

TIN



Indian Minerals Yearbook 2021

(Part- II : METALS AND ALLOYS)

60th Edition

TIN

(ADVANCE RELEASE)

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES

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17 Tin

Tin is one of the earliest metals known and used mainly in bronze implements. It is a scarce element with incidence of about 2 ppm in the earth's crust. Its unique combination of properties like non-toxic nature, high malleability, chemical inertness and ease with which it can form an amalgam and alloy with other metals has given it a special status among non-ferrous metals. Pure tin is a silvery-white metal which is soft and malleable. It does not occur naturally as metal. By far, the most important tin mineral is cassiterite (SnO_2), which theoretically, in its purest form contains 78.77% tin. But usually it includes impurities of Nb, Ta, Zr, Sc, W and Fe. The less common tin ore is stannite ($\text{Cu}_2\text{SnFeS}_4$). Tin is used mostly for tin plating, soldering special alloys and in the production of bronze.

RESERVES/RESOURCES

In India, tin ore is found associated with granite, pegmatites and quartz veins and also in placer deposits. Resources are spread over in Bastar and Dantewada districts of Chhattisgarh, Tosham deposit in Bhiwani district of Haryana and Malkangiri district of Odisha.

The total reserves/resources of tin ore in the country as per NMI data, based on UNFC system, as on 1.4.2020 is placed at 83.72 million tonnes containing about 1,03,757 tonnes metal. About 2,101 tonnes ore containing 974 tonnes metal are placed under 'Reserves' category and the bulk, i.e., about 83.72 million tonnes containing about 1,02,783 tonnes metal are placed under 'Remaining Resources' category. As per DMG Chhattisgarh, the total recoverable reserves of cassiterite concentrate is 19,544.58 tonnes in Tongpal area, Katekalyan area and Padapur-Bachel area. Out of 19,544.58 tonnes, 18,837.16 tonnes are placer deposit. The entire resources of tin are located in Haryana,

Chhattisgarh and Odisha. About 64% of the total ore resources are located in Haryana and 36% in Chhattisgarh, while nominal resources have been reported from Odisha as well (Table-1).

EXPLORATION & DEVELOPMENT

The exploration and development details, if any, are covered in the Review on 'Exploration and Development' under 'General Reviews', i.e., Vol.-I of the title. As on 31.03.2021 (P), a total of 15 leases for tin have been granted to the various parties.

PRODUCTION, STOCKS & PRICES

Concentrates

The production of tin concentrates in 2020-21 at 16,865 kg increased substantially by 9% as against 15,530 kg in the preceding year. One Public Sector and five Private Sector mines reported production in 2020-21. All these mines are located in Chhattisgarh.

The mine-head closing stock of tin concentrates was 8,729 kg in 2020-21 as against 10,809 kg in 2019-20.

The Chhattisgarh Mineral Development Corporation Ltd (CMDC) purchases tin concentrates from local tribals, allowing them to collect it from the lease area. Hence, no labour was reported by the mine owned by the CMDC Ltd, whereas Precious Minerals and Smelting Ltd employed 8 workers in the previous year on average daily basis (Tables-2 to 5).

Tin Metal

The plant owned by Precious Minerals and Smelting Ltd reported production of 4,337 kg of tin metal in 2020-21 as against 6,063 kg in the preceding year. The plant is located at Jagdalpur in Dantewada district of Chhattisgarh (Table-6).

**Table – 1 : Reserves/Resources of Tin as on 1.4.2020
(By Grades/States)**

(In tonnes)

Grade/State	Reserves			Remaining Resources					Total Resources (A+B)			
	Proved STD111	Probable STD121	Total (A) STD122	Feasibility STD211	Pre-feasibility STD221	Measured STD331	Indicated STD332	Inferred STD333		Reconnaissance STD334	Total (B)	
All India : Total												
Ore	2075	-	2101	22594540	3213	31330134	168457	561080	29063370	-	83720794	83722895
Metal	963.19	-	973.99	33384.66	1116.41	54089.46	813.29	231.63	13147.46	-	102782.91	103756.9
By States												
Chhattisgarh												
Ore	2075	-	2101	1791	2560	94	168457	559914	29062361	-	29795176	29797277
Metal	963.19	-	973.99	1122.95	603.94	29.07	813.29	209.43	13130.9	-	15909.58	16883.57
Haryana												
Ore	-	-	-	22580000	-	31330000	-	-	-	-	53910000	53910000
Metal	-	-	-	32187.8	-	54032.8	-	-	-	-	86220.6	86220.6
Odisha												
Ore	-	-	-	12749	653	40	-	1166	1010	-	15618	15618
Metal	-	-	-	73.91	512.47	27.59	-	22.2	16.56	-	652.73	652.73

Figures rounded off.

TIN

Table – 2 : Principal Producers of Tin Concentrates, 2020-21

Name & address of the producer	Location of the mine	
	State	District
Chhattisgarh Mineral Dev. Corpn Ltd, Sona Khan Bhawan, Ring Road No.1, Raipur- 492006, Chhattisgarh.	Chhattisgarh	Dantewada
Precious Minerals and Smelting Ltd, Semi Urban Industrial Estate, Frezerpur, Jagdalpur - 494001, Chhattisgarh.	Chhattisgarh	Dantewada

Table – 3 : Production of Tin Concentrates, 2018-19 to 2020-21 (By State)

(Quantity in kg; Value in ₹'000)

State	2018-19		2019-20		2020-21 (P)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	21212	14627	15530	10337	16865	9413
Chhattisgarh	21212	14627	15530	10337	16865	9413

Table – 4 : Production of Tin Concentrates, 2019-20 and 2020-21 (By Sectors/State/District)

(Quantity in kg; Value in ₹'000)

State	No. of mines	2019-20		No. of mines	2020-21 (P)	
		Quantity	Value		Quantity	Value
India	6	15530	10337	6	16865	9413
Public sector	1	11603	6634	1	13859	7815
Private sector	5	3972	3703	5	3006	1598
Chhattisgarh	6	15530	10337	6	16865	9413
Dantewada	6	15530	10337	6	16865	9413

Table – 5 : Mine-head Closing Stocks of Tin Concentrates, 2019-20 & 2020-21 (By State)

(In kg)

State	2019-20	2020-21 (P)
India	10809	8729
Chhattisgarh	10809	8729

(P): Provisional

Table – 6 : Production of Tin Metal 2018-19 to 2020-21

(Qty in kg; Value in ₹'000)

Year	Production	
	Quantity	Value
2018-19	7436	8918
2019-20	6063	7361
2020-21 (P)	4337	5400

MINING

In Govindpal –Tongpal area of Dantewada district, Chhattisgarh, tin in the form of cassiterite is being mined from the sediments deposited in the streams. The stream sediments are dug manually with conventional implements. Subsequent panning of these sediments helps in separating the lighter gangue minerals, while the heavier part is recovered as cassiterite. Chhattisgarh is the only tin producing State in India. Tin ore is known as cassiterite, which was reported in Dantewada district by the Directorate of Geology and Mining and was found being associated with the lepidolite-bearing pegmatites. CMDC has an arrangement of collecting tin ore from cooperative societies of tribals in Dantewada district of Chhattisgarh. The Precious Minerals & Smelting Limited (PMSL) (An ISO 9001:2000 Company), is a flagship Company of Lunia Group. The PMSL is the first Joint Venture Company set up with the Chhattisgarh Mineral Development Corporation Limited (A Government of Chhattisgarh Enterprise), for identification, exploration and exploitation of tin-bearing areas of Chhattisgarh State. The PMSL has commissioned a tin manufacturing facility at Jagdalpur.

USES & SPECIFICATIONS

Tin, as a metal, is the most preferred and environment-friendly packing material. Tin plate, a value-added flat steel product, is a versatile packaging substrate used in edible oils, paints, pesticides, processed foods, beverages and other industries. As a pure metal, it can be used in storage tanks for pharmaceutical chemical solutions, in capacitors, electrodes, fuse-wires, ammunitions, tinned iron sheets to protect victuals, sweets, tobacco, etc. The tin plate is manufactured by depositing tin on iron plate of thickness ranging from 0.17 mm to 0.60 mm. IS 1993:2006 (fourth revision, Reaffirmed Sept. 2011) has specified the requirement for cold reduced electrolytic tin plate. The specifications for tin ingot which is to be used for various purposes is as per IS : 26:1992 (Fourth Revision, Reaffirmed Feb. 2014). There shall be two grades of tin ingot, viz, Sn 99.85% and 99.75%. BIS has prescribed IS : 4280-1992 (Reaffirmed Feb. 2014) for refined secondary tin ingots.

Tin readily forms alloys with other metals to create useful materials, such as, solders, bronzes and fusible alloys. Tin with lead forms an excellent alloy which melts at very low temperature and is used as solders in

electronics or as a seal in plumbing. Tin is used in making fusible alloys to be used in safety devices, such as, fire sprinklers, pressure cookers, boiler plugs and electrical fuses. Powder containing 60% silver, 27% tin and 13% copper when mixed with appropriate quantity of mercury forms excellent dental amalgam to be used for filling dental cavities.

Tin is used in cast iron to improve the microstructure and it results in higher uniform hardness. Tin bronzes are used for making gears, tubing, springs and plumbing fitments and for making bearings. Tin is also used in making high-tech alloys, such as, zirconium-tin, used for cladding the fuel elements in thermal nuclear reactors and a niobium-tin-intermetallic compound used in certain high-performance superconducting fields, such as, in high-energy physics.

Tin oxide-based catalysts are used in air purification system, gas sensors and CO₂ lasers. Organotin compounds are used in agrochemicals and antifouling paints in seafaring vessels. Float Glass Industry is an important user of tin, it utilises a method of floating molten glass over a huge vat of molten tin. Pure tin in molten form is used to provide a flat surface as well as fire-polish on both sides of float glass which solidifies on it. It is also used in the production of lead crystal glass. Tin oxide films thicker than 1 mm on glass, produce a transparent, yet electrically conductive layer. This layer is used in de-icing windscreen, antistatic glassware, security alarm, etc.

Tin has established a long-term future as an innovative, competitive and sustainable material. A new low cost, efficient and environment-friendly solar cell has been developed that uses tin instead of the hazardous lead. Tin, known as fuel catalyst, can save energy and reduce emissions when added to fuel. Tin is also considered as synergist for replacement of antimony fire retardants used in most plastics. Tin can make lithium ion batteries last more than three times longer. Tin and zinc work well together to heal wounds and kill bacteria, enabling use in new range of animal healthcare products. Electrolytic Tinplate undoubtedly enjoys the pride of place as a packaging medium especially of food.

POLICY

As per the Import Policy, under schedule 1 of ITC (HS) 2022 and export policy under Schedule 2 of ITC (HS) 2022) there are no restrictions on the export and import of tin ores and concentrates.

INDUSTRY/CONSUMPTION

In India, the main consumers of tin are the Tin Plate Industry and Solder Industry. The latter advancing to become the biggest single end-use sector, over the last decade. The domestic tin plate market is categorised broadly into three basic packaging market segments – edible oil/vanaspati & cashew, processed food and non-processed food. The consumption in IT Industry and in food/beverages Packaging Industry has increased in the recent years. Tin plate companies, namely, Tin Plate Company of India Ltd, JSW Steel Ltd, GPT Steel Industries Ltd, Vardhaman Industries Ltd, SAIL's Rourkela Steel Plant, Kaira Can Company Ltd, Hindustan Tin Works Ltd etc. use tin metal in appreciable quantities for the manufacture of tin plate.

The Tin Plate Company of India Ltd consumes tin at its Golmuri Works, Jamshedpur in East Singhbhum, Jharkhand. TCIL is the pioneer and leading producer of tin mill products in India. It was incorporated in 1920 and has evolved as one of the important regional players in Asia. The Company is a subsidiary of Tata Steel Limited with the parent company holding 74.96% stake in TCIL. The manufacturing facility of the Company is located at Jamshedpur in the State of Jharkhand with an installed capacity of 3,79,000 tonnes per annum. It caters to 60% of the prime tinsplate market and 40% of the overall domestic market. TCIL produced 2,90,807 tonnes & 3,74,182 tonnes of Electrolytic Tinsplate in the year 2020-21 & 2021-22, respectively. Similarly, in cold rolling mill during 2020-21 and 2021-22, the C.R. products produced were of 3,10,092 tonnes and 3,94,079 tonnes, respectively. GPT Steel Industries Ltd an ISO 9001:2008 accredited unit, was established in 2003 to manufacture Cold rolled products & Tinsplate products. GPT is 2nd largest producer of tin plate in India with largest capacity for producing tin plates. GPT Steel has set up two complete Cold Rolling Mills (4Hi & 6Hi Mill) and state-of-the-art Electrolytic Tinsplate Line (ETL) located at Gandhidham, Kuchchh district, Gujarat.

SUBSTITUTES

The most important use of tin is in making packing materials, as it is environment-friendly. Aluminium, glass, paper, plastic, or tin-free steel are among the major substitute for tin. A number of materials can replace tin

in its various applications, such as, tetrapack for liquid food items; plastic/polycontainers for solid, semi-solid food; aluminium, glass, tin-free steel can be used in place of tin cans and containers. Tin-Free Steel (TFS) is an electrolytic chrome plated steel consisting of a thin layer of chromium and a layer of chromium oxide deposited on the steel base which gives it a beautiful, lustrous metallic finish on both sides. TFS offers outstanding corrosion resistance, lacquer adhesion as well as printability. Additional features of TFS are filiform rust resistance, sulphur blackening resistance and coating. For tin solders new epoxy resins; for bronze-aluminium alloys, copper-base alloys and plastic; plastic for bearing metals that contain tin; compounds of lead and sodium for some tin chemicals are the other substitutes now in use in place of tin.

WORLD REVIEW

The world reserves of tin metal estimated in 2021 were 4.9 million tonnes, located mainly in China (22%), Indonesia (16%), Australia (11%), Brazil (9%) and Bolivia (8%). The world reserves of tin by principal countries are furnished in Table-7.

The world mine production decreased marginally by 11% during 2020 to 2,78,000 tonnes as compared to that 3,11,000 tonnes in the preceding year (Table-8). China which continued to be the largest producer of tin in 2020 with contribution of about 34% share in the total world production was followed by Indonesia (19%), Myanmar (13%) and Peru (7%).

A generalised view of the development in various countries, along with country-wise description sourced from latest available publication of Minerals Yearbook of 'USGS' 2017 are presented as below:

Australia

Aus Tin Mining Ltd successfully completed its first sale of 5 tonnes of tin in concentrate from the Granville tin-processing plant in Tasmania. The Granville plant had processed tailings that were assayed at about 1% tin. The plant initially re-treated the existing tailings at the site and then later in the year began processing stockpiled ore. Aus Tin Mining received regulatory approval for a trial mine and pilot plant at the Taronga Stage 1 project. The Taronga project was expected to produce between 25,400 tonnes and 39,800 tonnes of tin in concentrate over the life of the project.

Brazil

Minsur announced in its annual memo that the Pitinga Mine produced 6,983 tonne of tin in concentrate in 2017, essentially unchanged from the 6,875 tonne produced in 2016. All concentrates were sent to the company's Pirapora refinery in Sao Paulo, which produced 6,582 tonne of refined tin in 2017, 12% more than in 2016.

Myanmar

Burma accounted for most of China's tin concentrate imports in 2017, supplying tin ore and concentrates containing an industry-estimated 47,000 tonne of tin. Burma's ore continued to be produced predominantly in Wa County, or Wa Special Region 2 in northern Shan State, close to the border with China.

China

In February, Yunnan Tin Group Co. Ltd. announced an expansion of the Wenshan Dulong zinc-indium-tin-copper mine. The expansion will increase ore capacity to 3.6 million metric tons per year (Mt/yr) from 2.1 Mt/yr. The mine was operated by Yunnan Hualian Zinc and Indium Co., Ltd., a subsidiary of Yunnan Tin Group Co. Ltd., and had increased production threefold since 2012, to 6,500 t of contained tin in 2017. The increased production was a result of technological upgrades and the construction of a new processing plant. An additional 8,000 metric tons per year (t/yr) of production during the next several years was planned.

Indonesia

PT Refined Bangka Tin restarted operations in late 2016, after closing in February 2016 because of low tin prices and more stringent environmental regulations. PT Refined Bangka Tin, which started operating in 2009, was one of the leading privately owned tin smelters in the world. PT Refined Bangka Tin typically exported about 5,000 t/yr of tin but reported producing between 2,400 and 3,600 t/yr of tin. In August, the Governor of Bangka Belitung Island announced a moratorium on issuing new licenses for tin mining owing to the need to assess and inspect damage from illegal mining operations and illegal operations that exported tin concentrate. The moratorium was to last only until new regulations being drafted by the Government were put in place, which were expected to be completed within 3 months. Because the moratorium restricted only the issuance of new licenses, and not existing ones, supply was not expected to be affected in the short term.

**Table – 7 : World Reserves of Tin
(By Principal Countries)**

(In'000 tonnes of tin content)	
Country	Reserves
World : Total (rounded off)	4900
Australia	560 ^(a)
Bolivia	400
Brazil	420
Myanmar ^e	700
China ^e	1100
Congo (Kinshasa) ^e	130 ^(e)
Indonesia ^e	800
Laos ^e	NA ^(e)
Malaysia	81
Nigeria ^e	NA ^(e)
Peru	150
Russia	200
Rwanda ^e	NA
USA	-
Vietnam ^e	11
Other countries	310

Source: USGS, Mineral Commodity Summaries, 2022.

a: For Australia, Joint Ore Reserves Committee-compliant or equivalent reserves were about 2,61,000 tonnes.

e: estimated

**Table – 8 : World Mine Production of Tin
(By Principal Countries)**

(In tonnes of metal content)			
Country	2018	2019	2020
World: Total (rounded off)	325000	311000	278000
Australia	6871	7738	8118
Bolivia	17251	17147	14709
Brazil	17100	17000	16893
Myanmar	55000	50000	36000
China	94838	85840	94463
Congo, D. Rep. of	8950	12431	13526
Indonesia	82809	77468	52617
Peru ^(a)	18601	19853	20647
Vietnam	5745	6369	6798
Other countries	17568	16815	14570

Source: BGS, World Mineral Production, 2016-2020.

(a) Recoverable

** Estimated*

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FOREIGN TRADE**Exports**

There were nil exports of tin ores & concentrates during the year 2020-21 and negligible export in 2020-21. Exports of tin & alloys including scrap decreased by 21% to 750 tonnes in 2020-21 as

compared to 944 tonnes in the preceding year. Out of the total exports in 2020-21, tin & alloys reported 570 tonnes (76%), tin & alloys (worked) was 178 tonnes (24%) and tin waste & scrap were negligible. Exports of tin & alloys including Scrap were mainly to Republic of Korea, (32%), UAE (21%) and Nepal (14%) (Tables - 9 to 17).

**Table – 9 : Exports of Tin Ores & Conc.
(By Countries)**

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	++	1	-	-
Nepal	++	1	-	-

Figures rounded off

**Table – 10 : Exports of Tin & Alloys Incl. Scrap
(By Countries)**

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	944	740863	750	784385
UAE	219	234469	161	286412
Korea Rep. of	278	203163	237	186018
Belgium	34	16384	54	66776
UK	32	46620	20	29999
Saudi Arabia	23	31521	18	28552
U S A	13	9491	43	27065
Sri Lanka	16	32661	13	26394
Poland	-	-	21	26186
Nepal	156	34623	106	18939
Kenya	1	1531	13	18603
Other countries	172	130400	64	69441

Figures rounded off

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**Table – 11 : Exports of Tin & Alloys
(By Countries)**

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	681	694813	570	731861
UAE	213	228302	160	285280
Korea, Rep. of	272	202426	236	185246
Belgium	22	14673	54	66589
UK	32	46464	18	29253
Poland	-	-	21	26186
Saudi Arabia	22	29915	15	23778
Sri Lanka	15	30623	10	23424
Kenya	1	1504	11	17284
Taiwan	6	6983	9	13594
U S A	5	6739	9	12560
Other countries	93	127184	27	48667

*Figures rounded off***Table – 12 : Exports of Tin & Alloys:Worked
(By Countries)**

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	263	46041	178	51368
USA	8	2752	34	14498
Nepal	135	11991	100	11003
Saudi Arabia	1	1606	3	4774
Netherlands	4	1795	10	3878
Sri Lanka	1	2038	3	2970
Israel	++	157	4	2865
Bahrain Is	-	-	10	2244
Italy	-	-	1	1448
Kenya	++	27	2	1310
UAE	6	6167	1	1132
Other countries	108	19508	10	5246

*Figures rounded off***Table - 13 : Exports of Tin Waste & Scrap
(By Countries)**

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	++	9	2	1156
Swaziland	-	-	1	744
Nepal	-	-	1	385
Colombia	-	-	++	11
Kenya	-	-	++	9
U S A	-	-	++	7
Liberia	++	9	-	-

Figures rounded off

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**Table - 14 : Exports of Tin & Alloys : NES
(By Countries)**

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	478	409127	380	423846
Korea, Rep. of	272	202287	236	185246
UAE	133	117178	48	114878
Belgium	22	14610	36	32196
U K	29	46109	18	29253
Poland	-	-	21	26186
Hong Kong	3	3314	6	9482
Taiwan	2	2304	4	6854
Sri Lanka	-	-	1	4067
Japan	++	241	2	3327
Bangladesh	5	6052	2	2804
Other countries	12	17032	6	9553

*Figures rounded off***Table - 15 : Exports of Tin : Anode, Cathode etc. of
Tin Unwrought
(By Countries)**

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	82	109952	44	70911
Saudi Arabia	18	25123	14	22778
Kenya	1	1504	11	17284
UAE	13	16933	6	7930
Sri Lanka	4	6631	5	7669
Nepal	20	22440	4	6570
Congo, D .Rep	7	10054	2	3274
Nigeria	4	5165	1	1770
Ghana	++	45	1	938
Sudan	++	719	++	794
Qatar	1	1610	++	540
Other countries	14	19728	++	1364

*Figures rounded off***Table - 16 : Exports of Tin Blocks
(By Countries)**

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	6	1586	++	547
Oman	--	--	++	537
Nepal	++	20	++	6
Cameroon	--	--	++	4
Fiji Is	--	--	++	++
Japan	3	1069	--	--
U K	3	355	--	--
Singapore	++	141	--	--
Algeria	++	1	--	--
Other countries	++	++	++	++

*Figures rounded off***Table - 17 : Exports of Tin (Scrap)
(By Countries)**

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	++	9	2	1156
Swaziland	-	-	1	744
Nepal	-	-	1	385
Colombia	-	-	++	11
Kenya	-	-	++	9
U S A	-	-	++	7
Liberia	++	9	-	-

Figures rounded off

Imports

The imports of tin ores & concentrates in 2020-21 was negligible as that of the previous year. Imports of tin & alloys including scrap were at 10,797 tonnes in 2020-21 from 11,746 tonnes recorded in the previous year. Imports of tin & alloys were mainly from Indonesia (70%), Singapore (12%) and China (4%). In 2020-21, imports of tin & alloys were at 10,382 tonnes as compared to 11,225 tonnes in the previous year. Imports of tin & alloys (worked) were at 415 tonnes, while imports of tin alloys (NES) were at 73 tonnes. (Tables -18 to 26).

Table – 18 : Imports of Tin Ores & Conc. (By Countries)

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	++	206	2	899
Nigeria	--	--	2	768
Korea, Rep. of	++	125	++	131
Burundi	++	81	--	--

Figures rounded off

Table – 19 : Imports of Tin & Alloys, Incl. Scrap (By Countries)

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	11746	15254405	10797	14848133
Indonesia	9216	12145857	7517	10413091
Singapore	802	1148386	1331	1822729
Malaysia	497	681104	1145	1712445
Tanzania	42	54773	164	268817
China	548	290573	415	234296
Germany	65	104328	61	95835
Korea, Rep. of	42	105486	34	86007
Japan	435	679374	25	56106
Rwanda	--	--	25	37565
South Africa	--	--	25	33687
Other countries	99	104524	55	87555

Figures rounded off

Table – 20 : Imports of Tin & Alloys (By Countries)

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	11225	14998805	10382	14585191
Indonesia	9216	12145857	7517	10413091
Singapore	800	1144478	1331	1821181
Malaysia	488	662235	1122	1677012
Tanzania	42	54773	164	268817
China	127	151950	81	104787
Germany	63	97075	59	89456
Korea, Rep. of	40	105095	29	84814
Rwanda	--	--	25	37565
South Africa	--	--	25	33687
Taiwan	11	17109	16	28570
Other countries	438	620233	13	26211

Figures rounded off

Table – 21 : Imports of Tin & Alloys : Worked (By Countries)

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	521	255514	415	262942
China	421	138621	334	129509
Japan	14	31944	24	52920
Malaysia	9	18869	23	35433
Italy	9	13771	8	12772
Hong Kong	53	23936	14	9634
Spain	8	9661	5	6486
Germany	2	7253	2	6379
Israel	++	1762	++	2022
U A E	++	101	++	1990
Singapore	2	3824	++	1548
Other countries	3	5772	5	4249

Figures rounded off

Table – 22 : Imports of Tin (Scrap) (By Countries)

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	++	86	--	--
Singapore	++	84	--	--
China	++	2	--	--

Figures rounded off

TIN

**Table – 23 : Imports of Tin Alloys, NES
(By Countries)**

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	69	117384	73	145069
Germany	57	85075	50	78695
Malaysia	9	27236	19	59383
Hong Kong	--	--	2	3098
Italy	++	752	1	1716
Singapore	2	2873	1	1073
China	--	--	++	596
U S A	++	132	++	508
Spain	1	793	--	--
UK	++	488	--	--
Canada	++	34	--	--
Other Countries	++	1	++	++

*Figures rounded off***Table – 24: Imports of Tin & Alloys : Worked
(By Countries)**

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	245	372554	217	344238
China	102	114140	81	104191
Korea, Rep. of	39	103888	29	83511
Malaysia	14	21062	33	50716
Singapore	38	50740	26	39863
Taiwan	4	6682	10	18541
Indonesia	21	18708	20	17514
Germany	6	11665	9	10652
Canada	2	3780	6	9275
Hong Kong	13	22647	2	6028
Japan	6	17207	1	3186
Other countries	++	2035	++	762

Figures rounded off

**Table – 25: Imports of Tin: Anode, Cathode Etc of Tin Unwrought
(By Countries)**

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	10904	14498291	10085	14084187
Indonesia	9195	12127149	7497	10395577
Singapore	760	1090865	1304	1780242
Malaysia	465	613937	1070	1566913
Tanzania	42	54773	164	268817
Rwanda	--	--	25	37565
South Africa	--	--	25	33687
Korea, Rep. of	1	1207	++	1138
Germany	++	207	++	109
UK	++	213	++	66
U S A	++	184	++	56
Other countries	441	609756	++	17

Figures rounded off

**Table – 26 : Imports of Tin Blocks
(By Countries)**

Country	2019-20 (R)		2020-21 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	7	10576	7	11697
Taiwan	7	10427	6	10029
Finland	--	--	1	1500
Korea, Rep. of	--	--	++	165
Singapore	--	--	++	3
Germany	++	128	--	--
Portugal	++	16	--	--
U S A	++	5	--	--

Figures rounded off

FUTURE OUTLOOK

According to the analyses put out by International Tin Association (ITA), the world demand for tin would raise to 50,000 tonnes per year by 2025. Provisional estimates of total global tin use, including refined and unrefined forms, totalled 4,36,100 tonnes in 2021, up 3.9% from that of 2020. The Recycling Input Rate (RIR) was calculated to be 28.21% in 2021 and is forecast to increase slightly to 28.5% in 2022.

During the year 2021-22 demand for Tin plate in domestic market increased by 4%. In addition, the Government's focus on the rural economy and farm sector is expected to boost overall consumption and this is evident in policies being showcased by the Ministry of Food Processing Industries at various Industry workshops and exhibitions.

World tin reserves appeared to be adequate to meet short-term demand. Secondary sources of tin are likely to become an increasingly important component to meet supply demands especially in the United States. Domestic tin requirements are expected to continue to be met primarily through imports. As per global tin market overview of ITA, around 3,86,100 tonnes of refined tin were produced in 2021, 30% of which was from recycled sources.

The per capita consumption of tinfoil in India is considerably low (0.49kg per capita) when compared to many developed countries (8-12kg per capita) and developing economies like China (4.75kg per capita). High growth in modern retail, FDI in multi-brand retail combined with Government's thrust on food processing industries augur well for the growth of Packaging Industry in India which in turn could spur growth of tin consumption in the country.