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The Comparative study on Engineering goods of India

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Abstract:
The core part of our paper is to thrive out the juncture on engineering goods of India. Industrialization is never ending process so there are no settled and limited claims regarding it. Engineering goods becomes the base of support for industrialization. The technological trends, satisfactory sustainable future development & last but not the least a major impact which innovates the positive economic impacts. The nerve center of our research paper is to figure out the exporting countries of Indian engineering goods, to compare the export growth of Indian engineering goods for the year 2021-2022 & 2022-2023, region wise exports of engineering goods from India & contribution towards gross domestic product (GDP) from engineering goods.

Keywords: *Exporting countries, GDP contribution, export growth, region wise exports.*

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I. Introduction:

As Pluto said necessity is the mother of innovation the same line works for engineering goods and industrialization. Engineering goods is the formation in the process of industrialization. Engineering goods is one of from those sector that isolates & can form many sectors from him. When we talk regarding the engineering goods there is segmentation within it. The first segment is of heavy engineering goods sector & the second segment is of light engineering goods sector. Heavy engineering goods sector revolves around huge capital intensive technologies with some organized market players & process oriented as compared to light engineering good sector. Whereas light engineering goods sector consist more of unorganized sector which generally conclude of MSME'S & SME'S & other market players at low base level with less capital compare to heavy engineering sector.

For the country like India which is still in developing stage it becomes more important to maintain equilibrium between the heavy engineering & light engineering sector. The heavy engineering sector consist of textile machineries, metallurgical machineries, cement machineries, printing machineries, Oil engines, etc. While the light engineering sector mostly deals with the end part or the assembling section or making up the semi-finished technology into finished product which are generally consumer oriented catch up industry. The light industry serves of home appliances, bicycle industry, surgical equipment making industry, metallic toys, utensils, metallic doors, electronic wires steel bearings, etc.

The more side to watch it out here for government is to increase the exports or if the trend is of not increasing the exports at least maintain the annual export on a similar line. More exports should be there whether it is coming out from heavy engineering goods or light engineering goods. Through the steps of government has been always there for engineering goods there are various schemes from the side of government & some of the schemes are Industry 4.0 , Production linked intensive schemes (PLI), Capital goods scheme which provide guidance towards various exports activity, Make in India initiative, Establishment of various engineering clusters under Industrial Infrastructural Up gradation Scheme(IIUS),Developing export promotion councils for Micro & small medium enterprises(MSME),Duty exemptions, Zero duty export promotion capital goods (EPCG) scheme, etc.

Recently the bilateral trade agreements show the positive signs of exports of engineering goods. India's export to UAE rose up to 16% year on year to $5.22 billion and with Australia it increase up to 5% year on year to $1.30 billion in February 2024.

Objective of the study:

- To know the tendency of exporting countries of engineering goods between 2021-2022 & 2022-2023 April-March.
- To compare the export growth of product wise engineering goods for the year 2021-2022 to 2022-2023.
- Region wise Exports of engineering goods from India.
- Contribution of engineering goods towards India's GDP

II. Research Methodology:

The study here is based on secondary database which is collected from the directorate general of commercial & statistics, National import-export record for yearly analysis of trade (Niryat) portal & from ministry of Statistics and Program implementation. The data's are taken to better the needs of this paper & cater the best needs to know the growth of engineering goods between two financial years.

1. India's Tendency of Exporting Countries of engineering goods

US$ MILLION

Countries	April-March 2021-2022	April-March 2022-2023	(%) Growth
USA	17491.9	18679.1	6.8%
U. Arab Emts	5586.8	4964.1	-11.1%
Germany	3865.5	3945.9	2.1%
Italy	4159.9	3932.4	-5.5%
Singapore	2638.9	3671.1	39.1%
Mexico	2850.1	3475.7	22.0%
U.k.	3047.5	3125.5	2.6%
Saudi Arabia	1919.3	3082.8	60.6%
Turkey	3519.1	2851.2	-19.0%
China P RP	5533.6	2631.9	-52.4%
Netherland	2009.5	2593.7	29.1%
Indonesia	2119.4	2587.5	22.1%
Bangladesh PR	2930.9	2540.5	-13.3%
South Africa	2491.7	2484.7	-0.3%
Nepal	3449.5	2305.3	-33.2%
France	1846.7	2197.2	19.0%
Korea RP	3143.9	2189.7	-30.4%
Thailand	2481.8	2113.0	-14.9%
Brazil	1832.7	1930.9	5.4%
Malaysia	1552.2	1850.2	19.2%
Belgium	2377.6	1835.4	-22.8%
Vietnam SOC REP	2607.3	1832.6	-29.7%
Japan	1741.3	1668.4	-4.2%
Spain	1632.1	1390.6	-14.8%
Australia	1256.4	1377.0	9.6%
Total engineering exports to top 25 countries	84085.72	81256.28	-3.4%
% share of top 25destinations	75.0%	75.9%	
Total engineering exports	112163.4	107040.1	-4.6%

Source: DGCI&S

As the data in the table shows the exporting countries of India's engineering goods in the year 2021-2022 April march to 2022-2023 which shows the comparison about the exports have increased or decreased from the previous year or not. Here India's total engineering goods export has gradually decrease in 2022-2023 compare to 2021-2022 by 4.6% & even the share of export to top 25% countries have fallen .Though the exports to top 25% countries have fallen by 3.4% but the export % share dependency rose from 75.0 % to 75.9% at a minimal scale. The highest export growth from India is to be there at the Saudi Arabian markets. 60.6% rise is to be seen in 2022-2023 compare to 2021-2022. Following by that Singaporean markets have also been discovered by Indian players a rise in 39.1% growth is seen & third is Netherland where Indian exports have rose enormously the growth of 29.1% in exports of engineering goods is commendable . Along with the increasing growth there are few countries where the growth has been decreased. India's exports in engineering goods to China P RP has been down by 52.4% following to it the second country is Nepal 33.2% fall in 2022-2023 compare to 2021-2022 has been noticed which is alarming from the point of view point of export of engineering goods towards the Asian markets.

2. Product wise Export growth of engineering goods

Tendency of Iron & steel and its products

US$ MILLION

Product resources	April-March 2021-2022	April-March 2022-2023	(%) Growth
Iron & steel	22906.2	13396.0	-42%
Product of Iron & steel	8785.6	9768.0	11%
Sub Total	**31691.8**	**23164.0**	-27%

Source: DGCI&S

The data in the given table depicts that the trends of exports in raw iron & steel is decreasing by 42% which is near about half of the exports , while the products from iron & steel exports have been increased by 11%.

Tendency of Non-ferrous Metals & products

US$ MILLION

Product resources	April-March 2021-2022	April-March 2022-2023	(%) Growth
Copper & products	2429.6	1848.5	-24%
Aluminum & products	10641.6	8877.0	-17%
Zinc & products	1002.9	1324.8	32%
Nickel & products	127.0	204.1	61%
Lead & products	543.1	481.7	-11%
Tin & products	19.2	11.4	-41%
Other non-Ferrous metals	802.1	761.8	-5%
Sub Total	**15565.5**	**13509.3**	-13%

Source: DGCI&S

Non-ferrous metals are the metals that are metals or alloys which are not based on iron or it component. They are different from the Iron which is generally ferrous metal. The growth marking shows that Nickel & its product has the highest export growth among the non- ferrous metals which is 61% of rise in export is there & the worst drop is seen in export growth of Tin & products which is falling down by 41% . Although when we consolidate the Non-ferrous metals export from the Indian market it show the drop in 13% from April –March 2021-2022 to April March 2022-2023 the export had been down from 15565.5 US $ million to 13,509.3 US $ million.

Tendency of Industrial Machinery

US$ MILLION

Product resources	April-March 2021-2022	April-March 2022-2023	(%) Growth
Industrial machineries like boilers, parts, etc.	596.7	625.9	5%
IC engines & Parts	3358.3	3627.7	8%
Pumps of all types	1224.9	1319.3	8%
Air condition & refrigerators	1472.9	1624.9	10%
Industrial machinery for dairy , food processing, textiles, etc.	7999.9	8517.6	6%
Machine Tools	680.2	693.8	2%
Machinery for injecting molding, valves & ATM'S	1929.5	2369.0	23%
Sub total	17262.2	18778.1	9%

Source: DGCI&S

The most positive sector from the Indian engineering goods export point of view is industrial machineries. There is about 9% consolidated growth is to be seen from April-March 2021-2022 to April-March 2022-2023 with a rise in 17262.2 US $ million export to 18778.1 US $ million export. The most exportable machinery growth is for injecting moldings, valves & ATM'S 23% growth is to be seen within a year in exporting of this engineering goods. Machine tools here consider just a 2% of growth which is exporting of 680.2 US $ million to 693 US $ million in a span of year 2021-2022 to 2022-2023.

Tendency of Electrical machinery & Equipment

US$ MILLION

Product resources	April-March 2021-2022	April-March 2022-2023	(%) Growth
Electrical Machinery	10349.3	10970.2	6%

Source: DGCI&S

The export of direct electrical machinery is also in increasing trend from the engineering goods point of view where the data show in the table that from April-March 2021-2022 to April-March 2022-2023 the export increased from 10,349.3 US $ million to 10,970.2 US $ million which is 6% increase in a year.

Tendency of Auto & Auto parts

US$ MILLION

Product resources	April-March 2021-2022	April-March 2022-2023	(%) Growth
Motor Vehicle/Cars	7573.3	8718.5	15%
2 & 3 wheelers	2985.3	2787.9	-7%
Auto components/parts	6876.1	7273.7	6%
Auto tyres & tubes	2922.7	2966.8	2%
Sub Total	**20357.4**	**21746.8**	7%

There in the Auto & Auto parts India caters the market of South Africa. In 2021-2022 India's export to South Africa was about 1188.8 US $ Million which rise up to 1547.7 US$ Million. 30% export growth is seen from just African market. Here the data shown above suggests that the motor vehicle/Cars have the highest growth in a year from US$7573.3 Million to 8718.5 US$ Million 15% rise in a year where the 2/3 wheelers show the decline in exports from 2985.3 US$ Million exports to 2787.9 US$ Million .7% decrease in export is to be seen here.

Tendency of aircraft, spacecraft & parts & ships, boats & floating structures

US$ MILLION

Product resources	April-March 2021-2022	April-March 2022-2023	(%) Growth
Aircraft, Spacecraft parts & products	1142.1	1428.2	25%
Ships boats, floating products & parts	3600.7	4035.5	12%

As the table profiles that the exponential export growth of 25% in Aircraft, Spacecraft parts & products is to be seen where the exports grow from 1142.1 US$ Million to 1428.2 US$ Million from April-March 2021-2022 to April-March 2022-2023 as well as Ships boats, floating products & parts has also been on the positive side of export growth of 12%. From 3600.7 US$ Million to 4035.5US$ Million in just a year.

Tendency of other Engineering products

US$ MILLION

Product resources	April-March 2021-2022	April-March 2022-2023	(%) Growth
Medical & scientific instruments	1727.9	2209.1	28%
Railway transport	416.1	371.1	-11%
Hand tools & cutting tools	986.3	952.4	-3%
Bicycle & parts	460.6	395.8	-14%
Cranes lifts & winches	650.6	812.9	25%
Office Equipment	209.6	297.6	42%
Other construction Machinery	2113.3	2410.5	14%
Prime Mica & Mica products	32.0	27.4	-14%
Project goods	3.78	2.00	-47%
Other rubber products except footwear	1706.1	1712.4	0%
Other miscellaneous items	3888.1	4216.8	8%

Source: DGCI&S

3. Region wise exports of engineering goods from India

Value in US$ MILLION

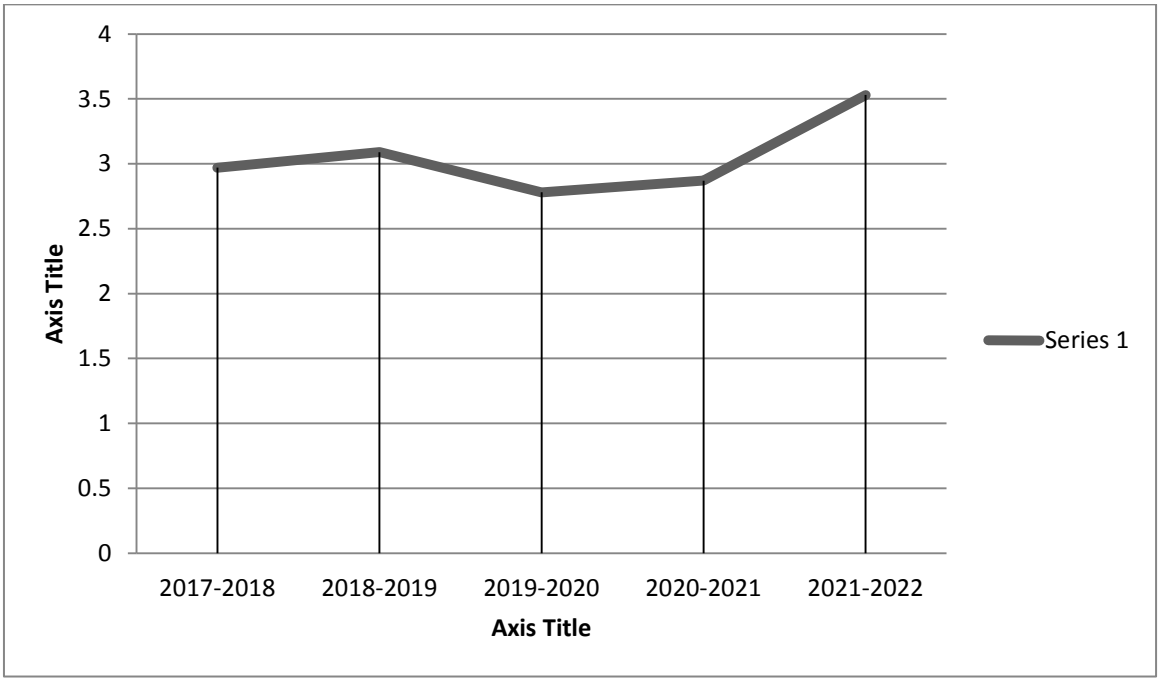
Region	April-March 2021-2022	April-March 2022-2023	(%) Growth
Eastern Region	19994.1	13870.6	-30.6%
Northern Region	21444.3	21455.5	0.1%
Southern Region	31182.3	31372.3	0.6%
Western Region	38788.4	39552.9	2.0%
Total	**111409.2**	**106251.3**	**-4.6%**

Source: NIRYAT Portal

As India consist of four main regions eastern, Northern, Southern &Western region comparatively the main positive for engineering goods exports in India is Western Region which consists of 2 strong industrial zone states of India one is Gujarat & another one is Maharashtra .The data speaks that western region had a year on year growth of 2.0% increase in exports while in southern region took second there also the two powerhouse state like Tamil Nadu , Andhra Pradesh , Karnataka are there they also did a positive growth of 0.6% from 2021-2022 to 2022-2023.Then comes the Northern region where the industrial states are Haryana, Punjab, Uttar-Pradesh they are growing at a slow rate the growth is just about 0.1% increase in exports. The main setback from 2021-2022 to 2022-2023 is to the eastern region of India in export of engineering goods as they have declined up to 30.6% in just a year.

4. Contribution of engineering goods towards India's GDP

S.R. NO	Years	% share of goods exports in the annual GDP for fiscal years
1	2017-2018	2.97
2	2018-2019	3.09
3	2019-2020	2.78
4	2020-2021	2.87
5	2021-2022	3.53



As the contribution of engineering goods export will grow more & more but in real world it is to be seen whether the sector has been positive & making such handful impact towards India's gross domestic product or not. The table above shows that in the year 2017-2018 the contribution of engineering goods export towards GDP is 2.97% which went to increasing up to 3.09% in the year 2018-2019 which is a positive sign of situation than even due to worldwide pandemic of corona virus in the year 2019-2020 contribution was not to be laid down to low the contribution was up to 2.78% towards GDP & same with the year 2020-2021 pandemic issues still the contribution rises up to 2.87% towards GDP which was way better than 2019-2020 leaping forward ahead for the big jump is calling & the number received the contribution towards India's GDP is 3.53% the highest amongst the all & huge pump up in the year of 2021-2022 was there

III. Conclusion

As we notice India is still a developing country that means there is lot of still left to full the Pandora box & the engineering goods industry can be the boost towards the road of developed nations because it is the only sector that from it can create ample of many more industry. The current condition of engineering goods sector is stable in an increasing manner not the decreasing way few more efforts from the side of government to develop more & needful infrastructure, new innovation & technology enhancement should be there for Metallurgical industry, Oil field industry, Steel industry, etc. so that at a rapid scale the growth of this free market space of engineering goods export should be done there & India can be the market leader in some of the products. As there is still quantum left for the further research where we can figure it out state wise export of export of engineering goods should be considered to get the clear picture of where the industrialization is benefitted more.