

SALT



Indian Minerals Yearbook 2018

(Part- III : Mineral Reviews)

57th Edition

SALT

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**GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES**

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25 Salt

Salt is the most significant of all the industrial minerals. Occurrence of rock salt in India is scanty. At the time of Independence, there used to be a shortfall in production of salt and the same was met through imports. Since then, India has made tremendous progress in production of salt, achieving self-sufficiency in 1953 and exporting salt to other countries.

Common salt, when pure, is mineral halite which is an essential item for human consumption. The per-capita consumption of salt in the country is estimated to be 14 kg, which includes edible and industrial salt. The current annual requirement of salt in the country is estimated to be 64.69 lakh tonnes for edible use (including requirement for cattles) and 118.11 lakh tonnes for industrial use.

"Salt is a Central Subject in the Constitution of India and appears as Item No. 58 in the Union List of the 7th Schedule, which reads:

- (a) "Manufacture, Supply and Distribution of salt by Union Agencies; and
- (b) "Regulation and control of manufacture, supply and distribution of salt by other agencies".

The Central Government is responsible for controlling and regulating all aspects of the Salt Industry. The Salt Commissioner's Organisation (SCO), Jaipur, Rajasthan, an attached office under the Ministry of Commerce & Industry (Department of Industrial Policy & Promotion), Government of India, is the Authority entrusted with the above task. The SCO is responsible for monitoring the production, distribution, quality, prices, supply and administration of Salt Cess Act, 1953 and the Rules, made thereunder.

RESERVES/RESOURCES

As per NMI database, based on UNFC system, the total reserves/resources of rock salt as on 1.4.2015 have been estimated at 16.03 million

tonnes in Mandi, Himachal Pradesh. The entire resources, fall under remaining resources category.

PRODUCTION AND STOCKS

The Rock-Salt production was 47 tonnes during 2017-18 as compared to nil production reported in 2016-17. In current year, production was reported by single public sector mine from Himachal Pradesh. (Table 1 to 3).

Mine-head closing stocks of Rock-Salt at the end of the year 2017-18 was 1 tonne as against NIL during 2016-17 (Table - 4).

The average daily labour employed in Rock-Salt mines during 2017-18 was 26 as against 14 in the previous year.

India is the 3rd largest salt (common) producing country in the world after China & USA with a production of about 289.49 lakh tonnes during the year 2017-18.

Production of salt involves extensive use of renewable sources of energy. Weather conditions play an important role in production of salt.

Salt (common) is manufactured mainly by Solar evaporation of sea water. Sea salt constitutes about 80% of the total salt produced in the country. Gujarat was the leading State followed by Rajasthan and Tamil Nadu. Private Sector contributed significantly in the production of salt and accounted for 94% of the production. Public/Joint Sector contributed 1.6% and the rest 4.4% was from the Co-operative Sector during 2017-18.

The major by-products recovered in the Salt Industry are gypsum, bromine, magnesium chloride, magnesium sulphate, ammonium bicarbonate, soda ash, caustic soda and soda bicarbonate. The average number of labourers employed in the Salt Industry during 2016-17 and 2017-18 were 105,037 and 88,843 respectively.

SALT

Table – 1 : Producers of Rock-Salt, 2017-18

| Name & address of producer | Location of mine | |
|--|---------------------|----------|
| | State | District |
| Hindustan Salt Ltd, B- 427, Pradhan Marg, Malviya Nagar, Jaipur - 302 017 Rajasthan. | Himachal Pradesh | Drang |

**Table – 2 : Production of Rock-Salt, 2015-16 to 2017-18
(By States)**

(Qty in tonnes; Value in ₹'000)

| State | 2015-16 | | 2016-17 | | 2017-18 (P) | |
|------------------|----------|-------|----------|-------|-------------|------------|
| | Quantity | Value | Quantity | Value | Quantity | Value |
| India | - | - | - | - | 47 | 263 |
| Himachal Pradesh | - | - | - | - | 47 | 363 |

**Table – 3 : Production of Rock-Salt, 2016-17 to 2017-18
(By Sectors/States/Districts)**

(Qty in tonnes; Value in ₹'000)

| State | 2016-17 | | | 2017-18 (P) | | |
|-------------------------|-----------------|----------|-------|-----------------|-----------|------------|
| | No. of Mines | Quantity | Value | No. of Mines | Quantity | Value |
| India | 1* | - | - | 1 | 47 | 263 |
| Public Sector | 1* | - | - | 1 | 47 | 263 |
| Private Sector | - | - | - | - | - | - |
| Himachal Pradesh | 1* | - | - | 1 | 47 | 263 |
| Mandi | 1* | - | - | 1 | 47 | 263 |

*only labour reported.

(p): Provisional

**Table – 4: Mine-head Closing Stocks of Rock-Salt, 2016-17 & 2017-18
(By States)**

(In tonnes)

| State | 2016-17 | 2017-18 (P) |
|-------------------------------|----------|-------------|
| India/Himachal Pradesh | 0 | 1 |

(p): Provisional

MINING

In recent development, Drang (Mohal Bhatog) Rock Salt Mine, Village Mohal Bhatog, District Mandi, Himachal Pradesh, of M/s Hindustan Salts has started production and produced 47 tonnes of rock - salt during 2017-18. Mining is carried out by underground semi-mechanised method. The entire mining area is hill (Govt. waste land) with no forest land cover.

USES

Salt, in addition to its culinary and domestic uses, is also employed in meat packing, fish curing & its preservation, dairying, preservation & processing of hides, manufacturing of soaps, detergent & dyestuff, dyeing & finishing of fabrics, refrigeration, glazing earthenware, explosives, leather industries, bakery products, for soil stabilisation, in manufacturing artificial rubber and as a wood preservative. In agriculture, salt is used for treating hay and as a fertilizer for certain crops. In countries with cold weather conditions, salt is used in de-icing, i.e. removal of snow and ice, from streets and highways.

Industrial Applications

Salt is an important raw material used in Chemical Industry. It is used in the production of basic chemicals like sodium carbonate (soda ash), caustic soda, hydrochloric acid, chlorine, bleaching powders, chlorates, sodium sulphate (salt cake) and sodium metal. These basic chemicals, in turn, are used in the preparation of various end-products, such as, soaps, detergents, chlorinated hydro-carbons and carbon tetrachloride. Other important applications where salt is widely used are in food processing; as freezing-point depressant in refineries & milk supply schemes; treatment of industrial wastes; purification of drinking water and manufacture of synthetic indigo, explosives, papers, etc.

The rock salt produced from Mandi mines contains 67.81% NaCl which is not suitable for human consumption as the content of sodium chloride is low from the required 96% NaCl necessary for human consumption. However, this salt finds application as essential supplement in cattle feeds.

Iodised Salt

The SCO is the nodal agency for monitoring the production and quality of iodised salt at the production level and ensuring its equitable

distribution in the country. Production of iodised salt continued its progressive trend and the Universal Salt Iodisation (USI), a programme under National Iodine Deficiency Disorder Control Programme (NIDDCP) reached new heights.

Iodised salt is produced by mixing potassium iodate with salt using spray, drip feed, dry mixing and submersion processes. Iodisation of salt is carried out in plants operated by Sambhar Salts Ltd (a subsidiary of Hindustan Salts Ltd), Kharagoda, Gujarat. SCO has facilitated establishment of 629 salt iodisation units including 132 refineries & washeries with an annual capacity of 22 million TPY up to March 2017. Production of 6.91 million tonnes of iodised salt during 2016-17 and 4.39 million tonnes in 2017-18 (up to November, 2018) was reported. The Bureau of Indian Standards (BIS) has revised the Specifications of Iodised Salt and formulated new Specifications for refined Iodised Salt and Vacuum Evaporated Iodised Salt under IS 7224:2006. BIS has prescribed IS 797:1982 (Reaffirmed 2012) as specification of common salt for chemical industries.

Potassium Iodate Manufacture

Potassium iodate, used for fortifying salt with iodine is produced indigenously, however, iodine, the basic raw material for its production is imported. There are about 13 potassium iodate manufacturing units, registered with the Salt Department.

Statewise production of salt (common) during the year 2017-18 is furnished in Table-5.

Table – 5: State-wise Production of Salt (Common), 2017-18 (By States)

| (In lakh tonnes) | |
|------------------|---------------|
| States | 2017-18 |
| India | 289.49 |
| Andhra Pradesh | 4.19 |
| Goa | 0.01 |
| Gujarat | 233.00 |
| Karnataka | 0.10 |
| Maharashtra | 1.30 |
| Odisha | 0.03 |
| Rajasthan | 27.18 |
| Tamil Nadu | 23.62 |
| West Bengal | 0.06 |

Source: Salt Commissioner, Govt. of India, Jaipur, Annual Report, 2017-18

CONSUMPTION

Industrial consumption of salt (common) increased marginally to 11.81 million tonnes during 2017-18 from 11.58 million tonnes in 2016-17. During the year 2017-18, human consumption of salt was reported at 6.47 million tonnes. The industrial consumption of salt is reflected in Table -6.

Table – 6 : Industrial Consumption of Salt 2016-17 and 2017-18 (By Industries)

| Industry | (Quantity in '000 tonnes) | |
|--|---------------------------|--------------|
| | 2016-17 | 2017-18 |
| Total | 11582 | 11811 |
| For production of Caustic soda & soda ash | 9845 | 10800 |
| Other Industries (Paper/Dye, foods, steel, oil, chemical etc.) | 1737 | 1011 |

Figures rounded off.

Source: Salt Commissioner, Govt. of India, Jaipur.

Table – 7: Exports of Salt (other than common salt) (By Countries)

| Country | 2016-17 | | 2017-18 | |
|------------------------|----------------|----------------|----------------|----------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 7897937 | 7450785 | 9969601 | 9402723 |
| China | 4480600 | 3521259 | 5332232 | 4984610 |
| Korea, Rep. of | 1033517 | 1104316 | 1106491 | 912754 |
| Japan | 476662 | 687541 | 908176 | 760557 |
| Bangladesh | 463420 | 344790 | 844771 | 673299 |
| Qatar | 378108 | 474629 | 513429 | 593038 |
| Indonesia | 310019 | 506661 | 298131 | 244642 |
| Chinese/Taipei/ Taiwan | 6613 | 7388 | 231008 | 224479 |
| Vietnam | 154729 | 115360 | 223646 | 191660 |
| Thailand | 110006 | 87689 | 120427 | 172819 |
| UAE | 105296 | 101713 | 139871 | 153422 |
| Other countries | 378967 | 499439 | 251419 | 491443 |

TRADE POLICY

Exports of salt have been brought under Open General Licence (OGL) with effect from 25th August, 1987 vide Ministry of Commerce, New Delhi, Export Trade Control Public Notice No. 26-ETC(PN)/87 dated 25th August, 1987. The Ministry of Commerce, Government of India, vide Notification No. 482(E) dated 25th July, 1991 has exempted certain categories of export from compulsory pre-shipment inspection.

As per Foreign Trade Policy (FTP) 2015-2020, exports and imports of Rock Salt and Common Salt (including Iodised Salt) under heading no. 2501 are allowed as 'Free'.

FOREIGN TRADE

Exports

During 2017-18 exports of salt were 9.96 million tonnes. Exports were mainly to China, Korea, Rep. of, Japan, Bangladesh, Qatar, and Indonesia (Table - 7).

Imports

During 2017-18 imports of salts (other than common salt) were at 67,555 tonnes as compared to 52,901 tonnes in the previous year. Imports were mainly from Pakistan (99%) under Open General Licence (OGL). (Table - 8)

Table – 8: Imports of Salt (other than common salt) (By Countries)

| Country | 2016-17 | | 2017-18 | |
|----------------------|--------------|---------------|--------------|---------------|
| | Qty (t) | Value (₹'000) | Qty (t) | Value (₹'000) |
| All Countries | 52901 | 173687 | 67555 | 291750 |
| Pakistan | 52414 | 152882 | 66329 | 198927 |
| USA | 44 | 5039 | 85 | 49824 |
| Germany | 295 | 8330 | 290 | 23170 |
| Thailand | - | - | 335 | 7916 |
| UK | 1 | 283 | 344 | 4735 |
| Israel | 47 | 2350 | 51 | 3036 |
| New Zealand | - | - | 24 | 664 |
| China | 15 | 416 | 14 | 616 |
| Poland | 7 | 1025 | 3 | 521 |
| Belgium | ++ | 10 | 22 | 513 |
| Other countries | 78 | 3352 | 58 | 1828 |

