled persons



**Incentive for exceeding
employment target**

which is 1.5 times the
number of seats



**20 units have begun
operations in Jharkhand**

out of Ranchi, Harazaribagh,
Dhanbad, Deoghar and Giridih



The team started with the key challenges facing OY in Ramgarh to start thinking about ideas – interventions or guiding principles on how to address the challenges

1 What are the key challenges facing youth in Ramgarh? (10 mins)

- Import of labor from neighboring regions and export of primary produce for value addition
- Aversion to available labor-intensive work in agriculture and mineral industries
- Low remuneration and security in available work
- Lack of counseling and limited awareness about possible economic opportunities
- Low level of economic activity within the district
- Poor youth participation in the active workforce
- Limited access to information and awareness about opportunities, particularly for women

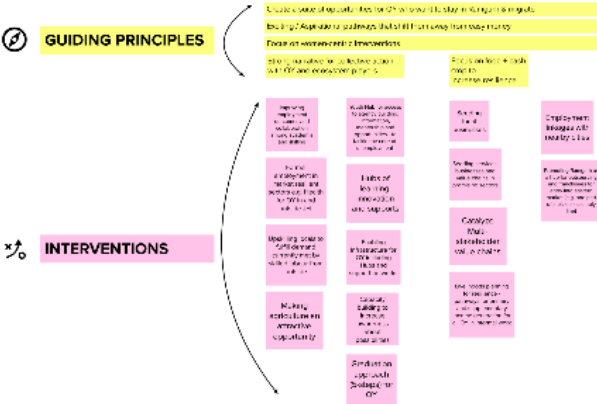
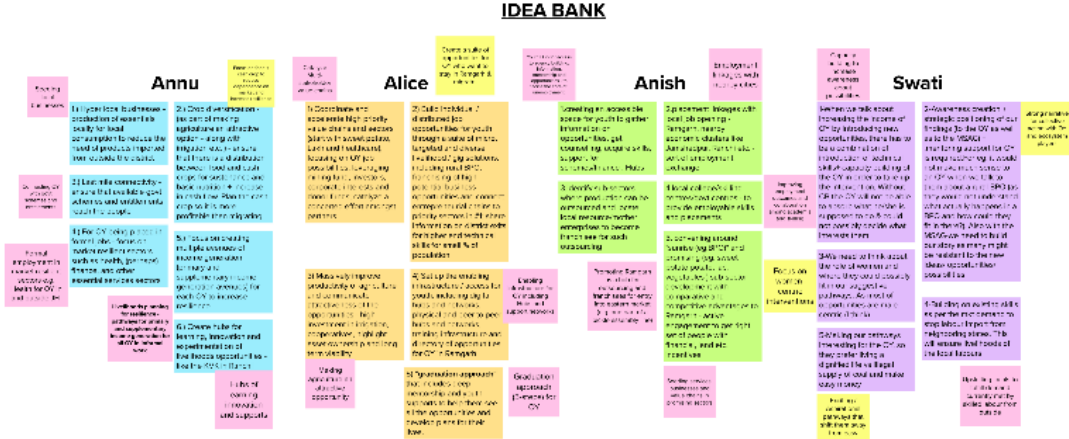
Please add post-its for any other challenges that stand out

youth view of their future

Lack of info amongst youth for knowledge of what to do, what else will make money for them

2 What interventions are required to solve for these (15 mins) challenges?

Please add 5 interventions that come to mind and cover one idea per post-it. The intervention should not be judged for feasibility or funding at this stage but only based on the needs of GOYN's target youth.



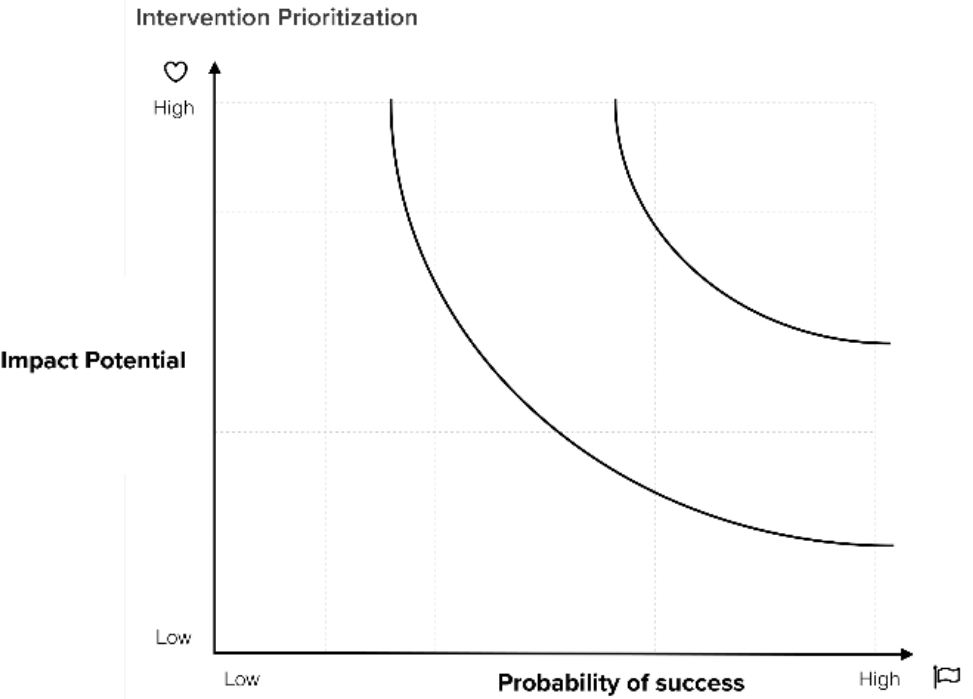
Brainstorming on potential pathways

These ideas will then be clustered together based on the common theme that is emerging to form pathways. Post discussion with other stakeholders in Ramgarh, these pathways will be prioritized for the short to medium term.

4 Let us now rate these clustered interventions based on their (20 mins) potential for impact and probability of success.

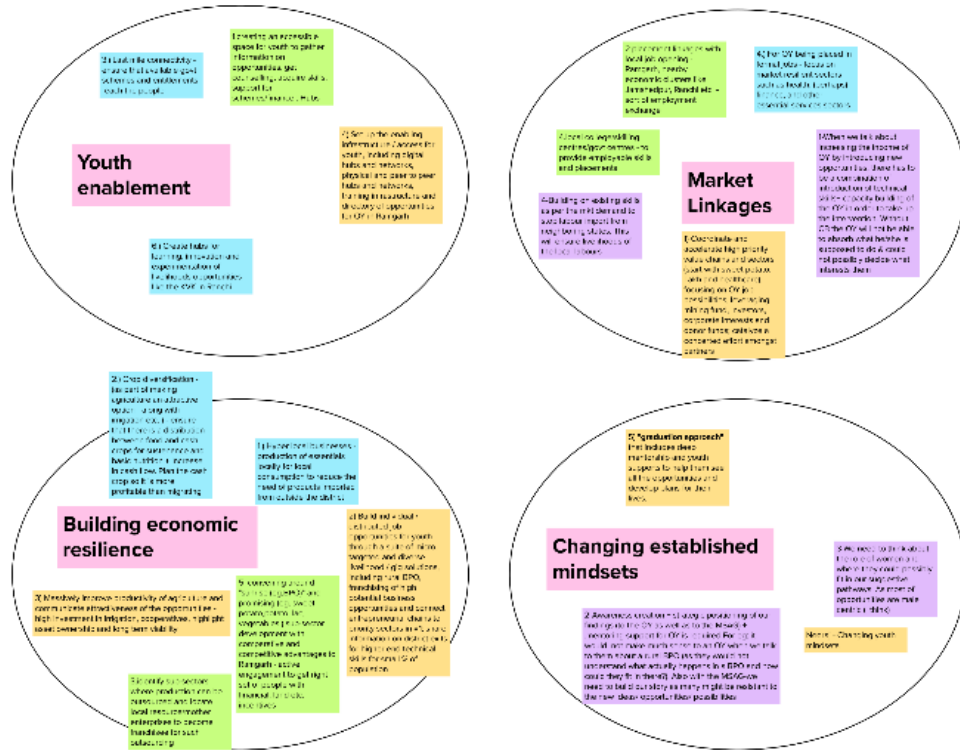
Impact can be thought of in terms of the number of beneficiaries and the amount of positive impact created per beneficiary

Probability of success should be high for interventions which can be sustained without funding in the long run and align with youth aspirations and stakeholder interests (including govt.)



5 Can these interventions be clustered together around a common theme? (15 mins)

We will now cluster similar interventions together around a common theme. The group can identify 3-5 clusters which we can also call as pathways.



Emerging pathways based on limited discussions with GOYN Core team, youth and relevant stakeholders in Ramgarh

Short-term: Till 2021

Medium-term: Till 2025

Pathways (emerging)

1. LIVELIHOOD ENABLEMENT

A. Developing OY agri-entrepreneurs as change agents for improving productivity of existing agricultural activities

- Support agri-processing through partnership
- Adoption of better production techniques in Agri & NTFP activities

B. Establishment of market linkages to ensure end-to-end support from farm-to-consumer

- Support promising value chains focused on processing and exports

- Aggregation of all services on Kushal Kisan platform & extension to partners

- Entrepreneurship hubs in each block combining information, training and funding to promote thriving economic clusters

2. YOUTH ENABLEMENT

A. Youth hubs as the vehicle for awareness creation about opportunities and last mile connectivity

- Information delivery, research and engagement through youth hubs and youth fellows
- Pilot Mentorship programs to provide positive role models to OY
- Reconnection options for drop-outs and returnee migrants

- Youth cells in govt. departments to improve last-mile connectivity

- Expand youth hubs as beacons of hope and empowerment

3. SHAPING THE FUTURE OF WORK

A. Social security protections in labor-oriented and gig-work

- Negotiation of fair-wages in construction and healthcare sector

- Collaborative action to prevent illegal economic activities in mineral rich areas

- Partnership with gig and job portals that have built in social protections

B. Digital enablement and soft-skill trainings to create new opportunities for rural youth

- Pilot rural BPO and CSCs hiring OY

- Pilot tele-medicine, online pharmacy and support roles in healthcare

C. Improving attractiveness of Ramgarh as an investment destination

Enablers (ongoing)

Co-design

Resource Mobilization

Shared learning Agenda



Proposed next steps for the collaborative (for next ~6 months)

The initial data scoping is intended to guide the program for the initial set-up phase of 1-2 years. However, considering the program would run till 2030, few next steps and research priorities have been provided based on the insights gathered during the initial data scoping from April –August 2020)

Further Research

1. **Addressing information gaps** through pending primary research – youth personas, industry demand, etc.
2. **Mapping of youth aspirations** against identified opportunities and proposed interventions
3. **Identify latest available primary data** for Ramgarh through engagement with CSOs (given census data won't be available for ~2 years)
4. **Youth Inspiration Centre** strategy and operating model design
5. Explore “**migration approach**” for OY

Collaborative Growth

1. **Identify potential partners** based on ecosystem mapping, past experience and discussions to identify alignment
2. **Establish MSAG** – Get validation and further refinement of initial research and pathways
3. **First convening** with MSAG and broader ecosystem
4. **Identification of guiding principles** for selection of pathways
5. **Funder engagement** with donors and corporates and co-creation of interventions

Creating differentiation

1. **Presentation of data backed interventions** from Phase 1 to local govt. and signing of MoU
2. **Bringing youth voice** to the forefront awareness creation about GOYN among youth
3. **Develop narrative or clearly articulate the uniqueness of GOYN** and use it in ongoing communications through e-mail fliers and brochures
4. **Digital engagement strategy** with OY and other stakeholders
5. **M&E framework** and clearly defined targets



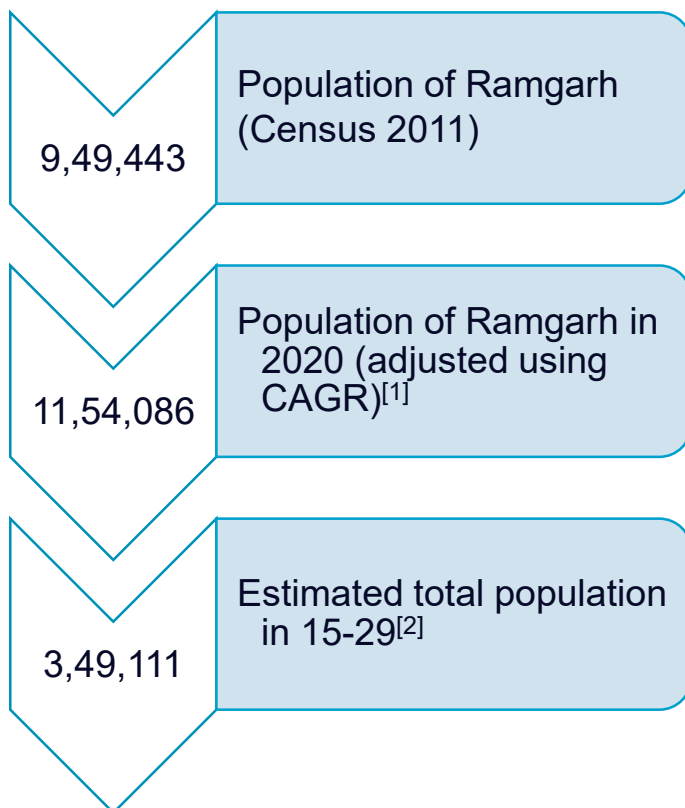
APPENDIX

Terminology used and definitions

Term	Definition
Active	Working / engaged in economic activities OR not engaged but making tangible efforts to seek work OR available for work if work is available
Inactive	Not working / engaged in economic activities OR not engaged and not making tangible efforts to seek work OR not available for work if work is available
In employment	Working / engaged in economic activities
Unemployed	Not engaged but making tangible efforts to seek work OR available for work if work is available
Self employed	Youth who are engaged in economic activities either as helper in family enterprise or entrepreneurial venture
Casual	Youth who are engaged in economic activities of the casual type either in agro-allied or in other industries and preferably seeking better opportunities
Regular wage	Youth who are engaged in economic activities where regular wage is paid
Social Security Benefits (SSB)	Social security benefits include paid leaves, insurance coverage, etc.
No access	Youth within the inactive segment who are neither in education nor in training, yet not engaged and/or not making tangible efforts
In education	Youth within the inactive segment who are in education at the higher secondary level and are hence not making tangible efforts to seek work unavailable for work even if work is available
In training	Youth within the inactive segment who are in training under various skilling programme and hence not making tangible efforts to seek work OR unavailable for work even if work is available



Assumptions and References








[1] CAGR of 2.19 from 2001-2011 has been maintained for the current decade

[2] 30.25% population in 15-29 age group for India considered true for Ramgarh as well [calculated from Women & Men in India, 2018 (MoSPI)]

Segment	Calculation	Value	Assumption
Labor Force Participation (LFP)	38.3% of youth pop in 15-29	1,33,710	PLFS rural Jharkhand estimates (2018-19) hold true for LFP rate
Worker population Ratio (WPR)	33.8% of youth pop in 15-29	1,18,000	PLFS rural Jharkhand estimates (2018-19) hold true for WPR rate
Unemployed		15,710	Inferred by subtracting WPR from LFP
Casual labor	29.5% of WPR	34,810	PLFS rural Jharkhand estimates (2018-19) hold true for casual labor force in WPR. Undesired employment.
Regular wage	11.6% of WPR	13,688	PLFS rural Jharkhand estimates (2018-19) hold true for regular wage labor in WPR
Regular wage without SSB	44.9% of regular wage	6,146	PLFS rural Jharkhand estimates (2018-19) hold true for workers without any Social Security Benefits (SSB). Undesired employment
In education		20,788	Youth in HS from uDise 2018-19 for Ramgarh
In training		3,000	Average yearly skill training from discussion with DEO
No access		1,91,613	Youth not in education/training and also not part of LF is being considered as youth with no access, since youth actively not seeking employment will be very low
Migrants		7,000	Youth within 15-29 age group who have returned home, accessed from GoJ. Unemployed or underemployed
Total OY		2,55,279	OY with no access + unemployed + casual labor + regular wage (without SSB) + returning migrants



Finding across local and national job-portals

Portals	Findings
 <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 16367 registered candidates at the Ramgarh DEE out of which 11498 are male candidates. • There has been a sudden spike in the registrations overall in past few days, possibly due to people migrating back to their homes because of COVID-19
 <p>naukri.com India's No1 Job Site</p>	<ul style="list-style-type: none"> • There is no independent listing for Ramgarh district • Total 1273 jobs listed in Jharkhand • 223 jobs for fresh candidates • 179 jobs in the 0-3 lakhs salary bracket • Healthcare, Staffing, IT sectors amongst the biggest recruiters (as on 29/04/2020)
 <p>shine careerplus+</p>	<ul style="list-style-type: none"> • There is no independent listing for Ramgarh district • Total 1245 jobs listed in Jharkhand • 664 jobs for fresh candidates (<1 yrs exp) • 268 jobs in the 0-2 lakhs salary bracket • IT, Aviation, Automotive, Manufacturing sectors amongst the biggest recruiters (as on 29/04/2020)
 <p>National Career Service सही अवसर, सही समय Right Opportunities, Right Time</p>	<ul style="list-style-type: none"> • No job opportunity listed for Ramgarh • Total 1563 opportunities listed in Jharkhand • About 50 jobs listed with zero experience and meeting the minimum wages requirement of Rs. 6495 per month
 <p>Jharkhand Job Jharkhand Job Leading Portal Job, Admit Card, Result, Admission, Syllabus etc.</p>	<ul style="list-style-type: none"> • Jharkhand specific job portal • No district-wise listings • Only government jobs related posts • No filters to search jobs based on any criteria



Skills Gaps by sector and job role

Sector	Role	Skill Gaps
Tourism, hospitality & travel	Hotel Manager	Inadequate communication skills
		Inadequate ability to handle complaints
		Inadequate personal presentation skills
	Guide	Inadequate communication skills
		Insufficient knowledge of tourist places
		Inadequate skills of crisis and time management
	Driver	Lack of adequate communication skills
		Lack of awareness on driving rules and regulations
		Inadequate knowledge of safety norms
	Bell boy	Inadequate curtsy level
		Lack of discipline
		Insufficient communication skills
Education & Skill Development	Teacher	Strong theoretical knowledge of subject
		Ability to communicate the knowledge in an easy to comprehend manner to the students
Agriculture and Agri allied	Farmer	Inadequate of knowledge of latest technologies in agriculture
		Lack of awareness about scientific methods of farming
		Skills confined to production
		Inadequate knowledge of marketing and market linkage of produce
Artisan	Artisan	Lack of awareness about post production processing of the produce
		Inadequate knowledge of marketing and market linkage of products
Retail & Franchising	Billing Associate	Products lack market ready finish
		Inadequate knowledge of software related to transaction processing
	Sales person	Inadequate soft skills
		Inadequate product specific knowledge
		Inadequate communication skills
		Inadequate understanding of various schemes

Sector	Role	Skill Gaps
Tourism, hospitality & travel	Hotel Manager	Inadequate communication skills
		Inadequate ability to handle complaints
		Inadequate personal presentation skills
	Guide	Inadequate communication skills
		Insufficient knowledge of tourist places
		Inadequate skills of crisis and time management
	Driver	Lack of adequate communication skills
		Lack of awareness on driving rules and regulations
		Inadequate knowledge of safety norms
	Bell boy	Inadequate curtsy level
		Lack of discipline
		Insufficient communication skills
Education & Skill Development	Teacher	Strong theoretical knowledge of subject
		Ability to communicate the knowledge in an easy to comprehend manner to the students
Agriculture and Agri allied	Farmer	Inadequate of knowledge of latest technologies in agriculture
		Lack of awareness about scientific methods of farming
		Skills confined to production
		Inadequate knowledge of marketing and market linkage of produce
Artisan	Artisan	Lack of awareness about post production processing of the produce
		Inadequate knowledge of marketing and market linkage of products
Retail & Franchising	Billing Associate	Products lack market ready finish
		Inadequate knowledge of software related to transaction processing
	Sales person	Inadequate soft skills
		Inadequate product specific knowledge
		Inadequate communication skills
		Inadequate understanding of various schemes



Estimating the potential number of Agri-Entrepreneurs (AEs) in Ramgarh

Base data & assumptions

Number of primary farmers¹ in Ramgarh district
~110k

Existing number of AEs in the district
~150

Estimation of AE's that can be trained and supported in Ramgarh

Number of farmers that each AE needs to work with to earn 10-15k per month
= 150-200

Conservative estimate:
Assuming 1 AE per 200 farmers, total number of AE required
 $110k/200 = 550$

Optimistic estimate:
Assuming 1 AE per 100 farmers, total number of AE required
 $110k/100 = 1100$

Hence there is a potential to have 400-950 AE in Ramgarh who will play a vital role in the rural / tribal economy

The current number of AE and requirement per farmer has been estimated based on the discussions with TRI. This is in conservative in comparison to govt targets. The Indian government announced the creation of 75,000 agri-entrepreneurs in 2019², which comes to 1000-1200 AEs per district.



Value Chain Analysis



01 Value Chain Overview

Production, export, process diagram

02 Current Status of Production

Available forest area, host trees and key inputs

03 Value Chain Mapping

Roles of value chain actors and value addition across the value chain

04 Inefficiencies in Existing Value Chains

Constraints in production, marketing, and processing

05 Proposed Interventions

Interventions proposed in the value chain and prioritization

06 Role of OY in the Value Chain and potential impact

Roles for OY in 'new' value chain and high-level requirements

07 Market Linkages and investment models

Type of market linkage required and potential role of GOYN

08 Relevant stakeholders & schemes

Lac Overview

What is Lac? [9]



- Lac is the **resinous secretion of several species of lac insects**, of which the most commonly cultivated is *Kerria lacca*.
- Cultivation begins when a farmer ties a stick (**brood lac**) that contains lac insect eggs to a host tree.
- The insects colonize the host tree, and the coated branches are cut and harvested as **stick lac**.
- The harvested stick lac is crushed and sieved to remove impurities. The resulting product is known as **seedlac**.
- Seedlac is then processed into various forms of **shellac**.

Uses [1]

Adhesive Industry

- Cement ingredient, sealing wax, various adhesives, sealing sticks, etc.



Varnish and Printing Ink Industry

- Insulating varnishes, furniture and floor polish, primer, metal and wood lacquer, etc.

Food Industry

- Soft drink formulation, finished food coating (confectionary, chocolate, fruit, coffee), etc.



Others

- Cosmetics, jewelry, bangles and leather.



Value Chain Overview

Production



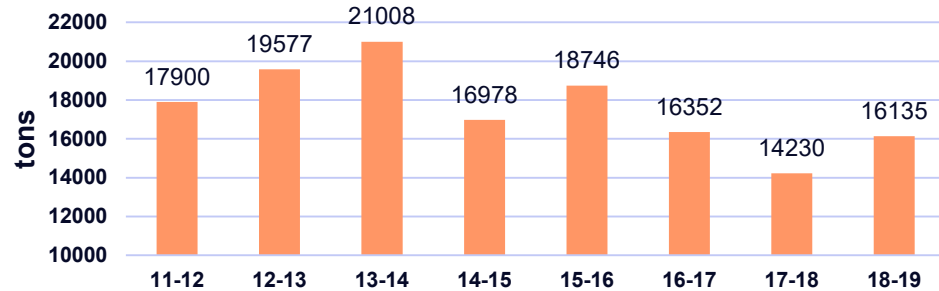
Global Production
40~50k tons [1]

Domestic Production 2018-19
16.1k tons

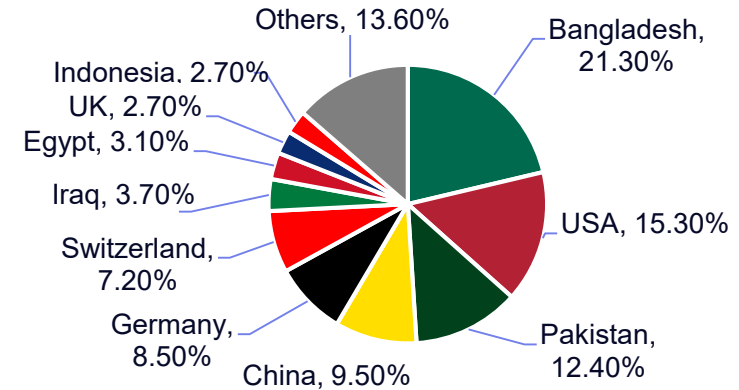
CAGR 2018-2025
1.9% [5]

- India is the largest producer of lac in the world.
- In 2018-19, major contribution comes from **Jharkhand (56%)**, Chhattisgarh (13%), Madhya Pradesh (13%), Maharashtra (9%), and West Bengal (3%).

Production in India Over Time



Export Breakdown (2016)



National Scenario

- 2013-14 to 2015-16: Export to the US has declined by 1358 tons while export to Bangladesh and Pakistan increased by approx. 500 tons each.
- In 2015-16, India exported 7668 tons valued at 247.55 crore. Value breakdown: Shellac (59.2%), seedlac (25.1%), and aleuritic acid (14.8%).

Ramgarh and Jharkhand Scenario

- Ranchi, Simdega, Khunti, and Gumla are the top four lac producing districts in the country.
- Recent data shows Ramgarh is not a major lac cultivator.** However, Gola block has good potential for cultivation.



Inefficiencies and Constraints in Production

Local Constraint	Description	Emerging Needs	Proposed Intervention
Natural Climate Condition	Lac has significant climate risk from heat, rain, hail, and prolonged fog.	The producers need a way to minimize their losses.	<ul style="list-style-type: none"> Government supported insurance mechanism to mitigate risk.
Insect Pest Infestation	The lac insect is vulnerable to predators (parasites), disease, and natural elements.	The producers need a way to control and eliminate parasites affecting their crop.	<ul style="list-style-type: none"> Apply scientific method of production to maximize yield and minimize losses.
Infrastructure & Lack of Processing Support	Shelf life of scraped lac is limited to two months without cooled storage. Coupling that with lack of nearby processing facilities force farmer sell at throwaway prices.	To realize the full value of their product, the producers need to extend the shelf life of their harvest or add value through processing.	<ul style="list-style-type: none"> Implementation of local processing unit to convert stick lac to seedlac or shellac.
Poor Purchasing Power & Lack of Funding	Producers face shortage of funds to procure high quality input supplies.	Producers need access to funds to procure high quality brood, agro-chemicals, technology, and access institutional support.	<ul style="list-style-type: none"> Provide producers with a credit to access working capital for brood lac (if needed). Implement an MSP for lac cultivation. Operate lac cultivation as a co-operative to gain negotiation power This is an opportunity for Agri-Entrepreneur to intervene and manage.
Inadequate Availability of Brood Lac	Brood lac has often been in short supply. Due to financial needs, cultivators are compelled to sell their broods, limiting future production.	The producers need affordable brood to generate future harvests.	



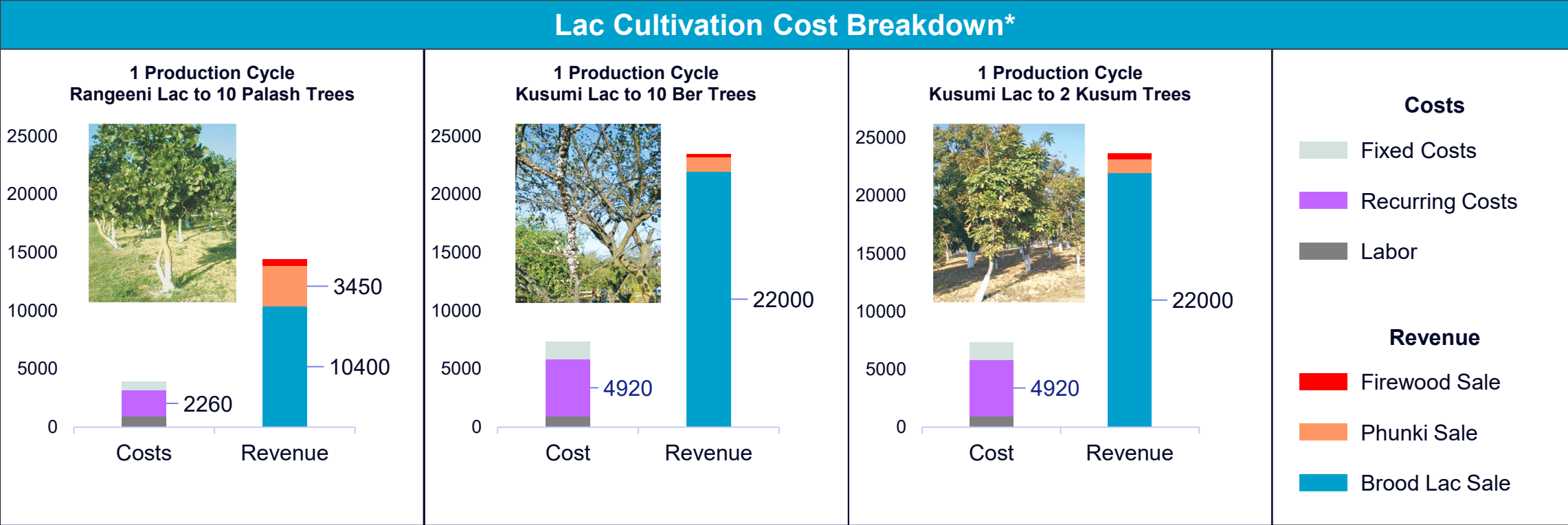
Inefficiencies and Constraints in Marketing and Processing

Local Constraint	Description	Emerging Needs	Proposed Intervention
<p><u>Price Fluctuations</u> (up to ±40%) (see next slide)</p>	<p>Prices fluctuate due to price manipulation by export traders. At low prices, farmers' loose interest in production resulting in a reduction in future crop.</p>	<p>Producers and processors need a stable price to keep interest in the industry.</p>	<ul style="list-style-type: none"> Establish market rate (for quality products) Improve the producer's "holding power" by making primary processing available locally.
<p>Poor Market Linkages and Services</p>	<ol style="list-style-type: none"> Unfair trading practices Adulteration of scraped lac Minimum price support is not working effectively Lack of uniform policy 	<p>Producers need fair weighing and grading of their harvest.</p> <p>States need to monitor and police inter and intra movement of produces</p>	<ul style="list-style-type: none"> Make weighing equipment accessible to the producers at the village and cluster level. Establish local grading facility as part of the small-scale processing unit. Involve the state level government in preventing price fixing by large, private lac industries.
<p>Infrastructure</p>	<p>The market lack grading facility.</p> <p>Irregular supply of electricity and its cost to operate machines</p>	<p>There is a need to establish price based on the resin content.</p> <p>Processors need reliable source of power to operate the machines.</p>	<ul style="list-style-type: none"> Develop proper sales channel and long-term contracts.
<p>Monopoly Market</p>	<p>Major buyer demand unfavorable payment</p>	<p>Processors need fair contracts to manage recurring costs.</p>	<ul style="list-style-type: none"> Supporting stakeholders to help entrepreneur apply for subsidies and loans. Advocate for classifying lac as an agricultural commodity to reduce the tax burden
<p>Lack of Funding</p>	<p>It is costly to start a lac processing unit. Even at small scale, capex can reach Rs 1,750,000.</p>	<p>Entrepreneurs need access to funds to procure input supplies and for working capital.</p>	



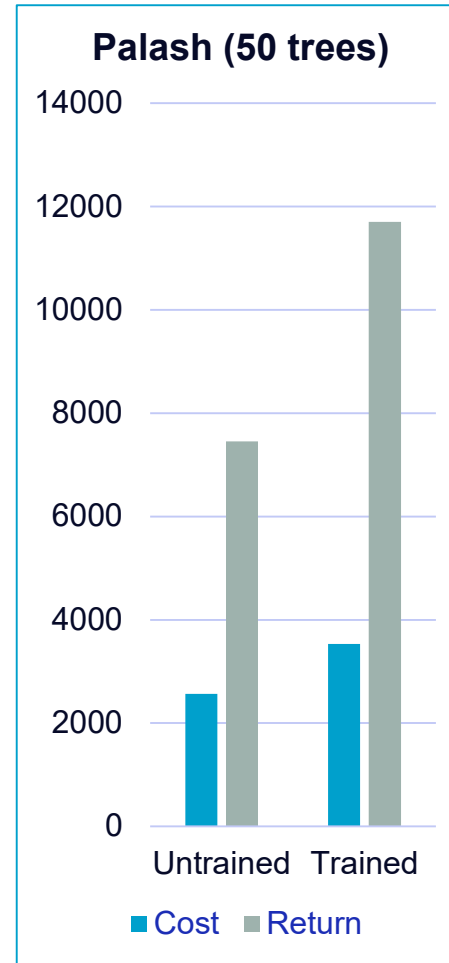
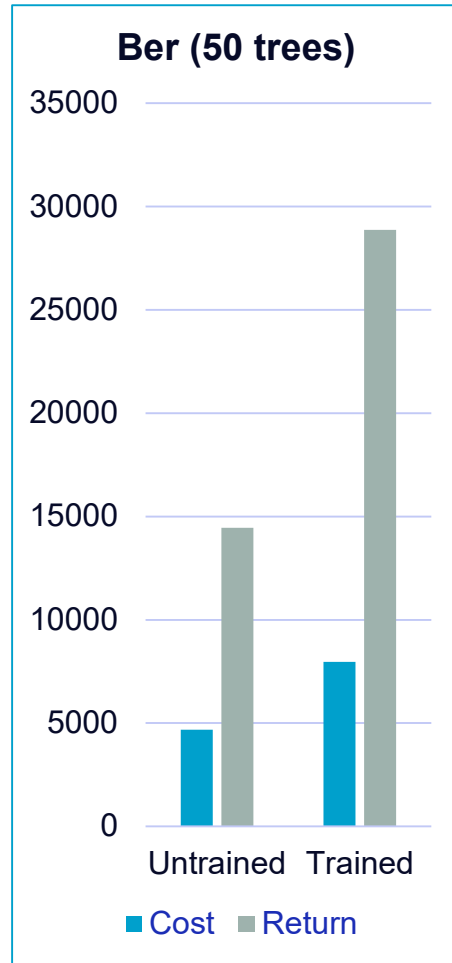
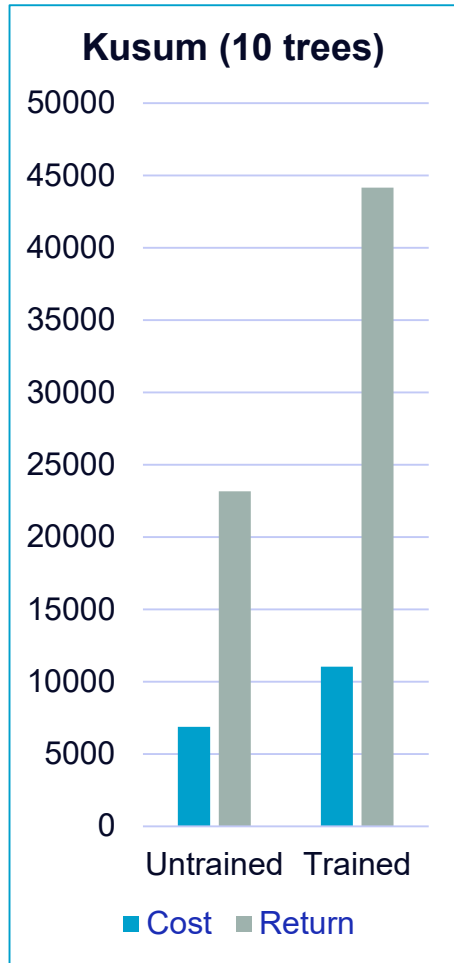
Scientific Production of Lac: Unit Economics

- Lac insects have been recorded to infest more than 400 plants. In India, the most common host plants are **Palash**, **Ber**, and **Kusum** trees.
- Lac can be cultivated using any combination of host plants and multiple times per year depending on the strain of the insect
- Lac from kusum tree (**kusumi**) can be harvested twice a year during Jan-Feb and June-July.
- Rangeeni strains of lac insects has a lifecycle ranging from 4 to 8 months.



Sources: * Based on discussions with Udyogini

According to IINRG, Application of the Scientific Cultivation Methods to Lac Cultivation can improve the producer's income by 67 to 114%.



- Lac has significant climate risk from heat, rain, hail, and prolonged fog.
- In addition to natural elements, the lac insect is vulnerable to predators (parasites) and diseases.
- Lac insects can infest more than 400 plants. There are on-going studies to evaluate the yield and quality with the use of other plants.



Lac Processing: Unit Economics for Primary Processing

Equipment



Small Scale Lac Processing Unit (SSLPU) designed by IINRG

1. Lac Crusher
2. Lac Washer
3. Lac Winnower
4. Lac Grader

The machine setup has a 35 kg washing capacity per shift.

- 3 people for crushing, washing, and grading
- 2 people for winnowing, drying, etc.

Input supplies required per day:



5 workers
(4 shifts)



~150 kg of
stick lac



Triple wash (~2.5 hrs)
gives maximum return



Cost and Benefits

Lac growers sell stick lac immediately after scraping at low prices due to problems associated with storage of stick lac.
Processing stick lac to seedlac improves shelf life.

The estimated investment cost for seedlac preparation with the SSLPU is **Rs. 300k plus the cost of building and working capital.**



Building
(shed & storage)
+



Equipment
(Rs. 300k)



1 months of
Working Capital

0.2 hectare of land

Lac processing requires a large working capital due to the sheer volume of raw material (85+% of total cost).

- **1 month of raw material = 4.5 tons of stick lac**

At full capacity, this unit can generate 1500 person-days of employment per year.

The estimated net profit is **Rs. 25k per month.**
(Based on 2014-15 pricing and costs)



Lac Processing: Unit Economics for Integrated Primary Processing

Equipment



Integrated Small Scale Lac Processing Unit (ISSLPU) designed by IINRG

1. Lac Crusher
2. Lac Washer
3. Lac Winnower
4. Lac Grader

The four machines have a daily capacity of 100 kg. Input supplies required per day:



1 workers (single shift)



100 kg of stick lac



1000 liters of water
0.5 kg washing agent



12 kWh of electricity

Cost and Benefits

The estimated investment cost for seedlac preparation with the ISSLPU is **Rs. 500k plus the cost of building and working capital.**

The working capital of the ISSLPU is lower than its predecessor due to the lower capacity and automation.

- **1 month of raw material = 3 tons of stick lac**
- The quality of seedlac processed from stick lac meets **standard IS: 6921 – 1973.**

At full capacity, this unit can generate 300 person-days of employment per year.



Building (shed & storage)
+
0.2 hectare of land



Equipment (Rs. 400k)
+
Installation



Technology fee (Rs. 100k)



1 months of Working Capital

The estimated net profit is **Rs 35,000 per month.** (Based on 2016-17 pricing and costs)



Lac Processing: Unit Economics for Lac Bangles and Nail Polish

Lac Bangles

Lac bangles are particularly popular in rural India. The process of manufacturing only consists of 2 stages and does not require high technology.

The estimated investment cost is Rs. 119k.

The equipment required include:

- Charcoal stove
- Tools (scissors, pliers, iron rod, wooden rollers, etc.)



300 sq. ft Building
(Rs. 60k)



Equipment
(Rs. 5k)



Working Capital
(Rs. 54k)

The estimated net profit is Rs. 68k per year. If the project is funded without a loan, the estimated net profit is **Rs. 83.5k per year**. (Based on 2014-2015 pricing and costs.)

Lac Nail Polish

The use of nail polish is becoming more prevalent in India due to increased standard of living. The Indian nail polish market is projected to grow at a CAGR of over 10% (2020-2024).

The estimated investment cost is Rs. 220k.

The equipment required include:

- Stainless steel (SS) drums
- Glass beakers
- SS vessels with a motorized portable stirrer



400 sq. ft Building
(Rs. 80k)



Equipment
(Rs. 60k)



Working Capital
(Rs. 80k)

The estimated net profit is Rs. 87k per year with traditional raw material. If the project is funded without a loan, the estimated net profit is **Rs. 115.6k per year**. (Based on 2014-2015 pricing and costs.)

*Figures will vary when using lac as the raw material



Estimating the livelihood impact of Small-Scale Lac Processing and Nail Polish



Average number of workers per processing unit is assumed to be 5.5.
Therefore, if 20% of the state's production is processed within Ramgarh, it would generate employment for **40 OY and 220 workers**.

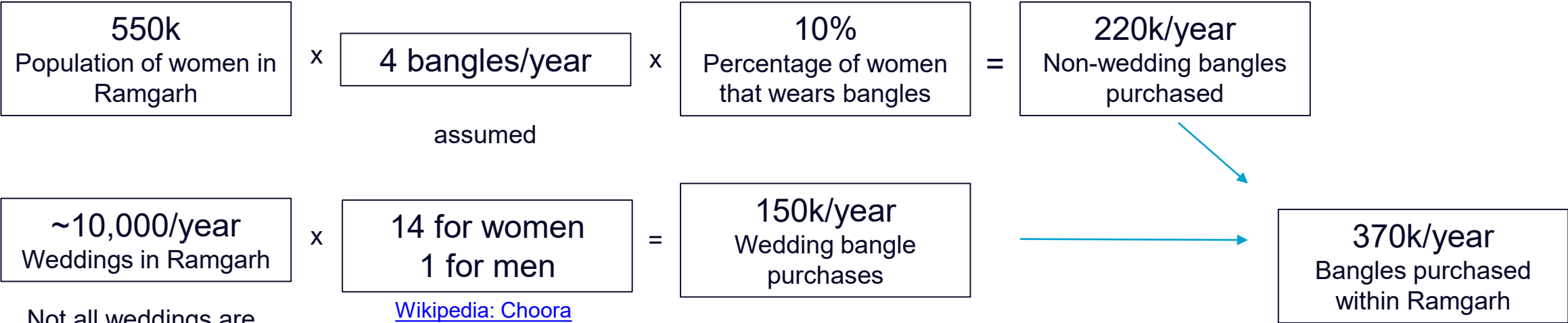


A small business with an average of 2.5 employee is assumed to produce 2 liters of nail polish per day (**600 liters per year**).
ref [IINRG training manual](#) indicated a small business production level of 5 liters/day.)

A 10x multiplier was considered for export to other districts and states to arrive to **24 small businesses employing 60 employees**.



Estimating the livelihood impact of Lac Bangles



Not all weddings are Hindi, but the full figure was used to account for potential purchases from tourists.

Midpoint of 14 was used from the range of 7 to 21

Total number of bangles purchased within Ramgarh is estimated to be 370k. A small production shop with an average of 2.5 employees can produce approximately 200 bangles per day (60,000 bangles produced per year).

A 10x multiplier was considered for export to other districts and states to arrive to **74 small businesses employing 185 employees.**



Sources: Lac Value Chain Assessment

1. Udyogini – Lac Value Chain Report
2. IINRG – [Lac, Plant Resins and Gums Statistics 2016: At a Glance](#)
3. IINRG – [A Value Chain on Lac and Lac based Products for Domestic and Export Markets](#)
4. KVK - [Employment and Income generation through Lac cultivation](#)
5. WhaTech - [Global Shellac market growing at 1.9 % CAGR will hit 170 million US\\$ in 2025](#)
6. Maharashtra Institute of Technology – [Shellac for Polyer Engineering Students](#)
7. Aman Dhingra – Market Assessment and Value Chain Analysis of Lac in Jharkhand
8. JASCOLAMPF (Jharkhand State Co-operative Lac Marketing & Procurement Federation Ltd.) – <http://www.jascolampf.com/>
9. Wikipedia – [Shellac](#)
10. IINRG – [Annual Report 2016-17](#)
11. IINRG – [Integrated Small Scale Lac Processing Unit](#)
12. Tata Administrative Service – [A Research on Impact Analysis of NTFP and Proposed Model of Lac Development](#)
13. Khadi & Village Industries Commission
 - [Lac Bangle](#)
 - [Nail Polish](#)
14. IINRG Training Manual – [Natural Resins and Gums Agribusiness Modules for Skill and Entrepreneurship Development](#)



SWEET POTATO

Value Chain Analysis



01 Value Chain Overview

Production, exports, processes and products, crop advantages,

02 Current Status of Cultivation

Land under cultivation and key farm inputs

03 Value Chain Mapping

Roles of value chain actors and value addition across the value chain

04 Inefficiencies in Existing Value Chains

Lack of awareness and local constraints

05 Proposed Interventions

Interventions proposed in the value chain and prioritization

06 Role of OY in the Value Chain and potential impact

Roles for OY in 'new' value chain and high-level requirements

07 Market Linkages and investment models

Type of market linkage required and potential role of GOYN

08 Relevant stakeholders & schemes



Value Chain Overview

Production



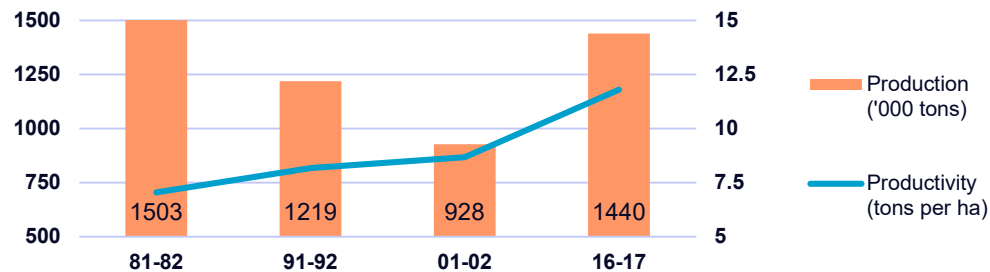
Global Production
105+M tons

Domestic Production
1.45M tons

CAGR 2019-2027
2.1%

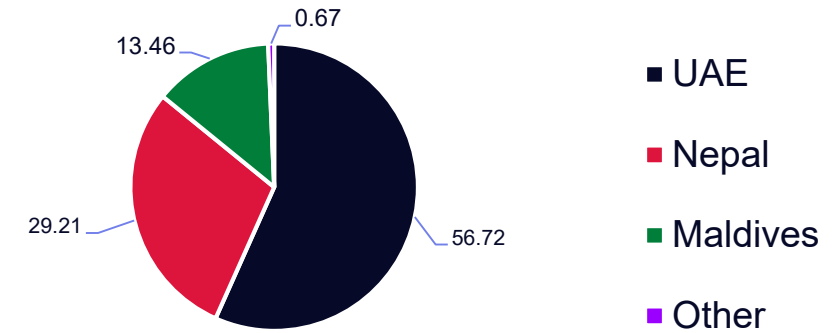
- China is the world's largest producer of with 71M tons annually. [1]
- India's major contribution comes from four states namely Odisha, Kerala, West Bengal and Uttar Pradesh accounting for nearly **80% of the domestic production**.

Production in India Over Time



Import / Export

2016-17 Export Breakdown

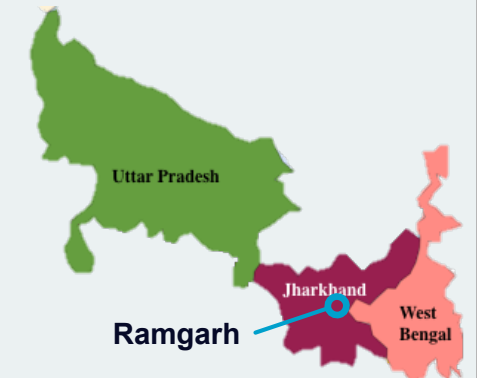


National Scenario

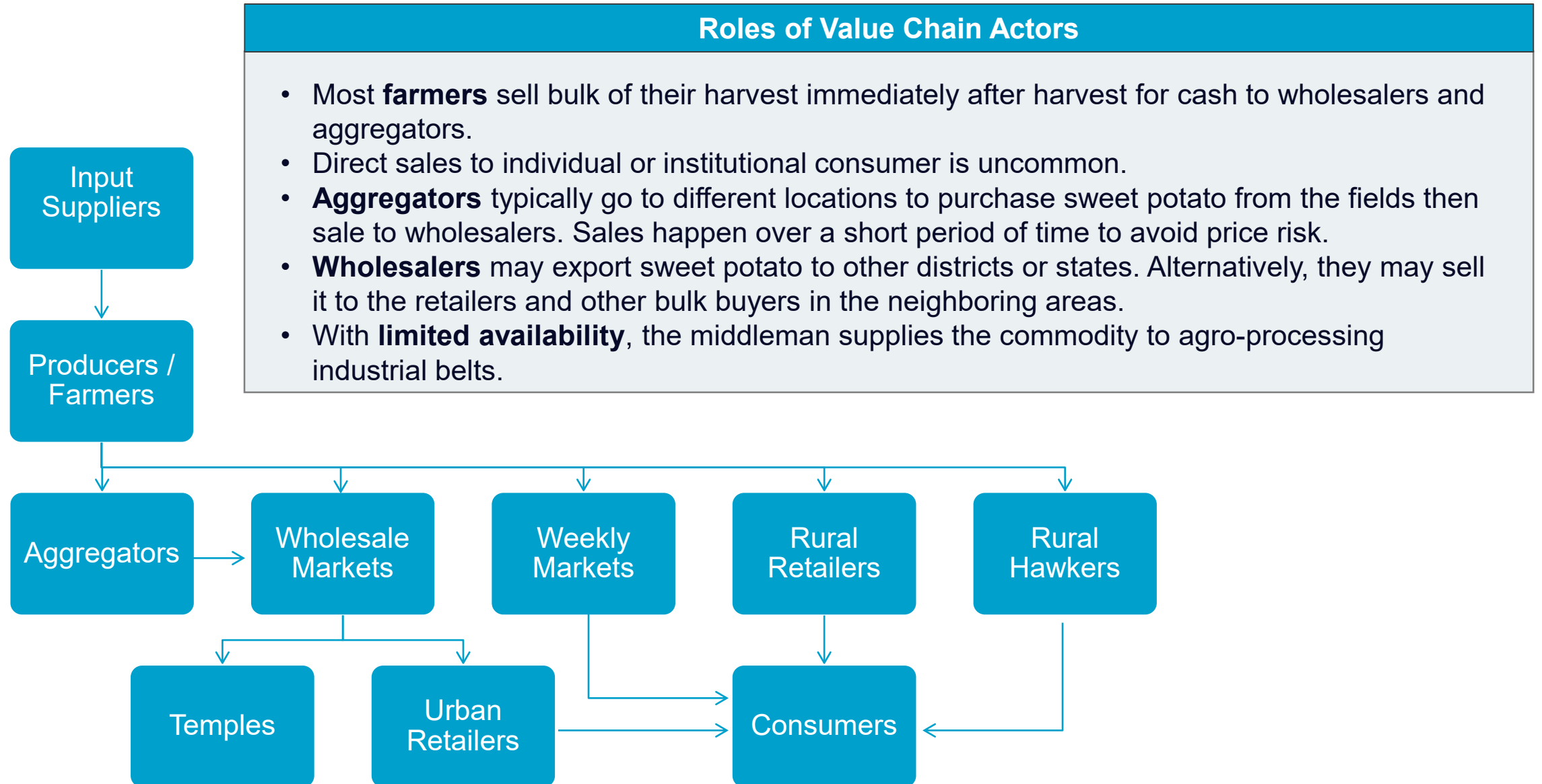
- Export is a minuscule fraction of production (<0.1%) and has been declining from 1010 tons in 2011-12 to 434 tons in 2016-17. [2]

Ramgarh/Jharkhand Scenario*

- At the state level, Jharkhand imports sweet potato from West Bengal and Uttar Pradesh.
- At the district level, Ramgarh is an exporter of sweet potato to West Bengal and Bihar.



Value Chain Mapping



Sources: Sweet Potato Value Chain Assessment

1. Statista
 - [Production](#)
 - [Snack food](#)
2. Agricultural Economists - [Sweet potato cultivation](#)
3. Agricultural Economic Research Review - [Biofortification for Reducing Hidden Hunger: A Value Chain Analysis of Sweet Potato in Odisha, India](#)
4. The Hindu - [Boost to sweet potato production](#)
5. Global Journal for Research Analysis - [Sweet potato as a worthy option for rural livelihood: A study on Tribal dominating villages of Jharkhand](#)
6. Krishi Vigyan Kendra (KVK), Ramgarh - [Mandate & Activity](#)
7. Agro-Economic Research Centre for Bihar & Jharkhand - [Dynamics and Revival of Fallow Land in Jharkhand](#)
8. Business Wire - [Global Sweet Potato Market Analysis & Forecast by Form, Type, Application & Geography \(2019-2027\)](#)
9. Agro Spectrum - [Jharkhand Govt to offer 90% subsidy on seeds and fertilizer for Kharif crops](#)
10. African Journal of Agricultural Research - [A review on sweet potato postharvest processing and](#)
11. Journal of Root Crops – [Economic Analysis of Sweet Potato Farming and Marketing in Odisha](#)
12. Global Science Books – [Sweet Potato Agronomy](#)
13. Posist.com – [A Step By Step Guide On How To Open A Food Cart Business In India](#)
14. Food and Agriculture Organization of the United Nations – [The Potato Supply Chain to Pepsico's Frito Lay](#)



Detailed Unit Economics for sweet potato cultivation [TRI]

Economics of Sweet Potato (Area : 0.5 Acres)					
Sr. No	Particulars	Quantity	Unit	Unit cost	Total cost
1	Ploughing & Harrowing with rotavator	1	hour	1000	1000
1.1	Bed Preparation	5	person day	200	1000
2	Fertilizers Application (75:50:75::NPK/Ha)				0
2.1	DAP	25	kg	35	875
2.2	MOP	25	kg	30	750
2.3	Urea	25	kg	10	250
2.4	Micronutrients (Ca & B)	0.5	Kg	200	100
3	Transplanting of the vines				0
3.1	cost of vines	10000	Nos	0.5	5000
3.2	labour	10	person day	200	2000
3.3	Irrigation	3	hours	300	900
4	Application of Fungicides				0
4.1	Diaethene M45 + carbendizim	1	kg	700	700
5	Application of Insecticides				0
5.1	Reagant GR	2	Kg	120	240
5.2	Fame	50	ml	18	900
6	Weeding and Earthing up	5	person day	200	1000
7	Harvesting				0
7.1	Cutting the vines	2	person day	200	400
7.2	Digging	5	person day	200	1000
7.3	Grading and Sorting	2	person day	200	400
7.4	Packaging	1	person day	200	200
	Total Expenditure		Rs.		16715
	Total Harvest	5000	kg	10	50000
	Net Profit, Rs		Rs.		33285



Unit Economics for Nursery

Vine Preparation (per ha of crop) [12]

Nursery preparation starts for sweet potato **3 months prior** to planning in the main field.

Primary Nursery: 45 days in 100 m² of primary area

- 100 kg of healthy tubers (100-150 g each) OR 1500 stem cuttings (20-25 cm each)
- Tubers/stem cuttings are planted 25 cm apart
- Irrigate every alternate day for the first 10 days and three times per week thereafter.
- Apply 1.5 kg urea on at 15th day

Secondary Nursery: 45 days in 500 m² of secondary area

- Plant vines from primary nursery 60 cm apart
- Apply 2.5 kg urea on the 15th and the 30th day
- Irrigate every alternate day for the first 10 days and three times per week thereafter.
- Cut apical and middle portions of the vines (20-25 cm) for crop cultivation.
- Cut vines with intact leaves are stored under shade for 2 days prior to planting to promote root initiation.

Due to the **frequent irrigation requirement**, feasibility needs to be evaluated for Ramgarh given the low penetration of irrigation services in the district.

Cost Breakdown [Questions to be answered]

Some key questions that need to be answered have been documented. Further **information is required** from local experts to evaluate the economic and technological feasibility of setting up Nurseries in Ramgarh:

1. Recurring cost information such as

- Input supply
- Labor related to transplantation, intercultural, and harvest

2. Fixed cost such as the equipment and land

3. Key technical assumptions such as

- Estimated quantity of water required.
- The variety of sweet potato recommended and its expected yield vs. the existing variety cultivated in Ramgarh and neighboring districts/states.
- The level of education or training that the OY would need successfully operate a nursery.

4. Financial requirements

- A need for loans or working capital due to any high upfront cost for input supplies or equipment.



Estimating the livelihood impact of Nurseries (Potato and Sweet Potato)

$$\begin{array}{ccccccccc} \boxed{\begin{array}{c} 37065 \text{ acres} \\ \text{of potato farms in} \\ \text{Ramgarh} \end{array}} & \times & \boxed{\begin{array}{c} 100 \text{ m}^2 \\ \text{space required for} \\ \text{nursery per 1 ha} \end{array}} & \times & \boxed{\begin{array}{c} 50\% \\ \text{Adoption of locally} \\ \text{produced seeds} \end{array}} & \div & \boxed{\begin{array}{c} 2.5 \text{ acres} \\ \text{(average land holding} \\ \text{size in Ramgarh)} \end{array}} & = & \boxed{\begin{array}{c} \mathbf{74} \\ \text{Potential nurseries in} \\ \text{Ramgarh for potatoes} \end{array}} \\ \text{source} & & \text{source} & & \text{assumed} & & & & \end{array}$$

$$\begin{array}{ccccccccc} \boxed{\begin{array}{c} \sim 25\% \text{ of potato} \\ \text{of sweet potato farms} \\ \text{in Ramgarh} \end{array}} & \times & \boxed{\begin{array}{c} 600 \text{ m}^2 \\ \text{space required for} \\ \text{nursery per 1 ha} \end{array}} & \times & \boxed{\begin{array}{c} 50\% \\ \text{Adoption of locally} \\ \text{produced seeds} \end{array}} & \div & \boxed{\begin{array}{c} 2.5 \text{ acres} \\ \text{(average land holding} \\ \text{size in Ramgarh)} \end{array}} & = & \boxed{\begin{array}{c} \mathbf{111} \\ \text{Potential nurseries in} \\ \text{Ramgarh for potatoes} \end{array}} \\ \text{assumed} & & \text{source} & & \text{assumed} & & & & \\ \text{based on interviews} & & & & & & & & \end{array}$$

Note that because **nursery productions are seasonal**, these figures do not translate (1:1) as a full year of employment. The nursery owners would produce seeds for other crops after the potato and sweet potato seasons. If three crops are cycled each year at the nursery, potato and sweet potato nurseries account for **one-third of the above employment figures**. Other crops would account for the remaining two-third.



Estimating the livelihood impact of Traditional Food and Chips Production through a long-term contract.

Traditional Foods (homemade snacks, food cart, etc.)

$$\begin{array}{|c|} \hline 344 \text{ villages} \\ \hline \text{in Ramgarh} \\ \hline \end{array}
 \times
 \begin{array}{|c|} \hline <1 \\ \hline \text{New food vendor per} \\ \hline \text{village} \\ \hline \end{array}
 =
 \begin{array}{|c|} \hline \mathbf{300} \text{ new business} \\ \hline \text{Related to traditional} \\ \hline \text{foods} \\ \hline \end{array}$$

[source](#)

Note that a multiplier of <1 was used to

- Limit the risk of over saturating the market
- Account for small villages that cannot support a new food vendor. These situations would be offset by larger towns within Ramgarh that can support more vendors.

The use of sweet potato will not be year-round but seasonal. This figure cannot be exclusively counted towards the sweet potato value chain. Instead, this figure can represent part of the food vending cluster.

$$\begin{array}{|c|} \hline 2920 \text{ tons} \\ \hline \text{of sweet potato is} \\ \hline \text{produced as chips} \\ \hline \end{array}
 \div
 \begin{array}{|c|} \hline 10 \text{ tons} \\ \hline \text{of high-quality sweet} \\ \hline \text{potato per 1 acre} \\ \hline \end{array}
 \div
 \begin{array}{|c|} \hline 0.5 \text{ acres} \\ \hline \text{of 2.5 acres dedicated} \\ \hline \text{to sweet potato} \\ \hline \end{array}
 =
 \begin{array}{|c|} \hline 580 \text{ farms} \\ \hline \text{benefit from the long-} \\ \hline \text{term contract} \\ \hline \end{array}
 \rightarrow
 \begin{array}{|c|} \hline 3 \text{ "vendors"} \\ \hline \text{OY's employed as} \\ \hline \text{liaisons for the farms} \\ \hline \end{array}$$

Report of PepsiCo's initial contract in Punjab

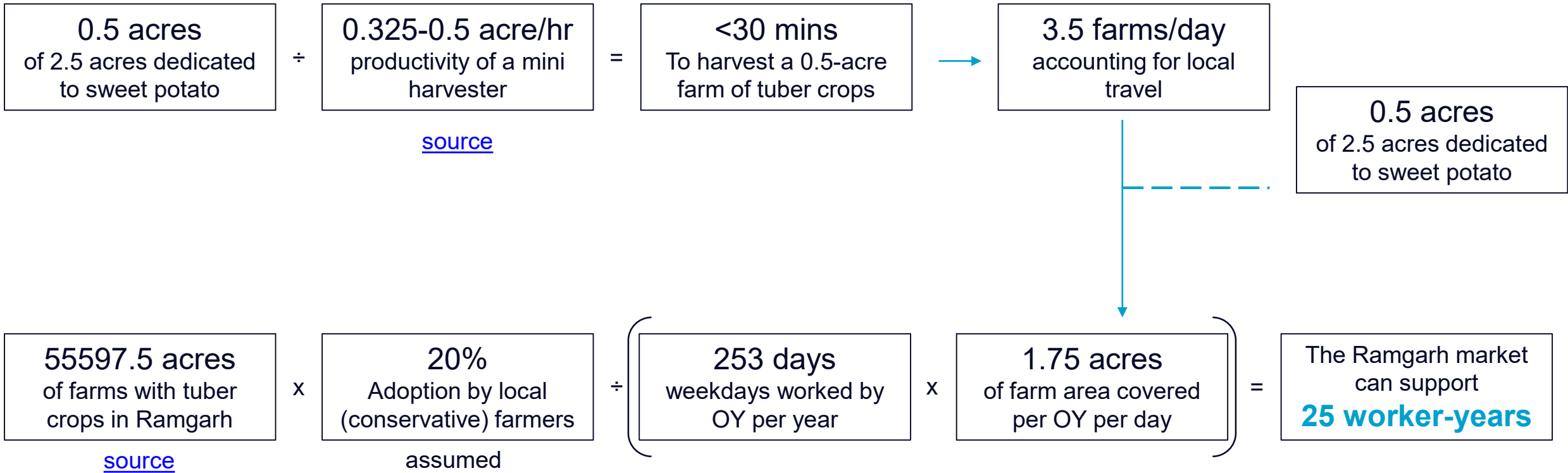
Sweet Potato Value Chain [Overview](#)

Converting 25% of the district's total production to chips (~23,000 tons), would have a livelihood impact of **4600 farms, 23 vendors, and 215 chip factory employees.**

$$\begin{array}{|c|} \hline 108 \text{ tons} \\ \hline \text{of potato per employee} \\ \hline \text{in US chip production} \\ \hline \end{array}
 \rightarrow
 \begin{array}{|c|} \hline 27 \text{ employees} \\ \hline \text{OY's employed by the} \\ \hline \text{chip factory} \\ \hline \end{array}$$



Estimating the livelihood impact of “Harvesting As-a-Service”



+25% was assumed for sweet potato

+25% was assumed for other crops

The service can potentially be offered to nearby districts outside of Ramgarh. A multiplier of 5x is assumed. In such an estimate, Harvest As-a-Service can employ **125 worker-years worth of employment for OY**.

Note that because the service can only be offered seasonally, it does not translate to full-year employment. The split between potato, sweet potato, and other crops area using this service is assumed as 2/3, 1/6, and 1/6.



Further questions to be taken up with experts in Sweet Potato value chain

Category	Context	Question(s)
Market Linkages	KVK interview: "Sweet potato is imported from WB and UP." TRI discussion: "There are some evidence that suggests Ramgarh exports sweet potato to WB and Bihar."	1 Can you let us know if sweet potato is an import or an export crop for Ramgarh? (Where is it from, or where does it go?)
Cultivation	KVK indicated that quality seed (vine in the case of sweet potato) is a local constraint for many crops in Ramgarh.	2 Can you share any financial estimates for sweet potato vine cultivation?
		3 On a related note, where do sweet potato farmers from Ramgarh currently obtain their vines?
		4 Do those nurseries use the latest cultivar from CTCRI?
Constraints	We have gathered general, agricultural constraints in Ramgarh from KVK.	5 Specifically for sweet potato, are there any local constraints?
Processing	We read that one of the value chain product of sweet potato is starch.	6 Given the lower starch content of sweet potato (vs. potato), have you come across anyone with a successful sweet potato processing business?
Processing	We realize that to compensate for the lower starch content per weight, sweet potato must either have a price premium for its starch or have better yield than potato. We were unable to find demand specifically for sweet potato starch in India.	7 Are either true?
Services	"Irrigation as a service" could be an option we could look into for SP and other crops. TRI has started for some exploration on this based on the "Project Batata" action plan.	8 How feasible is this model and do we have any estimates supporting this model?
Stakeholders	Outside of ICAR, KVK, and CTCRI...	9 Can you refer us to any other stakeholders, particularly those working in processed / value added products?



Estimating the livelihood impact of Cold Storage

Jharkhand has a gap of approximately 26 units	÷	~1/30 population of Ramgarh vs. Jharkhand	×	2x multiplier is considered due to Ramgarh's location	=	Ramgarh has a gap of approximately 2 units
---	---	---	---	--	---	---

[source](#)

assumed

5,000-ton capacity is assumed

Further research comparing Ramgarh's agri production compared against the state's production is required to determine an accurate figure for cold storage needs.

5,000 ton Capacity per one cold storage unit	×	120 (estimate to convert tonnage to sq. ft)	=	66,000 sq ft Typical facility size for 5,000-ton capacity
---	---	--	---	--

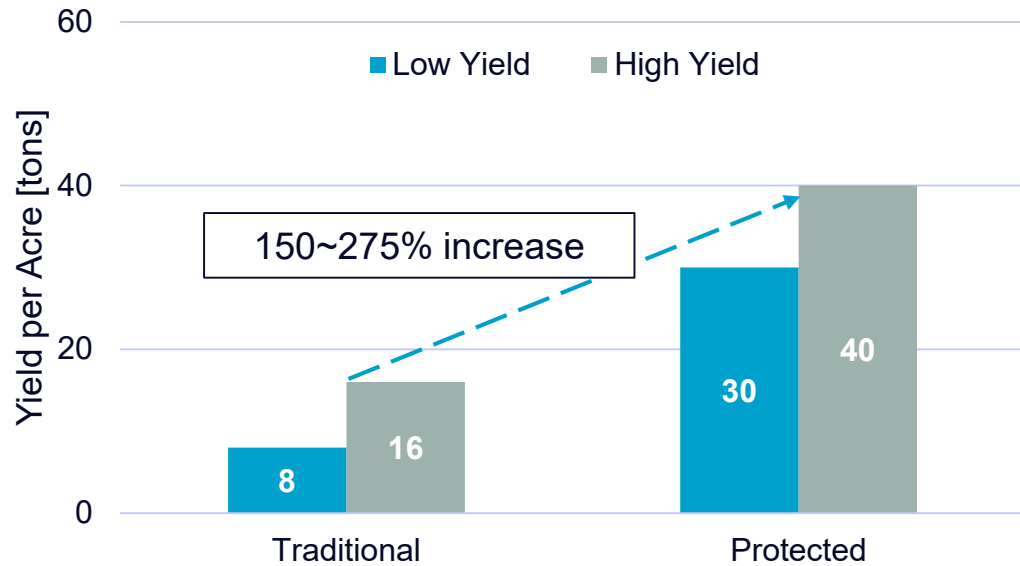
[source](#)

- A cold storage company [profile](#) with 66,000 sq. ft as the “size of premise” has its number of employees is listed to be 11 to 25. Based on discussions in Ramgarh, 25-30 people can be employed per cold storage, taking the livelihood creation potential to 50.



Exotic vegetables have a high market value in India and can be produced with significant yield improvement with the use of protected cultivation. [TRI]

Traditional vs. Protected Capsicum Cultivation



- Estimated cost for a 2000 sq. ft growing area is 280k.
- Protected cultivation provides a significant yield increase of **150 to 275%** for five years.
- The structure will provide improved protection from infestation, stray animals, and theft in addition to reducing the water loss from evaporation.
- Multiple crop combinations are possible within a year.

- Exotic vegetables have very high market value in India.
- Below is a list of promising exotic crops for protected cultivation. Values are based on a 2000 sq. ft growing area.

Crop	Cost [Rs.]	Profit [Rs.]
Colored Capsicum	5,000	70,000
Parthenocarpic Cucumbers	6,000	30,000
Broccoli	3,000	3,000
Red Cabbage	3,000	13,000
Zucchini	4,000	20,000

- Organic farming is a farming method that involves growing crops without the use of synthetic based fertilizers and pesticides.
- There are strong opportunity for synergy with local goat, pig, and poultry farmers for input supplies.



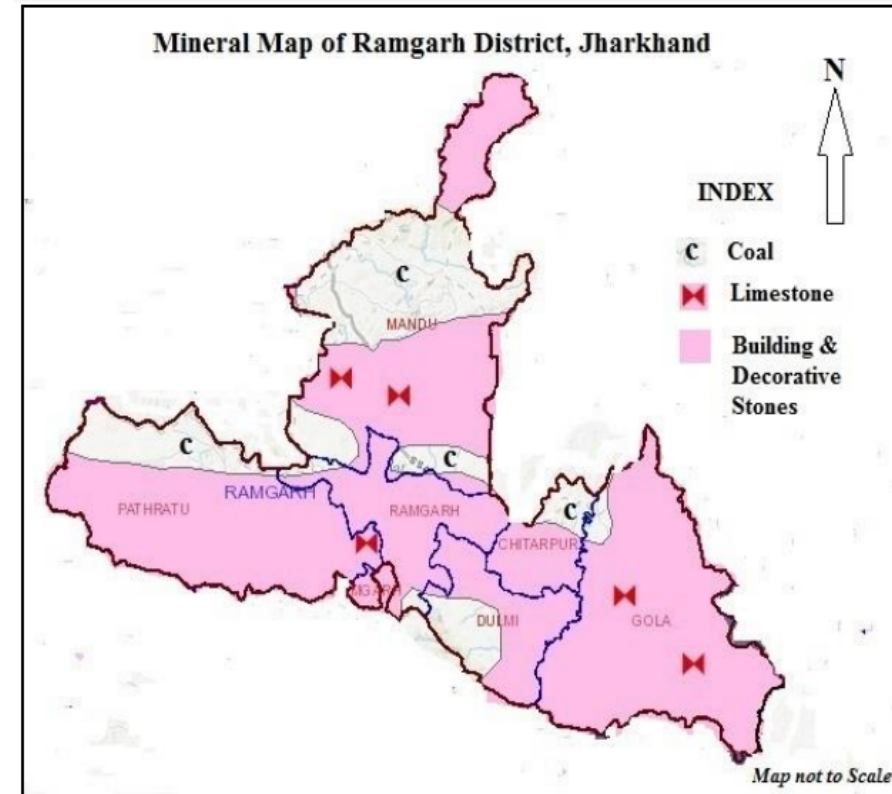
Reference

- Administrative Map
- Mineral Reserves

Figure 1: Administrative map of Ramgarh district



Source: District Census Handbook 2011, Ramgarh

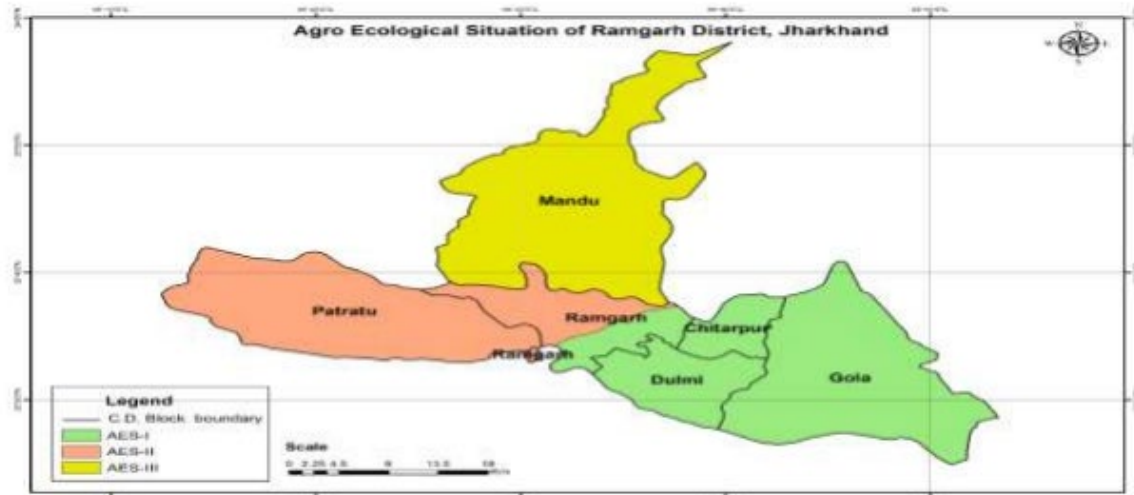


(Source: geology.jharkhand.gov.in)



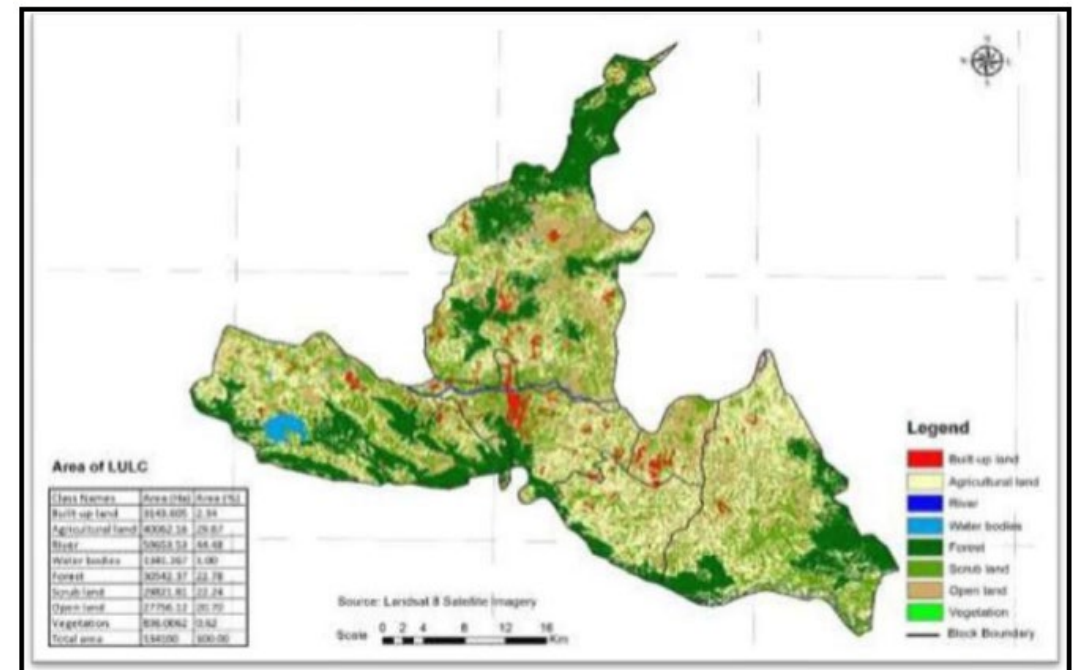
Reference

- Agro Ecological Situations
- Land-use map



Source: Strategic Research Extension Plan, Ramgarh

Land use/ Land cover map for Ramgarh district:



Source: District irrigation plan, 2016-2021



Employment Estimation for potential rural BPO in Ramgarh

The GDP contribution of Information and Technology sector in Jharkhand has shown 25% growth between 2011 and 2016 translating into an employment growth rate of 12%.

Based on manpower demand projections, the IT sector in Ramgarh has the potential to employ 237 OY within the next 1 year.

Example: Hazaribagh Rural BPOs under India BPO Scheme

The 2 rural BPOs in Hazaribagh strengthening this fact have been allotted 100 and 50 seats.

Employment Estimate according to official IBPS target employment (1.5 jobs / seat)
150 X 1.5 = 225

Employment estimate from primary research (1 full time & 2 part time / seat)
150 X 2 = 300

Hence 2 BPOs within Ramgarh have the potential to generate employment between 225-300

Thus, a pilot can be done with 1-2 BPOs with 100 seats or even as low as 20 seats each as supported by Jharkhand BPO scheme. While the IT sector estimates are based on historical data, additional demand can be created through CSCs and other services in rural areas.



Rural BPOs have increasingly been dependent on receiving projects through Common Service Centers (CSCs)



Highlights from telephonic interview with Software Technology Parks of India (STPI), Ranchi

Role of CSCs

Average Earnings: 4,000- 5,000 INR

Payments are largely unfixed and follows a **piece-based remuneration** structure- based on data entries executed.

Under IBPS and Jharkhand BPO Scheme, large corporates across Maharashtra, Hyderabad, Bangalore and NCR were invited to invest in setting up BPOs in Jharkhand. These corporates prefer urban locations as opposed to rural locations.

Rural BPOs find it **difficult to acquire big projects and are dependent on government projects**

A Rural BPO has been set up in Jamtara, Jharkhand that has **raised the socio-economic status of women in the area.**¹

There is a need for subsidies that encourage investment in rural BPOs.

Large scale digitization of government documents can **accelerate** the establishment of rural BPOs.



What are CSCs?

Common Service Centres (CSC) scheme is one of the mission mode projects under the Digital India Programme



CSCs are the access points for delivery of essential public utility services, social welfare schemes, healthcare, financial, education and agriculture services, apart from host of B2C services to citizens in rural and remote areas of the country.

CSCs offer web-enabled e-governance services in rural areas, including application forms, certificates, and utility payments such as electricity, telephone and water bills. In addition to the universe of Government to Citizen services, the CSC Guidelines envisage a wide variety of content and services that could be offered as listed below:



RAMGARH – “Digital Gateway”

SITUATION OVERVIEW

Currently, a large portion of the population of Ramgarh district migrates annually and takes up low-paying, exploitative and often hazardous work across the country. Of those migrants, 50% are youth, between the ages of 15-29. Agriculture and allied activities are the primary source of income for 42.7% of Ramgarh’s population, so making agriculture an attractive option for youth is a crucial part of the solution. At the same time, it is important to expand opportunities beyond agriculture by facilitating access to non-agriculture based work, to ultimately provide viable options for OY who wish to remain in their communities

PROPOSED APPROACH

To expand viable economic opportunities for OY in Ramgarh district by leveraging digital technologies so that OY can make a decent living in their communities, TRI proposes to set up a Digital Gateway with an agri solution (Kushal Kisan) and skills and enterprise solution (Sarathi), which will act as “One Stop Shop” for digital solutions for OY. The Digital Gateway will leverage and integrate existing solutions, and build new functionalities only where needed, to address gaps. Designed for easy scale up and replicability, it will have a “human-tech” approach to ensure the effective deployment and mass adoption of the Digital Gateway.

USE OF ACCENTURE FUNDS

Accenture’s funding will enable TRI to leverage digital technologies and expand viable economic opportunities for OY in Ramgarh district by supporting:

- Design, configuration and development of two solutions: agri platform and skills and enterprise platform
- Curation of existing OY resources, support, services, digital training and learning content, resources, information and tools
- Developing 100 Agri-Entrepreneurs who will bring the platform services to ~100 OY farmers
- Campaigns, field demonstration and onboarding of OY onto both platforms

USE OF TECHNOLOGY

The solution will be accessible through a host of interfaces such as mobile apps, portals, APIs, etc. and is comprised of 2 components:

- **Agri Solution (Kushal Kisan)**, which consists of a digital platform delivering complementary Farming-As-A-Service solutions to youth (to be complemented by Agri-Entrepreneurs who will facilitate a tech-based solution delivery to youth). The proposed services and features are existing solutions which need to be customised for the local context, and integrated onto the platform for easy one-stop access by OY farmers.
- **Skills & Enterprise Solution (Sarathi)**, which consists of digital platform to help rural youth make informed career choices (to be complemented by youth Hubs and community mobilisers to support rural youth in accessing knowledge and linkages to income generation opportunities.) The offerings, will comprise a suite of products and services integrating data from internal and external sources making it available for consumption to the primary end users (OY) as well as secondary enablers (hubs and extension) and partners.

TIMELINE/KEY MILESTONES

YEAR 1:

- Months 1-6 – Software/Platform developed; Identify & select Agri entrepreneurs, Youth Fellows and community mobilizers; outreach campaign to mobilize OY
- Months 7 - 12- System launch, Agri entrepreneurs; OY onboarding

YEAR 2

- Months 1-12 – continue project roll out/implementation

IMPACT PROJECTIONS

**See notes for rationale*

- **Connected** – 25,000
- **Improved** – 15,000
- **Transformed** – 7,000

PARTNERS / SERVICE PROVIDERS

- **Agri and Skilling orgs** – Precision Agriculture for Development, IDH - The Sustainable Trade Initiative, Digital Green, Josh talk, Mettl, Digital Saathi
- **Others** – IKEA Foundation

LEVERAGING ACCENTURE ASSETS

- Content: e-learning/skilling resources
- Technical expertise: Develop process protocols for platform deployment to facilitate replication and scale beyond Ramgarh.
- Employee Volunteers: Support and mentor OY through their digital empowerment journey



NGO Landscape

TRI - Key Partnerships

FRONTLINE ORGANISATIONS



GOVERNMENT SUPPORT



MARKET SUPPORT



THEMATIC PARTNERS: EDUCATION



THEMATIC PARTNERS: HEALTH & NUTRITION



NGO Profiles (1/4)

Name	Relevant Areas of Work	Relevant Projects	Impact	Relevance to Ramgarh Ecosystem
BAIF	Skilling and empowerment of Tribals, High Value Crop Cultivation, Tree Plantation, Dairy Husbandry, Goat Farming	Plantation of fruit trees, inter-crops, multipurpose forestry tree species, cultivation of food crops, vegetables, plant nurseries, mushroom cultivation, inland fishery, lac cultivation and tasar rearing, skilling and empowerment of tribals, artificial inseminations, cross breeding of cows, goat rearing	<ul style="list-style-type: none"> a) 400 wadi families in Chandrapur district of Maharashtra and No. of Centers: 4500 in 13 states, covering 5 million families in 100,000 villages. b) No. of A.I. carried out: 4 million/year Cows/Bufferaloes c) Value of Milk produced: Rs. 8000 Cr./Year 	The plantation of fruit trees and high value crop programs are as per the requirements in Ramgarh but there is no information of any such specific project in Jharkhand. Both Dairy Husbandry and Goat Rearing are of high interest in Ramgarh. Would be really helpful incase of land less framers in the area.
Center for Aquatic Livelihood - Jal Jeevika	Aqua Lab (Training Program for fish farmers), Aqua FPO, Aqua EDP, Credit Linkage, Market Linkage, Open Source Knowledge Platform	Inland fishing training to farmers in Jharkhand	<ul style="list-style-type: none"> a) An increase of 30-40% experimenting with value addition. b) 700 farmers are growing seedling and earning additional income. c) 25000 farmers trained on In-land fishing 	The program is designed solely around fishery and covers all the aspects from training the farmers to market linkage. The organization has good presence in Jharkhand.
Digital Empowerment Foundation	Digital Empowerment	MeraApp (app with info about welfare schemes, with comprehensive information on entitlements). Users, assisted by Soochnapreneurs, can either view the information categorized by provinces and welfare area or enter their socio-economic details to allow the app to display a list of schemes that suits the information fed into it.	<ul style="list-style-type: none"> a) 100 SoochnaPreneurs trained in information-based entrepreneurship b) 104 beneficiaries facilitated with access to with public schemes and entitlements. c) 100 rural women SoochnaPreneurs d) Training was organized in Gumla, Jharkhand on November 22 and 23, 2017, with 25 cluster coordinators from various villages of Jharkhand 	The program would help in introduction to Computers, parts of a computer, using a computer, notepad & typing, paint, Internet and its applications, make your own email & using email, basic & applications of MS Word, basics & working with MS Excel, online safety and security, WhatsApp, YouTube.
Indian Society of Agribusiness Professionals	Value Chain Creation, Skill Development & Placement Programs, Infrastructure support, Skill Development, Retail Connections, Marketing and Branding, Credit Linkage	No information of any recent project in Jharkhand	<ul style="list-style-type: none"> a) 4400 Agri-graduates (year not known) 	The end to end experience of the organization from Agri related value chain creation to market linkage is very relevant for the Ramgarh ecosystem but there are no projects in Jharkhand.



NGO Profiles (2/4)

Name	Relevant Areas of Work	Relevant Projects	Impact	Relevance to Ramgarh Ecosystem
MeJol	Social Education, Financial Education, Entrepreneurship and Business, Entrepreneurial Skills, Employability and entrepreneurial skills, Financial knowledge and skills, Financial Linkage, Soft Skill Development	Have partnership with NEEDs and LEADS in Jharkhand.	<ul style="list-style-type: none"> a) 103672 participants so far in Aflatoun b) 11058 participants in Entrepreneurship Lab 	The skill sets being imparted in these programs to children would inculcate a different mindset in the upcoming youth and this could subsequently help in reducing the number of future OYs. Soft skills and related issues have been very commonly used terms when interacting with stakeholders in Ramgarh. The soft skill development program can be helpful.
Syngenta Foundation India (SFI)	Agri-Entrepreneurs, Digital Solutions, Farmer's Hub (aggregation), Safe Vegetables (safe, high-quality vegetables)	SFI's network of Agri Entrepreneurs organizes 'co-cultivation' of several high-value crops. Strawberries are proving particularly attractive. Have done pilot projects on Cowpea, capsicum, and papaya, strawberry cultivation.	<ul style="list-style-type: none"> a) 14 AEs in 2017 across input services b) 32,240 farmers with a total land holding of 25,291 acres, c) Approximately INR 7 crores has been disbursed as loan amount to 5,753 beneficiaries d) Across Kalahandi, Jawhar Wada and Jharkhand, the total value of products sold : INR 10.28 cr 	Syngenta has already done some initial ground work in high value crop value chain creation which is being tried and piloted in many areas of Ramgarh and also it would help in improving the economic condition of the OY in the area and increase their interest in agriculture. Also the digital education is something which is much required in the area and can be easily leveraged.
Tata Project Community Development Trust (TPCDT)	Tower Erection Training, Construction Skills (Bar bending, welding, masonry and form carpentry), computer hardware, mobile repairing, plumbing, etc., Entrepreneurship Development Training	The skill development program is operational in Jamshedpur	<ul style="list-style-type: none"> a) Supported 731 SC/ ST persons across b) Various Industrial Training Institutes (ITIs), skill development programs. 	The trainings provided are very relevant to the areas of demand we came across though are research and discussion for Ramgarh. It is a sector with low capital investment, high value addition and negligible import content and high potential for export earnings.
SARDA	Artisan Upliftment	Artisan Upliftment Program from SARDA is working on training the artisans and helping them upgrade the technology being used.	<ul style="list-style-type: none"> a) 261 artisans identified for capacity building under AHVY program, clubbed into 20 SHGs. b) Artisans has received their artisans card , and enrolled under insurance. c) 50 artisans trained on the upgraded technology and new design of handicraft. 	Artisan upliftment in Ramgarh is a much needed area of work and the organization has presence in Ramgarh.



NGO Profiles (3/4)

Name	Relevant Areas of Work	Relevant Projects	Impact	Relevance to Ramgarh Ecosystem
Yuva Mitra	Direct Consumer-Farmer linkage, Assured market & price, Marketing, Bridge the "Demand-Supply" gap. Goatery, Sustainable Agri	Establishing direct Linkages between Consumer & Farmer. Establishing assured market & price for the crop by adopting multiple marketing channels. Increasing Productivity & Production of farmers through quality and balanced use of inputs. Bridge the "Demand-Supply" gap. Replicating & scaling up of double income of farmers, creating an infrastructure to start input and output services for member farmers, Goatery Based Women Livelihood , Sustainable Agri Development Program.	a) 14 FPOs formed b) 410 Joint liability groups c) 380 women trained under fashion designing d) 30 Pashu Sakhis developed and trained	Having training center in Jharkhand the program can help in training on FPO formation Goatery based women livelihood is a very relevant area for Ramgarh but there are no projects in Ramgarh.
LEADS	Skill Development	Skill development training to 760 students in both Khunti and Ranchi districts in five trades, i.e. Beauty Culture and Hair Dressing, Retail Departmental Manager, Electrical, Electronics and Fabrication. The duration of each of the trades is for approximately 6 month. In addition trainings are provided on basic soft skills improvement such as English language and fundamentals of computer.	a) 1800+ individuals trained and placed b) 25 youth trained on Motor Repairing. All of them now earning about 7000-15000 per month and some of them has started their own entrepreneur. c) More than 200 girls have been trained and placed. d) 560 youth trained in retail and most of them placed at salaries ranging from Rs. 8,000 to 15,000.	Having strong presence in Jharkhand and Ramgarh and a proven track record in multiple sectors, this can be helpful.
PRADAN	Tasar, Poultry	Working with traditional rearing communities in Bihar and Jharkhand, PRADAN identified reason for crop failure in traditional practices of tasar silkworm rearing and solved this by developing and promoting local production units (grainages) to supply disease free layings (DFLs) – eggs laid by healthy tasar moths. Hatching Hope poultry project in Odisha.	a) Assisted nearly 411,908 rural families with crop selection and access to modern markets b) 15,000 farmers are organized into 50 Agriculture Production Clusters c) Nearly 150,000 families grow cash crops, such as tomatoes, cabbages, cauliflowers, broccolis, chilies d) Helped nearly 412,000 people participate in income generation activities like agriculture, fruit orchards, tasar silk and poultry.	Tasar and Poultry both the have high growth potential in the area. The org's experience in the relevant field and rural set up would help ramp up the production.



NGO Profiles (4/4)

Name	Relevant Areas of Work	Relevant Projects	Impact	Relevance to Ramgarh Ecosystem
Udyogini	Improved farming practices, soil and water conservation, Market Linkage, value addition and collective marketing	Introduction of improved farming practices, training and exposure visit, soil and water conservation, support of quality seeds by creating a linkage through women entrepreneurs, value addition and collective marketing. Agri value chain in Jharkhand involving 3,000 women producers who are engaged in the production of cereals, vegetables and pulses in three districts. Lac CRP Drive, integrate Lac with other NTFPs like custard apple, cashew nuts, tamarind etc.	<ul style="list-style-type: none"> a) Since 2010, more than 9000 women across 4 states have been trained . b) A team of 40 Vahini's (BDSP's) has been trained and deployed to provide Agri business services to producers in Jharkhand. c) Women trained in lac cultivation - 30000 d) Production of lac increased by 40-60% after the intervention e) Average annual income of households raised to 40,000 in Jharkhand. f) Udyogini is providing technical support to JSLPS to engage 10,000 lac producers in three districts of Jharkhand through CRP drive. g) Over 4,000 producers have been trained on scientific cultivation of lac by 80 CRP's. 	The program has been helping the farmers to increase the income and women entrepreneurs in the Ramgarh region, these areas are areas of interest in Ramgarh context. LAC and other NTFP products in Ramgarh has lot of potential and these need to be used optimally for the betterment of OY condition in the district. The experience of the organization and the program can be leveraged here.



Skilling Partner Profiles

Skilling Partner Profiles (1/3)

Skilling organizations such as NMS Enterprises, Star Secutech, ICICI Foundation, CAP Foundation, Don Bosco Tech were found to be have the required experience, alignment with GOYN and high potential to contribute to the collaborative

Name	Accreditation(s)	Courses Offered	Centers in Ramgarh	Placement Assistance	Relevance to GOYN
NMS Enterprises Ltd.	PMKVY	IT-ITeS, Telecom	1	Properly working internal job search portal	The organization trains people, hire them on their payroll and outsources to other companies. Agile and growing as per the market demand.
Star Secutech Private Limited	NSDC	Apparels, BFSI, Electronics & Hardware, IT-ITeS, Retail, Construction	1	Internal HR team working with industries to source out relevant skilled people	One of the few organizations working in the BFSI and Retail sectors.
ICICI Foundation	Private Sector	Multiple courses at multiple locations. (No location in Jharkhand)	-	The foundation claims to have 100% placement record through industry partnerships.	Strong background in working for the rural ecosystem and pan India presence. And the Market Linkage skill development is something which is a burning issues in Ramgarh.
Cap Foundation	Private Sector	IT-ITes	-	Job placement and post placement support to trainees.	The organization has global presence and experience of working with deeply focused groups like Rural Youth, Displaced Youth, Retrenched, etc. which will help in the Ramgarh setup.
Don Bosco Tech	Private Sector	Beauty, Electronics & Hardware, Sewing, F&B	-	n/a	The courses offered by DB Tech like Welding, Assistant Electrician, Plumbing, Sales Associate are very relevant to the requirement of Ramgarh OY.

*Source for Placement: [PMKVY NSDC](#), and organization websites



Skilling Partner Profiles (2/3)

Name	Accreditation(s)	Courses Offered	Centers in Ramgarh	Placement Assistance	Relevance to GOYN
Ekadanta education trust	PMKVY, DDUGKY, NSDC	Apparels, Logistics	1	4* rating from NSDC	Primarily focused on apparels this is the only organization having trainings in the logistics field as well which may interest OY inclined towards this sector.
Educator Extraordinaire Limited	DDUGKY	Apparel, Aviation, Tourism and Hospitality, Retail	1	n/a	Unique diploma option in aviation makes is relevant for OY who are 12th pass and aspire to get into the travel sector.
Frostees Export India Pvt Ltd	NSDC	Apparel, Automotive, Plumbing, Retail	1	4* rating form NSDC. Organization claims to provide 100% placement assistance.	The courses offered by the organization are well aligned with the requirements of the OY in Ramgarh.
Indiacan Education Private Limited	DDUGKY	Electronics, IT-ITES, Telecom, Tourism & Hospitality	1	Placement Drives	The programs are focused towards youth and organization claims to have a high class quality trainer selection process.
Anudip	NSDC	IT and ITES (Informal Employment)	1	100% placement assistance to the successful candidates completing the courses.	Highly specified courses like Tally, Web and Graphic designing are very relevant courses which may interest the OY.
Indus Edutrain Private Limited	NSDC	IT and ITES, BFSI, Retail, Apparel	1	n/a	The organization has micro level community experience through home based courses.

*Source for Placement: [PMKVY NSDC](#), and organization websites



Skilling Partner Profiles (3/3)

Name	Accreditation(s)	Courses Offered	Centers in Ramgarh	Placement Assistance	Relevance to GOYN
Tata STRIVE	Private Sector	AC & R Operator	-	Yes	As per the course brochure the successful completion of this certification will open up opportunities in various industrial setups with Centralized AC such as, malls, hospitals, large office facilities, industries across India which is a very relevant skill in Ramgarh prospect.
NIIT Foundation	Private Sector	IT-ITes	-	Over 250 industry tie-ups for youth placement	NIIT Foundation can help youth get trained in IT and other related skills.
Vivo Health Care	Private Sector	Healthcare	-	Yes, internal job opening portal	Vivo brings in the unique spectrum courses in the healthcare sector which is not provided by many other skilling partners.
PReJHA Foundation	SPV of PARFI and GoJ	Demand Based Courses	1	All candidates entering in Gurukul are assured of Job from day 1 of training.	Demand based skilling is the need of hour In Ramgarh, there are many opportunities for which there is a significant supply gap.
Nav Bharat Jagriti Kendra	Private	Multiple market led vocational training	1	Facilitation for placement	Organization has courses like mobile repairing, bed side attendant, electrician, BPO, motor driving which were found to be in demand in Ramgarh area.

*Source for Placement: [PMKVY NSDC](#), and organization websites

