PRODUCT REPORT

SALT (HS 250100)

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TDAP

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Brief Profile of the Sector

Background

Salt has been an essential part of cuisine all over the world since time immemorial. Apart from the daily diet, it is used in so many things like paint, detergent, soaps, beauty industry (spas, saloons, massage parlors, health clubs and hydrotherapy) and home decoration. The industry uses it in the manufacturing caustic soda and soda ash. Its use in the dyeing and therapeutic industry as well as the de-icing of roads has only added to its significance for human beings.

Sub Sectors

There are three types of Salts in Pakistan. Sea Salt (Solar Salt), Rock Salt, and Lake Salt.

Sea Salt, also known as Solar Salt, is the smallest source of salt in Pakistan. It is produced by trapping sea water in artificially formed ponds where the sea water evaporates with the help of the sun in the form of hot weather and the flowing winds.

The Rock Salt found in Pakistan is arguably amongst the best that can be found in the world. The purity levels of these rock salts can go up to 99% with minimum impurities. There are four different types of rock salts, in term of crystals, namely; pink solid crystals, white solid crystals, soft lumps, and soft crystalline lumps. The soft crystalline lumps are so soft that one can easily break them down with their hands only, hence the name. Pakistan is an excellent country for salt production due to the many salt ranges. The ranges stretch from Kalabagh to Jhelum in the province of Punjab. Other than that, the geological surveys of the Pakistan Mineral Development Corporation (PMDC) have stated that there is about 2.65 billion tons of salt present in the province of Khyber Pakhtunkhwa alone. Furthermore, the reserves at Bahadurkhel in Kohat are estimated to be 10.54 billion tons. Currently, the production estimate for rock salt from all the salt mines comes around to be about a little over 2,000,000 tons per annum.

The salt products include products made of rock salt crystal ranging from lamps, tiles, candle stands, salt soaps and various decorative shapes / pieces. There is a growing demand of salt products in western countries due to its healing properties for their natural curative properties and distinctive color composition of decorative items. Pakistan’s salt products are well known all over the world for their distinctive composition and craftsmanship. Pakistan holds one of the largest reserves of salt deposits in the world. Growing international demand for salt products, availability

of cheap and skilled labour coupled with abundant raw material offers new start-ups a very promising opportunity to venture into salt products manufacturing. The rock salt crystal products are highly suitable for decorative and natural curative purposes in homes, offices and restaurants, etc.

In an effort to curb the unauthorized use of Pakistan's indigenous products by other countries, Pakistan has recently announced to register its pink salt as the Geographical Indications (GI). The registration will serve as a potential economic tool to promote and enhance national and international trade of Pakistan and earn revenue

Geography

Production in Pakistan, which has the world’s second largest global salt deposits, produces only four million tons of the world’s total salt, which is around 300 million tons. The major destinations of Pakistani salt are currently the United States, Europe, UAE, Australia, Japan, South Korea, and African countries where it is used in the textile, leather, and chemical sectors.

Pakistan has two major sources of salt extraction. The first is the world’s second largest salt mines, the Khewra Salt Mine, located in the Punjab province, and the main source of Himalayan pink salt. The second source are saline lakes, landlocked bodies of water that have a concentration of salts and other dissolved minerals significantly higher than most lakes. There are 170 salts lakes in this part of Pakistan [Sindh province] which are producing industrial grade salts.

Figure 1 Salt Map of Pakistan

Upto half a million tonnes of sea salt further enhances the production figure. With the addition of largely undocumented lake salt, Pakistan becomes one of the few countries that are bestowed with all three sources of salt. Khewra salt mines are the world's oldest and second largest and produce 450,000 tons of salt annually; 99pc salt produced here is edible. Pink salt, which is of high quality, is the most sought-after variety and is produced in abundance at Khewra. 160km south of Islamabad, Khewra mines are 3398 acres, and produces 98% pure salt, room and pillar mining method is used and 389 thousand tons per annum salt is produced.

Akrach Salt Mines are located at the foothills of Salt Range. Approximately 117 thousand tons per annum are produced here, rest of the data is not documented. Warcha Salt mines located 276km south of Islamabad, produce white crystalline salt. Kalabagh Salt Mines are located on the bank of Indus River. 13 different types of salt is found here. Salt is mined manually from 80 meters deep chambers. Bahadur khel salt mines are located 265 km from Islamabad. Light grey to dark grey salt is produced here.

Jatta Salt mines are located 217 km from Islamabad and produce white to dark grey salt. 61 thousand tons of Salt is produced here.

Contribution to Economy

According to officials from the Pakistan Mineral Development Corporation, Pakistan's annual export of salt totals around 400,000 tons. Pakistan's national economy has suffered a huge loss as any country can sell Himalayan pink salt with their own tag, but after the GI registration that would not be possible. The value of exports of commodity group 2501 from Pakistan totalled $ 59 million in 2020. Sales of commodity group 2501 from Pakistan went up by 20% compared to 2019: went up by $ 10.1 million (cumulative exports of commodity group 2501 from Pakistan amounted $49 million in 2019). The export of 2501 amounted to 0.268% of total exports from Pakistan (cumulative merchandise exports from Pakistan totalled $ 22 billion in 2020). The following table shows production in million tonnes in the past five years of Salt (HS 250100) in Pakistan [1]

Year	Production in last 5 years (Million Tonne)	
	Rock Salt	Sea Salt/Lake Salt
2014-15	2136361	205454
2015-16	3552948	219072
2016-17	3534075	209076
2017-18	3653746	234598
2018-19	3796634	189453

[1] Pakistan Bureau of Statistics Bulletin May 2020

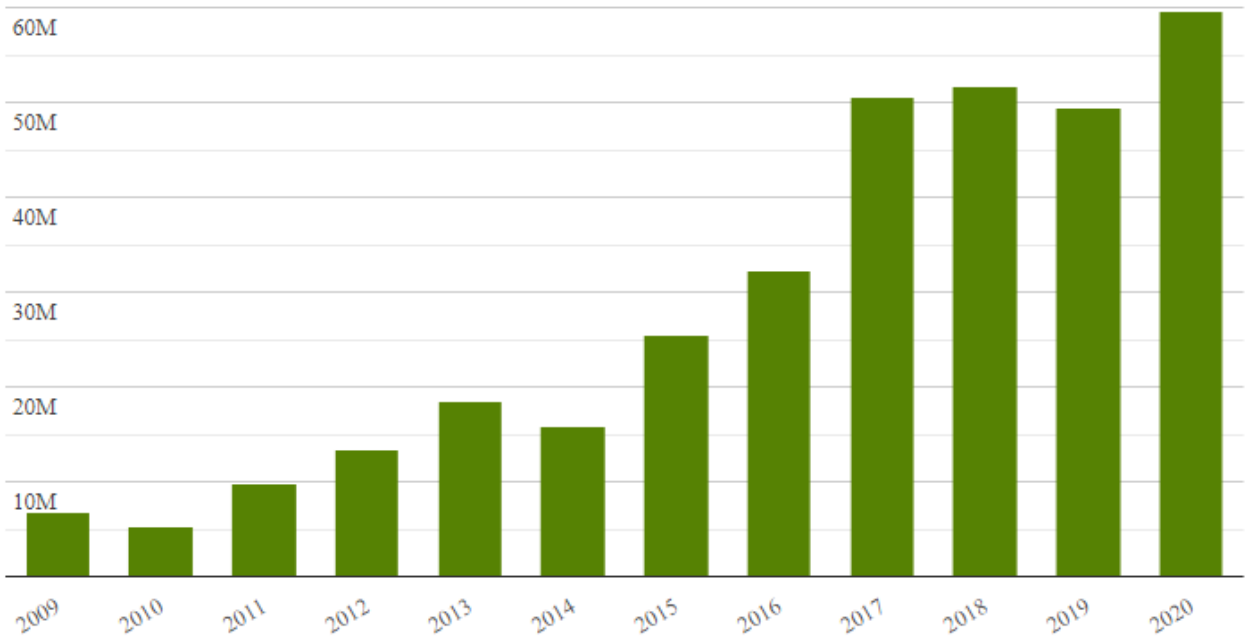


Figure 2 Exports of Commodity 2501 from Pakistan to the World

Employment: There are 686 miners currently registered with the Pakistan Minerals Development Corporation (PMDC) who are working at Khewra salt mines while 10pc miners are not registered as they are those who occasionally work with the registered miners.

Value Chain

The salt processing industry is represented by salt processing companies and the salt user industry is represented by salt users (food and non-food industry). The structure and model of salt supply chain

Production Process:

Rock Salt:

The 209km belt of rock salt from to Khewra to Kohat region of Punjab produces Salt of various colors from white to dark pink and grey. There are two modes of sourcing rock salt from mines. First is to approach the contractors who are in terms with the government via private lease. The other method is to approach PMDC to acquire raw salt from mines.

The land where mines are located are given to individuals who have been residing in the area since long, and are therefore accommodated by the government that has endowed upon them a share in the produce acquired by mining. These individuals/land owners agree to government's

requirements about rates at which the resource shall be sold. They charge Extraction charges and other charges are also based on the weight of the resource that is to be sold.

The second way of acquiring raw salt is via PMDC that provides raw material on behalf of government of Pakistan. Interested parties register their demand, quantity and size of salt stones, make payments to PMDC and acquire the material that is loaded in 9-10 ton capacity trolleys.

There are middlemen involved at this stage that acquire salt of all types (large-small stones, coarse-fine grain) from PMDC and store them at privately owned warehouses in Quaidabad, a small town near Khewra. PMDC also has a depo where they store the orders received from buyers.

The rate of salt stones varies with each size.

Blocks of salt are cut into small pieces by cutters. Lathe machines are used to shape and size salt pieces into lamps and candle stands etc. Finishing operations are carried out on a grinder and drill machine. Natural profile products (natural shape) are made on grinders and hand drills. Low expressive gunpowder is used in blasting which helps in the excavation. The workers load salt onto tractor-trolleys and dealers who transport the salt to other cities. The miners in Khewra still use the same old traditional way – drilling/blasting followed by excavation by hand. Perhaps this is the reason that despite having the second largest salt mines of the world and having salt reservoirs of 10 billion tons (6.68 billion tons alone hidden in the jagged rocks of Salt Range in Khewra), Pakistan is still listed as 17th in salt production in the world. It contributes hardly one percent in the total global salt production.

Salt Lakes:

The annual production of the two lakes alone is around half a million ton. It is a natural process as the rainwater flows into the lake and it takes around three to six months before it gets ready for the harvest. The harvested raw salt is dumped at the side of the lake from where it is moved to the processing plant for refining and packaging. During the harvesting season, around 800 locals are employed while 70 others remain employed on the plant through the year.

Global Demand and Supply Chain of Salt

The total value of exports of HS-2501 in thousand US dollars (2019) is 2,853,783. In 2019, the Netherlands was the leading exporter of salt worldwide with exports valued at approximately 287.36 million U.S. dollars. Its share in world exports of Salt under HS 2501 is 10% (2019) [2]

In that year, Germany exported 264.86 million U.S. dollars' worth of salt worldwide. The category of Salt that Netherlands exports consist largely of Salt to be used for industrial purposes (Figure 3)[3]

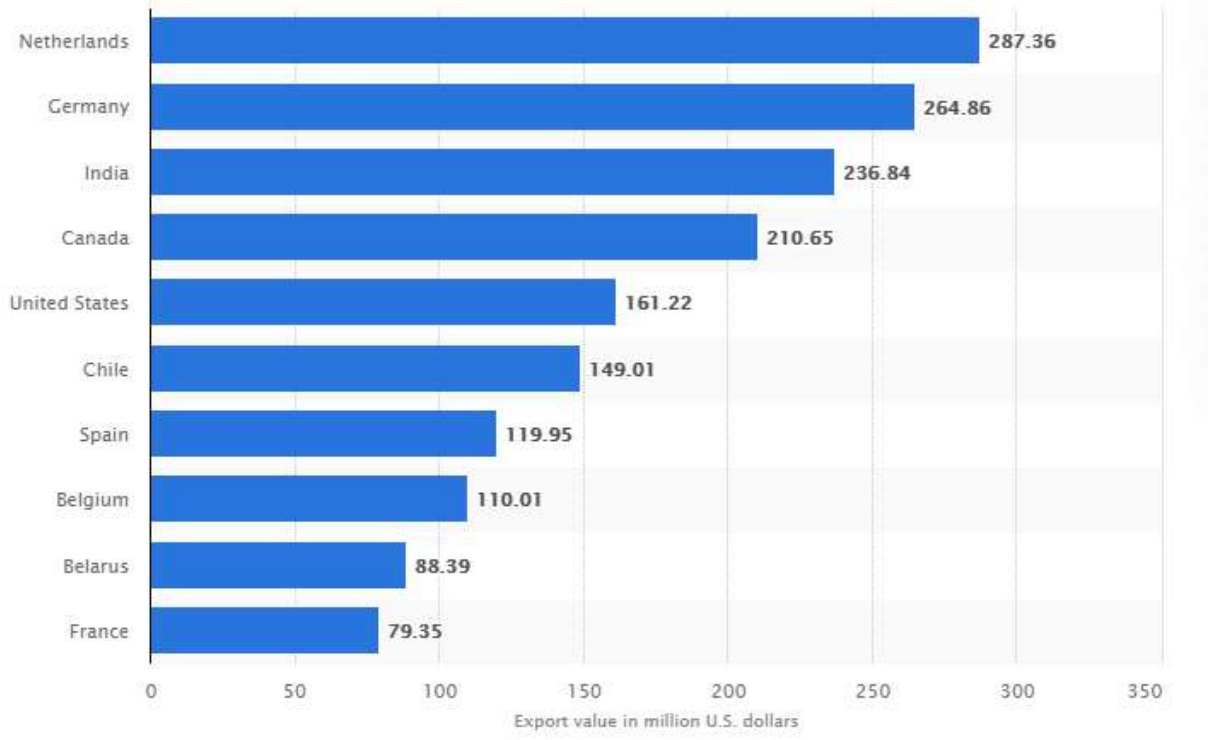


Figure 3 Trade value of salt exports worldwide in 2019, by leading country (in million U.S. dollars)

[2] ITC calculations based on UN COMTRADE statistics
[3] Ibid.

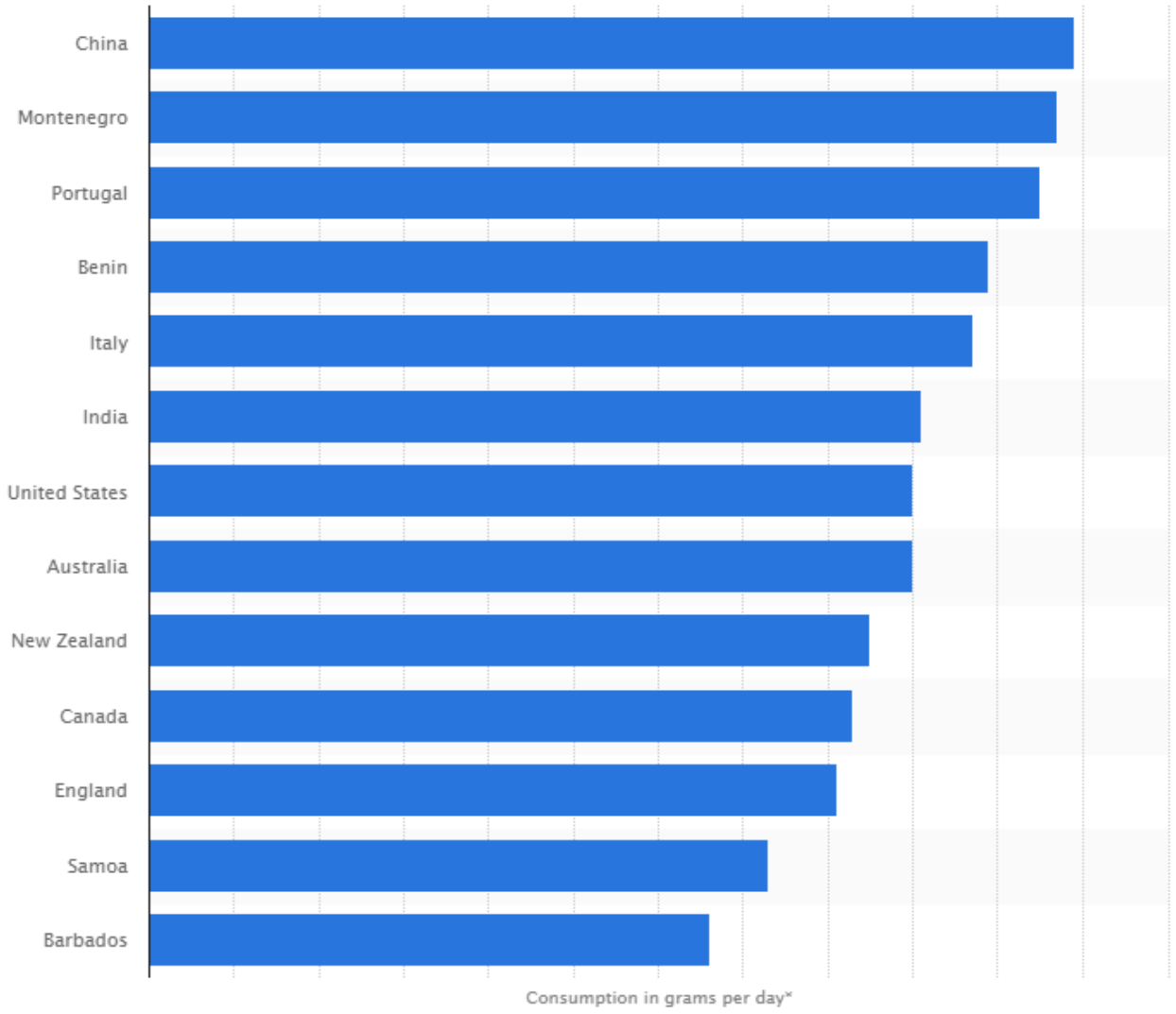


Figure 4 Salt Consumption worldwide per day per person by country (2019)

According to the study, the estimated mean adult salt intake equivalent in China amounted to 10.9 grams per day as of 2019. In the United States salt consumption per adult was estimated to about 9 grams per day. The global salt market was valued at about 28 billion U.S. dollars in 2019. The market is projected to reach a value of over 32 billion U.S. dollars by 2025.

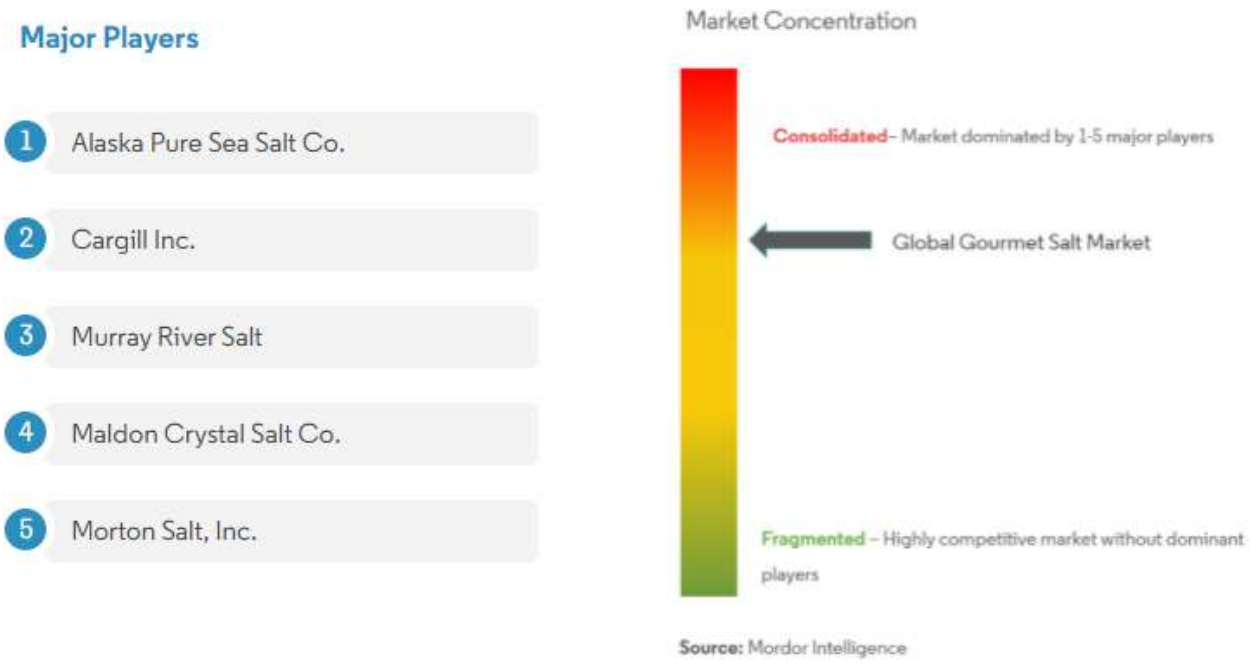


Figure 5 Major Players in Top Economies of the World

Salt is produced by the solar evaporation of seawater or inland brines, mining of rock salt and solution mining of brines. Solar salt typically accounts for around 40% of global production compared to 35% for brine and 25% rock salt, although these shares vary between years according to weather-led demand, as rock salt is preferred for road de-icing.

Salt's main use is in the chemical sector, primarily in the production of chlor-alkali and synthetic soda ash. The other major end uses are de-icing and human consumption. These four major markets account for over 75% of salt demand, which varies between 300m and 330m tpa, depending on weather conditions in the Northern Hemisphere. The remainder is consumed in markets such as animal feedstuffs, water treatment and industrial applications.

The importance of the four major markets differs markedly between regions (see *Figure 1*). The Asian chlor-alkali and synthetic soda ash industries are the largest consumers using over 110m tpa of salt or around a third of the global total. Asian countries are also the largest regional consumers of salt in food. Road de-icing is usually the largest market in North America (20-40m tpa) and is also important in Europe (10-15m tpa).

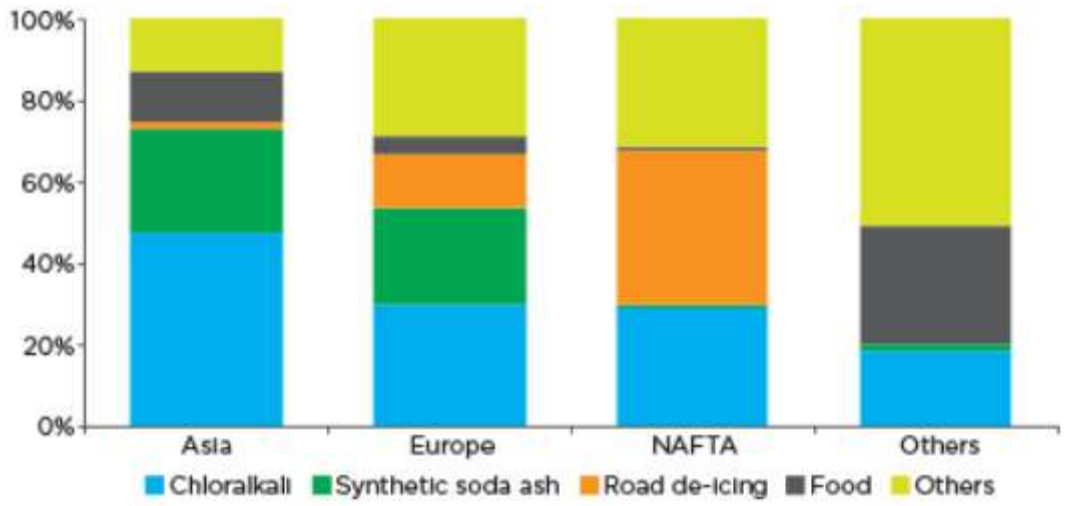


Figure 6 World consumption of salt by region and market (%) [4]

Chlor-alkali and chemicals

Chlor-alkali production is the biggest market for salt worldwide, accounting for around 125m tpa. Regional consumption of salt in chlor-alkali is concentrated in Asia (70m tpa), North America (23m tpa) and Europe (22m tpa).

Chlor-alkali production involves the electrolysis of purified salt brine to produce chlorine (Cl2) and caustic soda (sodium hydroxide, NaOH) along with co-product hydrogen gas. On average, 1.75 tonnes salt is required to produce 1 tonne of chlorine, 1.12 tonnes sodium hydroxide and 2.8kg hydrogen.

Around two thirds of chlorine is used in the production of organic chemicals and the balance in inorganics. The most important organic compound in terms of volume is ethylene dichloride (EDC), the prime chemical precursor to polyvinyl chloride (PVC). Caustic soda is a widely used alkali in many industries, including the aluminium and food sectors, textile production, soap and other cleaning agents, water treatment and effluent control.

Markets for chlorine and caustic soda are cyclic and levels of consumption rarely coincide. Chlorine consumption is the main driver of chlor-alkali production because it is toxic, cannot be easily transported and is expensive to store. Caustic soda can be transported and stored relatively

[4] Roskill

easily but can be substituted for in many, though not all, applications. Substitution occurs when supply, set by chlorine consumption, is tight and prices are relatively high.

Rising demand for PVC and its precursors have been the main factors driving chlorine production in recent years. Global PVC capacity is over 45m tpa, of which some 24m tpa is located in China where the huge construction sector has provided the main stimulus. Remaining capacity is distributed equally between other Asian countries (primarily Japan, South Korea and Taiwan), Europe and North America.

Caustic soda also has a wide range of end uses, including alumina production, pulp and paper manufacturing and chemical processing. Global consumption of caustic soda is over 70m tpa.

Synthetic soda ash capacity is around 48m tpa and is mostly located in China (28m tpa) and Western Europe (10.5m tpa). Production is based on variants of the ammonia-soda process, which uses salt-in-brine, limestone and ammonia as primary raw materials. The Solvay process is the most widely used method globally, but the Hou method is commonly used in China. Estimated global production of synthetic soda ash rose from 22.7m tonnes in 2000 to almost 40m tonnes in 2015, representing an average annual growth rate of around 4%. On a regional basis, estimated production is concentrated in Asia, mostly China. Operations in Western Europe, the CIS and Turkey account for most of the remainder. Synthetic soda ash competes with natural material, which is mainly produced in the US but also in Turkey, China and Africa. Natural, mined soda ash has a much lower production cost, but tends to be located long distances from consumers.

The glass industry is by far the most important market for soda ash, followed by sodium chemicals such as silicate and bicarbonate. Global glass production is estimated at over 185m tpa and is concentrated in Asia, followed by Europe and North America. Container glass accounts for around 40% of the total market, followed by flat glass at 37%, fiberglass at 7.5% and other glass at 15.5%. The largest national market for glass is in China where production has been stimulated by both rising domestic consumption and exports.

A greater proportion of Chinese synthetic output is likely to come from the more salt-intensive Solvay process in the future, which should mean that demand for salt from the Chinese soda ash industry will rise at a higher rate than production. In India, domestic synthetic producers will meet most of the anticipated increase in local demand as they are protected from competition to a

significant degree by import tariffs. Consumption is expected to grow in North and Latin America, where most, if not all, demand will be met by natural material produced in the US. Consumption growth in Africa and the Middle East is expected to be largely be supplied by natural sources in Turkey and Kenya, in addition to traditional suppliers. In Europe, EU demand is forecast to show little growth and could even decline in some areas, such as the CIS.[5]

De-icing

De-icing, the third-largest market for salt, tends to use 33-40m tpa[6] on average but can exceed 50m tonnes in exceptional years. Rock salt is the main type of salt used for de-icing, accounting for over 95% of US and around 70% of EU consumption. North America is the largest market, followed by Europe and Asia. The amount of salt consumed in this application depends almost entirely on the severity of weather conditions during winter and can show very large variations from year to year and between regions.

Since 2002, US consumption of salt in de-icing has ranged between 11m tpa and 23m tpa. European usage of de-icing salt is smaller than that of North America, as the continent's winters are usually shorter and less severe. The main markets in Europe are Germany (3m tpa) and the UK (2m tpa), followed by Scandinavia (1m tpa).

In Asia, an estimated 3m tpa is used in China, Japan and South Korea. Chinese investment in domestic infrastructure and rising use of road transport may lead to greater use of de-icing salt in Asia in the foreseeable future.

Food

The fourth major market for salt is in food and food processing. The size of regional markets is directly related to the size of populations, so the largest is in Asia, followed by Africa then Europe and North America as shown in the figure below,

[5] Roskill
[6] Tonnes per annum

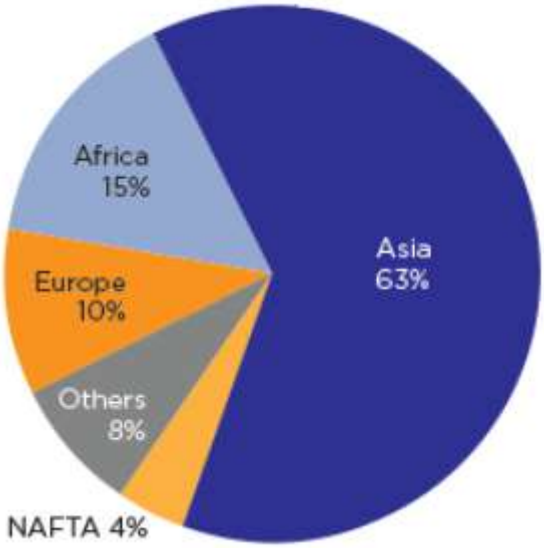


Figure 7 Estimated consumption of Salt in food/food processing by region (2018)[7]

Asia accounts for almost two-thirds of global salt consumption in food and food processing because of the size of its population (4.23bn in 2015) and relatively high per capita consumption (estimated at 12g/day). Within the region, the main markets are in China and India. In industrialized regions such as North America and Europe, some three-quarters of salt intake is from processed and prepared foods, with the remainder coming from table salt.

[7] Roskill

Demand growth

World demand for salt is forecast to rise by an average of 2% per year to almost 400m tonnes in 2025. Much of the increase will be in Asia (especially China and India), where it is expected to reach around 200m tpa. In North America, demand is forecast to reach 95m tpa and in Europe some 80m tpa. Demand for salt in chlor-alkali is expected to grow by an average of nearly 3% per year from under 125m tpa to almost 160m tpa by 2025. Most of this will be in Asia, especially China, where demand is forecast to rise by over 25m tpa. Indian demand is also set to rise as chlor-alkali capacity grows to supply rising domestic demand. Outside Asia, regional supplies of salt are expected to be sufficient to meet the rise in demand. North American consumption is slated to increase by over 3m tpa, partly because of an increase in PVC production for export markets. Demand in both Europe and the Middle East is expected to grow by over 1m tpa. Demand for synthetic soda ash is forecast to reach 65m tpa in 2025, most of which will be in Asia, led by China and, to a lesser degree, India.

Elsewhere, salt consumption in synthetic soda ash is forecast to remain largely flat and may decline slightly in some areas. An exception may be the Middle East where a number of potential synthetic soda ash projects and capacity expansions are located. Global demand for de-icing salt will continue to continue to fluctuate between years, following weather patterns.

Overall, global demand is forecast to be around 35-50m tpa in 2025. The effects of climate change on winter weather patterns are yet to be seen, but there are indications that the average severity of winter weather may be lessening. Some winters, however, may be much more severe than average, requiring higher amounts of salt. The expansion of road networks in northern latitudes will also increase use of salt in de-icing.

The world population is predicted to rise above 8bn by 2025, based on anticipated average expansion of around 1% per year. If per capita salt use remains similar to current levels, then food and food processing will account for around 33m tpa of consumption. However the use of salt in food may fall as concern grows about its potential adverse health effects. World Health Organization (WHO) member states have agreed on a voluntary reduction of 30% in mean population intake of salt, with the aim of achieving individual consumption of less than 5g per day by 2025. If global per capita use were to fall to WHO guidelines, then forecast salt demand would be less than half its current total.

Trade Statistics

Despite imposing production figures and extraordinary deposits, Pakistan has not been able to fully exploit its salt potential, particularly in the export sector. The Netherlands topped the exporters' list in 2017 with $280m, followed by Belgium at the bottom tenth with $85m. With the exports of $50m, Pakistan was placed on the list of emerging countries.

Salt Exports from Pakistan – Exported Value (Last 5 years in US $ 000)

Code	Product label	2015	2016	2017	2018	2019
25010020	Rock Salt	15776	17177	26743	26047	28874

25010090	Other	8282	12432	20430	21488	16220
25010010	Table Salt	1043	2028	2192	2188	2637
25010030	Sea Salt	380	709	1262	1940	1619

Exporters say that annual global demand for quality salt is around 270m tonnes. China alone needs well over 60m tonnes and, despite being a huge producer, faces a shortfall of around 10m tonnes. If Pakistan can somehow meet only the Chinese shortfall, which it easily can because of its geographical proximity, the country can multiply its export figure. The global market may not have much demand for table salt, but the commodity's use in industrial and beauty segments has a lot of promise that Pakistan should explore.

Top export destinations of "Salt (including table salt and denatured salt) and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents; sea water." from Pakistan in 2020:

USA with a share of 24% (14.6 million US$)

United Kingdom with a share of 8.19% (4.88 million US$)

Germany with a share of 6.79% (4.05 million US$)

United Arab Emirates with a share of 6.19% (3.69 million US$)

Brazil with a share of 5.43% (3.24 million US$)

China with a share of 4.84% (2.88 million US$)

Australia with a share of 4.56% (2.72 million US$)

Malaysia with a share of 3.23% (1.93 million US$)

Russia with a share of 2.5% (1.49 million US$)

Italy with a share of 2.19% (1.3 million US$)

Top trading partners (import of "Salt (including table salt and denatured salt) and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents; sea water.") of Pakistan in 2020: [8]

Denmark with a share of 32% (227 thousand US$)

China with a share of 27% (192 thousand US$)

Austria with a share of 18.5% (129 thousand US$)

New Zealand with a share of 11.2% (78 thousand US$)

Germany with a share of 6.77% (47 thousand US$)

Afghanistan with a share of 1.36% (9.55 thousand US$)

Greece - 3.9 thousand US$

Turkey - 2.31 thousand US$

United Kingdom - 1.84 thousand US$

Indonesia - 1.58 thousand US$

[8] Sources: ITC calculations based on UN COMTRADE and ITC statistics.

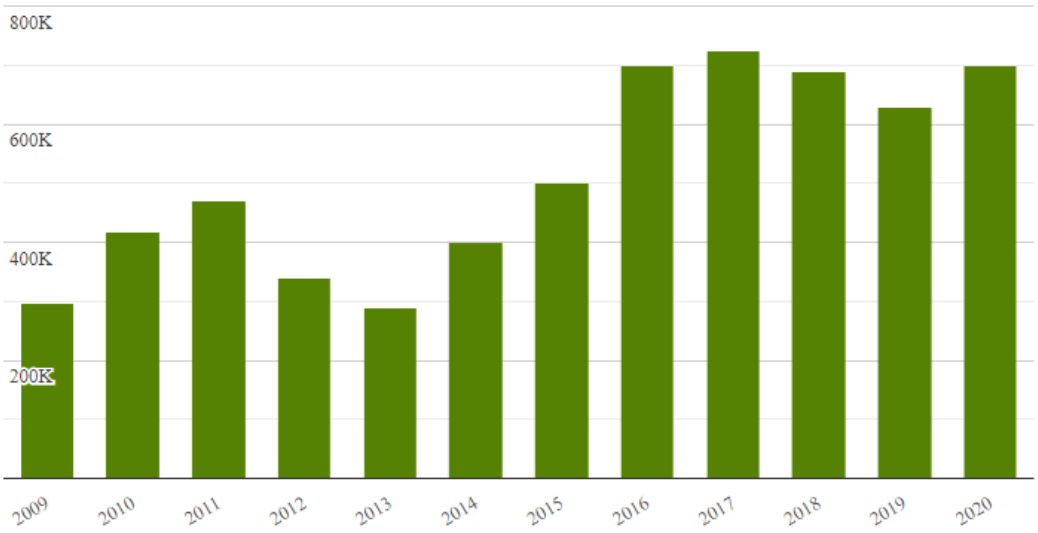


Figure 8 Pakistan's imports of HS 2501 (2020) and over the years

Pakistan’s exports over the years:

At the 6 digit HS level, Pakistan's exports represent 1.7% of world exports for this product, and its ranking in world exports is 17. There are four subcategories of this product at national level (at 8 digit level) in Pakistan as shown below:

2501	Salts, incl. table salt and denatured salt, and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents; sea water
250100	Salts, incl. table salt and denatured salt, and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents; sea water
Product code	**Product label**
25010020	Salts, incl. table salt and denatured salt, and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents; sea water: rock salt
25010090	Salts, incl. table salt and denatured salt, and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents; sea water: other
25010010	Salts, incl. table salt and denatured salt, and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents; sea water: table salt
25010030	Salts, incl. table salt and denatured salt, and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents; sea water: sea salt

Figure 9 Salt Products - HS Code level 4, 6, and 8

Product code	Product label	Pakistan's exports to World		
		Value in 2017	Value in 2018	Value in 2019
25010020	Rock Salt	26743	26047	28874
25010090	Other	20430	21488	16220
25010010	Table Salt	2192	2188	2637
25010030	Sea Salt	1262	1940	1619

Figure 10 Pakistan's Exports to the World since 2017 (000 US$)

From these four product sub categories, exports of Rock Salt constitute the largest chunk. This can be seen from the figures below. USA remains the biggest destination market for this product from Pakistan:

Importers	Exported value in 2015	Exported value in 2016	Exported value in 2017	Exported value in 2018	Exported value in 2019
World	15776	17177	26743	26047	28874
USA	2954	3591	7618	5092	7282
UK	1723	1308	2315	2161	2207
Germany	1581	1060	1772	2202	1929
Brazil	439	1027	1651	1425	1773
China	1130	1295	2887	2439	1644
Afghanistan	1838	2972	1085	1262	1406
Italy	469	339	878	1269	914
Canada	180	206	977	873	893
UAE	19	49	73	108	887
India	1628	2240	2490	2405	885

Figure 11 Top 10 export destinations for HS 25010020 (Rock Salt)[9]

[9] Sources: ITC calculations based on Pakistan Bureau Of Statistics statistics since January, 2017.
ITC calculations based on UN COMTRADE statistics until January, 2017.

Pakistan's Export Destinations and Value of HS 25010010					
Importers	2015	2016	2017	2018	2019
World	1043	2028	2192	2188	2637
New Zealand	0	104	193	173	285
Germany	33	219	27	0	203
Turkey	13	26	104	198	150
Malaysia	115	130	109	72	148
Belgium	21	85	55	65	145
USA	128	35	115	91	134
China	0	0	251	208	123
Hungary	6	0	0	63	98
Lithuania	36	42	51	62	81
Greece	123	88	56	80	77

Unit : US Dollar thousand

Figure 12 Top 10 Export Destinations for Pakistani Table Salt

Pakistan's Export Destinations and Value of HS 25010030 (Sea Salt)					
Importers	2015	2016	2017	2018	2019
World	380	709	1262	1940	1619
Afghanistan	20	47	252	511	452
Malaysia	177	263	624	379	427
India	0	0	0	674	393
Seychelles	0	0	0	0	107
Korea	156	221	291	111	89
Sri Lanka	18	83	45	115	69
China	0	0	0	0	42
Russia	0	0	10	0	17
Bangladesh	0	0	0	0	9
Romania	0	6	11	12	5

Figure 13 Top 10 Export Destinations of Pakistani Sea Salt (Value in US $ 000)

Pakistan's Export Destinations and Value of HS 25010090 (Other)					
Importers	2015	2016	2017	2018	2019
World	8282	12432	20430	21488	16220
USA	1796	2818	8324	6919	4477
Australia	326	654	1100	1762	1570
Brazil	35	323	259	759	1166
United Kingdom	345	865	896	1150	1158
Germany	826	1084	1043	1017	760
Spain	211	416	549	775	714
China	239	578	1450	1171	625
Italy	191	467	677	772	519
Russian Federation	126	194	353	646	429
New Zealand	118	153	196	228	392

Figure 14 Top 10 Export Destinations for Pakistani Salt (Other) - (Value in US $ 000)

Table 1 Quantity of Salt exported in Rupees per most recent calculations[10]

HS Code	Commodity	Unit	2020-21		2019-20	
-	-	-	Quantity	Value (000' Rs.)	Quantity	Value (000' Rs.)
25010010	Table Salt	MT	9160	285021	12580	351083
25010020	Rock Salt	MT	154617	4627338	145348	3512951
25010030	Sea Salt	MT	16631	96461	52090	298974
25010090	Other Salt	MT	111293	3135219	90202	2270764

[10] PBS

Top Export Destinations of Pakistan (Last 5 years) – Exported Value: US$ '000'			
Importers	Value Exported in 2019	Annual growth in value between 2015-2019 (%)	Share in Pakistan's exports 2019 (%)
World	49636	20	100
USA	11969	28	24.1
UK	3437	15	6.9
Brazil	2969	47	6
Germany	2915	7	5.9
China	2482	21	5
Australia	2407	32	4.8
Afghanistan	2057	-5	4.1
Malaysia	1789	17	3.6
India	1616	5	3.3
Italy	1482	25	3
UAE	1357	95	2.7
Spain	1228	42	2.5
Canada	1127	25	2.3
New Zealand	1047	30	2.1
Russian Federation	1013	9	2

Potential for Increase in Exports

Industrial uses of Sodium Chloride provide the most promising factor for Pakistan's exports. Pakistan, which has the world's second largest global salt deposits, produces only four million tons of the world's total salt, which is around 300 million tons.

The private Hub Pak Salt Refinery will cover 150,000 acres of land and aims to increase Pakistan's exports from 400,000 tons a year to around 30 million. The largest salt-making facility on the planet in Mexico presently covers 86,500 acres of land and produces 10 million ton of salt annually. Hub Pak Salt Refinery, a private venture, plans to change this, and is setting up its plant on 150,000 acres of land in the Hub Industrial zone of Balochistan, near Karachi. The facility, officials said, is expected to start production in 2023. $350 million is the investment cost of the project and the plant would increase Pakistan's exports from 400,000 tons a year to around 30 million.

The proposed facility will make Pakistan the world's third largest producer of salt and the second largest exporter. Pakistan would be able to export salt worth more than one billion dollars or four percent of its total exports. The proposed salt refinery in Baluchistan's Hub industrial zone would provide job opportunities to over 2,000 people after its completion.

Products under 25010030 (SEA SALT) and 25010090 (SEA SALT) are being exported in large volumes by leading exporters of Salt in the world as shown in Table 1, however, Pakistan is lagging in the trade of this product category.

Table 2 Exports under two sub categories of Salt of 4 leading countries compared to Pakistan's Exports of the same categories

25010030[11]			
Country	Exported value in USD $ 000 (2019)	Exported Value in Million $ USD (2020)12	Pak exports to world (2019)
Netherlands	192372	155 (c)*	1,619

[11] ITC calculations based on Eurostat statistics since January, 2013.
ITC calculations based on UN COMTRADE statistics until January, 2013.
[12] Tridge Market Intelligence – as mirrored by TradeMap data

Germany	17844	245 (c)	
Canada	169,517 (c)	232 (c)	
USA	161223 (c)	214 (c)	
25010090[13]			
Country	Exported value in USD $ 000 (2019)	Exported Value in Million $ USD (2020)[14]	Pak exports to world (2020)
Netherlands	88477	As above	16,220
Germany	222470	-	
Canada	169,517 (c)	-	
USA	161223 (c)	-	

*Cummulative: Means the countries have not provided sub categories or country level HS codes, c represents their total Salts exports for the year (code specific data required)

In 2020, the following chart shows situation of global salt market where Germany is now the top exporter of Salt. At present, Pakistan exports 4 sub-categories of Salt as shown in Figure 1. Its share in World exports is 1.7% with products of these HS codes. In 2019, the Netherlands was the leading exporter of salt worldwide (Figure 2) with exports valued at approximately 287.36 million U.S. dollars. Its share in world exports of Salt under HS 2501 is 10% (2019) [15]

[13] Eurostat, UN Comtrade
[14] Tridge
[15] ITC calculations based on UN COMTRADE statistics

Rank	Country	Country Share 2020	Export Value 2020	1-Year Growth in Value 2019	3-Year Growth in Value 2017
1	Germany	11.4%	245.34M	-8.63%	+12.85%
2	Canada	10.8%	232.33M	+10.14%	+69.18%
3	United States	9.99%	214.92M	+33.17%	+10.78%
4	Netherlands	7.23%	155.59M	-46.07%	-43.5%
5	Chile	7.02%	151.11M	+1.34%	+16.45%
6	Mexico	6.61%	142.32M	-37.76%	-42.28%
7	Australia	6.48%	139.51M	+49.2%	+385.48%
8	Spain	5.82%	125.21M	+4.28%	+32.25%
9	United Kingdom	3.34%	71.81M	+5.93%	+14.8%
10	Pakistan	2.79%	60.04M	+20.6%	+16.1%

Figure 15 Pakistan was ranked 10th in Salt exports in the world (2020)

In 2020, Germany exported 245.34 million U.S. dollars' worth of salt worldwide. The categories of Salt that Germany exports consist largely of Salt to be used for industrial purposes, as shown in the Table below. It can be seen that Pakistan' major Salt exports consist of rock salt and other items made of rock salt. Salt for industrial purposes is not exported by Pakistan at a large volume at the moment, which increases the significance of Sea Salt manufacturing in Pakistan.

Product code	**Germany's exports to World Value in 2019 (US $ 000)**	**Product Code**	**Pakistan's Exports to the World Value in 2019 (US $ 000)**
25010099 **(industrial use)**	187674	25010020 (Rock salt)	28,874
25010091	34726	25010090 (Other)	16220

25010051	26071	25010010 (Table salt)	2637
25010031	17844	25010030 (Sea salt)	1619
25010010	2061	-	-

Issues and Demands of Salt Exporters:

Meetings with SMAP led to documentation of issues faced by Salt Manufacturers and Exporters. They are listed as follows;

1) Remove Pakistan Mineral Development Corporation's (PMDC) role as a competitor with its own customers

a) PMDC has established its own plant to grind rock salt, reserving good quality raw material for themselves and remaining low quality is sold to the local salt dealers.

b) Similarly they also installed cutters at mines to produce lamps and tiles made from good quality pink rock salt raw material while the second-grade quality is being sold to local salt traders.

c) In the past PMDC used to export rock salt raw material to India via train thorough Wagha border. They were exporting Indians on priority, high quality rock salt at low price with more quantity than declared in the shipping documents. This resulted in an overall cheaper rock salt raw material for Indian buyers as compared to local salt trader in Pakistan.

d) Such wrong policies from PMDC led to damaging of national interest of Pakistan as Himalayan salt started to receive recognition in the international market as a product of indian origin rather than of Pakistani origin.

2) PMDC should focus on developing mines instead of being involved in activities as mentioned above. They have neglected their major responsibility of exploring more mines to

increase overall production and instead are involved in very little development which has led to subsequent shortages of raw material and spike in raw material costs.

3) Develop Quota of Rock Salt for Exporters at discounted rate with respect to their volume of export. The salt exporters are a leading means of valuable foreign exchange for our country and it is very important to have their fair share in sourcing of quality raw material based on a quota to ensure their operations are fully utilized based on their competence.

4) Remove allotment of mines based on political connections. Currently the allotment is based on political connections to individuals who have little to no involvement in the industry. We highly recommend the committee to create ease in allotment of mines to salt manufacturers based on merit so that overall export from the country can prosper.

5) Form a committee for allotment of mines with at least 1 representative from the private sector (Salt Association) who can ensure allotment based on merit.

6) Form Railway Container Terminals all over Punjab. Transportation cost through trucks from Punjab to Karachi have risen tremendously and to ensure fast and cheap mode of transportation, we highly recommend that the government should build a better network of railway container terminals in different cities of the Punjab.

7) It is alleged that there is monopoly of a few buyers who acquire raw salt on priority basis via PMDC, which is exploitation of the resource and unfair when seen from the perspective of buyers. Getting raw salt out from the mines is a cumbersome process that requires a lot of time and effort. Starting from how salt is mined (traditional methods) to how it can be sourced, the whole supply chain needs monitoring.

8) Underdeveloped and sometimes no development of the infrastructure at all is another point of concern. The road that leads to mines, and from mines to storage places (mostly in Quaidabad) is completely worn out.

9) PMDC is the authority that develops SOPs for miners, and for the whole process of mining from mines to storage places. PMDC is also the appropriate authority charged with enforcement of those SOPs. Recently, a worker passed away in an accident that happened because of the

condition of the road on which he was enroute, carrying 10 tons of salt stones to a nearby warehouse. His trolley hit a bump and the 10 ton of stones caused his demise.

10) Development of the salt range belt is proposed for ease of accessibility, and for tourism.

a. Accessibility: Infrastructural development
b. Salt Tourism:

11) Salt Negative List (HS 2501)

Expectations from TDAP

7) International Exhibitions

a) TDAP and Pakistani embassy manage exhibitions in different countries. We appreciate that government offers booths to exporters at discounted prices however these booths are very poor in presentation. They lack presentation even when compared to booths of smallest countries of Africa.

b) Representative from private sector should be included in committee that is responsible for managing international exhibitions to help secure booths with better presentation and placement in the exhibition halls.

Salt Manufacturers and Exporters Association

The first ever Salt Manufacturers Association of Pakistan (SMAP) is under formation. Members expect that prompt action by government officials is taken for the resolution of such important issues of Salt industry.

Documentation of salt lakes

The total number of Salt Lakes, production, control over these resources has to be documented and updated on monthly basis.

MOC's Strategy for Pink Salt (Rock Salt)

More than 90% Pakistani Salt exporters declare their exports under HS 25010020, Rock Salt. The following table shows top export destinations for Himalayan Pink Salt exports from Pakistan[16];

[16] ITC

Top Export Destinations of Pakistani Salt (2020)		
Partner	**Trade Value in 000 USD**	**Share in Pakistan's exports (%)**
World	59659.967	100%
United States	14641.949	24.5%
United Kingdom	4887.326	8.2%
Germany	4056.383	6.8%
United Arab Emirates	3696.792	6.2%
Brazil	3243.946	5.4%
China	2887.832	4.8%
Australia	2726.123	4.6%
Malaysia	1932.306	3.2%
Russian Federation	1492.932	2.5%
Italy	1309.743	2.2%

Table 2: Pakistan's Salt Products Export – Last 6 Years (Value in US $ Millions)

Description	2015	2016	2017	2018	2019	2020
Pakistan's Exports (Value is US $ Millions)	26	32	51	52	50	59
Growth (%age)	Base Year	26.7%	57.0%	2.6%	-4.6%	18%

Source: Ministry of Commerce

According to Ministry of Commerce, Pakistan's exports of salt products increased from US $ 1 million in 2015 to US $ 3.0 million in 2019 to Brazil which shows the potential of the local industry to reach out into new geographic markets and expand their market share in previously under tapped countries. The case of Brazil is particularly interesting as Pakistan's exports have increased at a CAGR of 56.5% during the period under review. Furthermore, in addition to increasing market share in new markets, Pakistan Salt products also increased its export value to their largest import

partner; the United States of America with a robust growth recorded of CAGR 25.1% over the last five years.

Geographical Indications Act:

Geographical Indications (GIs) are a form of Intellectual Property Rights (IPRs). They identify a product originating from a specific area whose quality or reputation is attributable to its place of origin. In Pakistan, Geographical Indications (Registration and Protection) Act, 2020 (GI Act, 2020) has been enacted in March 2020 to provide for registration and effective protection of the GI of commodities having origin in Pakistan. Ministry of Commerce has initiated a process of identifying public bodies to be authorized as Registrants by Federal Government by virtue of section 11 (2) of the GI Act ,2020 so that the registration process for GIs can be initiated by the respective stakeholders/agencies.

Advantages of GI marketing:

Registration of Pakistan's Pink Rock Salt as a Geographical Indication is of national importance as it is exclusively found and mined in the Salt Range Mountains of Pakistan which are foothills of the Himalayan Mountain Ranges. Globally, the unique pink rock salt has become popular for multiple purposes such as health benefits, cooking etc. However, its country of origin is rarely highlighted or even mentioned on products.

Registration of Pink Rock Salt as a GI of Pakistan will serve as a potential economic tool to promote and enhance national and international trade attracting global demand and premium price for Pakistan.

Role of a Registrant

The role of a Registrant in the registration process for G.I's is highly important as the responsibility to formulate the Book of Specifications lies with the Registrant as per the GI Act, 2020. This Book of Specifications is an essential document that details the name, description of the product bearing geographical indication, principal characteristics, methods to obtain the product, definition of geographical area (mapping), link between quality product and geographical environment and evidence that the product originated from the defined geographical area etc.

A summary moved by the MOC regarding GI registration of Salt has been approved by Cabinet. Subsequently the IPO Pakistan team is preparing Book of Specifications for Himalayan Pink Salt. For this policy to have a positive impact on economy, the export of Himalayan pink raw salt from Pakistan needs to be curbed and more emphasis needs to be placed on value addition.

Pakistan Mineral Development Corporation (PMDC)

Pakistan Mineral Development Corporation Pvt. Ltd (PMDC) is an autonomous body under the administrative control of Ministry of Energy (Petroleum Division), Government of Pakistan. It was established in 1974 with an authorized capital of PKR 1,000 Million to expand and help mineral development activities in the country. It is involved in exploration and evaluation of economic mineral deposits, preparation of techno-economic feasibility reports, mining and marketing. PMDC is operating 4 Coal Mines, 5 Rock Salt Mines/ quarries, Gypsum and a Silica Sand quarry. PMDC shares 8% of the coal local production and about 40% of the total Rock salt production in the country. PMDC having the world's largest Pink Rock Salt mines with estimated reserves of more than 22.22 billion tons. PMDC is operating following Rock Salt Mines:

- Khewra Rock Salt Mines, Province Punjab
- Makrach Rock Salt Mines, Province Punjab
- Warcha Salt Rock Mines, Province Punjab
- KalaBagh Rock Salt Mines, Province Punjab
- Jatta/B-Kheel/ Karak Rock Salt Mines, Province KPK

Pakistan Mineral Development Corporation (PMDC) is known symbol for extraction of Pink Salt and have core business of mining Pink Salt since ages. PMDC is the most relevant public body to be notified as "Registrant" for Pink Rock Salt under section 11(2) of the GI Act.

The total of production of Salt in Pakistan can be viewed in the following figure[17],

[17] PBS

Year	Total Production in last 5 years (Million Tonne)	
	Rock Salt	Sea Salt/Lake Salt
2014-15	2136361	205454
2015-16	3552948	219072
2016-17	3534075	209076
2017-18	3653746	234598
2018-19	3796634	189453

Pakistan's top export destinations (above) are importing Rock Salt (gourmet and other products, mostly decor) and the total market for these products depends on consumption patterns.

Global Market Overview:

Production by Method:

There are three methods used to produce salt: solar, evaporation and rock mining.

Solar Evaporation Method

This is the oldest method of salt production. It has been used since salt crystals were first noticed in trapped pools of sea water. Its use is practical only in warm climates where the evaporation rate exceeds the precipitation rate, either annually or for extended periods, and ideally, where there are steady prevailing winds. Solar salt production is, typically, the capturing of salt water in shallow ponds where the sun evaporates most of the water. The concentrated brine precipitates the salt which is then gathered by mechanical harvesting machines. Any impurities that may be present in the brine are drained off and discarded prior to harvesting.

Usually two types of ponds are used. First is the concentrating pond, where the salty water from the ocean or salt lake is concentrated. The second is called the crystallizing pond, where the salt is actually produced.

Rock Salt Mining Method

This is the second oldest method of producing salt – underground mining and probably the most dramatic method of gathering salt. Large machines travel through vast cave-like passageways performing various operations (not so in Pakistan, though)

Salt mines are among the safest of mines. They are also the most comfortable to work in. While mine temperature varies with depth, the average temperature remains about 70° F year round.

Salt may appear in veins, as does coal. Veins are the original bedded salt deposits. Salt also may be found in domes, which were formed when Earth pressures forced salt up through cracks in the bedrock from depths as great as 30,000 or 40,000 feet; they resemble plugs of almost-circular shape a few hundred yards to a mile across. Some domes occur close to the surface. Both domes and veins are mined in a similar way. Most domes in North America are located in the south from Alabama to Texas with many out under water in the Gulf of Mexico.

To enter a salt mine, miners go down a shaft from the Earth's surface to the salt bed. There are two shafts in each Morton mine – one for personnel and one to lower materials and equipment into the mine, as well as to hoist the mined rock salt to the surface. The shafts also are used to deliver a constant supply of fresh air to the miners while they work hundreds to thousands of feet below the surface. Most mine shafts are lined with a concrete wall called a shaft liner.

Salt is mined by the room and pillar method. It is removed in a checkerboard pattern to leave permanent, solid salt pillars for mine roof support. Usually 45 to 65 percent of the salt is removed. The room height may average 18 feet in a bedded deposit to 100 feet in a dome mine.

Normally, the first operation is undercutting. Large machines cut a slot 10 or more feet in depth across the bottom of a solid salt wall. This leaves a smooth floor for picking up the salt after blasting.

Next, small holes are drilled into the salt wall to a depth of 10 or more feet and explosives are loaded into the drilled holes. After the work shift, the explosives are set off electrically. Several hundred to several thousand tons of rock salt are blasted and fall onto the mine floor.

Equipment is used to load and haul the salt to machines that crush and feed the salt onto a conveyor belt. The lumps are conveyed to a series of stations for crushing and additional sizing of the lumps. The salt is then placed in a storage bin to await hoisting to the surface.

The above ground processing of the rock salt consists of screening the mined salt into various marketable sizes by sorting through mechanically operated screens. When separated, each size is conveyed to its individual storage bin to await packaging for shipment or to be loaded as bulk salt into railroad cars, trucks, river barges or lake boats for shipment to customers.

Vacuum Evaporation Method

Another method of salt production used by Morton Salt is the evaporation of salt brine by steam heat in large commercial evaporators, called vacuum pans. This method yields a very high purity salt, fine in texture, and principally used in those applications requiring the highest quality salt.

The first part of the operation is known as solution mining. Wells are drilled from several hundred to 1,000 feet apart into the salt deposit. These wells are connected via lateral drilling, a recently developed technology. Once the wells are connected, the solution mining operation begins: water is pumped down one well, the salt below is dissolved, and the resulting brine is forced to the surface through the other well. It is then piped into large tanks for storage.

Next, the brine is pumped into vacuum pans. These are huge closed vessels under vacuum about three stories high. They are normally arranged in a series of three, four or five, with each one in the line under greater vacuum than the preceding one. This

series of vacuum pans operates on a very simple principle: Whenever pressure is lowered, the temperature at which water will boil is also lowered. For instance, under normal air pressure at sea level, water boils at 212°F. But at ten thousand feet above sea level, where air pressure is much less, water boils at 194°F. Vacuum pans may operate at as low as 100°F.

In the vacuum pan process, steam is fed to the first pan. This causes the brine in the pan to boil. The steam from the boiling brine is then used to heat the brine in the second pan. The pressure in the second pan is lower, allowing the steam made by the boiling in the first pan to boil the brine in the second pan. The pressure is reduced still further in each succeeding pan. This allows the steam made by the boiling brine in the previous pan to boil the brine in the next pan. While the boiling operation could be done with just one pan, several pans in a row produce more salt per pound of steam, thus allowing greater energy efficiency.

Solar Evaporated Salt

Rock Salt

Brine

Vacuum Evaporation & Other Salt Producing Methods

Competitive Technologies & Trends

Sustainable Alternatives to Road Salt

Growing Awareness About Health Concerns Surrounding Salt Consumption

Current and Potential Bilateral Trade (SALT)

Pak China

The following table shows bilateral trade of Salt between China and Pakistan in the mentioned years. As can be seen, Pakistan captured a very small portion of the Chinese salt market. With the Ministry of Commerce, Ministry of Foreign Affairs and TDAP's joint efforts, there are B2B

sessions and exploration of E-commerce platforms now available for Pakistani salt companies (one example is that of JD International – a leading E-commerce company in China that has shown willingness to provide assistance to Pakistani companies wanting to have an E store)

Product code	Product label	Pakistan's exports to			Pakistan's exports to		
		2017	2018	2019	2017	2018	2019
25010020	ROCK SALT	2887	2439	1644	26743	26047	28874
25010090	SEA WATER, OTHER	1450	1171	625	20430	21488	16220
25010010	SEA WATER, TABLE SALT	251	208	123	2192	2188	2637
25010030	SEA WATER, SEA SALT	0	0	42	1262	1940	1619

The country level HS codes are not harmonized and often create confusion. 25001011 in china is 25010020 in Pakistan. 8 digit HS codes meanings at country level are different for each country. Pakistan has China as one of the potential markets to target for its Salt exports in the coming years.

Exporters	Imported value in 2016	Imported value in 2017	Imported value in 2018	Imported value in 2019	Imported value in 2020
World	189189	315698	360203	299293	255338
India	63585	162663	209051	155380	103164
Australia	54529	66235	80037	76012	63093
United States of America	32328	42835	44079	31823	46506
Mexico	4819	7701	5067	19260	21579
Denmark	4010	4166	4863	4895	5578
Pakistan	2392	4219	3374	3279	4858
France	442	831	1257	1257	1391
Russian Federation	201	133	263	1001	1332
Germany	985	1274	1387	1312	1142
New Zealand	178	208	281	151	1094

PAK-AFRICA

Table 1. Pak Africa Bilateral trade of Salt[18]

Product code	Pakistan's exports to Africa					Africa's imports from world				
	2015	2016	2017	2018	2019	Value in 2015	Value in 2016	Value in 2017	Value in 2018	Value in 2019
250100	895	1318	1395	1317	1301	N/A	N/A	N/A	260972	268755
Top 5 Countries Exporting to Africa 2019	Namibia	Brazil	Botswana	South Africa	Turkey	Pakistan's exports to world				
	40367	34302	29795	8491	2942	Value in 2015	Value in 2016	Value in 2017	Value in 2018	Value in 2019
						25481	32347	50705	51985	49636

All Values are in US $ 000

Pakistan's total Salt exports to the African region was 0.48% of Africa's total imports of Salt (HS 250100) from the world. African region's largest exporter of Salt is Namibia. Following Table shows the top exporters of Salt to African region.

Table 2. Top Supplying Markets of Salt to Africa[19]

[18] TradeMap
[19] ibid

Exporters	Imported value in 2016	Imported value in 2017	Imported value in 2018	Imported value in 2019	Imported value in 2020
Namibia	38654	39753	42120	40367	29591
Brazil	27313	29687	26037	34302	8767
South Africa	8066	11511	12985	8491	8621
Botswana	25375	26256	30940	29795	4954
Turkey	2771	3324	3590	2942	3964
France	2093	2562	3289	3737	3290
Spain	3148	3797	3853	4274	3208
Netherlands	2656	2892	2185	1525	1842
United Kingdom	1583	1514	2363	2602	1830
Portugal	355	512	1191	1579	1659
Germany	2257	2709	1797	1553	1543
Belgium	911	1051	1048	1273	976
Pakistan	1331	1288	1199	1324	611
Mozambique	214	880	411	547	605

Following table shows exports of Salt from Namibia to the African countries. In the following table, Namibian exports are shown over the years.

Table 3. Namibian Salt Exports[20]

Namibia's Exports of Salt (US $ 000)			
Importers	Exported value in 2018	Exported value in 2019	Exported value in 2020
World	35896	33420	31170
South Africa	16861	18985	11898
Nigeria	8245	6746	7818
Congo, Democratic Republic of the	5428	4320	6267
Cameroon	890	1661	1426
Angola	980	186	1363
Zambia	328	517	820
Ghana	182	43	735

[20] ibid

Botswana	185	344	266
Zimbabwe	113	78	254
Congo	54	5	92
Gabon	0	61	83
Uganda	0	0	64
Germany	17	5	24
Mozambique	0	5	23
Mauritius	23	27	16

SALT TRADE IN ASIA

Following is a List of supplying markets for HS 250100 imported by Asia in 2019 and 2020

Table 3 Top Supplying Markets for Asian imports of Salt

Exporters	Imported value in 2019	Imported value in 2020
Australia	441333	226265
India	381960	122591
Mexico	182848	93313
United States of America	57467	63438
China	91176	58393
Netherlands	23625	18212
Thailand	11728	13541
Germany	10981	12758
New Zealand	9780	11051
Belgium	2075	10540
Turkey	9638	9115
United Kingdom	5748	9099
Pakistan	14556	8658
Spain	6439	8032
Russian Federation	6582	7093
France	6039	6859

Malaysia	4578	6017

Unit: US $ 000

PAK-INDONESIA

Exporters	Imported value in 2016	Imported value in 2017	Imported value in 2018	Imported value in 2019	Imported value in 2020
World	86013	83595	90652	95522	94561
Australia	70330	76086	82389	72868	80972
India	12557	5749	5597	20413	11414
New Zealand	1216	1115	1611	1645	1665
Denmark	127	203	479	190	145
China	405	32	106	49	133
Germany	1026	158	127	110	111
Thailand	48	82	78	93	58
Singapore	107	84	61	121	19
United Kingdom	47	16	9	5	19
United States of America	19	3	30	5	9
Japan	9	30	15	3	5
France	5	0	0	5	3
Pakistan	0	0	0	0	3

Product code	Product label	Indonesia's imports			Indonesia's imports		
		2018	2019	2002	2018	2019	2020
2501002000	Rock salt	0	0	3	0	0	3
2501005000	Sea water	0	0	0	66	19	6
2501009100	Fortified with Iodine	0	0	0	38	7	5
2501009200	NaCl 97% or more but less than 99.9%	0	0	0	89984	95107	94190
2501009900	Sea water - Other	0	0	0	484	257	163
2501001000	Table salt	0	0	0	79	133	194

The import data taken from International Trade Center's database implies that Indonesia is importing Salt product category which is neither manufactured nor exported by Pakistan in required quantities. Indonesia's Salt imports for 2501009200 (Salt for Industrial Purposes) or Salts, incl. table salt and denatured salt, and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents; sea water) is greater than Pakistan's total Salt exports (all categories). Considering the fact that MFN and effectively applied tariffs remain the same for all countries at 7.5% except for Australia, the largest supplier to Indonesia for this

product, applied tariffs are 1.67%. This further strengthens the case for increasing the manufacturing (and export) of Salt for industrial uses. If Pakistan is able to manufacture that, it can negotiate with Indonesia for less tariffs for this product, as Pakistan will also have distance advantage over Australia.

PAK-BANGLADESH

In October, 2020, the Government of People's Republic of Bangladesh brought the new Iodized Salt Act 2020 act aimed at improving the monitoring and efficacy of the country's salt iodization programme. This is a milestone achievement in the way to achieve Universal Salt Iodization (USI) in Bangladesh. The new Act will increase and incentivize compliance, as well as strengthen the ability of the regulatory authorities to enforce salt iodization. Bangladesh's Cabinet announced that it would be considered an offense for anyone to import, produce, market or stock salt without registering beforehand.

Bangladesh imported Salt from the following countries in 2019:

Exporters	Value imported in 2019 (USD thousand)	Unit value (USD/unit)	Growth in imported value 2015-2019 (%, p.a.)	Growth in imported quantity 2015-2019 (%, p.a.)	Growth in imported value 2018-2019 (%, p.a.)	Average distance between BD and importing markets (km)
Total	14513	24	12	5	12	
India	9105	17	11	4	24	4173
China	3960	52	15	13	-6	2956
Thailand	597	213	6	3	-9	2431
Taipei, Chinese	320	57	11	10	-21	4202
Germany	314	2804	54	2	32	1236
Singapore	91		110		317	5320
Netherlands	42	122			50	1071
Czech Republic	32	653			52	1421
Pakistan	**31**	**77**	**-30**	**-28**	**284**	**7821**
United Kingdom	9	360				2928
Malaysia	5					923
France	4		19		243	2991
Turkey	3	1000	27	-19		3039

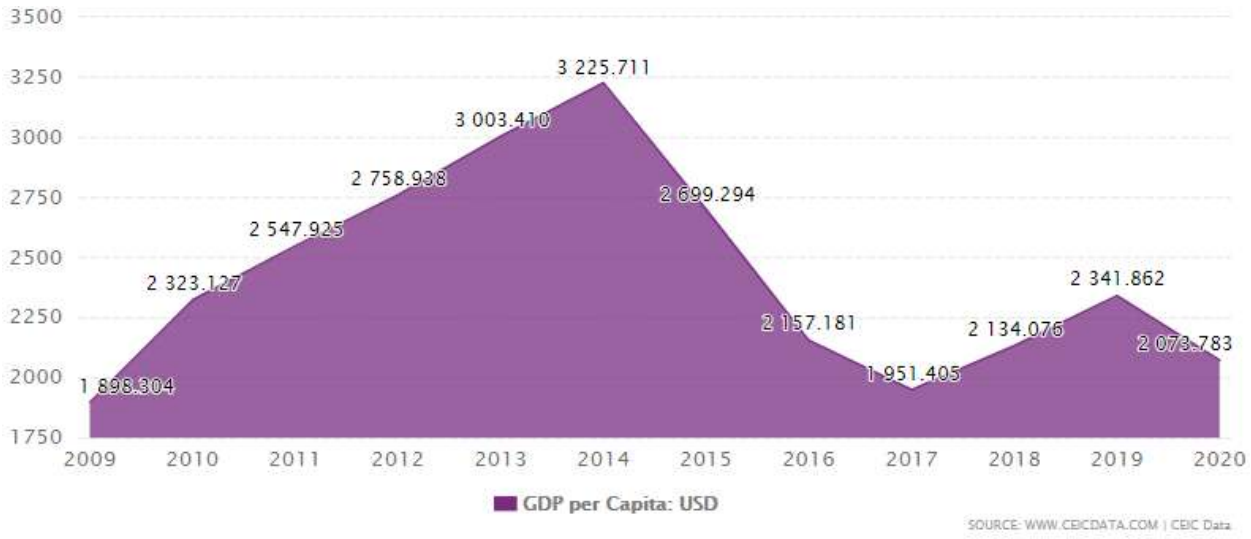
The following observations can be made from this data,

1. Pakistan's Salt exports to Bangladesh declined in terms of quantity as well as value between 2015 and 2019.
2. The main hindrance in this decline might be average distance between Pakistan and Bangladesh, which is giving advantage to India and Chinese, BD's immediate neighbors.
3. There is huge difference in the value exported by Germany and that exported by Pakistan to BD. This is indicative of the significance of value addition. So although Germany is

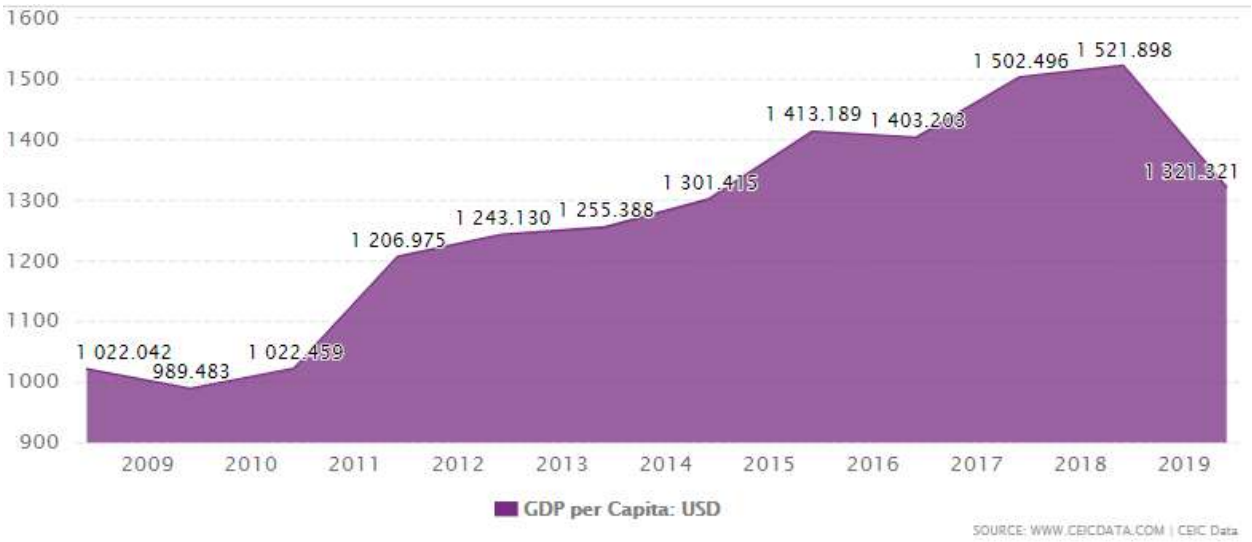
exporting smaller quantities of Salt products to Bangladesh, it is earning much bigger revenues owing to the value per unit (per ton) of its products that is 2804 USD per ton, whereas it is 77 USD per ton for Pakistani Salt products (mostly gourmet and décor products)

POTENTIAL MARKET: NIGERIA

Nigeria Gross Domestic Product (GDP) per Capita reached 2,073.783 USD in Dec 2020, compared with 2,341.862 USD in Dec 2019. Nigeria GDP Per Capita data is updated yearly, available from Dec 1981 to Dec 2020, with an average number of 1,815.075 USD. Nigeria Population reached 206.1 million people in Dec 2020



Pakistan Gross Domestic Product (GDP) per Capita reached 1,321.321 USD in Jun 2019, compared with 1,521.898 USD in Jun 2018. Pakistan GDP Per Capita data is updated yearly, available from Jun 1960 to Jun 2019, with an average number of 381.909 USD. Pakistan Population reached 211.2 million people in Jun 2019.



Nigerian Imports of HS 250100:

Product code	Product label	Nigeria's imports from Brazil			Nigeria's imports from world		
		Value in 2018	Value in 2019	Value in 2020	Value in 2018	Value in 2019	Value in 2020
2501009000	Other, including crude salt	24688	31214	37174	49130	55051	46453
2501001000	Denatured salt	0	2620	4568	379	3311	17049
2501002000	Salt for human consumption including table salt	0	0	1187	588	646	4404
2501003000	Other, including compressed salt used in animal feeding	0	0	0	4118	3981	9080

Unit: USD thousand

PAK-USA

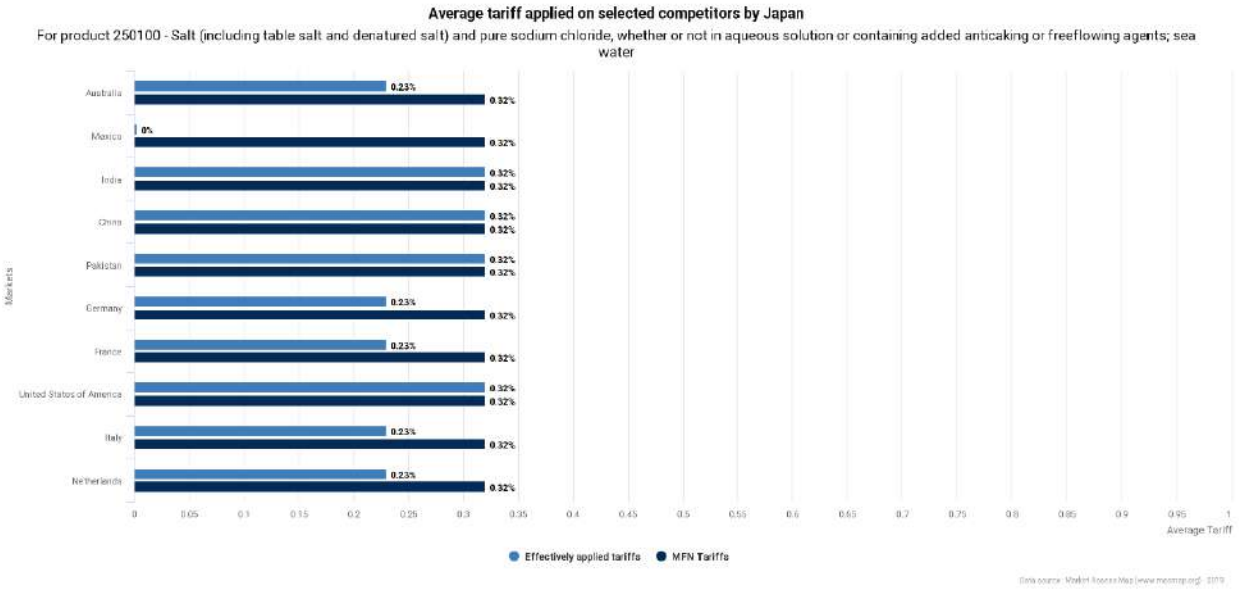
The US imports Salt at 10 digit level i.e., HS 2501000000 from the following markets, which become competitors of Pakistan in the US market for Salt. Major exports of USA come from

Canada, a neighbor of USA, which has distance advantage over Pakistan. TradeMap has not mentioned any product categorization for Salt imports. All kinds of Salt are incorporated in this single HS code. The US imported approximately 753 million USD of Salt under a single HS CODE (at 10 digit level) from the following suppliers:

Exporters	Imported value in 2019	Imported value in 2020
World	753480	687870
Canada	211032	231228
Chile	179906	148840
Egypt	91967	50194
Mexico	50547	46802
Ireland	25511	35569
Bahamas	25796	26392
Pakistan	21576	22600
Netherlands	18682	15053
Italy	16143	14393
Israel	12213	11093
Brazil	21358	9817
Spain	7032	8086

US $ 000

PAK-JAPAN



PAK-SOUTH AFRICA

What Pakistan is exporting to South Africa at the moment (2020)

Product code	Product label	Pakistan's exports to South Africa			Pakistan's exports to world		
		Value in 2017	Value in 2018	Value in 2019	Value in 2017	Value in 2018	Value in 2019
25010020	Rock Salt	443	387	540	26743	26047	28874
25010090	Other	316	219	105	20430	21488	16220
25010010	Table Salt	213	38	18	2192	2188	2637
25010030	Sea Salt	0	0	0	1262	1940	1619

Value: US $ 000

Product code	Product label	South Africa's imports from World			Pakistan's Exports to the world		
		Value in 2018	Value in 2019	Value in 2020	Value in 2018	Value in 2019	Value in 2020
25010090	Other incl. table salt, denatured salt, Sea water	14447	15219	13219	20,430	21,488	16,220
The product code 25010090 has same description in both Pakistan and South Africa. There is potential for bilateral trade between Pak-SA for this product							
25010010	Sea Water; Salt Not for Human Consumption	6771	6023	5487	-	-	-

The product code 25010090 does not have same description in Pakistan and South Africa. Although there is 'Other' label in Pakistan but it doesn't mention "Not for human description"

Value: US $ 000

South Africa is exporting Salt under this HS in two forms. A B2B meeting with South African business community has been proposed to acquire information about South African demand and what kind of salt products the country imports, overall.

Product code	Product label	South Africa's exports to the world		
		Value in 2018	Value in 2019	Value in 2020
25010090	Other incl. table salt, denatured salt, Sea water	21,750	20,006	18,497
25010010	Sea Water; Salt Not for Human Consumption	1,428	971	993

PAK- CANADA

Top trading partners (import of "Salt (including table salt and denatured salt) and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents; sea water.") of **Canada** in **2020**:

- USA with a share of 53% (78 million US$)
- Mexico with a share of 12.1% (18 million US$)
- Egypt with a share of 5.51% (8.15 million US$)
- Pakistan with a share of 4.34% (6.42 million US$)
- Chile with a share of 3.39% (5.01 million US$)
- Morocco with a share of 2.55% (3.78 million US$)
- Australia with a share of 1.95% (2.89 million US$)
- The Bahamas with a share of 1.9% (2.81 million US$)
- Italy with a share of 1.86% (2.75 million US$)
- Spain with a share of 1.38% (2.04 million US$)

PAK- RUSSIA

Product code	Product label	Russian Federation's imports from World			Russian Federation's imports from world		
		Value in 2018	Value in 2019	Value in 2020	Value in 2018	Value in 2019	Value in 2020
2501009190	ПРОЧАЯ СОЛЬ, ПРИГОДНАЯ ДЛЯ УПОТРЕБЛЕНИЯ В ПИЩУ	38664	43733	42467	38664	43733	42467

2501005100	Salt, denatured or for other industrial uses, incl. refining (excl. for chemical transformation or preservation or preparation of foodstuffs for human or animal consumption)	19494	18388	15111	19494	18388	15111
2501009900	Salt and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents (excl. table salt, salt for chemical transformation "separation of na from cl", denatured salt and salt for other industrial uses)	12622	16797	13775	12622	16797	13775
2501009110	СОЛЬ, ПРИГОДНАЯ ДЛЯ УПОТРИБЛЕНИЯ В ПИЩУ, ЙОДИРОВАННАЯ	4259	3834	4207	4259	3834	4207
2501001000	Sea water and salt liquors	1669	2126	1209	1669	2126	1209
2501003100	Salt for chemical transformation "separation of na from cl" for the manufacture of other products	126	141	117	126	141	117

Product code	Product label	Russian Federation's imports from Pakistan			Russian Federation's imports from world		
		Value in 2018	Value in 2019	Value in 2020	Value in 2018	Value in 2019	Value in 2020
2501009190	ПРОЧАЯ СОЛЬ, ПРИГОДНАЯ ДЛЯ УПОТРЕБЛЕНИЯ В ПИЩУ	524	434	701	38664	43733	42467
2501009110	СОЛЬ, ПРИГОДНАЯ ДЛЯ УПОТРИБЛЕНИЯ В ПИЩУ, ЙОДИРОВАННАЯ	299	303	490	4259	3834	4207
2501009900	Salt and pure sodium chloride, whether or not in aqueous solution or containing added anti-caking or free-flowing agents (excl. table salt, salt for chemical transformation "separation of na from cl", denatured salt and salt for other industrial uses)	171	75	30	12622	16797	13775
2501001000	Sea water and salt liquors	0	0	0	1669	2126	1209
2501003100	Salt for chemical transformation "separation of na from cl" for the manufacture of other products	0	0	0	126	141	117
2501005100	Salt, denatured or for other industrial uses, incl. refining (excl. for chemical transformation or preservation or preparation of foodstuffs for human or animal consumption)	0	0	0	19494	18388	15111

PAK-SAUDIA

Product code	Product label	Pakistan's exports to Saudi Arabia			Pakistan's exports to world		
		Value in 2017	Value in 2018	Value in 2019	Value in 2017	Value in 2018	Value in 2019
'25010020	ROCK SALT	30	36	24	26743	26047	28874
'25010090	OTHER	25	33	16	20430	21488	16220
'25010010	TABLE SALT	0	3	2	2192	2188	2637
'25010030	SEA SALT	7	0	0	1262	1940	1619
THERE IS POTENTIAL FOR THESE PRODUCTS EXPORTS TO SAUDI ARABIA FROM PAKISTAN							

Saudi Arabia's import structure of Salt HS 2501 is as shown below:

Product code	Product label	Saudi Arabia's imports from World		
		Value in 2016	Value in 2017	Value in 2018
'25010040	SALT SOLUTIONS	3929	8808	7413
'25010030	PURE SODIUM CHLORIDE	2641	1797	3571
'25010010	COMMON SALT (TABLE SALT)	2529	3257	2165
'25010090	SEA WATER; OTHER	2135	1021	1906
'25010020	DENATURED SALT, UNFIT FOR HUMAN CONSUMPTION	118	374	79

A B2B meeting with Saudi Arabian importers would facilitate understanding of the products Saudi Arabia demands and that Pakistan can produce. Saudia is also exporting the following Salt products:

Product code	Product label	Saudi Arabia's exports to World		
		Value in 2016	Value in 2017	Value in 2018
'25010020	Denatured salt unfit for human consumption	8841	8345	10551

'25010090	Other	1811	1645	1451
'25010010	Common salt (table salt)	509	527	660
'25010030	Pure sodium chloride	59	6	45
'25010040	Salt solutions	0	50	11

MIDDLE EAST

Total imports of Middle East in the past few years:

HS CODE	Middle East's Imports from world (US $ 000)		
250100	2018	2019	2020
	138,821	129,204	96,511

List of top supplying markets to Middle East:

Exporters	Imported value in 2016	Imported value in 2017	Imported value in 2018	Imported value in 2019	Imported value in 2020
India	21607	28039	34493	34543	22750
Netherlands	10607	10694	15325	19907	14594
Saudi Arabia	15612	12740	15040	15199	10361
Turkey	7471	8642	10440	8559	6252
Pakistan	1648	1340	1742	2122	6059
United States of America	8372	11612	9552	7689	5487
Spain	363	804	1468	1877	4384

List of Importing Countries in Middle East

Importers	Imported value in 2016	Imported value in 2017	Imported value in 2018	Imported value in 2019	Imported value in 2020
Middle East Aggregation	87955	119177	138821	129204	96511

United Arab Emirates	21932	23972	27019	27655	23074
Qatar		22326	21911	25261	16778
Saudi Arabia	11353	15257	15134	12431	16540
Oman	15213	13466	17265	13949	9011
Kuwait	8730	10344	10209	10031	7572
Israel	2010	3307	5580	6066	6524
Bahrain	2770	3028	3967	3790	3493
Turkey	2183	2242	2546	3000	2964
Iraq	10518	12194	10420	4153	2562
Syrian Arab Republic	3466	4156	6630	5364	2260
Egypt	665	760	1066	2204	1894
Lebanon	2908	2619	2954	2989	1867
Jordan	1693	1700	1963	1209	1335
Iran, Islamic Republic of	1142	1214	777	373	294
Palestine	2284	2390	10989	10551	214
Yemen	1088	202	391	178	129

Way Forward Strategy for Salt Promotion

Market Specific Actions

Prime Minister's EOI

Under the Prime Minister's Economic Outreach Program, Ministry of Commerce prepared a report on the identification of potential markets for pink salt exports. As per the activities locked under this initiatives, one brochure and one pamphlet has been prepared. Three B2B meetings have been proposed. Webinars are being planned for topics, participants, and most relevant subjects for discussion, awareness and education. For Salt marketing and promotion, the product officer has proposed the following;

- Establishment of salt kiosks at all international airports of Pakistan
- Displaying Salt Products at Display Center at Wagah Border, Lahore
- Sending Salt Exporters to International Food Fairs/Shows/Exhibitions at TDAP subsidized rates

- Sending Salt Products (Gift Packages) to all Embassies of Pakistan to be distributed amongst elite buyers/importers
- Promotion material (and products to be displayed) at top 5 most locations visited by foreign tourists with the help of relevant Tourism Departments in Pakistan
- Proposal to PMDC for infrastructural development of Salt Range as a tourist attraction in Pakistan.

Recommendations

1) Create awareness among manufacturers/exporters about the manufacturing of products that are being made using pink salt, for instance, Himalayan salt body scrub, lip scrub items, bath bombs, tooth powder and soaps etc. Such items from pink salt are being produced locally in South Africa at small scale level. Such goods do not need a lot of capital for manufacturing but fetch more money than ordinary packaged salt. It will also help strengthen local industry and create employment.

2) Attach the name of the Himalayan salt with its health benefits like diabetic basmati, which is gaining more market than normal basmati. For instance, I read in an article that Himalayan salt helps detoxify the body so it can be named and sold as "detoxifying salt". Health conscious consumers buy items that have a clear body /health benefits.

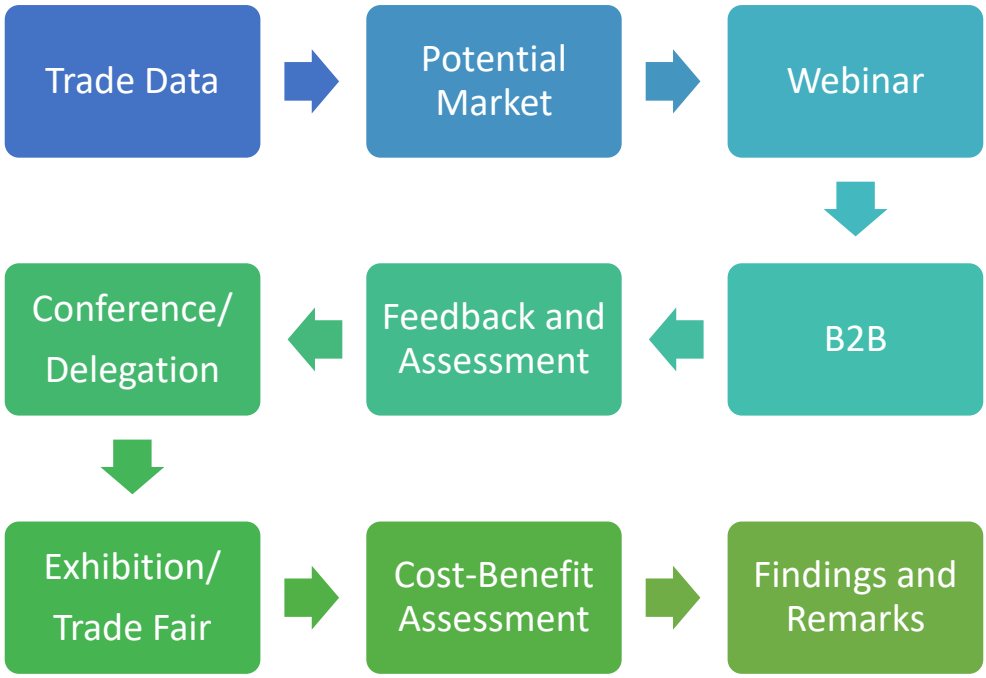
3) Colored printed **single page pamphlets** may be shared with all missions abroad. Here printing costs are exorbitant.

(The pamphlet has been created and shared with TIA South Africa for further action)

The Saudi Arabian TIA proposed that emphasis should be on standardization regarding testing and packaging, and conformance to these standards be ensured to promote salt marketing.

a. Visit of Salt Exporters Delegation from Pakistan to Kingdom, immediate after Hajj Season. Commercial Section has been cooperative and has offered assistance in arranging meetings with Saudi buyers of relevant product and provide facilitation in visa issuance from Riyadh.

b. Standardization and Quality Assurance mechanism needs to be developed for exporting shipments as per requirements of destination countries. This will gain confidence of importers and consumers.
c. Brand development for value addition to raw salt, instead of selling raw forms in international markets is recommended to generate revenue
d. Provision of Publicity material in printed and video forms to all the Missions abroad.
e. Provision of miniature gift samples of Himalayan Pink Salt (gourmet, spa/bath, décor) to Missions to be distributed amongst officials, businessmen and importers of the products.
f. Promotion on social media to project soft image of the country.
g. Provision of insights to salt manufacturers and exporters
h. Organization of webinars and conduction of B2B sessions have been proposed by TDAP to kickstart an inclusive awareness and facilitation drive for SMEs in salt trade. The proposed sequence is such that information regarding



i. At national level, Pakistan needs to develop the infrastructure of the Salt belt range. This is important not only for the local workers (miners and masons) but also for the visitors/tourists.

Campaign for Salt

Display Centers

The project for displaying salt at the Wagah display center is led by the Product Officer for Salt at TDAP and administration at Wagah. This center is visited by delegations and dignitaries from all over the world. Additionally, tourists visit the site from many countries.

Online Presence: Websites/Social Media

One of the top salt selling companies has a recipe book on their website that mentions the type of salts used in making specific cuisine. This is a way of attracting people to the product by indirectly appealing to their taste and choice of foods.

Go-To Strategies for Competitive Advantage

Value Addition

Product Diversification and Packaging: Bath and Spa, Gourmet, Kitchenware Salts

Packaged salt products from Pakistan are lacking in

Pink Salt, Nutrition and Health:

Numerous newspaper articles report health benefits of Himalayan Pink Salt however the author of this report couldn't find substantial evidence to support he additional health benefits that can be obtained by consuming Pink Salt. The primary unique characteristic of Himalayan Pink Salt is its pink color and mineral composition. Edible Salt, whether pink or not, is devoid of Sugar therefore, it does not make sense to advertise Pink Salt as Pro-Diabetic. As a mineral, Himalayan salt is completely devoid of Calories, Protein, Fat, Carbohydrates, Fiber, and Sugar. It is, however, able to contribute ample sodium to your diet, since it's nearly pure sodium. The traces of other minerals in Himalayan salt are responsible for the mineral's pink tint. These trace minerals are mainly Calcium, Potassium, and Magnesium.

Proper sodium intake is vital for good health. All salts, including Himalayan salt, can help you achieve healthy sodium levels. However, research has not demonstrated that Himalayan salt has any unique health benefits compared to other dietary salt. The mineral impurities that give it a pink color, often promoted as healthful, are far too low in concentration to be nutritionally beneficial.

You would have to eat a lethal amount of sodium to achieve helpful quantities of the other minerals. Some specific health benefits associated with sodium include:

Preventing Hyponatremia

Hyponatremia means low sodium levels in the blood. Eating enough sodium through a healthy diet is vital to preventing this dangerous and painful condition. Himalayan salt is no better or worse for preventing hyponatremia than other dietary sources of sodium.

Maintaining Healthy Nutrient Levels

Sodium plays an essential role in the small intestine's ability to absorb chloride, amino acids, glucose, and water. Sodium also helps your stomach break down food, releasing nutrients for absorption.

Potential Risks of Himalayan Salt

Himalayan salt carries exactly the same risks as any other type of dietary sodium: overconsumption of sodium can lead to significant health problems, and it can also worsen certain health conditions.

WHO Recommendations for Salt Reduction

For adults: WHO recommends that adults consume less than 5 g (just under a teaspoon) of salt per day (1). For children: WHO recommends that the recommended maximum intake of salt for adults be adjusted downward for children aged two to 15 years based on their energy requirements relative to those of adults. This recommendation for children does not address the period of exclusive breastfeeding (0–6 months) or the period of complementary feeding with continued breastfeeding (6–24 months). All salt that is consumed should be iodized or "fortified" with iodine, which is essential for healthy brain development in the fetus and young child and optimizing people's mental function in general.

Salt intake of less than 5 grams per day for adults helps to reduce blood pressure and risk of cardiovascular disease, stroke and coronary heart attack. The principal benefit of lowering salt intake is a corresponding reduction in high blood pressure. WHO Member States have agreed to reduce the global population's intake of salt by a relative 30% by 2025. Reducing salt intake has

been identified as one of the most cost-effective measures countries can take to improve population health outcomes. Key salt reduction measures will generate an extra year of healthy life for a cost that falls below the average annual income or gross domestic product per person. An estimated 2.5 million deaths could be prevented each year if global salt consumption were reduced to the recommended level.[21]

[21] WHO. Guideline: Sodium intake for adults and children, 2012