

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

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Sources:

[1] MSME Report

[2] Survey of Medicinal Plants in Ramgarh Forest

ECOSYSTEM MAPPING

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



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

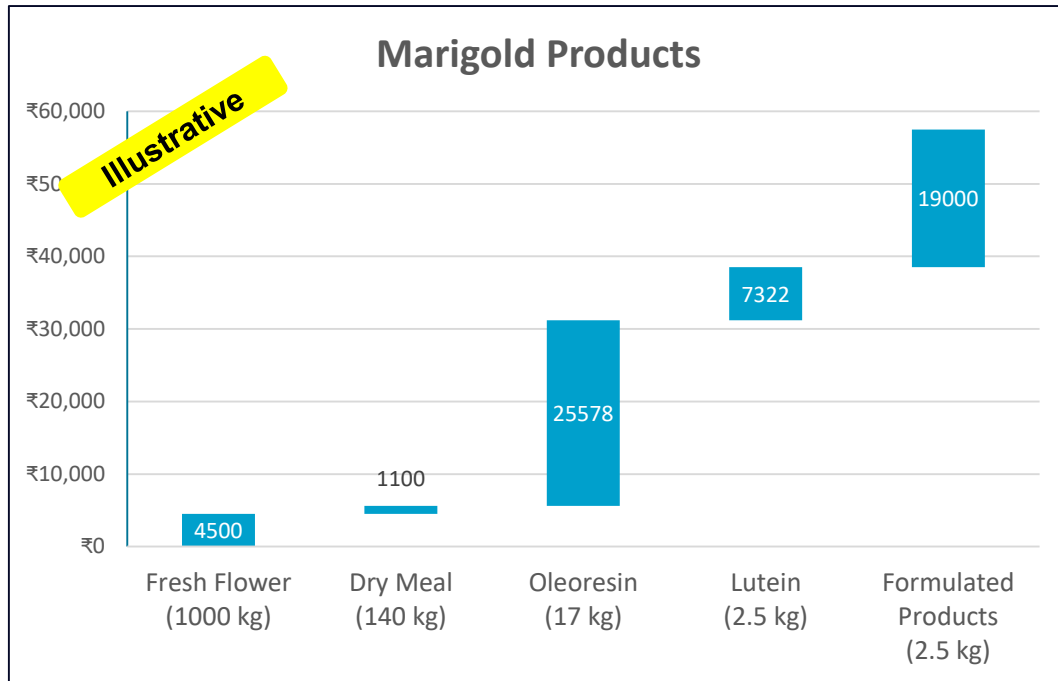
- Connect farms to new markets
- Bridge producers of primary markets with prospects of value-added processing.
- e.g. face packs, capsules, etc. made with herbal agriculture

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.

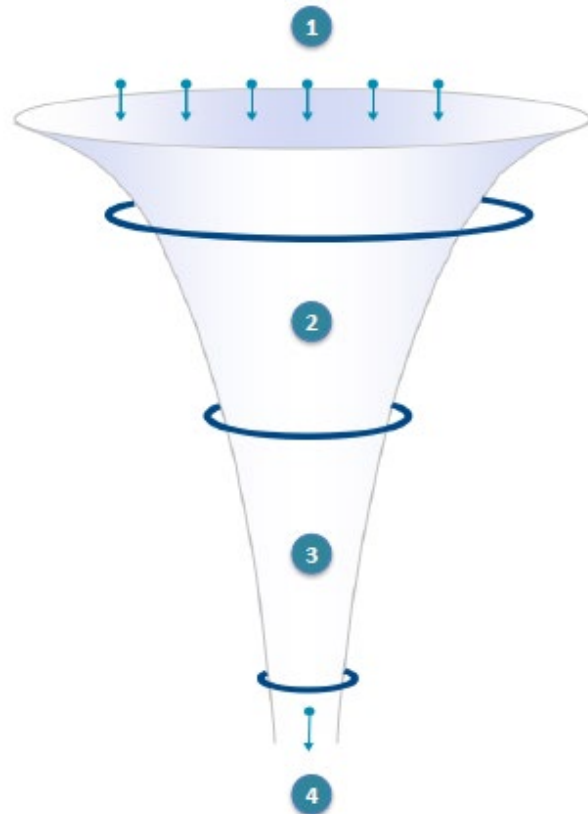
Small Business Options	Machinery	Power	Per day Usage
Farms	Irrigation Pumps	2,200 W	6.6 kWh
Mini Grain Mill	Small Mill	2,200 ~ 3,700 W	6.6 kWh
Sanitary Napkins	“Jayaashree” Machine	750 W	3.4 ~ 5.9 kWh
Leaf Cup/Plate	Press	750 ~ 1,000 W	2.3 kWh
Juice Centers	Beverage Coolers	300 W	1.8 kWh
Carpenter	Saw 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



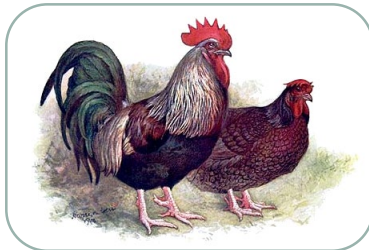
Saal



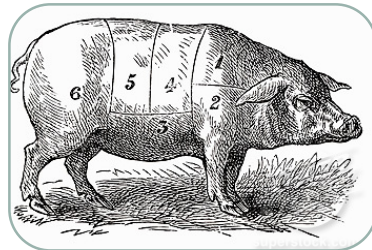
Lac



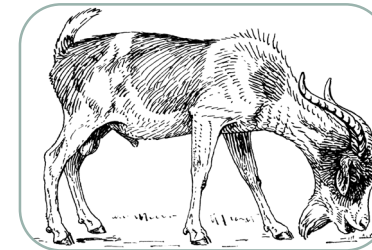
Bamboo



Poultry



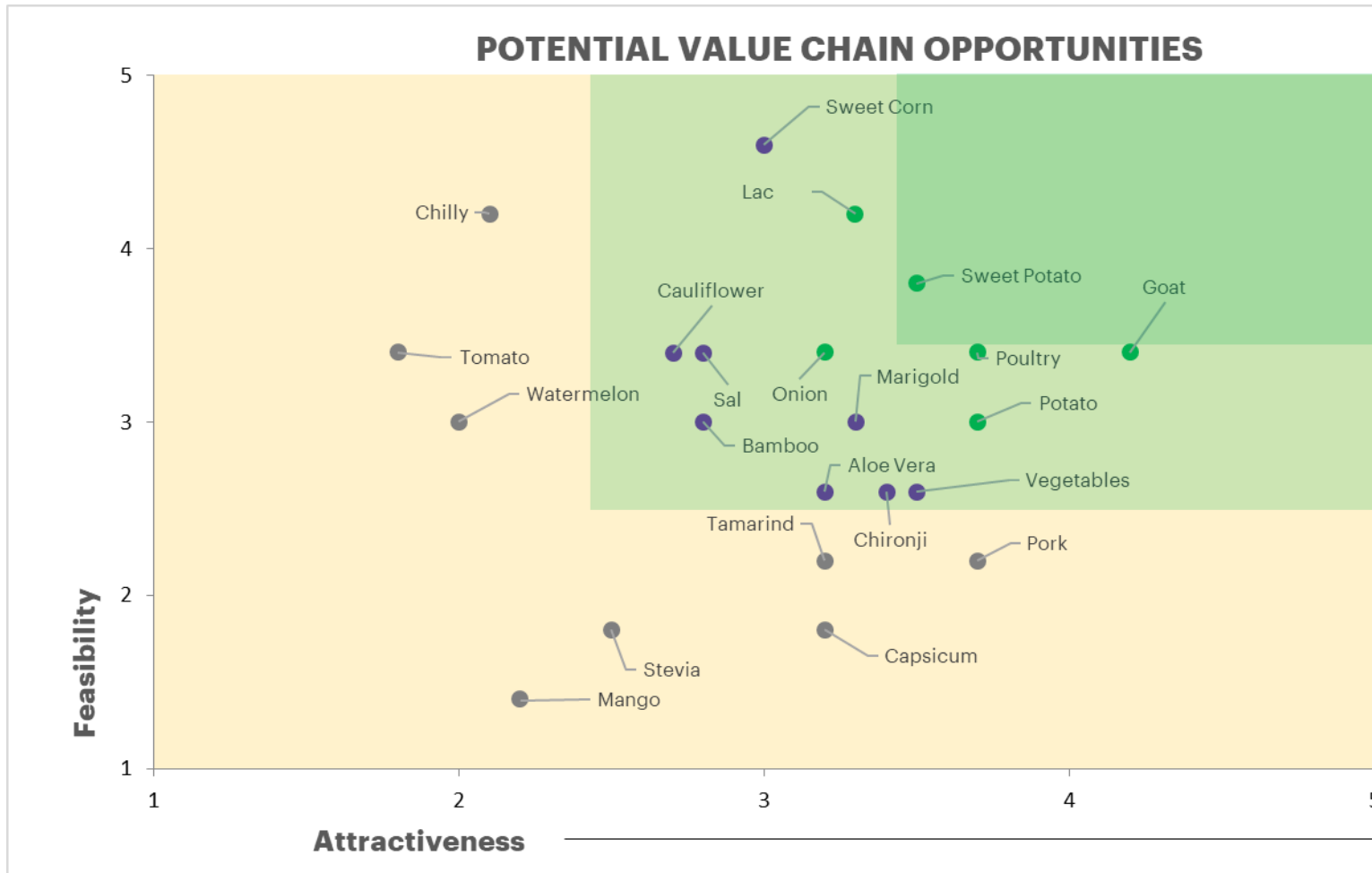
Pig



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.**

