

# **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 **Women's or Girls Shirts or Blouses and Screw, Nuts, Bolts etc. of Iron or Steel** and imports of **Polymer of Ethylene and Hand Saw; Blades for all Kinds** 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 commodities has been sourced from the various sights –viz Wikipedia, Britannica, The Economic Times etc.

Computations are based on data at ITC-HS four-digit level ( ITC-HS Code-6206 & 7318 for export and 3901 & 8202 for import ) and the latest finalized data available on the UN Comtrade Database up to year 2020 and on the DGCI&S Database up to July'2022. So, trends from 2017 to 2020 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 Women's or Girls Shirts or Blouses and Screw, Nuts, Bolts etc. of Iron or Steel and imports of Polymer of Ethylene and Hand Saw; Blades for all Kinds . We will use both the 4 digit Commodity codes, for our analysis, as appropriate.

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

- **Table1 : India's top 10 Export destination of Women's Shirts or Blouses with their shares in percentage.**
- **Table 2 : World's top 10 Exporters of Women's Shirts or Blouses with their shares in percentage.**
- **Table 3 : World's top 10 Importers of Women's Shirts or Blouses with their shares in percentage.**
- **Annex- I : Top 3 sources of Women's Shirts or Blouses of World's top 3 Importers.**
- **Table 4 : India's top 10 Export destination of Screw, Nuts, Bolts etc. with their shares in percentage.**
- **Table 5 : World's top 10 Exporters of Screw, Nuts, Bolts etc. with their shares in percentage.**
- **Table 6 : World's top 10 Importers of Screw, Nuts, Bolts etc. with their shares in percentage.**
- **Annex-II : Top 3 sources of Screw, Nuts, Bolts etc. of World's top 3 Importers.**
- **Table 7 : India's top10 Sources of Polymer of Ethylene with their shares in percentage.**
- **Table 8: World's top10 Importers of Polymer of Ethylene with their shares in percentage.**
- **Table 9 : India's top 10 Sources of Hand Saw ; Blades with their shares in percentage.**
- **Table 10 : World's top 10 Importers of Hand Saw ; Blades with their shares in percentage.**

**EXPORT****Women's or Girls' Shirts or Blouses and Shirt-Blouses**

A **blouse** is a loose-fitting upper garment that was worn by workmen, peasants, artists, women, and children. It is typically gathered at the waist or hips (by tight hem, pleats, parter, or belt) so that it hangs loosely over the wearer's body. Today, the word most commonly refers to a girl's or woman's dress shirt. It can also refer to a man's shirt if it is a loose-fitting style. Traditionally, the term has been used to refer to a shirt which blouses out or has an unmistakably feminine appearance.

Blouses usually consist of light fabrics such as silk or thin cotton fabrics, until the early 1990s are often made of softly falling synthetic fibers (e.g. polyester). Sometimes they are decorated with frills, embroidery or loops. The classic of the ladies' blouses is the white shirt blouse (following the classic elegant white men's shirt). Here the combination possibilities are particularly diverse. The open spade, peter pan, reverse and revere collar is another common type of classic ladies' blouse.

Blouses are often made of cotton or silk cloth and may or may not include a collar and sleeves. They are generally more tailored than simple knit tops, and may contain feminine details such as ruffles, a tie or a soft bow at the neck, or embroidered decorations.

Tailoring provides a closer fit to the wearer's shape. This is achieved with sewing of features such as princess seams or darting in the waist and/or bust.

Blouses (and many women's shirts with buttons) usually have buttons reversed from that of men's shirts (except in the case of male military fatigues). That is, the buttons are normally on the wearer's left-hand and the buttonholes are on the right. The reasons for this are unclear, and several theories exist without have conclusive evidence. Some suggest this custom was introduced by launderers so they could distinguish between women's and men's shirts. One theory purports that the tradition arose in the Middle Ages when one manner of manifesting wealth was by the number of buttons one wore. Another that the original design was based on armour which was designed so that a right-handed opponent would not catch their weapon in the seam and tear through, and that a person could draw a weapon with their right-hand without catching it in a loose seam of their own clothes.

Blouses are historically a cask style, mostly mail-like garment, that were rarely part of the fashionable woman's wardrobe until the 1890s. Before that time, they were occasionally popular for informal wear in styles that echoed peasant or traditional clothing, such as the Garibaldi shirt of the 1860s.<sup>[3]</sup>

The size of collars had diminished by the 1950s, but were huge in the 1930 s. At the beginning of the 1970s, popular styles included the rounded collar, sausage dog collar, then extra wide collar and double cuffs from shirts, that fell on them often from fashions relating to synthetic fabrics like usually polyester. The fashion of standing collar and federal collar, loops, rounded collars, revere collar and the smallest collar, sometimes with concealed button fly on a "smoking blouse", attached folds and stressed set-in-followed in the 1980s. Again, thin and often shining synthetic fibres were very popular. Towards the end of the 20th century, they were of an extra-long blouses of pants style and worn over trousers or skirt worn, optionally combined with a rather wide belt around the waist in Germany, the Netherlands, Belgium, Denmark, Poland, the UK, Ireland, South Africa and the US.

Many fashionable styles of both the 1970s and 1980s were on the go again after the millennium in the blouse fashion: double cuffs, extra wide pointed collar, belt around the waist, synthetic fibre and the like. Often the blouses also embroidery or "crystal stocking", have especially on collar and string. The blouses with the so-called three-quarter arm were a striking phenomenon of the 1990s. Blouses can be combined well and easily with a blazer, tank top, bolero or sweater, with or without some colourful silks or bead chain necklaces.

These are broadly classified under **H.S. Code-6206**.

Table - 1

**India's Top 10 destination of Women's Shirts or Blouses (H.S Code-6206)**

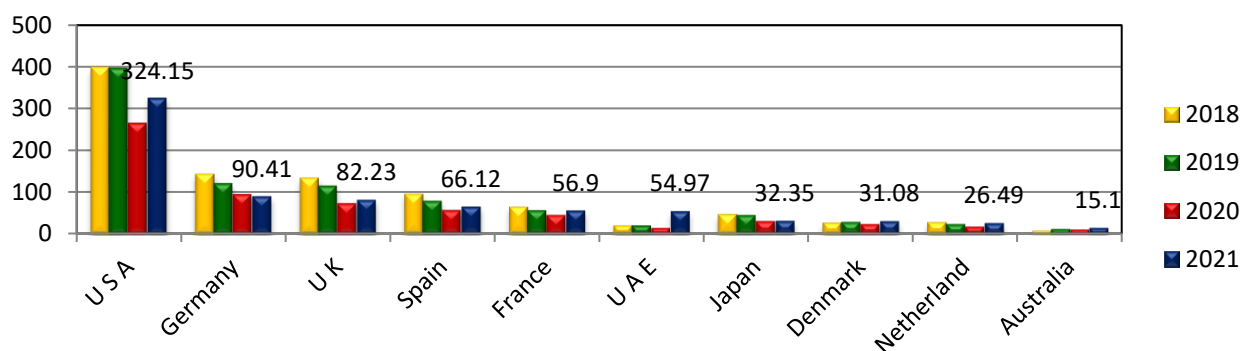
Rank	Countries	2018		2019		2020		2021	
		Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)
1.	U S A	398.43	31.71	395.65	34.62	263.08	33.85	324.15	35.17
2.	Germany	144.19	11.47	122.12	10.69	95.00	12.23	90.41	9.81
3.	U K	135.07	10.75	115.80	10.13	73.61	9.47	82.23	8.92
4.	Spain	96.77	7.70	80.12	7.01	57.43	7.39	66.12	7.17
5.	France	65.70	5.23	57.46	5.03	45.65	5.87	56.90	6.17
6.	U A E	21.74	1.73	21.02	1.84	14.84	1.91	54.97	5.96
7.	Japan	48.31	3.84	46.01	4.03	31.71	4.08	32.35	3.51
8.	Denmark	28.51	2.27	29.74	2.60	24.81	3.19	31.08	3.37
9.	Netherland	28.92	2.30	24.78	2.17	17.94	2.31	26.49	2.87
10.	Australia	9.24	0.74	12.99	1.14	11.66	1.50	15.10	1.64
	Others	279.66	22.26	237.01	20.74	141.35	18.19	141.92	15.40
	<b>Total</b>	1256.53	100	1142.69	100	777.08	100	921.73	100

Source: DGCI&S.

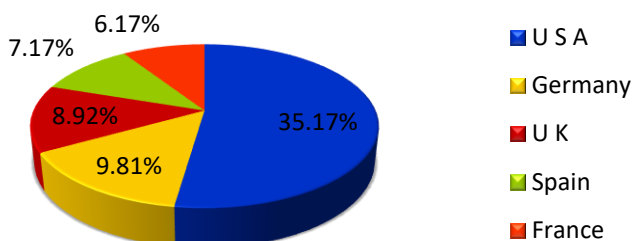
Note : India's Export including re-export

Top importers of Women's Shirt's or Blouses from India from 2018-2021(Values in million USD)

Data label given on the basis of 2021



India's top 5 destinations of Women's Shirts or Blouses by percentage India in 2021:



In the year 2020 the total value of Women's Shirts or Blouses export was US \$ 777.08 Million. Whereas the data of 2021 states the export value of US \$ 921.73Million, which shows a considerable 18.62 % greater than the year 2020. India's import of Women's Shirts or Blouses riches picked in the year of US \$ 1.25 Billion. In the year 2021 US \$ 324.15 Million value of Women's Shirts or Blouses was exported to USA which was accounted 35.17% share of total export of India. Other major countries where Women's Shirts or Blouses was exported in that year are Germany (9.81%), UK (8.92%), Spain (7.17%) and France (6.17%) of India's total export.

Table-2

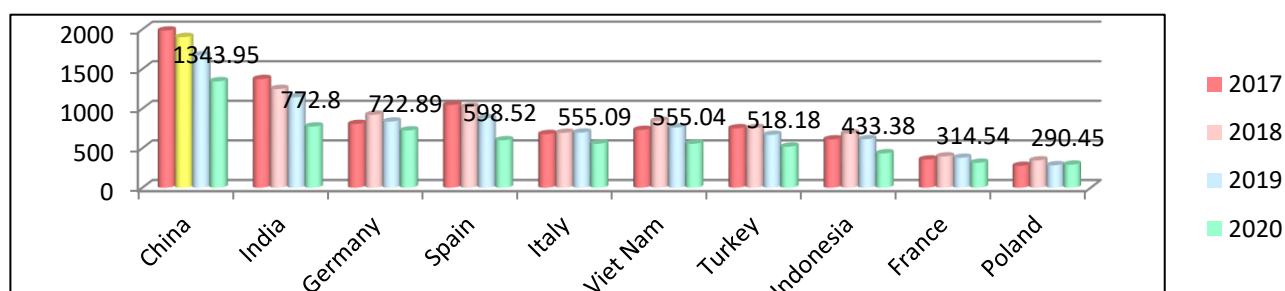
**World's Top 10 exporter of Women's Shirts or Blouses (H.S Code-6206)**

Rank	Countries	2017		2018		2019		2020	
		Value ( million \$ )	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	China	1984.73	15.64	1901.99	14.87	1672.00	14.30	1343.95	15.00
2.	<b>India</b>	<b>1372.38</b>	<b>10.82</b>	<b>1246.55</b>	<b>9.75</b>	<b>1141.88</b>	<b>9.77</b>	<b>772.80</b>	<b>8.63</b>
3.	Germany	804.83	6.34	921.32	7.20	835.24	7.14	722.89	8.07
4.	Spain	1045.48	8.24	1020.01	7.98	875.54	7.49	598.52	6.68
5.	Italy	677.15	5.34	692.84	5.42	695.63	5.95	555.09	6.20
6.	Viet Nam	729.53	5.75	843.60	6.60	760.88	6.51	555.04	6.19
7.	Turkey	750.49	5.91	753.36	5.89	667.08	5.71	518.18	5.78
8.	Indonesia	609.61	4.80	685.31	5.36	612.60	5.24	433.38	4.84
9.	France	355.62	2.80	394.51	3.08	377.87	3.23	314.54	3.51
10.	Poland	275.59	2.17	343.93	2.69	283.06	2.42	290.45	3.24
	Others	4083.87	32.18	3985.88	31.17	3770.20	32.25	2854.76	31.86
	<b>Total</b>	12689.27	100	12789.31	100	11691.99	100	8959.60	100

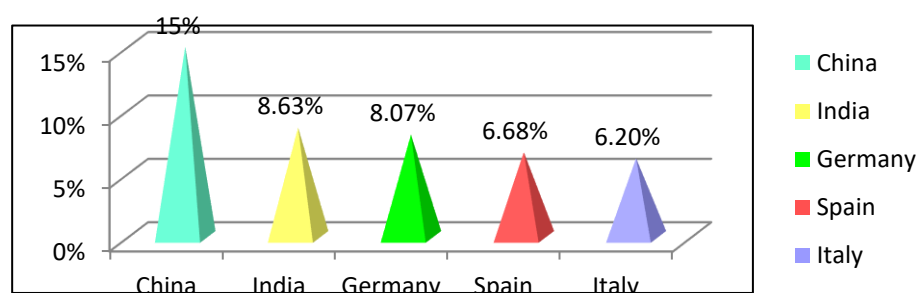
Source: UN Comtrade

World's top Exporters of Women's Shirts or Blouses from 2017 to 2020(Values in million USD)

Data label given on the basis of 2020



Country wise world's top 5 exporter of Women's Shirts or Blouses by percentage in 2020 :



China has the highest export volume of Women's Shirts and Blouses of any country, at about US \$ 1.34 Billion, accounted 15% share of world export as of 2020. The second largest Women's Shirts and Blouses exporter, **India**, exported the same in that year at about US \$ 772.80Million, which was accounted 8.63% of world export. Germany was the 3<sup>rd</sup> largest exporter of Women's Shirts and Blouses in the world with 8.07% share. In that year totalled export of Women's Shirts and Blouses of these three largest country together was more than 1/4<sup>th</sup> share of world export. Global Women's Shirts and Blouses exports amounted to approximately US \$ 8.96 Billion in 2020, down from US \$ 11.69 Billion in 2019.

Table-3

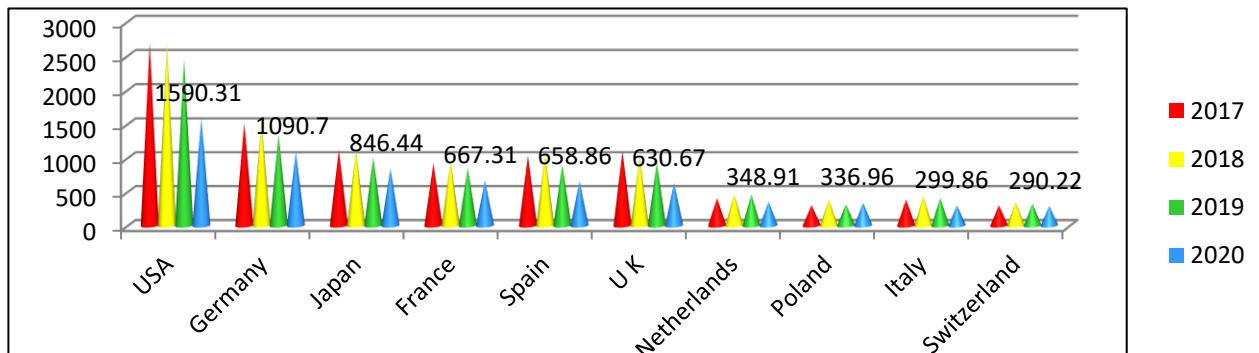
**World's top 10 Importers of Women's Shirts or Blouses (H.S Code-6206)**

Rank	Countries	2017		2018		2019		2020	
		Value (million \$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	USA	2693.62	17.49	2673.08	17.16	2448.73	17.42	1590.31	15.31
2.	Germany	1515.49	9.84	1526.67	9.80	1344.96	9.57	1090.70	10.50
3.	Japan	1116.11	7.25	1113.97	7.15	1014.53	7.22	846.44	8.15
4.	France	917.12	5.95	950.88	6.11	856.10	6.09	667.31	6.43
5.	Spain	1033.03	6.71	1047.52	6.73	899.68	6.40	658.86	6.34
6.	U K	1097.87	7.13	1025.58	6.58	930.79	6.62	630.67	6.07
7.	Netherlands	403.78	2.62	466.45	2.99	459.03	3.27	348.91	3.36
8.	Poland	301.61	1.96	383.33	2.46	312.38	2.22	336.96	3.24
9.	Italy	386.10	2.51	430.04	2.76	405.84	2.89	299.86	2.89
10.	Switzerland	299.88	1.95	346.14	2.22	321.47	2.29	290.22	2.79
	Others	5637.82	36.60	5611.32	36.03	5061.84	36.01	3625.94	34.91
	<b>Total</b>	15402.43	100	15574.99	100	14055.35	100	10386.18	100

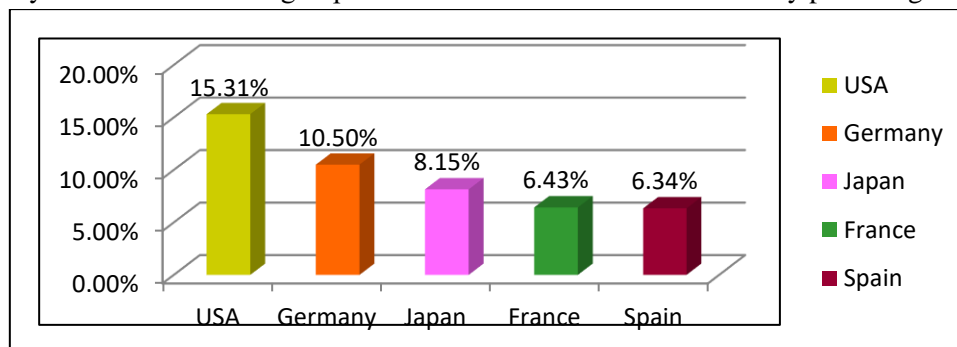
Source : UN Comtrade

Leading Women's Shirts or Blouses importers of world from 2017 to 2020 (Values in million USD)

Data label given on the basis of 2020



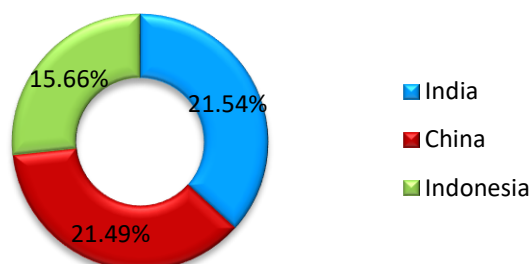
Country wise world's leading importers of Women's Shirt or Blouses by percentage in 2020



Global purchases of imported Women's Shirt or Blouses cost a total US \$ 10.39 billion in 2020. In that year, imported sugar depreciated by an 26.11% from US \$ 14.05 billion during 2019. From a major importing countries perspective, USA consumed the highest dollar worth of imported Women's Shirt or Blouses during 2020 with purchases valued at US \$ 1.59 billion or 15.31% of the world total. In second and third place were Germany and Japan at 10.50% and 8.15% of globally imported Women's Shirt or Blouses in 2020. In that year India has no account.

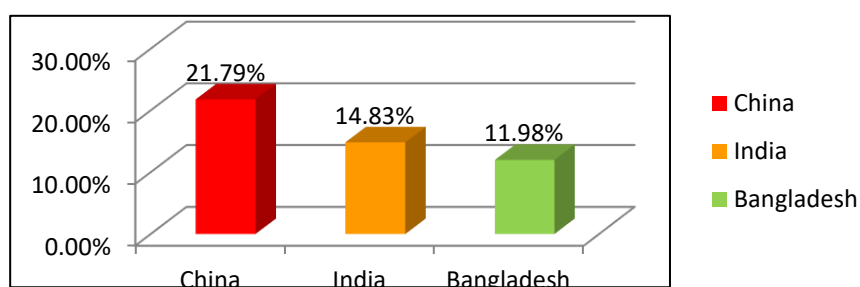
**Sources of world's top 3 importers of Women's Shirts or Blouses ( H. S Code-6206)**

i) Top 3 Sources of Women's Shirts or Blouses to USA in 2020 by percentage:



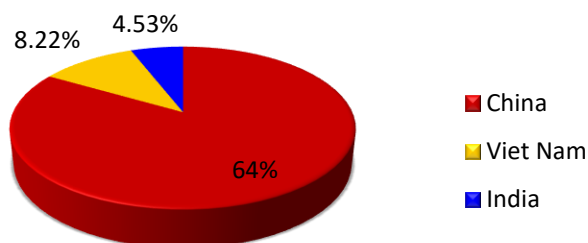
In the year 2020 USA imported 21.54% share of its requirement of Women's Shirts or Blouses from **India**, 2<sup>nd</sup> largest source of Women's Shirts or Blouses to USA was China with 21.49 % share of USA's total import in 2020 and 15.66% of Women's Shirts or Blouses sold by Indonesia to USA. **Source : UN Comtrade)**

ii) Top 3 Sources of Women's Shirts or Blouses to Germany in 2020 by percentage:



Germany was the 2<sup>nd</sup> largest importer of Women's Shirts or Blouses in 2020. Germany's 3 major source countries of Women's Shirts or Blouses in 2020 were China(21.79%), **India( 14.83%)** and Bangladesh(11.98%).**Source: UN Comtrade)**

iii) Top 3 Sources of Women's Shirts or Blouses to Japan in 2020 by percentage:



Japan imports 64% share of Women's Shirts or Blouses from China in 2020. Viet Nam and **India** were 2<sup>nd</sup> and 3<sup>rd</sup> major source countries of the Woman's Shirts or Blouses to Japan in that year. Women's Shirts or Blouses exported from India to Japan in that year 4.53% of Japan's total import. **(Source: UN Comtrade)**

## Screw, Bolts, Nuts of Iron or Steel etc.

A **screw** and a bolt are similar types of fastener typically made of metal and characterized by a helical ridge, called a male thread (external thread). Screws and bolts are used to fasten materials by the engagement of the screw thread with a similar female thread (internal thread) in a matching part.

A screw is a combination of simple machines: it is, in essence, an inclined plane wrapped around a central shaft, but the inclined plane (thread) also comes to a sharp edge around the outside, which acts as a wedge as it pushes into the fastened material, and the shaft and helix also form a wedge at the point. Some screw threads are designed to mate with a complementary thread, called a female thread (internal thread), often in the form of a nut object with an internal thread. Other screw threads are designed to cut a helical groove in a softer material as the screw is inserted. The most common uses of screws are to hold objects together and to position objects.

A screw will usually have a head on one end that allows it to be turned with a tool. Common tools for driving screws include screwdrivers and wrenches. The head is usually larger than the body of the screw, which keeps the screw from being driven deeper than the length of the screw and to provide a bearing surface. There are exceptions. A carriage bolt has a domed head that is not designed to be driven. A set screw may have a head the same size or smaller than the outer diameter of the screw's thread; a set screw without a head is sometimes called a grub screw. A J-bolt has a J-shaped head that is sunk into concrete to serve as an anchor bolt.

As nuts and bolts are not perfectly rigid, but stretch slightly under load, the distribution of stress on the threads is not uniform. In fact, on a theoretically infinitely long bolt, the first thread takes a third of the load, the first three threads take three-quarters of the load, and the first six threads take essentially the whole load. Beyond the first six threads, the remaining threads are under essentially no load at all. Therefore, a nut or bolt with six threads acts very much like an infinitely long nut or bolt.

There is little point in having more than six threads in anything. Nuts with National Coarse threads typically have 6 threads in them, whereas nuts with National Fine threads have about 8 threads. Nuts are usually stronger than the bolts they are on, which is to say that the bolt will usually break before the nut strips.

It is often said that two threads must be exposed above a nut. The reason for this is that the first two threads of a bolt are often poorly formed, and may not engage the nut properly. If they're not doing their share, the other threads in the nut will be overloaded, and the nut may strip.

A **nut** is a type of fastener with a threaded hole. Nuts are almost always used in conjunction with a mating bolt to fasten multiple parts together. The two partners are kept together by a combination of their threads' friction (with slight elastic deformation), a slight stretching of the bolt, and compression of the parts to be held together.

In applications where vibration or rotation may work a nut loose, various locking mechanisms may be employed: lock washers, jam nuts, eccentric double nuts, specialist adhesive thread-locking fluid such as Loctite, safety pins (split pins) or lockwire in conjunction with castellated nuts, nylon inserts (nyloc nut), or slightly oval-shaped threads.

The most common shape today is hexagonal, for similar reasons as the bolt head: six sides give a good granularity of angles for a tool to approach from (good in tight spots), but more (and smaller) corners would be vulnerable to being rounded off. It takes only one sixth of a rotation to obtain the next side of the hexagon and grip is optimal. However, polygons with more than six sides do not give the requisite grip and polygons with fewer than six sides take more time to be given a complete rotation. Other specialized shapes exist for certain needs, such as wingnuts for finger adjustment and captive nuts (e.g. cage nuts) for inaccessible areas.

These are broadly classified under **H.S. Code-7318**.

Table - 4

**India's Top 10 destination of Screw, Bolts, Nuts etc. of Iron or Steel (HS Code -7318)**

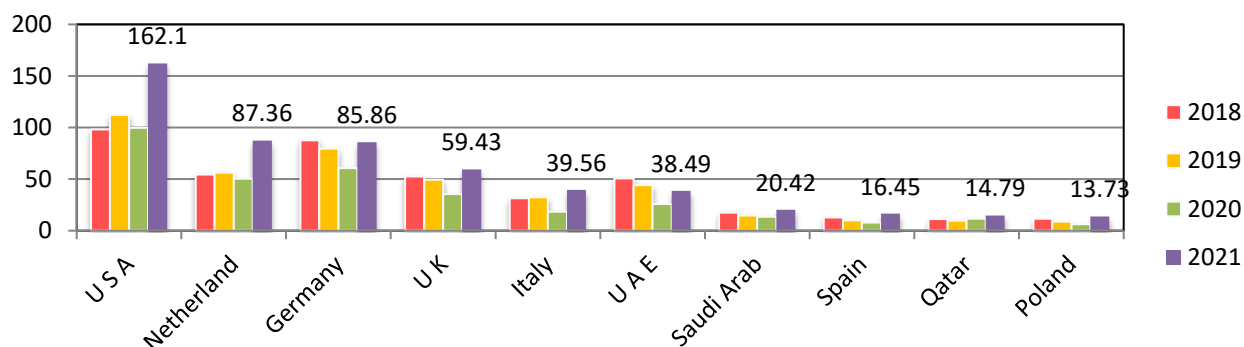
Rank	Countries	2018		2019		2020		2021	
		Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	U S A	98.13	16.89	112.21	19.08	99.72	21.24	162.10	22.54
2.	Netherland	54.51	9.38	56.22	9.56	50.51	10.76	87.36	12.15
3.	Germany	87.77	15.11	79.43	13.50	60.64	12.92	85.86	11.94
4.	U K	52.58	9.05	49.30	8.38	35.61	7.58	59.43	8.26
5.	Italy	31.41	5.41	32.35	5.50	18.56	3.95	39.56	5.50
6.	U A E	50.64	8.72	44.23	7.52	25.84	5.50	38.49	5.35
7.	Saudi Arab	17.62	3.03	14.75	2.51	13.34	2.84	20.42	2.84
8.	Spain	12.87	2.22	10.02	1.70	7.85	1.67	16.45	2.29
9.	Qatar	11.28	1.94	9.74	1.66	11.68	2.49	14.79	2.06
10.	Poland	11.45	1.97	8.76	1.49	6.40	1.36	13.73	1.91
	Others	152.62	26.27	171.17	29.10	139.32	29.68	180.90	25.16
	<b>Total</b>	<b>580.89</b>	<b>100</b>	<b>588.16</b>	<b>100</b>	<b>469.48</b>	<b>100</b>	<b>719.07</b>	<b>100</b>

Source: DGCI&amp;S

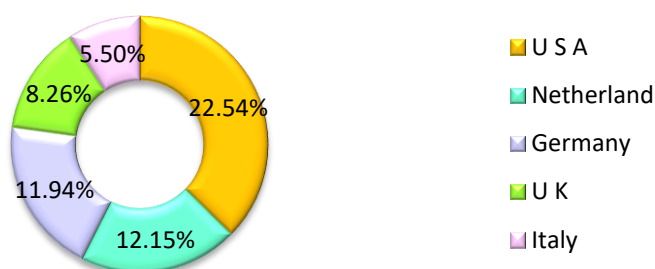
Note : India's Export including re-export

India's top destinations of Screw, Bolts, Nuts etc. from 2018-2021(Values in million \$)

Data label given on the basis of 2021



India's top 5 destinations of Screw, Bolts, Nuts etc. of Iron or Steel by percentage India in 2021:



India exported Screw, Bolts, Nuts etc. of Iron or Steel to over 200 countries across the globe and worth over US \$ 719.07 Million in 2021 which has increased from US \$ 469.48 Million at 2020. India has exported Screw, Bolts, Nuts etc. of Iron or Steel to USA worth US \$ 162.10 million, making it the highest export partner of India for this commodity in the year 2021. Netherland and Germany followed at about US \$ 87.36 million and US \$ 85.86 million in that same year. These major three countries together imported from India almost 46.63% of India's totalled export value of Screw, Bolts, Nuts etc. of Iron or Steel in 2021.



Table - 5

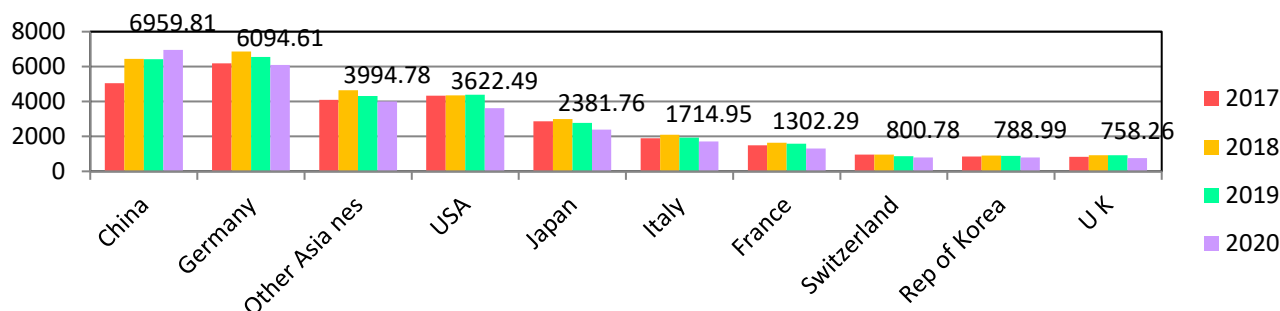
**World's Top 10 exporters of Screw, Bolts, Nuts etc. of Iron or Steel (HS Code -7318)**

Rank	Countries	2017		2018		2019		2020	
		Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	China	5053.93	13.59	6450.57	15.48	6419.10	16.12	6959.81	18.94
2.	Germany	6185.09	16.63	6865.87	16.48	6550.67	16.45	6094.61	16.59
3.	Other Asia nes	4096.03	11.02	4639.18	11.14	4320.44	10.85	3994.78	10.87
4.	USA	4329.14	11.64	4358.31	10.46	4396.94	11.04	3622.49	9.86
5.	Japan	2870.43	7.72	2986.63	7.17	2768.31	6.95	2381.76	6.48
6.	Italy	1895.56	5.10	2100.50	5.04	1936.11	4.86	1714.95	4.67
7.	France	1485.98	4.00	1631.45	3.92	1586.31	3.98	1302.29	3.54
8.	Switzerland	954.77	2.57	958.33	2.30	866.60	2.18	800.78	2.18
9.	Rep of Korea	858.21	2.31	908.54	2.18	880.02	2.21	788.99	2.15
10.	U K	831.56	2.24	923.65	2.22	918.15	2.31	758.26	2.06
<b>14.</b>	<b>India</b>	<b>487.50</b>	<b>1.31</b>	<b>580.18</b>	<b>1.39</b>	<b>588.18</b>	<b>1.48</b>	<b>468.73</b>	<b>1.28</b>
	Others	8133.29	21.87	9253.99	22.21	8589.94	21.57	7857.60	21.38
	<b>Total</b>	<b>37181.49</b>	<b>100</b>	<b>41657.22</b>	<b>100</b>	<b>39820.77</b>	<b>100</b>	<b>36745.05</b>	<b>100</b>

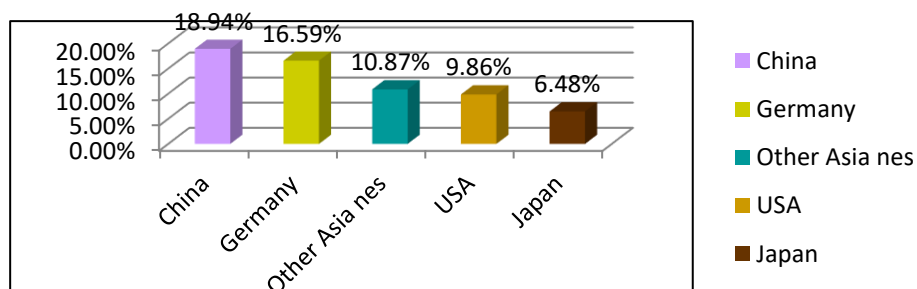
Source: UN Comtrade

Leading Screw, Bolts, Nuts etc. exporters of world from 2017 to 2020 (Values in million USD)

Data label given on the basis of 2020



Country wise export trends in world's leading Screw, Bolts, Nuts etc. exporters by percentage in 2020:



In the year 2020 Screws, Nuts, Bolts etc. exports stood at US \$ 36.74 Billion. The trend indicates that total export value of Screws, Nuts, Bolts etc. decreased continuously from 2019 to 2020 at an average annual rate of 8%. Global Screws, Nuts, Bolts etc. export peaked of US \$ 41.65 Billion in 2018; however, from 2019 and 2020, it failed to regain its strength. China was the largest exporter in Screws, Nuts, Bolts etc. structure which was near 18.94% of global total exports in 2020. It was followed by Germany (16.59%) and Other Asia, nes (10.87%). In that year India exports 1.28% of total world exports of Screws, Nuts, Bolts etc. and stood at 14<sup>th</sup> position in ranking in the world.

Table - 6

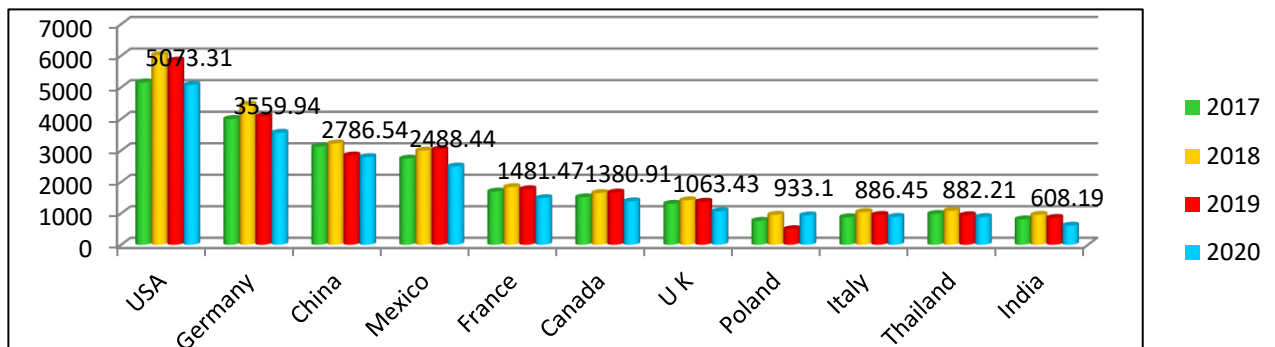
**World's Top 10 Importers of Screw, Bolts, Nuts etc. (HS Code -7318)**

Rank	Countries	2017		2018		2019		2020	
		Value ( million \$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)	Value (million\$)	Share (%)
1.	USA	5153.82	12.71	6020.47	13.37	5841.89	13.77	5073.31	13.44
2.	Germany	3995.14	9.85	4448.25	9.88	4078.11	9.61	3559.94	9.43
3.	China	3120.97	7.70	3219.47	7.15	2839.39	6.69	2786.54	7.38
4.	Mexico	2739.70	6.76	2992.26	6.64	3025.06	7.13	2488.44	6.59
5.	France	1691.73	4.17	1832.75	4.07	1766.23	4.16	1481.47	3.92
6.	Canada	1508.46	3.72	1643.98	3.65	1660.73	3.91	1380.91	3.66
7.	U K	1301.56	3.21	1413.68	3.14	1368.75	3.23	1063.43	2.82
8.	Poland	760.85	1.88	953.93	2.12	495.85	1.17	933.10	2.47
9.	Italy	874.38	2.16	1038.03	2.30	949.65	2.24	886.45	2.35
10.	Thailand	979.58	2.42	1078.97	2.40	938.58	2.21	882.21	2.34
19.	<b>India</b>	<b>807.60</b>	<b>1.99</b>	<b>951.36</b>	<b>2.11</b>	<b>854.25</b>	<b>2.01</b>	<b>608.19</b>	<b>1.61</b>
	Others	17620.51	43.45	19442.20	43.17	18611.67	43.86	16615.72	44.00
	<b>Total</b>	40554.31	100	45035.35	100	42430.18	100	37759.73	100

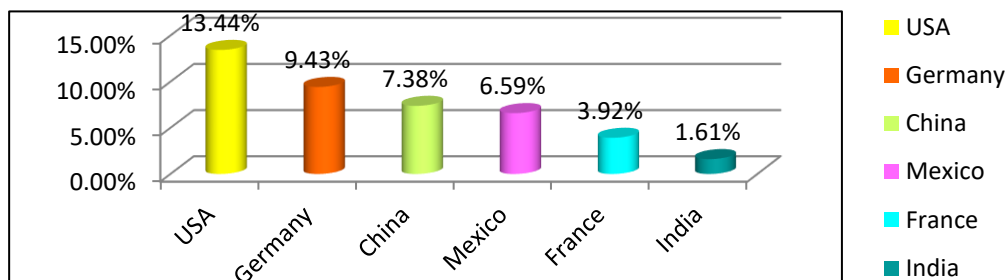
Source :UNComtrade

Leading Screw, Nuts, Bolts etc importers of world from 2017 to 2020 (Values in million USD)

Data label given on the basis of 2020



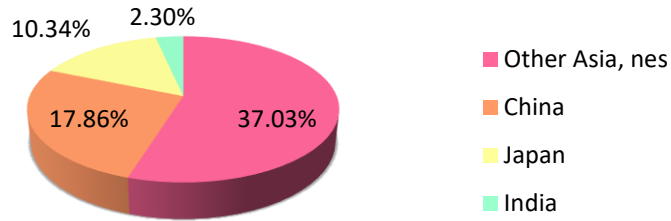
Country wise import trends in world's Screw, Nuts, Bolts etc. importers by percentage in 2020 :



Global Screw, Nuts, Bolts etc imports totaled US \$ 37.76 Billion in 2020, which was dropping by - 11% against the previous year. Over the period under review, global Screw, Nuts, Bolts etc imports attained its maximum level of US \$ 45 Billion in 2018; however, from 2019 to 2020, it stood at a somewhat lower level. In the year 2020 the largest Screw, Nuts, Bolts etc importers worldwide were USA (US \$ 5.07B), Germany (US \$ 3.56B) and China (US \$ 2.79 B) together comprising 30.25% of global imports. India stood at 19<sup>th</sup> rank in the world import of Screw, Nuts, Bolts etc with 1.61% share in 2020.

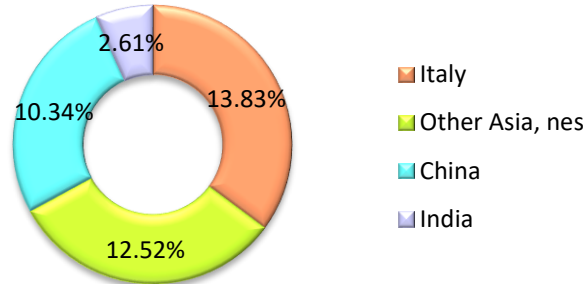
**Major sources of world’s top three importers of Screw, Bolts, Nuts etc. ( H.S. Code-7318)**

i) Top 3 Sources of Screw, Nuts, Bolts etc to USA in 2020 by percentage:



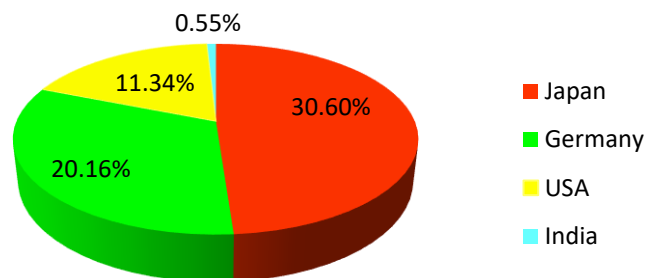
Other Asia,nes dominates in Screw, Nuts, Bolts etc imports structure of USA market which was near 37.03% of USA’s total imports in 2020,It was distantly followed by China(17.86%) and Japan(10.34%). Export of Screw, Nuts, Bolts etc from India was 2.30% to USA in that year. **Source: UN Comtrade)**

ii) Top 3 Sources of Screw, Nuts, Bolts etc to Germany in 2020 by percentage:



Germany’s 3 major source countries of Screw, Nuts, Bolts etc in 2020 were Italy (13.83%), Other Asia,nes (12.52%), and China (10.34%). India is also a important source of Screw, Nuts, Bolts etc to Germany. Germany imported 2.61% of Germany’s total import of Screw, Nuts, Bolts etc in 2020 from **India**. **(Source: UN Comtrade)**

iii) Top 3 Sources of Screw, Nuts, Bolts etc to China in 2020 by percentage:



China imports 30.60% share of Screw, Nuts, Bolts etc from Japan in 2020. The 2<sup>nd</sup> largest source of the commodity to China was Germany with 20.16% share of China’s total import in that year. Screw, Nuts, Bolts etc imported from India in 2020 to China was only 0.55% share of China’s total Screw, Nuts, Bolts etc import. **(Source : UN Comtrade)**

## IMPORT

### Polymers of Ethylene in Primary form

**Polymer of Ethylene or Polyethylene** is the most commonly produced plastic. It is a polymer, primarily used for packaging (plastic bags, plastic films, geomembranes and containers including bottles, etc.). As of 2017, over 100 million tonnes of polyethylene resins are being produced annually, accounting for 34% of the total plastics market.

Many kinds of polyethylene are known, with most having the chemical formula  $(C_2H_4)_n$ . PE is usually a mixture of similar polymers of ethylene, with various values of  $n$ . It can be low-density or high-density: low-density polyethylene is extruded using high pressure (1000–5000 atm) and high temperature (520 kelvins), while high-density polyethylene is extruded using low pressure (6–7 atm) and low temperature (333–343 K). Polyethylene is usually thermoplastic, but it can be modified to become thermosetting instead, for example, in cross-linked polyethylene.

olyethylene was first synthesized by the German chemist Hans von Pechmann, who prepared it by accident in 1898 while investigating diazomethane.<sup>[8][a][9][b]</sup> When his colleagues Eugen Bamberger and Friedrich Tschirner characterized the white, waxy substance that he had created, they recognized that it contained long  $-CH_2-$  chains and termed it polymethylene.

The first industrially practical polyethylene synthesis (diazomethane is a notoriously unstable substance that is generally avoided in industrial application) was again accidentally discovered in 1933 by Eric Fawcett and Reginald Gibson at the Imperial Chemical Industries (ICI) works in Northwich, England.<sup>[11]</sup> Upon applying extremely high pressure (several hundred atmospheres) to a mixture of ethylene and benzaldehyde they again produced a white, waxy material. Because the reaction had been initiated by trace oxygen contamination in their apparatus, the experiment was difficult to reproduce at first. It was not until 1935 that another ICI chemist, Michael Perrin, developed this accident into a reproducible high-pressure synthesis for polyethylene that became the basis for industrial low-density polyethylene (LDPE) production beginning in 1939. Because polyethylene was found to have very low-loss properties at very high frequency radio waves, commercial distribution in Britain was suspended on the outbreak of World War II, secrecy imposed, and the new process was used to produce insulation for UHF and SHF coaxial cables of radar sets. During World War II, further research was done on the ICI process and in 1944, Du Pont at Sabine River, Texas, and Bakelite Corporation at Charleston, West Virginia, began large-scale commercial production under license from ICI.

Polyethylene consists of nonpolar, saturated, high-molecular-weight hydrocarbons. Therefore, its chemical behavior is similar to paraffin. The individual macromolecules are not covalently linked. Because of their symmetric molecular structure, they tend to crystallize; overall polyethylene is partially crystalline. Higher crystallinity increases density and mechanical and chemical stability. Most LDPE, MDPE, and HDPE grades have excellent chemical resistance, meaning that they are not attacked by strong acids or strong bases and are resistant to gentle oxidants and reducing agents. Crystalline samples do not dissolve at room temperature. Polyethylene (other than cross-linked polyethylene) usually can be dissolved at elevated temperatures in aromatic hydrocarbons such as toluene or xylene, or in chlorinated solvents such as trichloroethane or trichlorobenzene.<sup>[5]</sup> Polyethylene absorbs almost no water; the gas and water vapour permeability (only polar gases) is lower than for most plastics. Oxygen, carbon dioxide and flavorings, on the other hand, can pass it easily.

These are broadly classified under **H. S. Code 3901**.

Table - 7

**India's Top 10 Sources of Polymers of Ethylene in Primary form(HS Code :3901)**

Rank	Countries	2018		2019		2020		2021	
		Value ( million \$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)
1.	U A E	517.97	20.75	425.22	19.06	242.52	19.83	763.59	24.70
2.	Saudi Arab	353.66	14.17	252.72	11.33	117.28	9.59	356.33	11.52
3.	Singapore	376.17	15.07	399.74	17.92	165.33	13.52	351.28	11.36
4.	Korea RP	197.49	7.91	229.67	10.29	130.82	10.69	286.68	9.27
5.	U S A	143.86	5.76	202.11	9.06	164.71	13.46	232.44	7.52
6.	Qatar	282.88	11.33	215.74	9.67	83.00	6.79	229.41	7.42
7.	Malaysia	39.20	1.57	51.07	2.29	60.91	4.98	147.46	4.77
8.	Thailand	142.41	5.71	95.17	4.27	48.70	3.98	137.59	4.45
9.	Belgium	61.78	2.48	73.91	3.31	45.11	3.69	114.83	3.71
10.	China	27.28	1.09	37.59	1.68	24.99	2.04	62.34	2.02
	Others	353.34	14.16	248.35	11.13	139.90	11.44	410.04	13.26
	<b>Total</b>	2496.03	100	2231.30	100	1223.27	100	3091.98	100

Source: DGCI&S

Note : India's Import including re-import

The Value of imports of Polymers of Ethylene in primary form into India totalled US \$ 3.09 Billion in 2021 which was almost 1.5 times more than that in 2020. The import of Polymers of Ethylene in primary form into India reached highest worth value in 2021. UAE has been the top source of Polymers of Ethylene in primary form to India with its share of 24.70 % in the year 2021 followed by Saudi Arab and Singapore, they exported Polymers of Ethylene in primary form to India of US \$ 763.59 million and US \$ 356.28 million. UAE has always been at a high in export of Polymers of Ethylene in primary form to India.

Table - 8

**World's Top 10 Importer of Polymers of Ethylene in Primary form (HS Code :3901)**

Rank	Countries	2017		2018		2019		2020	
		Value ( million \$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)
1.	China	16943.84	22.02	20755.81	24.39	20690.90	26.32	20155.39	28.63
2.	USA	4448.65	5.78	4789.93	5.63	4172.46	5.31	3670.22	5.21
3.	Germany	4166.99	5.42	4272.06	5.02	3758.43	4.78	3281.17	4.66
4.	Viet Nam	2228.96	2.90	2638.71	3.10	2641.73	3.36	2395.83	3.40
5.	Italy	2677.96	3.48	2883.65	3.39	2570.71	3.27	2150.25	3.05
6.	Singapore	2382.20	3.10	2875.16	3.38	2885.45	3.67	2113.33	3.00
<b>7.</b>	<b>India</b>	<b>2669.84</b>	<b>3.47</b>	<b>2491.60</b>	<b>2.93</b>	<b>2230.39</b>	<b>2.84</b>	<b>2013.21</b>	<b>2.86</b>
8.	Turkey	2475.28	3.22	2257.63	2.65	1867.61	2.38	1973.10	2.80
9.	Malaysia	1774.52	2.31	2431.37	2.86	2382.05	3.03	1739.72	2.47
10.	Mexico	1825.98	2.37	2177.47	2.56	1795.19	2.28	1658.10	2.36
	Others	35337.01	45.93	37514.60	44.09	33630.65	42.77	29251.01	41.55
	<b>Total</b>	<b>76931.22</b>	<b>100</b>	<b>85088.00</b>	<b>100</b>	<b>78625.58</b>	<b>100</b>	<b>70401.32</b>	<b>100</b>

Source :UNComtrade

The world imports of Polymers of Ethylene in primary form was totalled US \$ 70.40 Billion in 2020. The total imports volume decreased at an -10.46% over the year 2019. Over the period under review, global Polymers of Ethylene in primary form imports attained its maximum level of US \$ 85.08 Billion in 2018. China has been the top importer of Polymers of Ethylene in primary form with its import share of 28.63% of world import in the year 2020, followed by USA and Germany that imported Polymers of Ethylene in primary form of 5.21% and 4.66% respectively. In the same year India imports US \$ 2.01Billion, accounted 2.86% share of world import and ranked at 7<sup>th</sup> in the world import of Polymers of Ethylene in primary form and cables.

### **Hand Saw; Blades for all kinds**

In woodworking and carpentry, **hand saws**, also known as "panel saws", are used to cut pieces of wood into different shapes. This is usually done in order to join the pieces together and carve a wooden object. They usually operate by having a series of sharp points of some substance that is harder than the wood being cut. The hand saw is a bit like a tenon saw, but with one flat, sharp edge. Handsaws have been around for thousands of years. Egyptian hieroglyphics exist depicting ancient woodworkers sawing boards into pieces. Ancient bow saws have been found in Japan. The cut patterns on ancient boards may be observed sometimes to bear the unique cutting marks left by saw blades, particularly if the wood was not 'smoothed up' by some method. As for preservation of handsaws, twenty-four saws from eighteenth-century England are known to survive.

Materials for saw blades have varied over the ages. There were probably bronze saws in the time before steel making technology became extensively known and industrialized within the past thousand years or so.

Sometimes cultures developed two main types of saw teeth: the cross cut saw teeth and the rip saw teeth. These cut into the wood using different mechanisms. Wood is composed of many long cells running length-ways. Thus, crosscut saws have sawteeth that are usually shaped, often with a metal file, in such a way that they form a series of tiny knifelike edges. The wood cells are contacted by the knife-edge of the tooth and cut. Rip saws, on the other hand, are usually shaped so that they form a series of tiny chisel-like edges. The wood cells are contacted by the chisel and 'ripped' apart from the bundle of other cells. It is common that people do not recognize the difference and use saws both ways. However, a rip saw is much faster than a cross-cut saw when cutting with the grain but leaves a very rough cut, often with splinters on the surface, and has more difficulty maintaining a straight cut when cutting across the grain. The cross-cut saw can cut in any direction but is much slower than needs be when cutting with the grain.

The development of saws was also affected by several factors. The first was the importance of wood to a society, the development of steel and other saw-making technologies and the type of power available. These factors were, in turn, influenced by the environment, such as the types of ores available, the types of trees nearby and the types of wood which was in those trees. Finally, the types of jobs the saws were to perform was also important in the development of the technology. Among Basques and Australians, traditional hand sawing has generated rural sports. The Basque variant is called tronral.

A blade is the portion of a tool, weapon, or machine with an edge that is designed to puncture, chop, slice or scrape surfaces or materials. Blades are typically made from materials that are harder than those they are to be used on. Historically, humans have made blades from flaking stones such as flint or obsidian, and from various metal such as copper, bronze and iron. Modern blades are often made of steel or ceramic. Blades are one of humanity's oldest tools, and continue to be used for combat, food preparation, and other purposes.

Blades work by concentrating force on the cutting edge. Certain blades, such as those used on bread knives or saws, are serrated, further concentrating force on the point of each tooth. In combat, a blade may be used to slash or puncture, and may also be thrown or otherwise propelled. The function is to sever a nerve, muscle or tendon fibers, or blood vessel to disable or kill the adversary. Severing a major blood vessel typically leads to death due to exsanguination.

Blades may be used to scrape, moving the blade sideways across a surface, as in an ink eraser, rather than along or through a surface. For construction equipment such as a grader, the ground-working implement is also referred to as the blade, typically with a replaceable cutting edge.

These are broadly classified under **H. S. Code 8202**.

Table - 9

**India's Top 10 Source Countries of Hand Saw; Blades for all kinds (8202)**

Rank	Countries	2018		2019		2020		2021	
		Value ( million \$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)
1.	China	97.46	57.90	99.62	70.92	48.83	72.28	137.88	68.81
2.	Germany	9.64	5.72	10.16	7.23	5.64	8.34	12.44	6.21
3.	Japan	9.73	5.78	9.55	6.80	3.34	4.94	11.80	5.89
4.	Italy	38.71	23.00	10.20	7.26	4.89	7.24	11.76	5.87
5.	U A E	0.20	0.12	0.49	0.35	0.25	0.37	10.00	4.99
6.	U S A	2.16	1.28	1.46	1.04	1.02	1.50	3.45	1.72
7.	Switzerland	1.85	1.10	0.34	0.24	0.08	0.12	3.37	1.68
8.	Thailand	0.42	0.25	0.44	0.31	0.27	0.40	1.86	0.93
9.	Netherland	1.74	1.03	2.15	1.53	0.60	0.89	1.76	0.88
10.	Korea RP	1.11	0.66	1.07	0.76	0.49	0.73	1.15	0.57
	Others	5.32	3.16	4.98	3.54	2.15	3.18	4.92	2.45
	<b>Total</b>	168.33	100	140.46	100	67.55	100	200.39	100

Source: DGCI&S

Note : India's Import including Re-import

The value of imports of Hand Saw; Blades for all kinds to India totalled US \$ 200.39 Million in 2021. Sales of Hand Saw; Blades for all kinds to India increased by almost tripple in value terms compared to 2020. Major five source countries of Hand Saw; Blades for all kinds to India in 2021 were China (US \$ 137.88 Million), Germany (US \$ 12.44 Million) and Japan ( US \$ 11.80 Million). These 3 countries in total exported US \$ 161.12 Million value of Hand Saw; Blades for all kinds to India which rounds up to 80.91% of the total Hand Saw; Blades for all kinds import into India in 2021..



Table - 10

**World Top 10 Importer of Hand Saw; Blades for all kinds (8202)**

Rank	Countries	2017		2018		2019		2020	
		Value ( million \$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)	Value ( million\$)	Share (%)
1.	USA	790.69	19.80	819.94	19.43	795.74	20.01	814.38	20.64
2.	Germany	295.83	7.41	323.43	7.66	317.68	7.99	331.70	8.41
3.	China	267.74	6.70	225.37	5.34	155.91	3.92	157.44	3.99
4.	Canada	132.79	3.32	138.87	3.29	134.37	3.38	138.64	3.51
5.	Russia	128.08	3.21	144.79	3.43	132.52	3.33	134.20	3.40
<b>6.</b>	<b>India</b>	<b>105.32</b>	<b>2.64</b>	<b>166.28</b>	<b>3.94</b>	<b>140.49</b>	<b>3.53</b>	<b>125.17</b>	<b>3.17</b>
7.	France	130.54	3.27	129.77	3.08	128.42	3.23	124.99	3.17
8.	Netherlands	133.69	3.35	134.60	3.19	122.97	3.09	122.01	3.09
9.	U K	123.52	3.09	125.27	2.97	121.38	3.05	117.94	2.99
10.	Italy	93.53	2.34	119.13	2.82	96.00	2.41	117.22	2.97
	Others	1792.62	44.88	1892.68	44.85	1831.05	46.05	1761.90	44.66
	<b>Total</b>	<b>3994.36</b>	<b>100</b>	<b>4220.12</b>	<b>100</b>	<b>3976.52</b>	<b>100</b>	<b>3945.57</b>	<b>100</b>

Source :UNComtrade

The imports of the five major importers of Hand Saw; Blades for all kinds, namely USA, Germany, China, Canada and Russia represented 39.95% of total world imports in 2020. In value terms, USA (US \$ 814.38M), Germany ( US \$ 331.70 M), China (US \$ 157.44 M), Canada (US \$ 138.64 M) and Russia (134.20M) constituted the countries with the highest levels of imports in 2020. India was also among the 10 major importing countries of Hand Saw; Blades for all kindsimport and ranked in 6<sup>th</sup> position in the world with 3.17% share of Global import of Hand Saw; Blades for all kinds in 2020.