

India's International Trade of Four Specific Commodities in the Recent Past Some Insights

Preface

The study uses trade indicators to analyse merchandise export and import data in a way that should be useful for the purpose of policy. The indicators provide a glimpse of the trade patterns of the world and the performance of India in comparison to various other countries. They have been used in the case of India's exports of **Unwrought Zinc & Fish : dried, salted, smoked etc...** and imports of **Fluorides and Printed Books, Brochures, Leaflets etc.** to indicate the possible directions policy may take.

The data used in this study has been sourced from the Export Import Data Bank of the DGCI&S, Department of Commerce, and Government of India and from the United Nations Comtrade Database. Introduction notes of each commodity has been sourced from the various sources –viz Wikipedia, Britannica, The Economic Times etc.

Computations are based on data at ITC-HS four-digit level (ITC-HS Code-7901 & 0305 for export and 2826 & 4901 for import) and the latest finalized data available on the UN Comtrade Database up to year 2021 and on the DGCI&S Database up to September'2022. So, trends from 2018 to 2021 have been shown when we extract the data from UN Comtrade and from 2018 to 2021 have been shown when we extract the data from DGCIS Data base.

In this report, we will see various analysis and aspects of India's Precious as well as International export trade of Unwrought Zinc & Fish : dried, salted, smoked etc... and imports of Fluorides and Printed Books, Brochures, Leaflets etc.. We will use both the 4 digit Commodity codes.

Trends in India's as well as International Trade i.e. Exports and Imports of above four Commodities are given below in different tables :

- Table 1 :India's top 10 destination of Unwrought Zinc with their shares in percentage.
- Table 2 : World's top 10 Exporters of Unwrought Zinc with their shares in percentage.
- Table 3 : World's top 10 Importers of Unwrought Zinc with their shares in percentage.
- Annex- I : Top 3 sources of Unwrought Zinc of World's top 3 Importers.
- Table 4 : India's top 10 destination of Fish : dried, salted, smoked etc with their shares in percentage.
- Table 5 : World's top 10 Exporters of Fish : dried, salted, smoked etc with their shares in percentage.
- Table 6 : World's top 10 Importers of Fish : dried, salted, smoked etc with their shares in percentage.
- Annex-II : Top 3 sources of Fish : dried, salted, smoked etc of World's top 3 Importers.
- Table 7 : India's top10 Sources of Fluorides with their shares in percentage.
- Table 8 : World's top 10 Importers of Fluorides with their shares in percentage.
- Table 9 : India's top 10 Sources of Printed Books, Brochures, Leaflets etc.. with their shares in percentage.
- Table 10 : World's top 10 Importers of Printed Books, Brochures, Leaflets etc.. with their shares in percentage.

EXPORT

Unwrought Zinc

Zinc is a chemical element with the symbol **Zn** and atomic number 30. Zinc is a slightly brittle metal at room temperature and has a shiny-greyish appearance when oxidation is removed. It is the first element in group 12 (IIB) of the periodic table. In some respects, zinc is chemically similar to magnesium: both elements exhibit only one normal oxidation state (+2), and the Zn^{2+} and Mg^{2+} ions are of similar size. Zinc is the 24th most abundant element in Earth's crust and has five stable isotopes. The most common zinc ore is sphalerite (zinc blende), a zinc sulfide mineral. The largest workable lodes are in Australia, Asia, and the United States. Zinc is refined by froth flotation of the ore, roasting, and final extraction using electricity (electrowinning).

Zinc is an essential trace element for humans, animals, plants and for microorganisms and is necessary for prenatal and postnatal development. It is the second most abundant trace metal in humans after iron and it is the only metal which appears in all enzyme classes. Zinc is also an essential nutrient element for coral growth as it is an important cofactor for many enzymes.

Zinc deficiency affects about two billion people in the developing world and is associated with many diseases. In children, deficiency causes growth retardation, delayed sexual maturation, infection susceptibility, and diarrhea. Enzymes with a zinc atom in the reactive center are widespread in biochemistry, such as alcohol dehydrogenase in humans. Consumption of excess zinc may cause ataxia, lethargy, and copper deficiency.

Zinc is a bluish-white, lustrous, diamagnetic metal, though most common commercial grades of the metal have a dull finish. It is somewhat less dense than iron and has a hexagonal crystal structure, with a distorted form of hexagonal close packing, in which each atom has six nearest neighbors (at 265.9 pm) in its own plane and six others at a greater distance of 290.6 pm. The metal is hard and brittle at most temperatures but becomes malleable between 100 and 150 °C. Above 210 °C, the metal becomes brittle again and can be pulverized by beating. Zinc is a fair conductor of electricity.

Identified world zinc resources total about 1.9–2.8 billion tonnes. Large deposits are in Australia, Canada and the United States, with the largest reserves in Iran.

Zinc is the fourth most common metal in use, trailing only iron, aluminium, and copper with an annual production of about 13 million tonnes. The world's largest zinc producer is Nyrstar, a merger of the Australian OZ Minerals and the Belgian Umicore. About 70% of the world's zinc originates from mining, while the remaining 30% comes from recycling secondary zinc.

Commercially pure zinc is known as Special High Grade, often abbreviated *SHG*, and is 99.995% pure. Worldwide, 95% of new zinc is mined from sulfidic ore deposits, in which sphalerite (ZnS) is nearly always mixed with the sulfides of copper, lead and iron. Zinc mines are scattered throughout the world, with the main areas being China, Australia, and Peru. China produced 38% of the global zinc output in 2014. Zinc is most commonly used as an anti-corrosion agent, and galvanization (coating of iron or steel) is the most familiar form. In 2009 in the United States, 55% or 893,000 tons of the zinc metal was used for galvanization.

Zinc is more reactive than iron or steel and thus will attract almost all local oxidation until it completely corrodes away. A protective surface layer of oxide and carbonate ($\text{Zn}_5(\text{OH})_6(\text{CO}_3)_2$) forms as the zinc corrodes. This protection lasts even after the zinc layer is scratched but degrades through time as the zinc corrodes away. The zinc is applied electrochemically or as molten zinc by hot-dip galvanizing or spraying. Galvanization is used on chain-link fencing, guard rails, suspension bridges, lightposts, metal roofs, heat exchangers, and car bodies.

The relative reactivity of zinc and its ability to attract oxidation to itself makes it an efficient sacrificial anode in cathodic protection (CP). For example, cathodic protection of a buried pipeline can be achieved by connecting anodes made from zinc to the pipe. Zinc acts as the anode (negative terminus) by slowly corroding away as it passes electric current to the steel pipeline. Zinc is also used to cathodically protect metals that are exposed to sea water.

These are broadly classified under **H.S. Code-7901**.

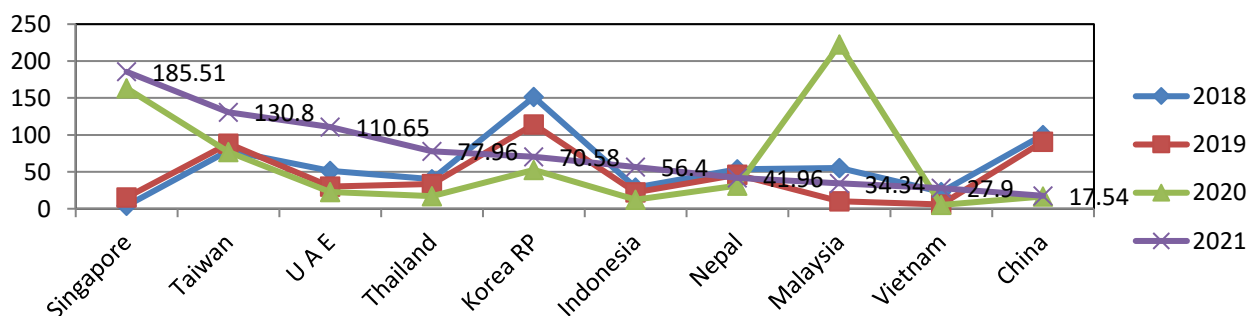
India's Top 10 destination of Unwrought Zinc (H.S Code-7901)

Rank	Countries	2018		2019		2020		2021	
		Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	Singapore	4.03	0.56	15.33	2.94	163.26	24.32	185.51	22.66
2.	Taiwan	78.57	10.98	88.37	16.95	76.74	11.43	130.80	15.98
3.	U A E	51.53	7.20	30.14	5.78	22.75	3.39	110.65	13.52
4.	Thailand	40.23	5.62	33.64	6.45	17.09	2.55	77.96	9.52
5.	Korea RP	151.29	21.15	114.21	21.90	52.73	7.86	70.58	8.62
6.	Indonesia	28.62	4.00	22.23	4.26	12.26	1.83	56.40	6.89
7.	Nepal	53.69	7.50	46.17	8.85	31.54	4.70	41.96	5.13
8.	Malaysia	55.31	7.73	10.04	1.93	222.37	33.13	34.34	4.19
9.	Vietnam	22.73	3.18	5.77	1.11	5.14	0.77	27.90	3.41
10.	China	100.03	13.98	90.76	17.41	16.70	2.49	17.54	2.14
	Others	129.43	18.09	64.72	12.41	50.67	7.55	65.07	7.95
	Total	715.47	100	521.37	100	671.26	100	818.72	100

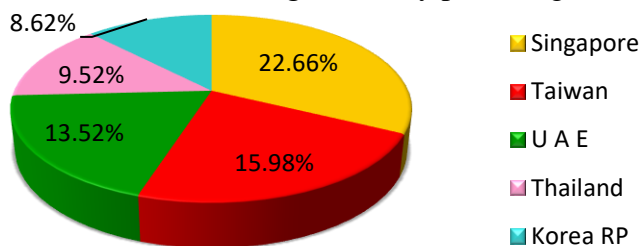
Source: DGCI&S.

Note : India's Export including re-export

Leading importers of Unwrought Zinc from India from 2018-2021 (Values in million \$)
Data label given on the basis of 2021



India's top 5 destinations of Unwrought Zinc by percentage India in 2021:



The value of exports of Unwrought Zinc from India totalled US \$ 818.72 million in 2021. Which was went up by almost 22% compared to 2020: exports of Unwrought zinc went up by US \$ 147.46 million from 2020. India exported the highest dollar worth of Unwrought Zinc to Singapore with shipments in 2021 valued at US \$ 181.51 Million which is greater than the last 3 previous years Unwrought Zinc export to Singapore from India. In second and third place were Taiwan and UAE to where India exported around US \$ 130.80 Million US \$ 110.65 million worth of Unwrought Zinc in 2021. Here it is noticeable that Malaysia imported highest dollar worth of Unwrought Zinc from India valued at US \$ 222.31 million among the top importing countries.

Table-2

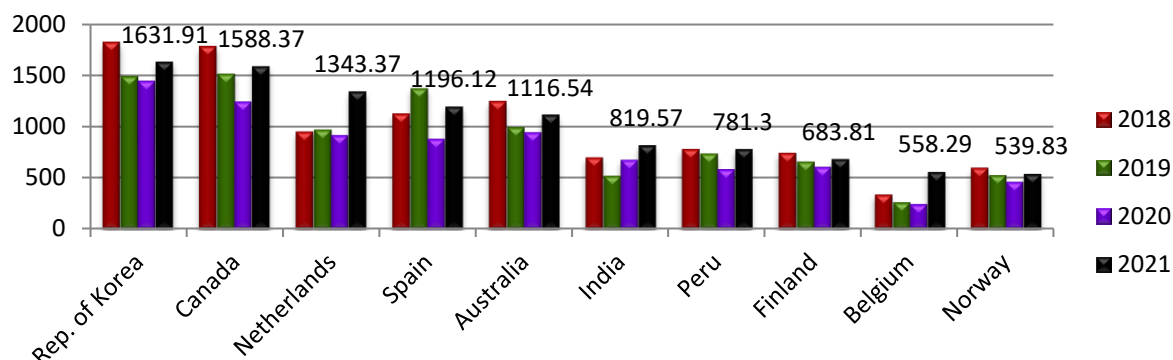
World's Top 10 exporter of Unwrought Zinc (H.S Code-7901)

Rank	Countries	2018		2019		2020		2021	
		Value (million \$)	Share (%)	Value (million \$)	Share (%)	Value (million \$)	Share (%)	Value (million \$)	Share (%)
1.	Rep. of Korea	1825.15	12.58	1491.53	11.53	1440.01	12.59	1631.91	12.06
2.	Canada	1784.02	12.29	1512.72	11.69	1240.42	10.85	1588.37	11.74
3.	Netherlands	951.28	6.55	970.43	7.50	915.03	8.00	1343.37	9.93
4.	Spain	1127.34	7.77	1371.17	10.60	880.19	7.70	1196.12	8.84
5.	Australia	1249.96	8.61	994.69	7.69	940.89	8.23	1116.54	8.25
6.	India	702.09	4.84	521.40	4.03	673.96	5.89	819.57	6.06
7.	Peru	783.02	5.40	739.39	5.72	585.15	5.12	781.30	5.78
8.	Finland	745.11	5.13	658.63	5.09	606.06	5.30	683.81	5.06
9.	Belgium	339.69	2.34	263.20	2.03	246.83	2.16	558.29	4.13
10.	Norway	600.60	4.14	528.19	4.08	463.50	4.05	539.83	3.99
	Others	4404.29	30.35	3883.49	30.02	3443.02	30.11	3267.60	24.16
	Total	14512.57	100	12934.84	100	11435.05	100	13526.71	100

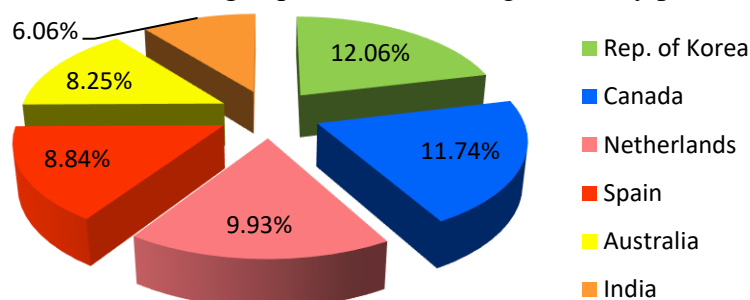
Source: UN Comtrade

Leading Exporters of Unwrought Zinc of world from 2018 to 2021 (Values in million \$)

Data label given on the basis of 2021



Country wise world's leading exporter of Unwrought Zinc by percentage in 2021 :



The Unwrought Zinc alloys exports soared to US \$ 13.526 Billion in 2021. After two years of decline, the global export of Unwrought Zinc jumping by 18.30% against the previous year. Rep of Korea (US \$ 1.63 Billion), Canada (US \$ 1.59 Billion) and Netherlands (US \$ 1.34 Billion) constituted the top three countries with the highest levels of exports in 2021, with a combined 33.73% share of global exports of Unwrought Zinc. In the same year India lagged somewhat behind in ranking among the world larges countries of Unwrought Zinc. It constituted the 6 the position in ranking in the world with 6.06% share of world export of Unwrought Zinc.

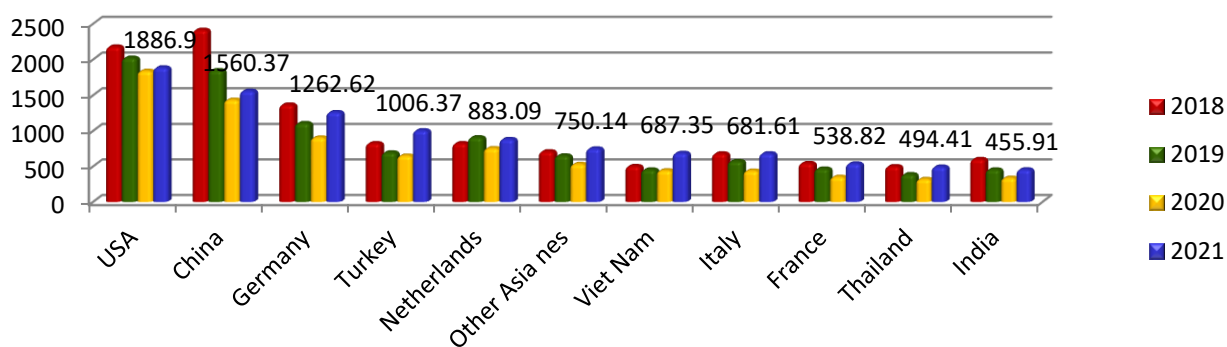
Table-3

World's top 10 Importers of Unwrought Zinc (H.S Code-7901)

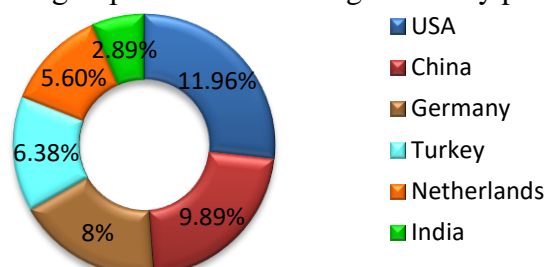
Rank	Countries	2018		2019		2020		2021	
		Value (M.\$)	Share (%)	Value (M.\$)	Share (%)	Value (M.\$)	Share (%)	Value (M.\$)	Share (%)
1.	USA	2179.82	13.01	2023.24	14.10	1839.53	15.03	1886.90	11.96
2.	China	2414.14	14.41	1848.81	12.88	1435.52	11.73	1560.37	9.89
3.	Germany	1368.27	8.17	1107.57	7.72	905.39	7.40	1262.62	8.00
4.	Turkey	825.01	4.92	694.60	4.84	649.83	5.31	1006.37	6.38
5.	Netherlands	824.64	4.92	908.04	6.33	754.22	6.16	883.09	5.60
6.	Other Asianes	710.58	4.24	652.06	4.54	531.69	4.34	750.14	4.75
7.	Viet Nam	503.02	3.00	454.38	3.17	442.23	3.61	687.35	4.36
8.	Italy	680.57	4.06	572.57	3.99	437.81	3.58	681.61	4.32
9.	France	544.80	3.25	466.92	3.25	351.26	2.87	538.82	3.41
10.	Thailand	500.71	2.99	388.06	2.70	320.59	2.62	494.41	3.13
11.	India	602.41	3.60	454.72	3.17	338.20	2.76	455.91	2.89
	Others	5598.14	33.42	4781.15	33.31	4232.93	34.58	5571.33	35.31
	Total	16752.09	100	14352.13	100	12239.21	100	15778.93	100

Source : UN Comtrade

Leading Unwrought Zinc importers of world from 2018 to 2021 (Values in million \$)
Data label given on the basis of 2021



Country wise world's leading importers of Unwrought Zinc by percentage in 2021



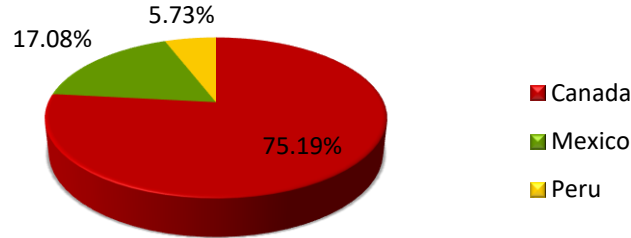
The unwrought zinc alloys imports world wide skyrocketed to US \$ 15.77 Billion in 2021. It was strongly growth from 2020 to 2021: increased by 28.93%. Over the period under review, global imports hit record highs at US \$ 16.75 Billion in 2018; however, from 2019 to 2021, imports stood at a somewhat lower figure. Among the top importing countries, USA imported highest worth of Unwrought Zinc in 2021 valued at US \$ 1.88 Billion.

In the that year China and Germany stood at 2nd and 3rd position with import value of US \$ 1.56 Billion and 1.26 Billion of Unwrought Zinc respectively. In the same year India imported 2.89% share of world import of Unwrought Zinc and holds on 11th position in world largest importer of Unwrought Zinc.

Annexure-1

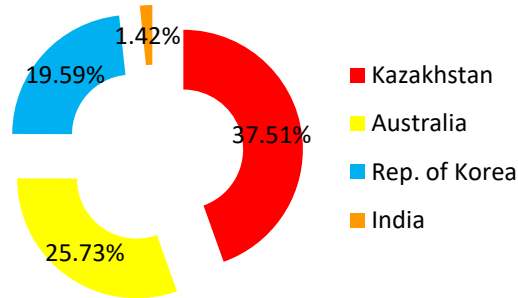
Sources of world's top 3 importers of Unwrought Zinc (H.S Code-7901)

i) Top 3 Sources of Unwrought Zinc to USA in 2021 by percentage:



USA totally depended on Canada for Unwrought Zinc, imported most of 75.19% share of USA's total import value of it came from Canada in 2021 followed by Mexico (17.08%) and Peru (5.73%). **(Source : UN Comtrade).**

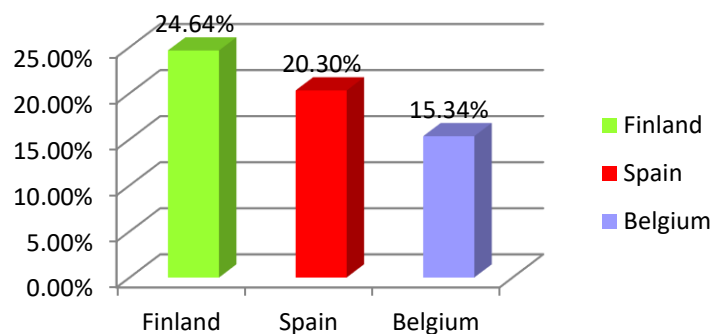
ii) Top 3 Sources of Unwrought Zinc to China in 2021 by percentage:



Kazakhstan was the primary source of Unwrought Zinc to China. China imported 37.51% of Unwrought Zinc from Kazakhstan in 2021, followed by Australia (25.73%) & Rep. of Korea (19.59%). In that year India exported 1.42% share of China's total import of Unwrought Zinc.

(Source : UN Comtrade)

iii) Top 3 Sources of Unwrought Zinc to Germany in 2021 by percentage:



Germany's 3 major source countries of Unwrought Zinc in 2021 were Finland (24.64%), Spain (20.30%) and Belgium (15.34%) in 2021. In the same year **India** has no shipment to Germany with Unwrought Zinc **(Source: UN Comtrade)**

Fish: Dried, Salted or Smoked etc...

Fresh fish rapidly deteriorates unless some way can be found to preserve it. Drying is a method of food preservation that works by removing water from the food, which inhibits the growth of microorganisms. Open air drying using sun and wind has been practiced since ancient times to preserve food. Water is usually removed by evaporation (air drying, sun drying, smoking or wind drying) but, in the case of freeze-drying, food is first frozen and then the water is removed by sublimation. Bacteria, yeasts and molds need the water in the food to grow, and drying effectively prevents them from surviving in the food.

Fish are preserved through such traditional methods as drying, smoking and salting. The oldest traditional way of preserving fish was to let the wind and sun dry it. Drying food is the world's oldest known preservation method, and dried fish has a storage life of several years. The method is cheap and effective in suitable climates; the work can be done by the fisherman and family, and the resulting product is easily transported to market.

Salt cod has been produced for at least 500 years, since the time of the European discoveries of the New World. Before refrigeration, there was a need to preserve the codfish; drying and salting are ancient techniques to preserve nutrients and the process makes the codfish tastier.

The Portuguese tried to use this method of drying and salting on several varieties of fish from their waters, but the ideal fish came from much further north. With the "discovery" of Newfoundland in 1497, long after the Basque whalers arrived in Channel-Port aux Basques, they started fishing its cod-rich Grand Banks. Thus, *bacalhau* became a staple of the Portuguese cuisine, nicknamed *Fiel amigo* (faithful friend). From the 18th century, the town of Kristiansund in Norway became an important place of purchasing *bacalhau* or *klippfisk* (literally "cliff fish", since the fish was dried on stone cliffs by the sea to begin with.) Since the method was introduced by the Dutchman Jappe Ippes around 1690, the town had produced klippfisk and when the Spanish merchants arrived, it became a big industry. The bacalhau or bacalao dish is sometimes said to originate from Kristiansund, where it was introduced by the Spanish and Portuguese fish buyers and became very popular. Bacalao was common food in northwest Norway to this day, as it was cheap to make. In more recent years, it has become less of an everyday staple and mostly eaten on special occasions.

This dish was also popular in Portugal and other Roman Catholic countries, because of the many days (Fridays, Lent, and other festivals) on which the Church forbade the eating of meat. *Bacalhau* dishes were eaten instead.

The water activity, a_w , in a fish is defined as the ratio of the water vapour pressure in the flesh of the fish to the vapour pressure of pure water at the same temperature and pressure. It ranges between 0 and 1, and is a parameter that measures how available the water is in the flesh of the fish. Available water is necessary for the microbial and enzymatic reactions involved in spoilage. There are a number of techniques that have been or are used to tie up the available water or remove it by reducing the a_w . Traditionally, techniques such as drying, salting and smoking have been used, and have been used for thousands of years. These techniques can be very simple, for example, by using solar drying. In more recent times, freeze-drying, water binding humectants, and fully automated equipment with temperature and humidity control have been added. Often a combination of these techniques is used.

In 2021, Fish: dried, salted, smoked or in brine were the world's 411th most traded product, with a total export trade of US \$ 6.12 Billion. Between 2020 and 2021 the exports of Fish: dried, salted, smoked or in brine grew by more than 4.25% over the last year from US \$ 5.87 Billion to US \$ 6.12 Billion. Trade in Fish: dried, salted, smoked or in brine represent 0.039% of total world trade.

These are broadly classified under **H.S. Code - 0305**.

Table - 4

India's Top 10 destination of Fish, Dried, Salted, Smoked Fish etc..(HS Code – 0305)

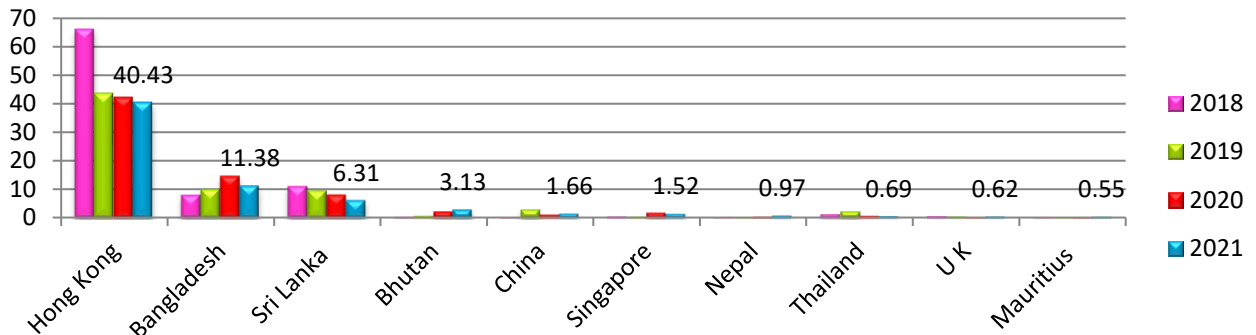
Rank	Countries	2018		2019		2020		2021	
		Value (million \$)	Share (%)	Value (million \$)	Share (%)	Value (million \$)	Share (%)	Value (million \$)	Share (%)
1.	Hong Kong	66.22	67.69	43.74	58.44	42.10	55.64	40.43	58.98
2.	Bangladesh	8.30	8.48	10.15	13.57	14.78	19.54	11.38	16.60
3.	Sri Lanka	11.28	11.53	9.70	12.97	8.28	10.94	6.31	9.21
4.	Bhutan	0.55	0.56	0.84	1.12	2.45	3.23	3.13	4.57
5.	China	0.32	0.32	3.12	4.17	1.35	1.78	1.66	2.42
6.	Singapore	0.61	0.62	0.56	0.75	1.94	2.57	1.52	2.22
7.	Nepal	0.20	0.20	0.29	0.39	0.47	0.61	0.97	1.41
8.	Thailand	1.36	1.39	2.43	3.25	0.84	1.10	0.69	1.01
9.	U K	0.69	0.70	0.67	0.90	0.40	0.52	0.62	0.90
10.	Mauritius	0.43	0.44	0.31	0.41	0.36	0.47	0.55	0.81
	Others	7.87	8.05	3.02	4.03	2.71	3.58	1.29	1.88
	Total	97.83	100	74.84	100	75.66	100	68.55	100

Source: DGCI&S

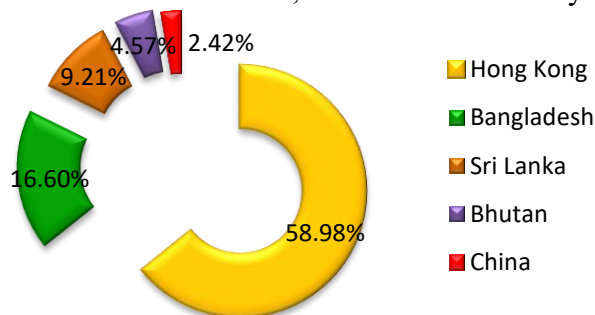
Note : India's Export including re-export

India's major destination Inner Fish: dried, salted smoked etc. from 2018-2021(in Million \$)

Data label given on the basis of 2021



India's top 5 major destinations of Fish: dried, salted smoked etc. by % India in 2021:



During the year 2021 Indian exporters nearly exported US \$ 68.55 Million of Fish: Dried, Salted, Smoked Fish etc. to the top global markets. Between 2020 and 2021 the exports of Fish: dried, salted, smoked or in brine decreased by -9.40%, from US \$ 75.66 Billion to US \$ 68.55 Billion. The export reached an all time high of US \$ 97.83 Million during the year 2018. India's Dried Fish export value to Hong Kong is around US \$ 40.43 Million, which holds the top position with the share of 58.98% of the total export value of India. With 16.60% and 9.21%, Bangladesh and Sri Lanka took 1st and 2nd runner up position in the importers of Dried Fish from India in 2021.

Table - 5

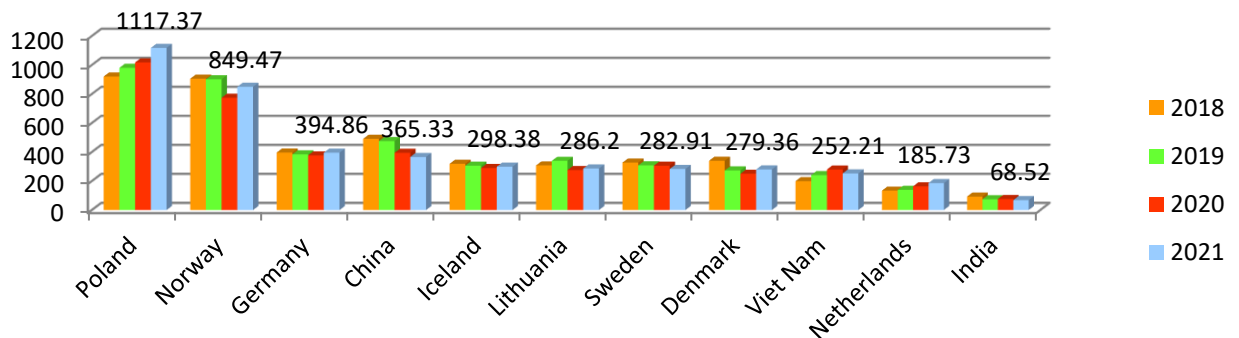
World's Top 10 exporters of Fish : Dried, Salted, Smoked Fish etc..(HS Code – 0305)

Rank	Countries	2018		2019		2020		2021	
		Value (M.\$)	Share (%)	Value (M.\$)	Share (%)	Value (M.\$)	Share (%)	Value (M. \$)	Share (%)
1.	Poland	920.31	14.59	979.80	15.69	1017.74	17.34	1117.37	18.24
2.	Norway	904.86	14.34	900.72	14.42	773.66	13.18	849.47	13.86
3.	Germany	395.90	6.27	383.20	6.13	376.24	6.41	394.86	6.44
4.	China	490.50	7.77	475.14	7.61	394.28	6.72	365.33	5.96
5.	Iceland	318.89	5.05	305.05	4.88	289.57	4.93	298.38	4.87
6.	Lithuania	307.45	4.87	339.03	5.43	275.09	4.69	286.20	4.67
7.	Sweden	327.21	5.19	307.67	4.93	305.51	5.21	282.91	4.62
8.	Denmark	339.58	5.38	272.60	4.36	250.02	4.26	279.36	4.56
9.	Viet Nam	198.91	3.15	240.66	3.85	278.81	4.75	252.21	4.12
10.	Netherlands	133.56	2.12	138.90	2.22	163.45	2.79	185.73	3.03
18.	India	92.67	1.47	74.10	1.19	75.56	1.29	68.52	1.12
	Others	1880.06	29.80	1829.53	29.29	1668.71	28.43	1746.75	28.51
	Total	6309.89	100	6246.39	100	5868.66	100	6127.09	100

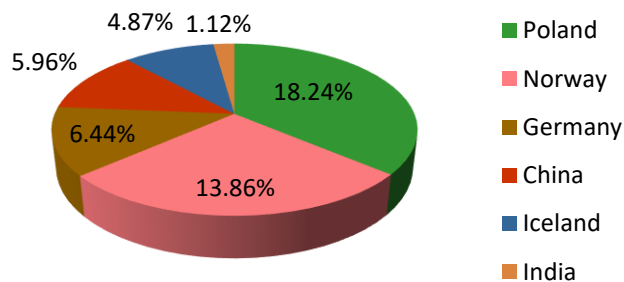
Source: UN Comtrade

Leading Fish: dried, salted smoked etc. exporters of world from 2018 to 2021 (in million \$)

Data label given on the basis of 2021



World's leading Fish: dried, salted smoked etc. exporters by percentage in 2021:



In 2021, the world exports of Fish: Dried, Salted, Smoked Fish etc. exceeded US \$ 6.13 billion. It was US \$ 5.87 billion in the year 2020. Poland has the highest export volume of Fish: Dried, Salted, Smoked Fish etc. of any country, at about US \$ 1.11 Billion, accounted 18.24% share of world export. The second largest Fish: Dried, Salted, Smoked Fish etc. exporter, Norway, exported the same in that year at about US \$ 849.47 Million, which was accounted 13.86% of world export. Germany was the 3rd largest exporter in the world with 6.44% share. In that year **India** stood at 18th largest exporter of Fish: Dried, Salted, Smoked Fish etc. in the world with 1.12 % share of world export.

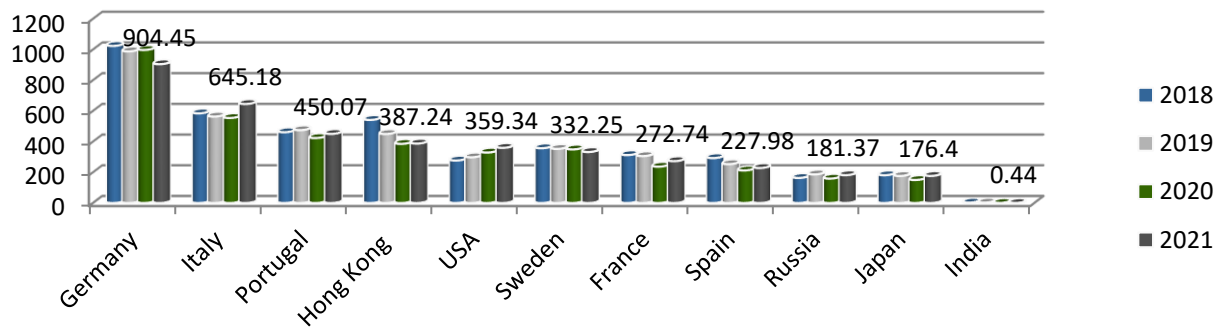
Table - 6

World's Top 10 Importers of Fish, Dried, Salted, Smoked Fish etc..(HS Code – 0305)

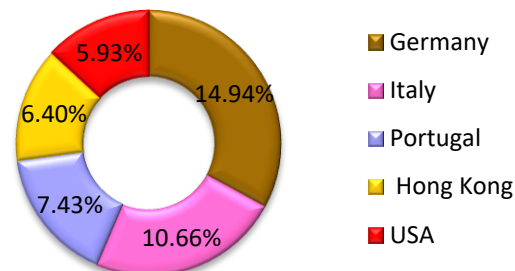
Rank	Countries	2018		2019		2020		2021	
		Value (M.\$)	Share (%)	Value (M.\$)	Share (%)	Value (M.\$)	Share (%)	Value (M.\$)	Share (%)
1.	Germany	1023.43	16.33	987.86	15.94	997.12	16.89	904.45	14.94
2.	Italy	584.10	9.32	563.16	9.08	553.92	9.38	645.18	10.66
3.	Portugal	460.97	7.36	474.60	7.66	423.32	7.17	450.07	7.43
4.	Hong Kong	541.33	8.64	449.46	7.25	385.24	6.53	387.24	6.40
5.	USA	276.70	4.42	297.64	4.80	328.71	5.57	359.34	5.93
6.	Sweden	356.96	5.70	352.45	5.69	349.05	5.91	332.25	5.49
7.	France	312.20	4.98	305.56	4.93	236.72	4.01	272.74	4.50
8.	Spain	292.54	4.67	253.10	4.08	212.14	3.59	227.98	3.77
9.	Russia	163.20	2.60	186.34	3.01	158.90	2.69	181.37	3.00
10.	Japan	180.90	2.89	176.06	2.84	149.95	2.54	176.40	2.91
102.	India	2.77	0.04	2.87	0.05	0.65	0.01	0.44	0.01
	Others	2070.90	33.05	2150.07	34.68	2107.67	35.70	2117.22	34.97
	Total	6266.00	100	6199.17	100	5903.39	100	6054.68	100

Source :UNComtrade

Fish: Dried, Salted, Smoked Fish etc importers of world from 2018 to 2021 (in million USD)
Data label given on the basis of 2021



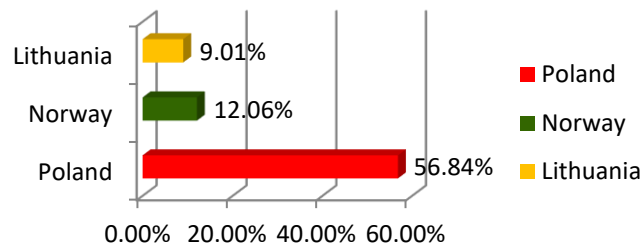
Country wise world's top Importer of Fish: Dried, Salted, Smoked Fish etc import by % in 2021 :



Global purchases of imported Fish: Dried, Salted, Smoked Fish etc. cost a total US \$ 6.05 billion in 2021. In that year, imported Fish: Dried, Salted, Smoked Fish etc. appreciated by an 2.57% from US \$ 5.90 billion during 2020. Germany consumed the highest dollar worth of imported Fish: Dried, Salted, Smoked Fish etc. during 2021 with purchases valued at US \$ 904.45 million or 14.94% of the world total. In second and third place were Italy and Portugal at 10.66% and 7.43% of globally imported Fish: Dried, Salted, Smoked Fish etc. in 2021. In that year India stood at 102nd position in the world with 0.01% share of world import.

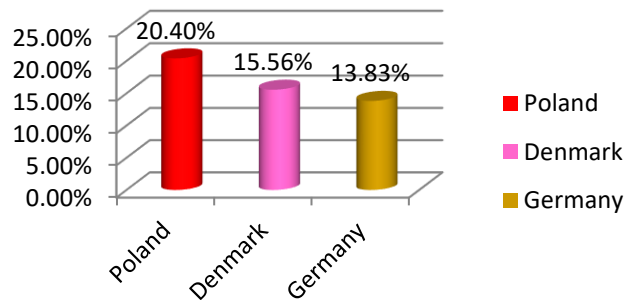
Sources of world's top three importers of Fish: Dried, Salted, etc. (HS Code – 0305)

i) Top 3 Sources of Fish: Dried, Salted, Smoked etc. to Germany in 2021 by %



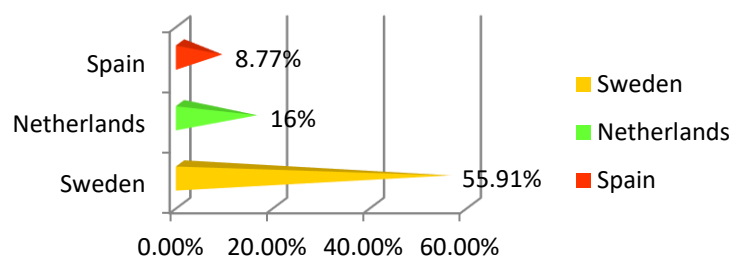
Germany's most of its Fish: Dried, Salted, Smoked Fish etc. came from Poland with 56.84% share of its import of the commodity in 2021. It was followed by Norway and Lithuania, were found to be the 2nd and 3rd largest exporters of Fish: Dried, Salted, Smoked Fish etc. to Germany by 12.06 % and 9.01 % shares of Germany's total import respectively in 2021. In the same **India's** contribution was not remarkable. (Source: UN Comtrade)

ii) Top 3 Sources Fish: Dried, Salted, Smoked Fish etc. to Italy in 2021 by %



Poland top source of Fish: Dried, Salted, Smoked Fish etc. to Italy. In the 2021 more than 20.70% share of Italy's total import of Fish: Dried, Salted, Smoked Fish etc. came from Poland. It was followed by Denmark (15.56 %) and Germany (13.83%). In that year Italy imports of Fish: Dried, Salted, Smoked Fish etc. only US \$ 21450 from **India**. (Source: UN Comtrade)

iii) Top 3 Sources of Fish: Dried, Salted, Smoked etc. to Portugal in 2021 by % :



With 55.91% share of Portugal's total import of Fish: Dried, Salted, Smoked Fish etc., Sweden became the largest source of it to Portugal in 2021. Netherlands (16%) and Spain (8.77%) were other major sources of Fish: Dried, Salted, Smoked Fish etc. to Portugal in that year. In the same India has no share to Portugal. (Source : UN Comtrade)

IMPORT Fluorides

Fluoride is an inorganic, monatomic anion of fluorine, with the chemical formula F^- , whose salts are typically white or colorless. Fluoride salts typically have distinctive bitter tastes, and are odorless. Its salts and minerals are important chemical reagents and industrial chemicals, mainly used in the production of hydrogen fluoride for fluorocarbons. Fluoride is classified as a weak base since it only partially associates in solution, but concentrated fluoride is corrosive and can attack the skin.

Fluoride is the simplest fluorine anion. In terms of charge and size, the fluoride ion resembles the hydroxide ion. Fluoride ions occur on Earth in several minerals, particularly fluorite, but are present only in trace quantities in bodies of water in nature.

Fluorides include compounds that contain ionic fluoride and those in which fluoride does not dissociate. The nomenclature does not distinguish these situations. For example, sulfur hexafluoride and carbon tetrafluoride are not sources of fluoride ions under ordinary conditions.

The systematic name fluoride, the valid IUPAC name, is determined according to the additive nomenclature. However, the name fluoride is also used in compositional IUPAC nomenclature which does not take the nature of bonding involved into account. Fluoride is also used non-systematically, to describe compounds which release fluoride upon dissolving. Hydrogen fluoride is itself an example of a non-systematic name of this nature. However, it is also a trivial name, and the preferred IUPAC name for fluorine.

Fluorine is estimated to be the 13th-most abundant element in Earth's crust and is widely dispersed in nature, entirely in the form of fluorides. The vast majority is held in mineral deposits, the most commercially important of which is fluorite (CaF_2). Natural weathering of some kinds of rocks, as well as human activities, releases fluorides into the biosphere through what is sometimes called the fluorine cycle.

Fluoride is naturally present in groundwater, fresh and saltwater sources, as well as in rainwater, particularly in urban areas. Seawater fluoride levels are usually in the range of 0.86 to 1.4 mg/L, and average 1.1 mg/L (milligrams per litre). For comparison, chloride concentration in seawater is about 19 g/L. The low concentration of fluoride reflects the insolubility of the alkaline earth fluorides, e.g., CaF_2 .

Concentrations in fresh water vary more significantly. Surface water such as rivers or lakes generally contains between 0.01–0.3 mg/L. Groundwater (well water) concentrations vary even more, depending on the presence of local fluoride-containing minerals. For example, natural levels of under 0.05 mg/L have been detected in parts of Canada but up to 8 mg/L in parts of China; in general levels rarely exceed 10 mg/litre.

Fluoride salts and hydrofluoric acid are the main fluorides of industrial value. Compounds with C-F bonds fall into the realm of organofluorine chemistry. The main uses of fluoride, in terms of volume, are in the production of cryolite, Na_3AlF_6 . It is used in aluminium smelting. Formerly, it was mined, but now it is derived from hydrogen fluoride. Fluorite is used on a large scale to separate slag in steel-making. Mined fluorite (CaF_2) is a commodity chemical used in steel-making.

Hydrofluoric acid and its anhydrous form, hydrogen fluoride, is also used in the production of fluorocarbons. Hydrofluoric acid has a variety of specialized applications, including its ability to dissolve glass.

Fluoride-containing compounds, such as sodium fluoride or sodium monofluorophosphate are used in topical and systemic fluoride therapy for preventing tooth decay, but the exact biochemical reason is unknown. They are used for water fluoridation and in many products associated with oral hygiene. Fluoride salts are commonly used in biological assay processing to inhibit the activity of phosphatases, such as serine/threonine phosphatases. Fluoride mimics the nucleophilic hydroxide ion in these enzymes' active sites. Beryllium fluoride and aluminium fluoride are also used as phosphatase inhibitors, since these compounds are structural mimics of the phosphate group and can act as analogues of the transition state of the reaction.

These are broadly classified under **H. S. Code 2826**

Table - 7

India's Top 10 Sources of Fluorides (H.S. Code - 2826)

Rank	Countries	2018		2019		2020		2021	
		Value (M.\$)	Share (%)	Value (M.\$)	Share (%)	Value (M.\$)	Share (%)	Value (M.\$)	Share (%)
1.	China	37.17	40.47	43.94	54.97	42.55	57.43	30.33	36.03
2.	Mexico	15.43	16.80	10.76	13.46	4.41	5.95	15.43	18.33
3.	Italy	3.14	3.42	4.90	6.13	15.67	21.16	11.98	14.23
4.	U A E	22.79	24.82	3.84	4.80	3.28	4.43	11.96	14.20
5.	H. Kong	0.06	0.06	0.01	0.02	0.09	0.12	3.44	4.09
6.	Qatar	0.59	0.64	0.00	0.00	0.92	1.24	2.24	2.66
7.	Jordan	1.31	1.43	6.42	8.03	1.27	1.72	2.07	2.46
8.	Lithuania	0.00	0.00	0.00	0.00	0.39	0.53	1.85	2.20
9.	Germany	0.59	0.64	0.26	0.32	0.34	0.46	0.93	1.11
10.	Belgium	0.61	0.66	0.52	0.66	0.72	0.97	0.63	0.75
	Others	10.17	11.07	9.28	11.61	4.45	6.01	3.31	3.93
	Total	91.83	100	79.93	100	74.08	100	84.17	100

Source: DGCI&S

Note : India's Import including re-import

The dollar value of Fluorides import in 2021 stood at US \$ 84.17 Million and US \$ 74.08 Million in 2020, which shows a the import of Fluorides in India grew by more than 13.62% compare to the year 2020. In 2021 India imported Fluorides maximum worth value of US \$ 36.03 Million from China or 36.03% of India's total import, which was less than the previous year Fluorides shipments from China into India. In second and third place were Mexico and Italy, from where India imported around 18.33% and 14.23% share of Fluorides. The top 10 countries shared 96.07% of the Fluorides import to India in 2021.

World's Top 10 Importer of Fluorides (H.S. Code - 2826)

Rank	Countries	2018		2019		2020		2021	
		Value (M.\$)	Share (%)	Value (M.\$)	Share (%)	Value (M.\$)	Share (%)	Value (M.\$)	Share (%)
1.	Mozambique	203.23	12.34	296.02	17.80	273.73	17.82	306.20	15.93
2.	Rep. of Korea	103.05	6.26	110.66	6.65	108.30	7.05	211.43	11.00
3.	USA	195.86	11.90	200.83	12.07	153.14	9.97	209.74	10.91
4.	China	104.18	6.33	82.39	4.95	101.08	6.58	185.23	9.64
5.	Japan	180.14	10.94	157.44	9.47	174.50	11.36	181.52	9.44
6.	India	92.17	5.60	79.85	4.80	74.53	4.85	84.02	4.37
7.	Malaysia	37.14	2.26	33.93	2.04	31.15	2.03	58.54	3.05
8.	U K	18.51	1.12	29.50	1.77	28.70	1.87	48.88	2.54
9.	Russia	80.67	4.90	55.42	3.33	46.83	3.05	47.30	2.46
10.	Canada	36.48	2.22	25.75	1.55	30.31	1.97	42.64	2.22
	Others	595.06	36.14	591.50	35.56	513.98	33.46	546.36	28.43
	Total	1646.49	100	1663.30	100	1536.24	100	1921.87	100

Source :UNComtrade

In 2021, the global Fluorides imports amounted to US \$ 1.92 Billion, increasing by more than 15.93% against the previous year figure. Over the period under review, global Fluorides imports reached its maximum level of US \$ 1.92 Billion in this year, however, from 2018 to 2020, it was on almost flat level. . In 2021 Mozambique (US \$ 306.20) constitutes the largest market for imported Fluorides worldwide, making up 15.93 % of global imports. The second position in the ranking was occupied by Rep. of Korea (US \$ 211.45 M), with the share of 11% of global imports. It was followed by the USA, with the share of 10.91%. India's position in world import of Fluorides was 6th with share of 4.37% of world import in the same year.

Printed Books, Brochures, Leaflets etc

A **book** is a medium for recording information in the form of writing or images, typically composed of many pages (made of papyrus, parchment, vellum, or paper) bound together and protected by a cover. The technical term for this physical arrangement is *codex* (plural, *codices*). In the history of hand-held physical supports for extended written compositions or records, the codex replaces its predecessor, the scroll. A single sheet in a codex is a leaf and each side of a leaf is a page.

As an intellectual object, a book is prototypically a composition of such great length that it takes a considerable investment of time to compose and still considered as an investment of time to read. In a restricted sense, a book is a self-sufficient section or part of a longer composition, a usage reflecting that, in antiquity, long works had to be written on several scrolls and each scroll had to be identified by the book it contained. Each part of Aristotle's *Physics* is called a book. In an unrestricted sense, a book is the compositional whole of which such sections, whether called books or chapters or parts, are parts.

The intellectual content in a physical book need not be a composition, nor even be called a book. Books can consist only of drawings, engravings or photographs, crossword puzzles or cut-out dolls. In a physical book, the pages can be left blank or can feature an abstract set of lines to support entries, such as in an account book, an appointment book, an autograph book, a notebook, a diary or a sketchbook. Some physical books are made with pages thick and sturdy enough to support other physical objects, like a scrapbook or photograph album. Books may be distributed in electronic form as ebooks and other formats.

Although in ordinary academic parlance a monograph is understood to be a specialist academic work, rather than a reference work on a scholarly subject, in library and information science *monograph* denotes more broadly any non-serial publication complete in one volume (book) or a finite number of volumes (even a novel like Proust's seven-volume *In Search of Lost Time*), in contrast to serial publications like a magazine, journal or newspaper. An avid reader or collector of books is a bibliophile or colloquially, "bookworm". A place where books are traded is a bookshop or bookstore. Books are also sold elsewhere and can be borrowed from libraries. Google has estimated that by 2010, approximately 130,000,000 titles had been published.

The history of the book starts with the development of writing, and various other inventions such as paper and printing, and continues through to the modern-day business of book printing. The earliest knowledge society has on the history of books actually predates what would conventionally be called "books" today and begins with tablets, scrolls, and sheets of papyrus. Then hand-bound, expensive, and elaborate manuscripts appeared in codex form. These gave way to press-printed volumes and eventually led to the mass-printed volumes prevalent today. Contemporary books may even have no physical presence with the advent of the e-book. The book also became more accessible to the disabled with the advent of Braille and audiobook.

In Ancient Egypt, papyrus was used as a medium for writing surfaces, maybe as early as the First Dynasty, but first evidence is from the account books of King Neferirkare Kakai of the Fifth Dynasty (about 2400 BCE). Egyptians exported papyrus to other Mediterranean civilizations including Greece and Rome where it was used until parchment was developed.

Clay tablets were used in Mesopotamia in the 3rd millennium BCE. The calamus, an instrument with a triangular point, was used to inscribe characters in moist clay. Fire was used to dry the tablets out. At Nineveh, over 20,000 tablets have been found, dating from the 7th century BCE; this was the archive and library of the kings of Assyria, who had workshops of copyists and conservationists at their disposal.

Goddess Saraswati image dated 132 AD excavated from Kankali tila depicts her holding a manuscript in her left hand represented as a bound and tied palm leaf or birch bark manuscript. In India a bounded manuscript made of birch bark or palm leaf existed side by side since antiquity. The text in palm leaf manuscripts was inscribed with a knife pen on rectangular cut and cured palm leaf sheets; colouring was then applied to the surface and wiped off, leaving the ink in the incised grooves.

Papermaking has traditionally been traced to China about 105 CE, when Cai Lun, an official attached to the Imperial court during the Han dynasty (202 BCE – 220 CE), created a sheet of paper using mulberry and other bast fibres along with fishnets, old rags, and hemp waste.

While paper used for wrapping and padding was used in China since the 2nd century BC, paper used as a writing medium only became widespread by the 3rd century. By the 6th century in China, sheets of paper were beginning to be used for toilet paper as well. During the Tang dynasty (618–907 CE) paper was folded and sewn into square bags to preserve the flavor of tea. The Song dynasty (960–1279) that followed was the first government to issue paper currency.

Today, the majority of books are printed by offset lithography. When a book is printed, the pages are laid out on the plate so that after the printed sheet is folded the pages will be in the correct sequence. Books tend to be manufactured nowadays in a few standard sizes. The sizes of books are usually specified as "trim size": the size of the page after the sheet has been folded and trimmed. The standard sizes result from sheet sizes (therefore machine sizes) which became popular 200 or 300 years ago, and have come to dominate the industry. British conventions in this regard prevail throughout the English-speaking world, except for the USA. The European book manufacturing industry works to a completely different set of standards.

Recent developments in book manufacturing include the development of digital printing. Book pages are printed, in much the same way as an office copier works, using toner rather than ink. Each book is printed in one pass, not as separate signatures. Digital printing has permitted the manufacture of much smaller quantities than offset, in part because of the absence of make readies and of spoilage.

In the 2000s, due to the rise in availability of affordable handheld computing devices, the opportunity to share texts through electronic means became an appealing option for media publishers. Thus, the "ebook" was made. The term ebook is a contraction of "electronic book"; it refers to a book-length publication in digital form. An ebook is usually made available through the internet, but also on CD-ROM and other forms. Ebooks may be read either via a computing device with an LED display such as a traditional computer, a smartphone or a tablet computer; or by means of a portable e-ink display device known as an ebook reader, such as the Sony Reader, Barnes & Noble Nook, Kobo eReader, or the Amazon Kindle. Ebook readers attempt to mimic the experience of reading a print book by using this technology, since the displays on ebook readers are much less reflective.

These are broadly classified under the ICHS Code-2922.

Table 9**India's Top 10 Sources of Printed Books, Brochures, Leaflets etc (HS Code- 4901)**

Rank	Countries	2018		2019		2020		2021	
		Value (M. \$)	Share (%)	Value (M.\$)	Share (%)	Value (M.\$)	Share (%)	Value (M.\$)	Share (%)
1.	U K	60.50	38.62	51.77	35.07	32.16	40.19	37.71	40.03
2.	U S A	53.82	34.35	55.38	37.51	28.10	35.12	36.33	38.56
3.	China	9.98	6.37	7.87	5.33	5.74	7.17	4.35	4.62
4.	Hong Kong	4.80	3.06	2.14	1.45	2.09	2.61	3.27	3.48
5.	Singapore	6.45	4.12	7.16	4.85	2.01	2.51	2.82	2.99
6.	Germany	4.67	2.98	4.64	3.15	2.76	3.45	2.35	2.49
7.	U A E	1.38	0.88	1.00	0.68	0.56	0.70	1.48	1.57
8.	Korea RP	1.70	1.09	3.93	2.66	1.40	1.75	1.05	1.12
9.	France	1.55	0.99	0.77	0.52	0.49	0.61	0.83	0.88
10.	Malaysia	1.11	0.71	0.96	0.65	0.32	0.40	0.82	0.87
	Others	10.71	6.84	12.02	8.14	4.39	5.49	3.20	3.39
	Total	156.67	100	147.65	100	80.01	100	94.21	100

Source: DGCI&S

Note : India's Import including re-import

The value of Printed Reading Books, Brochures, Leaflets Etc import in 2021 stood at US \$ 94.21 Million and US \$ 156.67 Million in 2018. It is shows under the review period from 2018 the trends of the import of Printed books etc.. has decreasing up to the year 2020. Where as in year 2021 it has increased by 17.75% compare to than 2020. Among the top importing countries, India imported the highest dollar worth of Printed Reading Books, Brochures, Leaflets Etc from U K in 2021 valued at US \$ 37.71 Million. In second place was USA, from which India imported around US \$ 36.33 Million worth of Printed Reading Books, Brochures, Leaflets Etc which was distantly followed by China with 4.62% share of India's total import.

Table 10**World's top 10 Importers of Printed Books, Brochures, Leaflets etc (HS Code- 4901)**

Rank	Countries	2018		2019		2020		2021	
		Value (M.\$)	Share (%)	Value (M.\$)	Share (%)	Value (M.\$)	Share (%)	Value (M.\$)	Share (%)
1.	USA	1994.82	12.29	1969.88	12.43	1479.19	10.70	1869.12	12.14
2.	Germany	1514.31	9.33	1370.88	8.65	1457.58	10.54	1859.02	12.07
3.	Canada	1074.38	6.62	1021.48	6.44	876.19	6.34	1029.74	6.69
4.	U K	1495.23	9.22	1502.58	9.48	1343.88	9.72	1020.03	6.62
5.	France	749.05	4.62	769.70	4.86	741.65	5.36	968.78	6.29
6.	Poland	532.90	3.28	527.82	3.33	643.34	4.65	739.21	4.80
7.	Hong Kong	567.52	3.50	519.72	3.28	504.42	3.65	559.10	3.63
8.	Switzerland	502.04	3.09	497.58	3.14	496.26	3.59	540.57	3.51
9.	Netherlands	418.87	2.58	474.25	2.99	353.34	2.56	494.65	3.21
10.	China	454.47	2.80	470.60	2.97	423.80	3.06	439.02	2.85
29.	India	155.73	0.96	147.69	0.93	80.43	0.58	94.25	0.61
	Others	6766.30	41.70	6578.76	41.50	5428.37	39.26	5784.31	37.57
	Total	16225.64	100	15850.94	100	13828.44	100	15397.79	100

Source: UN Comtrade

Worldwide import of Printed Reading Books, Brochures, Leaflets Etc by country totaled US \$ 15.39 billion in 2021. The overall value of Printed Reading Books, Brochures, Leaflets Etc imports up by an 11.35% for all importing countries in 2021 from 2020. The USA imported US \$ 1.87 billion worth of the commodity in 2021, making it the leading importer of the commodity group worldwide that year. Germany and Canada followed in second and third place, importing US \$ 1.86 billion and US \$ 1.03 billion worth of Printed Reading Books, Brochures, Leaflets Etc in 2021. The import value of Printed Reading Books, Brochures, Leaflets Etc into India amounted to approximately US \$ 94.25 million in the year 2021 and ranked in 29th position in the world with the share of 0.61% of total Global import value of Printed Reading Books, Brochures, Leaflets Etc.