

CLUSTER PROFILE

SALT, KARAK



Turn Potential into Profit

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1. Description of the Cluster

1.1 History and Background of the Cluster

Thought the extraction of salt for local use is not exactly known, but the commercial mining activities started in 1960s. The Rock Salt reserves of Karak are estimated to be in few billion tons¹ with an annual production of salt from the mines is about 0.3 million tons.

1.2 Description of Products

The Rock Salt of the district Karak is 98% pure with two colors, i.e., white, and light to dark grey.

1.2.1 Salt Boulders/Handpicks

The Salt extracted from mines is transported to the processing factories in Karak and the Peshawar in shape of handpicks weighing between 10 to 20 Kgs.

1.2.2 Processed Salt of Edible (A grade)

As per the Salt Processors' agreement with UNICEF for using iodized salt, the A quality salt contains Iodine.

1.2.3 Crushed Salt for Poultry Feed (B grade)

Normally the mining and processing waste salt is crushed and sold to the poultry feed producers of the Rawalpindi, and Gujranwala districts in the Punjab province.

¹ Investment Brochure of Govt. of KP: www.kpirs.pk

1.3 Core Cluster Actors

1.3.1 Detail of Manufacturing Units by Nature of Business

1.3.1.1 Salt Mining- Small and Medium Scale

The mining is normally done on small scale with an investment ranging from Rs. 3.5 Million to 6 Million whereas that of the Medium Scale mining requires Rs. 10 Million to 30 Million. The capital costs are negligibly small at quarry due to the manual labor but the major investment is required for road development to mine. The operation of quarry is on contract system covering labor and raw material expenses. The current rate of salt extraction from mine on contract basis is Rs. 280/ton.

1.3.1.2 Salt Processors

The processing is done on small scale with investment starting from Rs. 0.5 million up to Rs. 1.5 million. These exist as follows:

Area	Number of Units
Bahadur Khel	15
Jhatta Ismail Khel	10
Kohat	10
Karak	07
Total	42

1.3.2 Total Employment Generation

Business	Number of Units	Average Employment	Total Employment
Mines (12 Leases x 12 Quarries)	144	05	720
Salt Factories	42	03	126
Total Employment in Cluster			846

1.3.3 Total Production

The SMEDA, KP's industry survey estimates the annual production from Salt mines of Karak to be about 5.2 Million Tons.

1.3.4 Capacity Utilization

1.3.4.1 Mines

The average operational capacity of a salt mine is 20 tons/ Day as compared to the installed capacity of 40 to 60 tons. The capacity utilization depends upon the mines condition and the owner/operators' financial condition.

1.3.4.2 Salt Processors

The factories producing both of A and B quality salt operate at the capacity of 40 Tons per day with the share of 50% each for the two mentioned varieties. The installed capacity is about 60 Tons/Day.

1.4 Other Cluster Actors

The most prominent cluster actors are transporters and the labor contractors.

1.5 Geographical Location

The Salt Mines are located at Jhatta Ismail Khail, Karaat, and Bahdur Khel. The processing plants are established in the Karak City, Bahadurkhel, and Krapa.

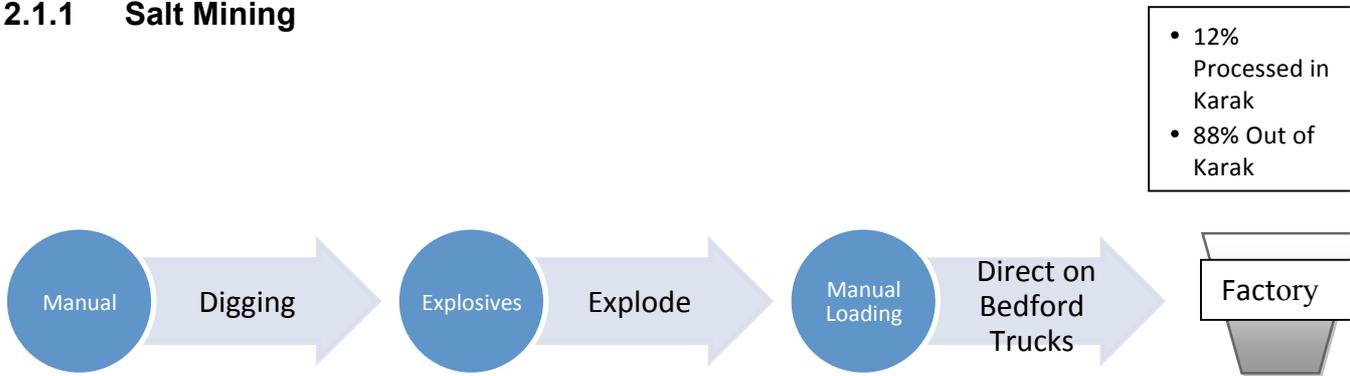
1.6 Current Cluster Scenario

The mining has shown somewhat declining situation with more than 16 mines closed due to land sliding. In terms of market, the mining sector is dormant. Similarly the processing sector's growth is stagnant.

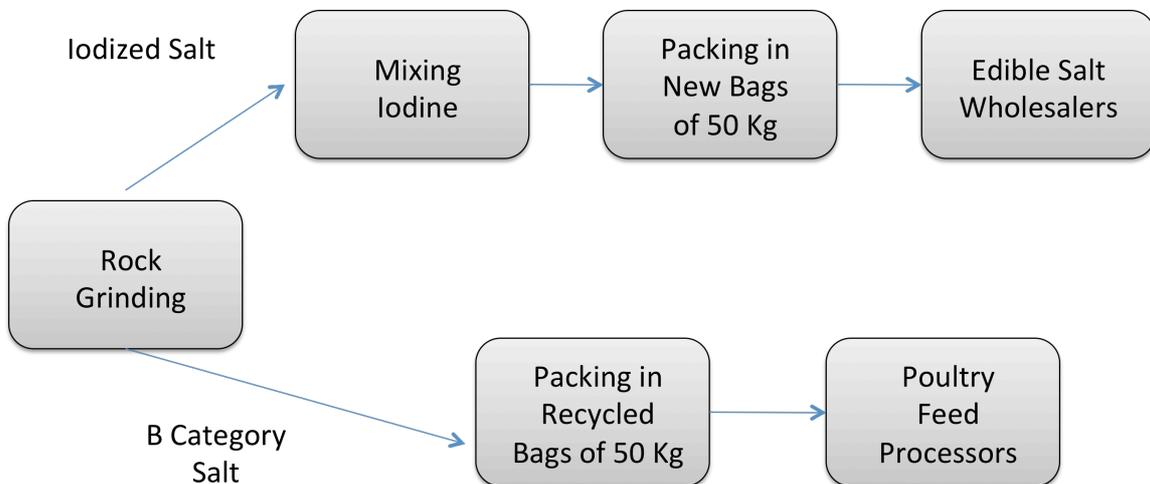
2 Analysis of Business Operation

2.1 Production Operation- Process Flow

2.1.1 Salt Mining



2.1.2 Salt Processing



2.2 Raw Materials Availability

The raw material is totally indigenous extracted from the mines of the Karak Region and the prices start from Rs. 295 per Ton.

2.3 Technology Status

The mining totally depends upon the hand held tools. There is no concept of engineering design based mining, and the successful operations depend upon the experience of mine operators and labor. Due to conventional mining techniques, the mine safety conditions are very pathetic.

The processors use the locally fabricated grinders/crushers without any idea of efficiency, energy saving, waste reduction, and productivity.

2.4 Quality Assurance

The quality of Rock salt as far as crystals are concerned, is of white solid crystal. The chemical properties of salt samples collected from different points in Karak are:²

Element	(%)
Sulfur (SO ₃ ⁻²)	1.31
Calcium (CaO)	1.73
Potassium (K ⁺)	1.65
Magnesium (Mg ⁺²)	0.11
Chloride (Cl ⁻¹)	53.91
Sodium (Na ⁺)	34.70
Moisture	0.13
Water insoluble impurities	7.98
Trace elements	(mg/Kg)
Zinc (Zn)	0.15
Copper (Cu)	0.02
Iron (Fe)	0.57
Manganese (Mn)	0.00
Lead (Pb)	0.02
Chromium (Cr)	0.37
Cadmium (Cd)	0.00

² Source: http://www.fspublishers.org/published_papers/17434_.pdf

2.5 Marketing and Sales

Marketing and Sales				
Activity	Products	Target Market	Packaging	Price/Unit (Rs.)
Salt Mining	Hand Picks	Salt Processors of KP	Open/ Loaded into Truck without Packing	295-350/Ton
Salt Processing	A Grade Powder	Salt Packing Units Salt Traders of KP	New Bags:50 Kg Polythene Bags: 1Kg	75/Bag 15-35/Bag
	B Grade Powder	Poultry Feed Manufactures of Rawat, Punjab	Recycled Bags:50 Kg	1,000/Ton or 20/Bag

2.6 Financing

The mine owners' face the problem of financing through banks and financial institutions because of the fact that mining lease is not considered as a collateral. Similarly the processors find it difficult to raise financing because their units are located in the far flung areas whereas the banks prefer the property of major cities like Peshawar.

2.7 Human Resources

The value chain components of mining and processing rely upon the contract labor system. The labor in mining and processing both is with no or less formal education. This renders the mining to be a very difficult activity with lower production.

3 Institutional Setup

3.1 Entrepreneurs Associations

The absence of Salt specific association makes the mine owners to unite under the umbrella of the Frontier Mine Owners Association which is based at Nowshehra.

3.2 Government & Semi-government Organizations

The allotment of mining leases is the subject under and implementation of provincial mineral policy. The Pakistan Mineral Development Corporation (PMDC) established in 1974 to expand and help mineral development activities in the country. Currently the PMDC is operating two projects, namely the project of Jhatta Ismail Khel, and Bahadur Khel.

The SMEDA mainly acts as a facilitator and stimulating agent for the capacity building through individual and group interactions. For the export facilitation the investors may contact the Trade Development Authority of Pakistan (TDAP).

4 SWOT

4.1 Strengths

- Huge Salt reserves: Indigenous raw material
- Required capital investment very low, because
- A salt mine can be started with simple hand held tools
- Processing unit can be commenced with a locally made chakki/grinding machine requiring a space of 40' x 30'.
- As the salt is a consumer's necessity product and also a very low priced item, so the selling of product is easy.
- Wastage at mine is not a big issue because the hand pick boulders produced at mines match the crushing requirements of the processors. The impure cobbles, pebbles, and dust are sent to B Grade processing units.
- Waste utilization practice is already present and successful due to the consumption of B Grade salt in poultry feed units.

4.2 Weaknesses

- Dependence on contract based mining labor. The labors seasonal leaves result in prolonged stoppage of operations.
- Mines to access roads are shingle, so the transportation is time consuming and difficult and no access during heavy rains.
- The management and labor has to reside nearest to mines which are remote. Therefore, they face it difficult and costly to bring and store daily necessity goods.
- Mines safety conditions are poor and the mining is hazardous.

- Obsolete Processing Machinery resulting in absence of the concept of mesh and proper filtration.

4.3 Opportunities

- ✚ The iodine mixed salt still has to increase its share, so there is a potential for such projects.
- ✚ The small scale but quality oriented processing units can easily supply into the local markets of Karak, Kohat, Bannu, and Lucky Marwat.
- ✚ Solar system's success in the district Karak indicates that the small scale processing units can be run uninterrupted on this technology.

4.4 Threats

- ✖ Closure of mines due to collapse and land sliding.
- ✖ Mining without proper idea of salt reserves resulting in loss of resources.

5 Investment Opportunities

- Excavator loaded with Jack hammer and buckets.
- Automatic Mine Mouth Salt Crushing Plant.
- Small scale processing plants selling products within the KP.
- Medium scale processing unit with hygienic processing practices and quality salt.