

The Paper Landscape-

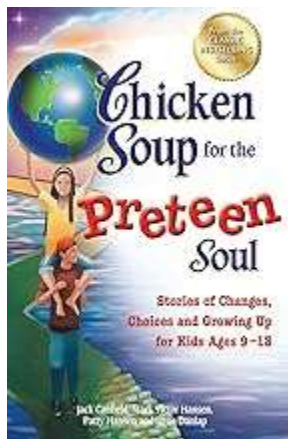
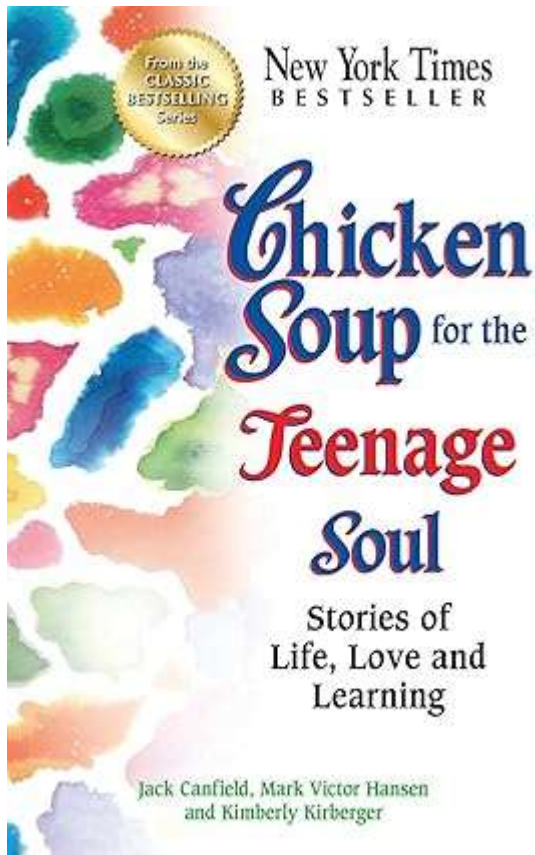
Market projections, e-
Commerce influence, and
environmental impacts

Dr. B. P. Thapliyal

Secretary General, Indian Agro Recycled
Papermills Association, New Delhi

Outlines of the Presentation

- Developments in India
 - Growth and Structure of Indian Paper Industry
- Global Developments
- Market Projections –
 - Domestic Market Size
 - Projected Demand and Supply
- Growth Drivers and Demand Analysis
- Issues and Challenges
 - Raw material
 - Export and Import Scenario
- Influence of e-Commerce on Future Paper Demand
- Environmental Impacts
- Way Foreward



Paper – A Tool for Social, Cultural, Personal, and Industrial Advancement

"By recording your dreams and goals on paper, you set in motion the process of becoming the person you most want to be."

- Mark Victor Hansen

Developments in India

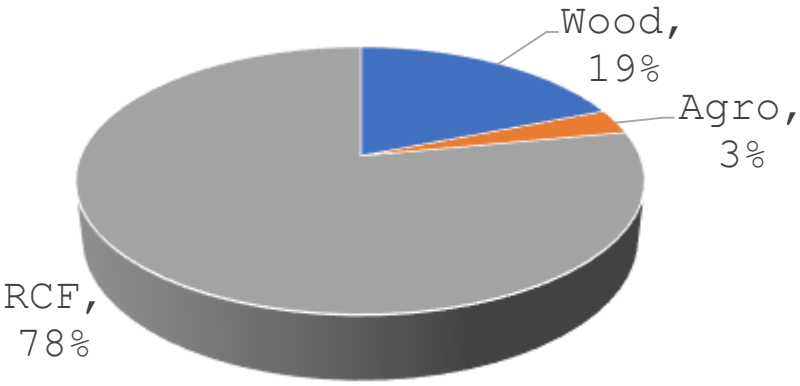
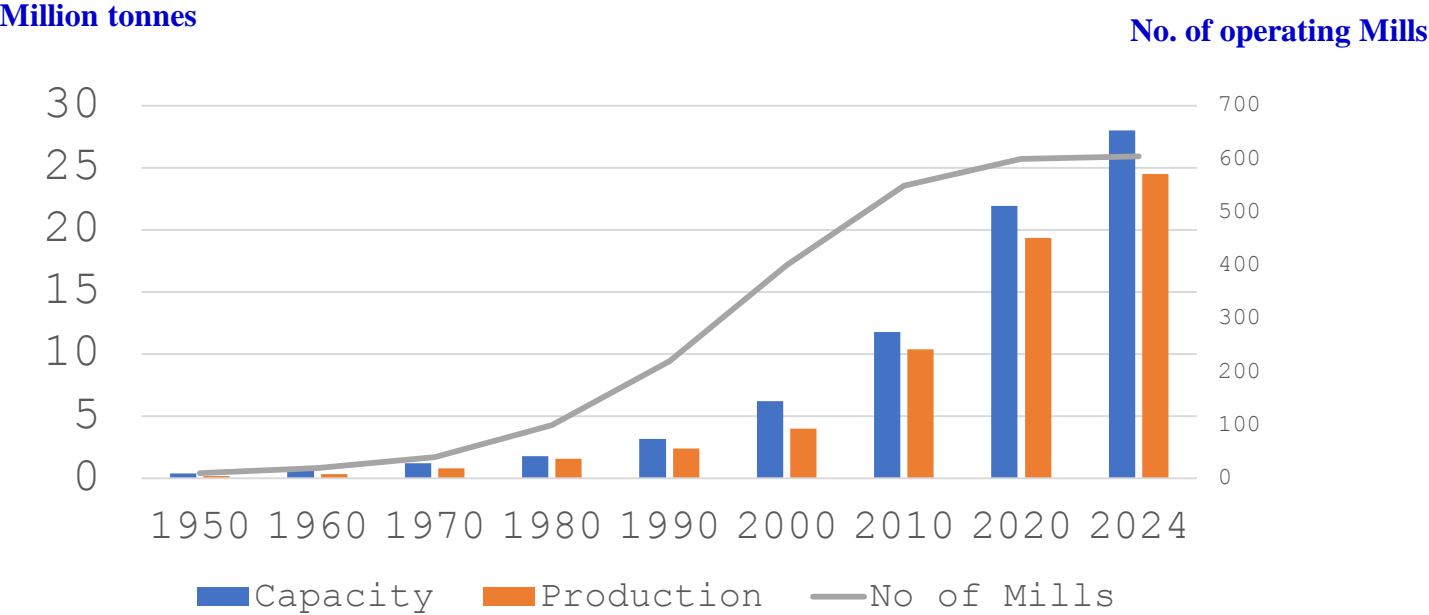
- The printing press was invented in 1455 AD by Gutenberg in Germany, and the British introduced the concept of printing to India in 1780.
- In 1812, William Carey established a paper mill in Serampore with assistance from local Kagzis.
- The first paper machine was installed in India in Tanjore.
- Production commenced in 1870 at Bally Paper Mills in Hoogly.
- This was soon followed by the establishment of mills in Titagarh, Lucknow, and Punalur.
- The growth of the paper industry in India prior to independence was primarily exploratory in nature.
- There was substantial expansion in the post-independence period, with installed capacity increasing from 0.137 million tons in 1951 to the current 32 million tons.

Fact Sheet of Indian Paper Industry

Number of Mills	800+
Installed capacity, million tons	32.0
Operational capacity, million tons	28.0
Capacity utilization, %	87%
Production of Paper, Paperboard & Newsprint, million tons/annum	24.48
Per Capita Consumption (kg)	17.48
Annual Turnover, Rs. Crores	100,000
Contribution to Exchequer, Rs. Crores	6500
Employment Direct, million people	0.5
Indirect Employment, million people	1.5
Indian share in world's production, %	5%

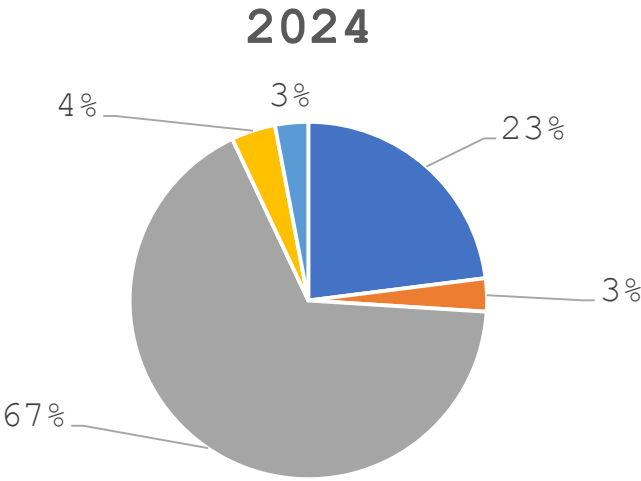
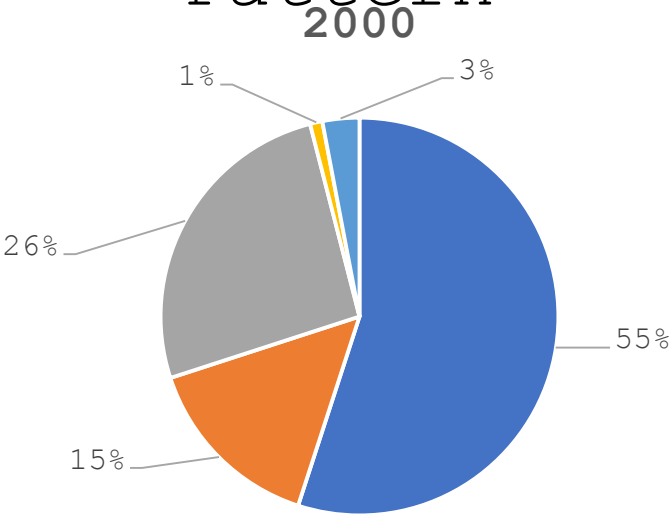
Growth of Indian Paper Industry

Paper capacity and production in India (1950-2024)



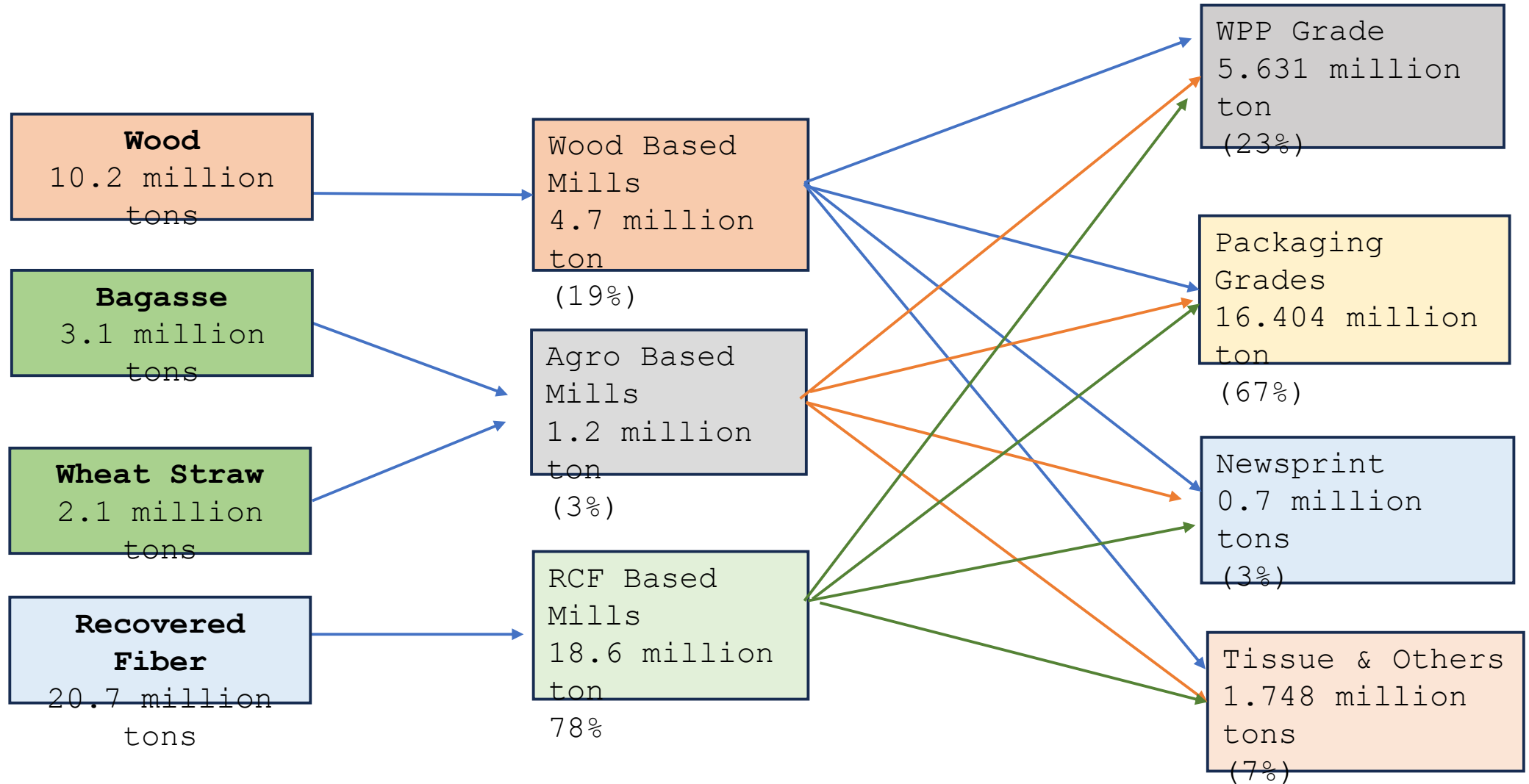
5

Shift in Paper Consumption Pattern




■ WPP ■ NP ■ Packaging ■ Tissue ■ Others

Structure of Indian Paper Industry (2024-25)



Variety wise production from various raw materials

Variety	Production Million tons (2024-25)	Raw Material	Production Distribution, Million tons (2024-25)	Share %
Writing Printing Grade	5.631	Wood Based	3.90 (70%)	23%
		Agro Based	0.36 (6%)	
		Recycled Fiber Based	1.37 (24%)	
Packaging Grade	16.404	Wood Based	0.75 (5%)	67%
		Agro Based	0.86 (5%)	
		Recycled Fiber Based	14.79 (90%)	
Newsprint	0.70	Wood Based	Nil	3 %
		Agro Based	Nil	
		Recycled Fiber	0.70 (100%)	

Global Developments

Per Capita Consumption

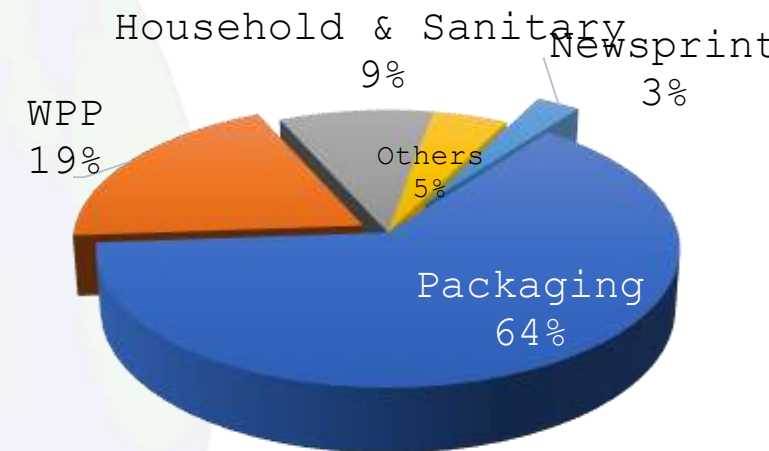
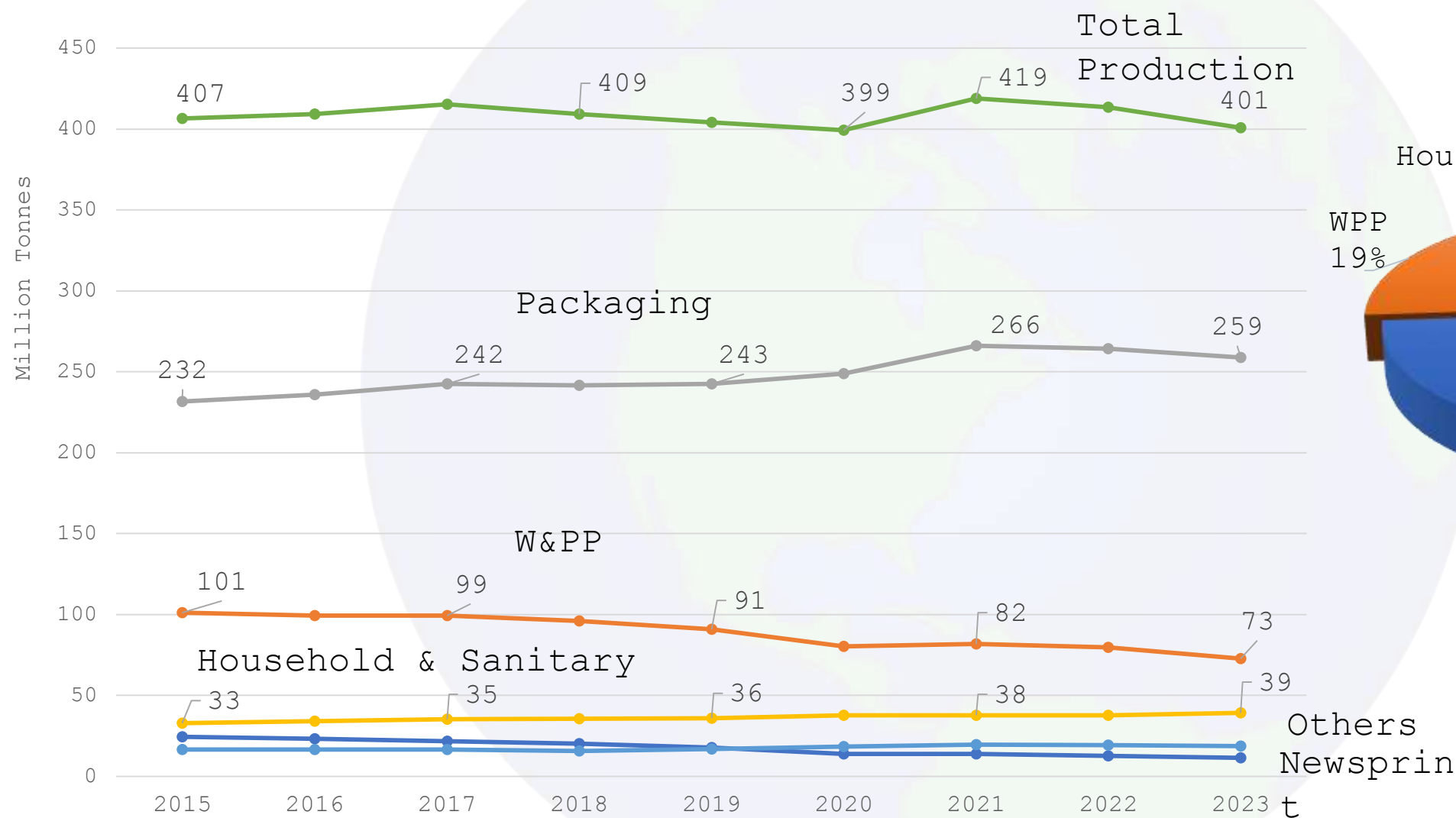
World Average – 58
kg

- The global market is estimated to be worth around USD 352 billion.
- It is projected to increase to USD 355 billion by 2030, representing a compound annual growth rate (CAGR) of approximately 0.5%.
- There has been a recent shift in consumption growth towards Asia, moving away from the US, Canada, and Europe.
- Global paper production reached 401 million tonnes of paper and paperboard.
- Approximately half of this consumption occurs in China, Japan, and the USA, with a quarter in Europe and the remaining quarter from other regions.
- A regional shortage of virgin fibre has led to the emergence of market pulp, which is facilitating trade both between and within continents.
- Many countries in Asia and Africa rely on North America and Europe for their supplies of virgin pulp.

Country	kg
Luxembourg	277
g	
Germany	251
Austria	249
Slovenia	247
Belgium	241
USA	222
Japan	214

Country	kg
Finland	200
Denmark	198
New Zealand	189
South Korea	186
Netherlands	183
China	88
India	17

Global Paper and Paperboard



Source: FAO



Market Projections of Paper, Paperboard, Newsprint, and Tissue in India

India's Paper Industry – Domestic Market Size in 2023-24 and 2024-25 and Growth Rate

Paper Grade	Domestic Market Size (Million tonnes)		Growth Rate (%)
	2023-24	2024-25	
Newsprint	1.178	0.70	-2.00
Writing & Printing Paper	5.325	5.631	2.91
Packaging Paper / Paperboard	14.931	15.725	8.20
Cup Stock	0.358	0.396	10.50
MG Variety / Poster	0.281	0.283	1.00
Tissue	0.316	0.769	13.33

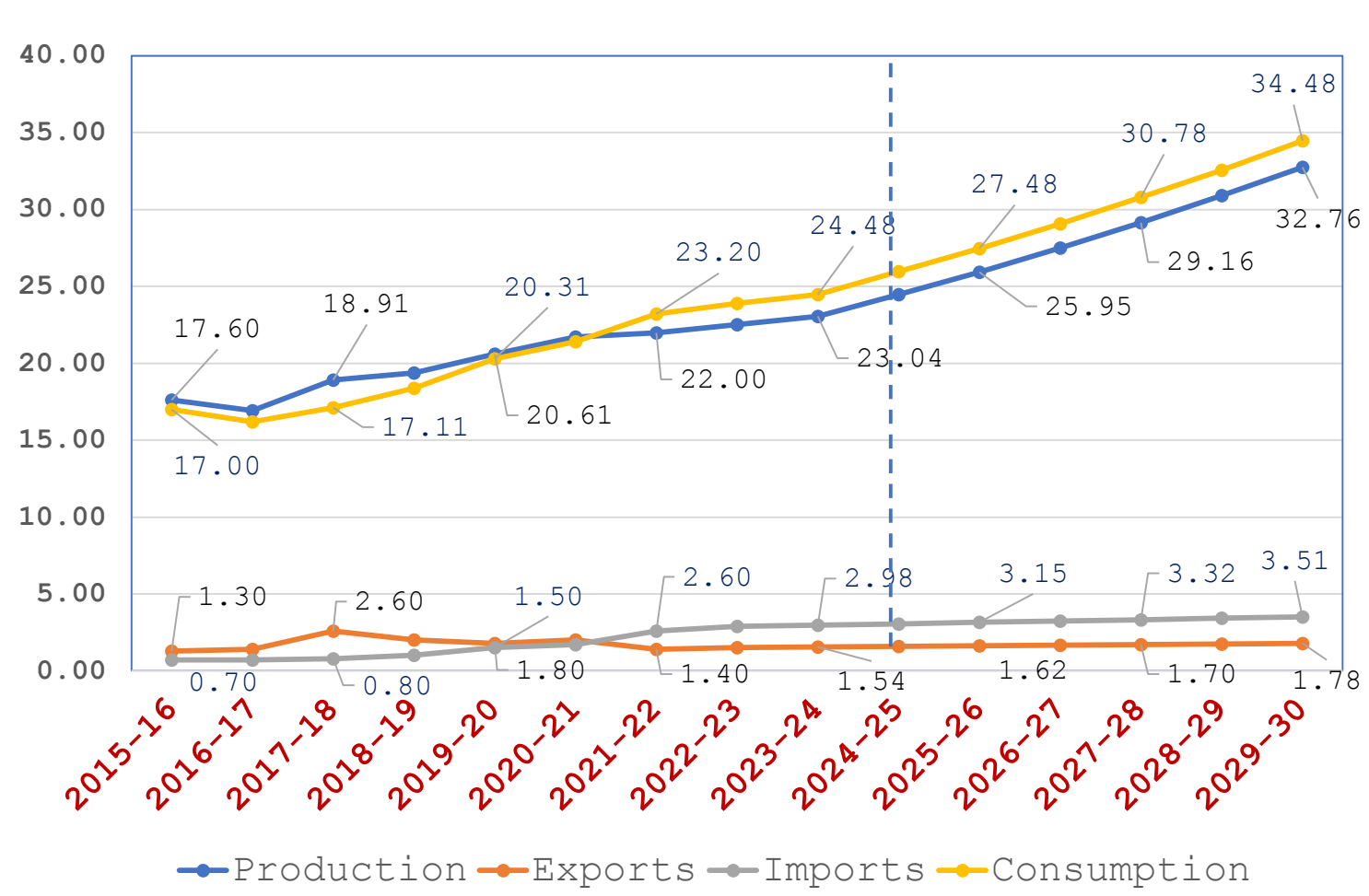
Writing & Printing Paper - Market Size and Growth Rate

Paper Grade	Domestic Market Size (Million tonnes)		Growth Rate (%)
	2023-24	2024-25	
Writing & Printing Paper	5.325	5.631	2.91
(a) Uncoated Paper	4.491	4.687 (83%)	2.92
- Creamwove / Low Brightness Maplitho	2.018	2.059 (45%)	2.06
- Maplitho - High Brightness	1.580	1.628 (35%)	3.08

Packaging Paper/Paperboard-Market Size and Growth Rate

Paper Grade	Domestic Market Size (Million tonnes)		Growth Rate (%)
	2023-24	2024-25	
Packaging Paper / Paperboard	14.931	15.725	8.20
(a) Kraft Paper / Board	8.858	9.430 (60%)	8.88
- Kraft paper (Low BF <35 BF)	7.027	7.425 (79%)	8.73
- Kraft paper (High BF ≥35 BF)	1.831	2.005 (21%)	9.50

Projected Demand & Supply of Paper, Paper Board & Newsprint in India by 2030
(million tonnes, @ 6.0% growth rate)

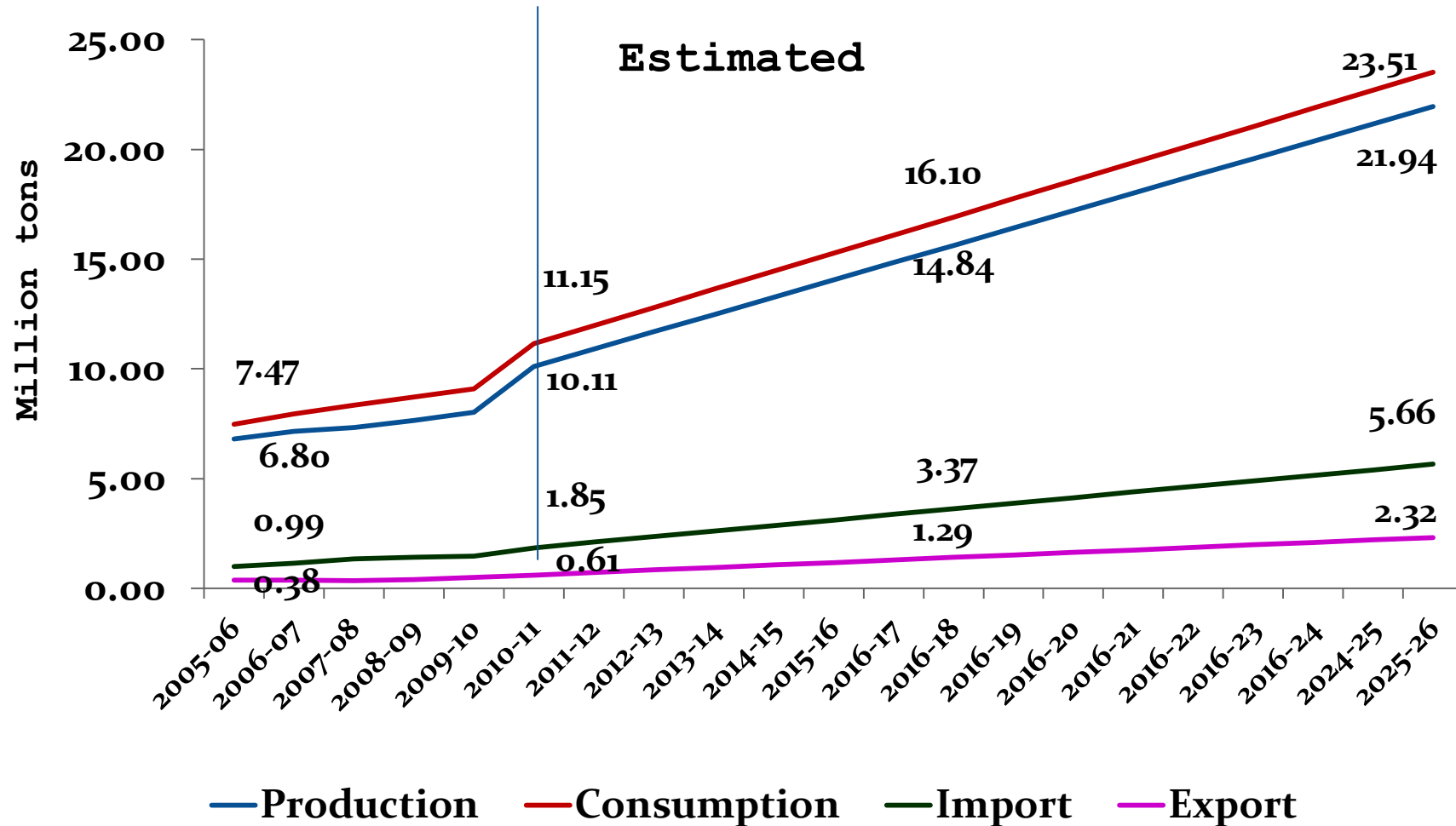


Million tonnes

Year	Production	Exports	Imports	Consumption
2015-16	17.60	1.30	0.70	17.00
2016-17	16.91	1.40	0.70	16.21
2017-18	18.91	2.60	0.80	17.11
2018-19	19.36	2.00	1.00	18.36
2019-20	20.61	1.80	1.50	20.31
2020-21	21.70	2.00	1.70	21.40
2021-22	22.00	1.40	2.60	23.20
2022-23	22.50	1.50	2.90	23.90
2023-24	23.04	1.54	2.98	24.48
2024-				

Projected Demand & Supply of Paper, Paper Board & Newsprint in India by 2025 (million tons)

Study Conducted in 2010-11

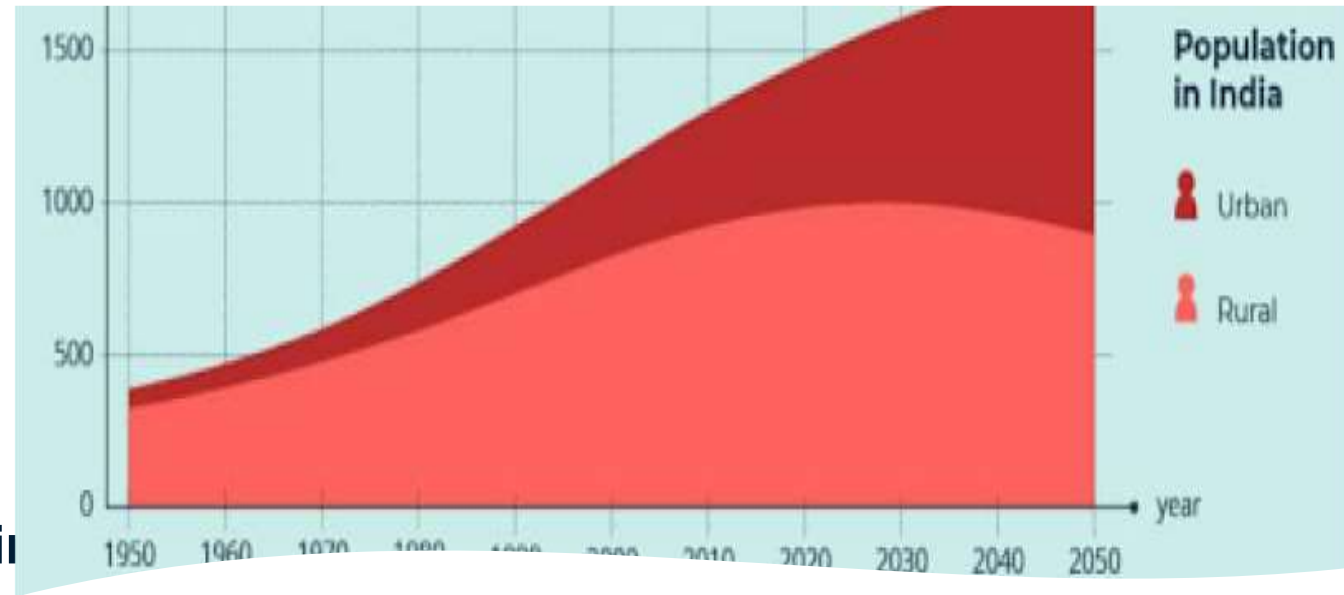


Growth Drivers

- **Urbanization**
- **Increasing Literacy Rates**
- **e-Commerce Growth**
- **Rising Consumer Demand for Packaging**
- **Single-use Plastic Ban**
- **Economic Reforms**

Infrastructure Development and Industrial Growth

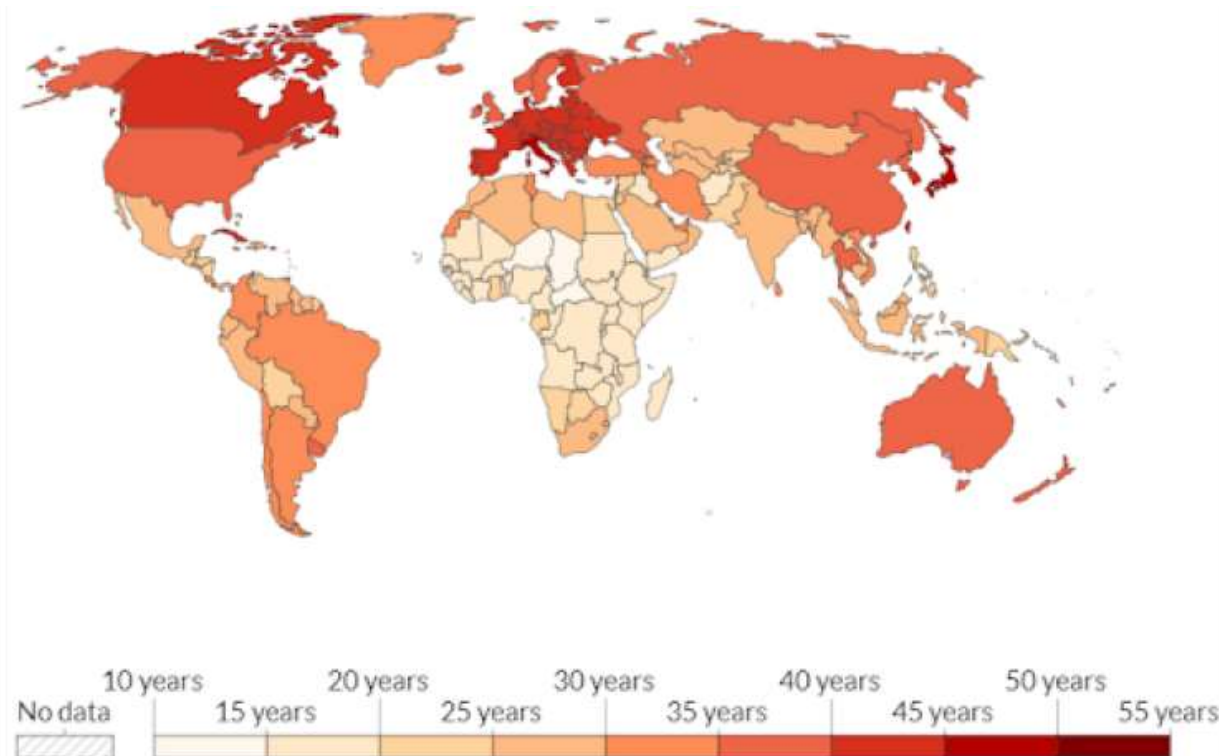
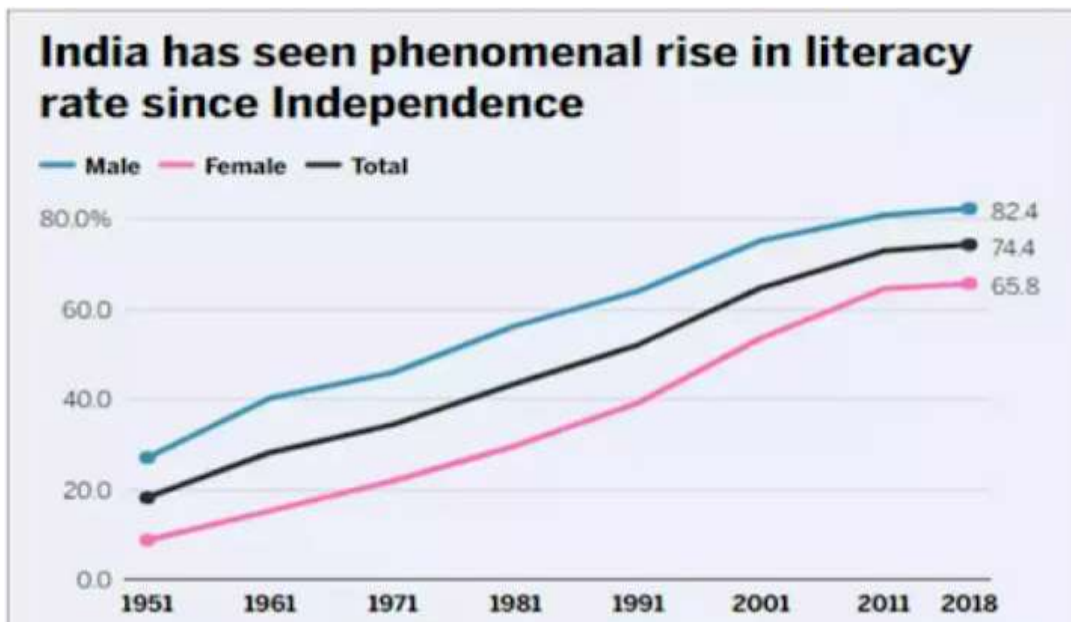
- **Technological Advancements**
- **Government Initiatives - Make in India**
- **Growing FMCG and Retail Sectors**
- **Export Potential**



Growth Drivers.....

•Young Population and Rising Literacy Levels

The young population in India is expected to drive demand for writing and printing paper and literacy levels in India are on a rise.

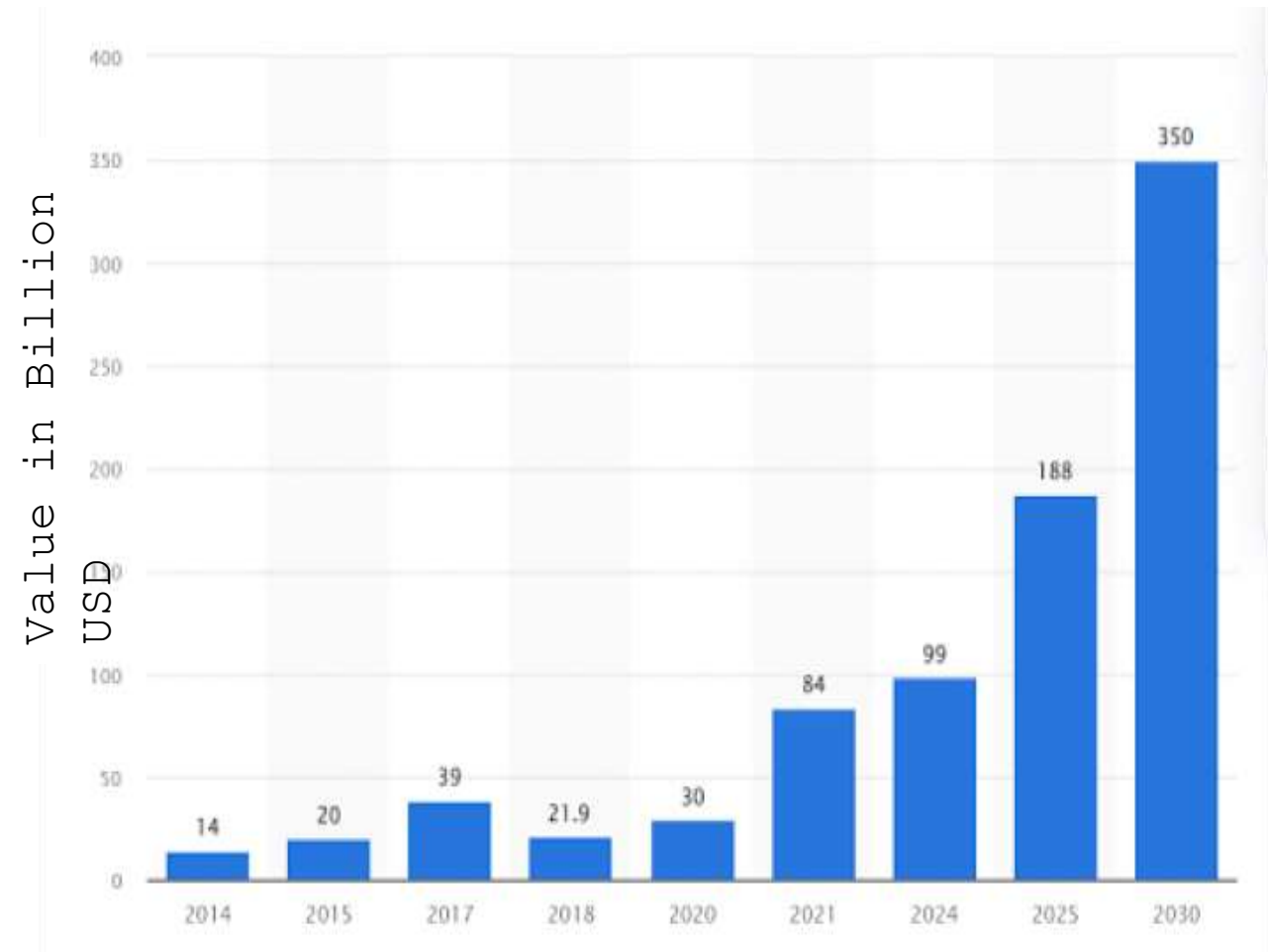


India's literacy rate of ~74% is on the rise, strengthening the offtake of writing and printing paper and, in turn, packaging paper through product offtake. Male and female literacy rates have risen over the years.

e-Commerce Growth

The growth in the e-commerce industry is driven by higher smartphone and internet penetration, which is expected to increase packaging demand

Growth Drivers.....



The overall e-commerce market is anticipated to reach US\$ 350 billion by 2030, with a growth rate of 21.5% expected in the coming years, resulting in an estimated US\$ 82 billion this year alone.

e-Commerce Growth

- **E-commerce is closely associated with**
 - internet access – Total internet connections 900 million (57% urban – 98% wireless)
 - smartphone adoption – 1 billion users by 2026
 - increasing income levels
- The Government of India's Digital India Program is successfully expanding internet connectivity even in the most remote rural regions.
- This means consumers have the ability to place orders from anywhere in the world.
- This shift will lead to a trade volume of one trillion USD by 2030.

e-Commerce Growth- Transforming the business in India

- Various segments of commerce have been opened up, including:
 - Business-to-Business (B2B),
 - Direct-to-Consumer (D2C),
 - Consumer-to-Consumer (C2C), and
 - Consumer-to-Business (C2B).
- Significant growth has been observed in both D2C and B2B sectors.
- India's D2C market is projected to achieve US\$ 60 billion by FY27.

Rising Consumer Demand for Packaging

Growth Drivers.....



- **Robust Demand for Packaging:** Indian Packaging Market was estimated to be worth US\$ 50.5 billion in 2019 and is projected to grow at a CAGR of 26.7% to reach US\$ 204.81 billion 2025.

- India continues to lead the Global paper market with domestic consumption of packaging paper growing at 8.23%.

- **Innovation towards sustainability:** CSIR has launched the National Mission on Sustainable Packaging Solutions aiming at Net Zero future.

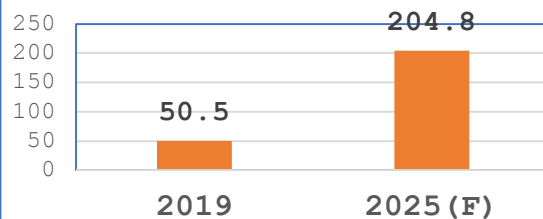
- **Policy Support:** to focus on sustainable manufacturing methods, minimizing plastic packaging and adoption of sustainable materials for packaging industry.

- **Increasing Investment:** FDI inflows in Paper between April 2000 to Sept. 2024 was US\$ 1.74 billion.

Source:

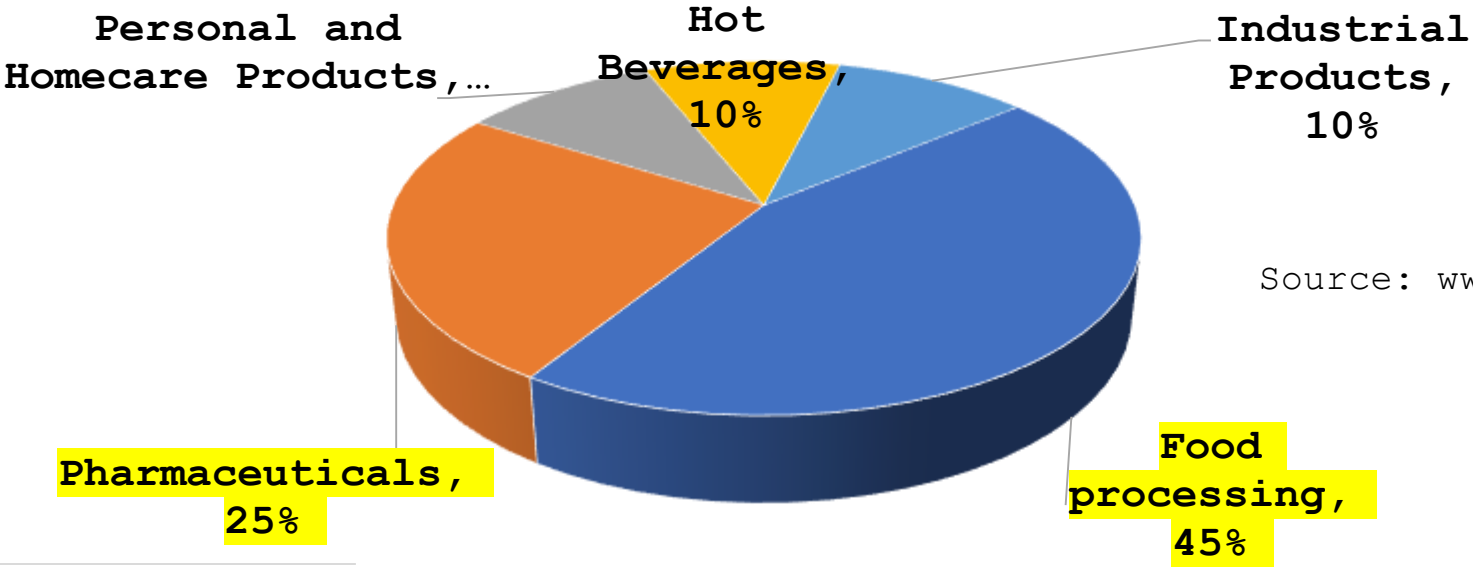
www.ibef.org

Packaging Market in India (US\$ billion)

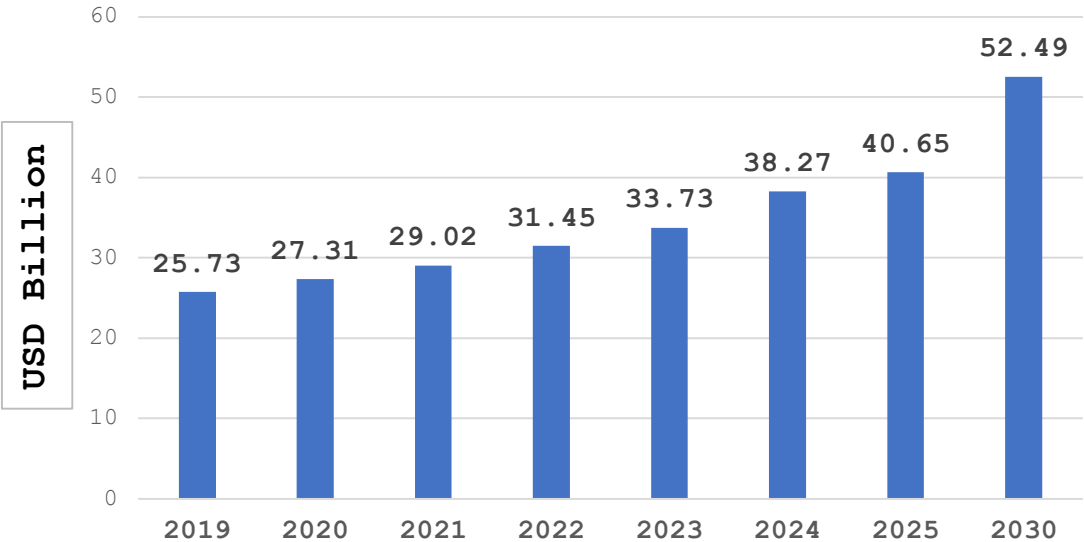


Rising Consumer Demand for Packaging Growth Drivers.....

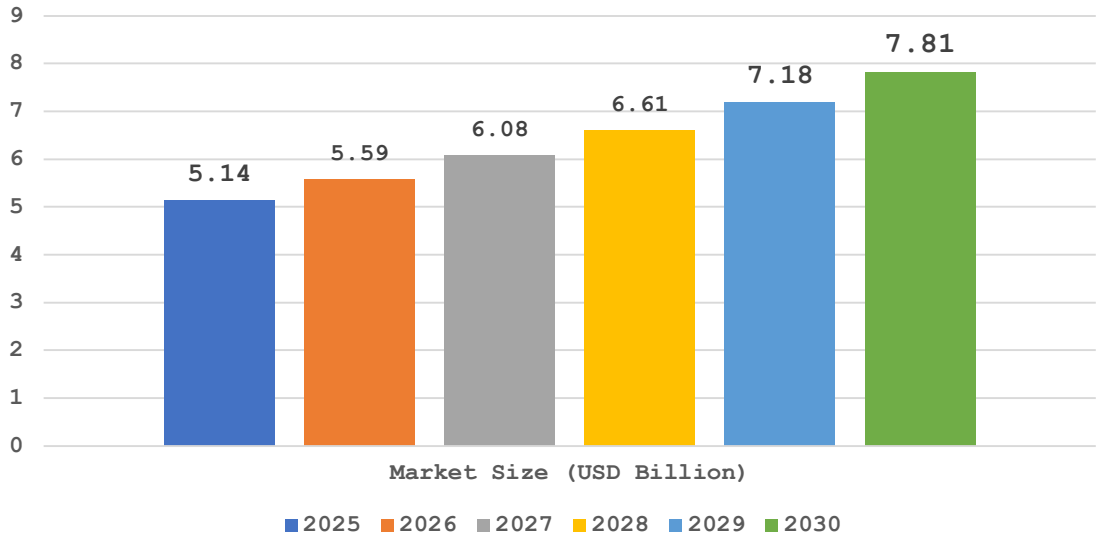
Packaging Materials and Machinery End Users (By Share of Volume)



Source: www.ibef.org

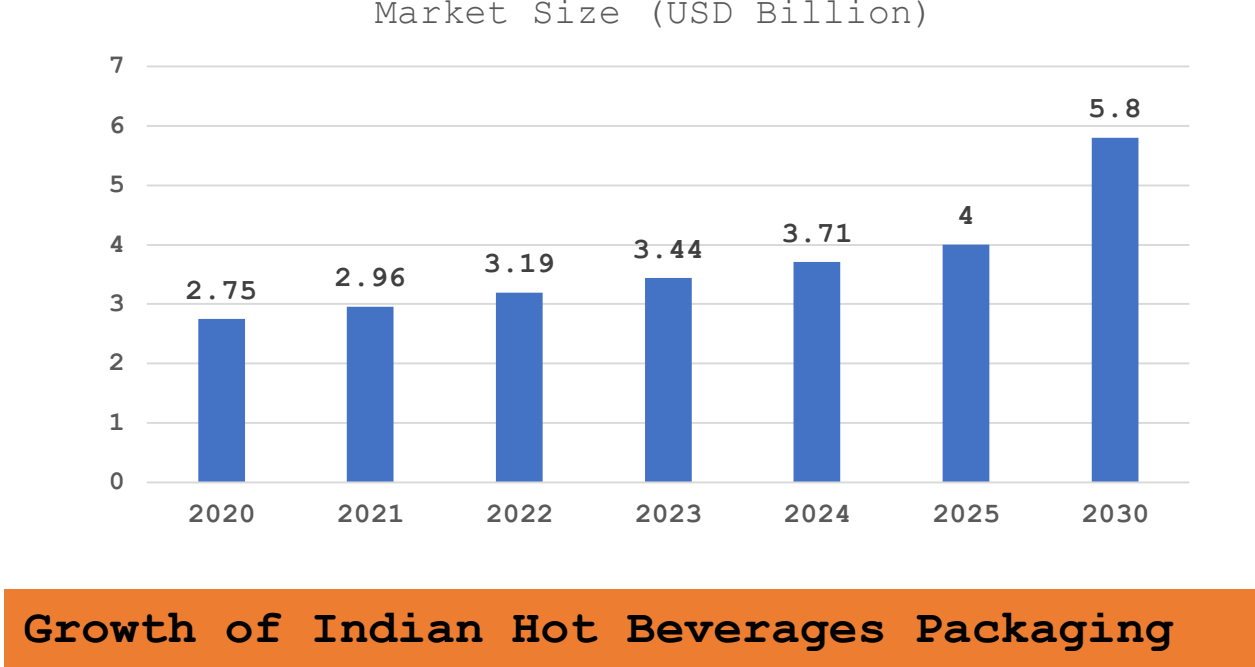
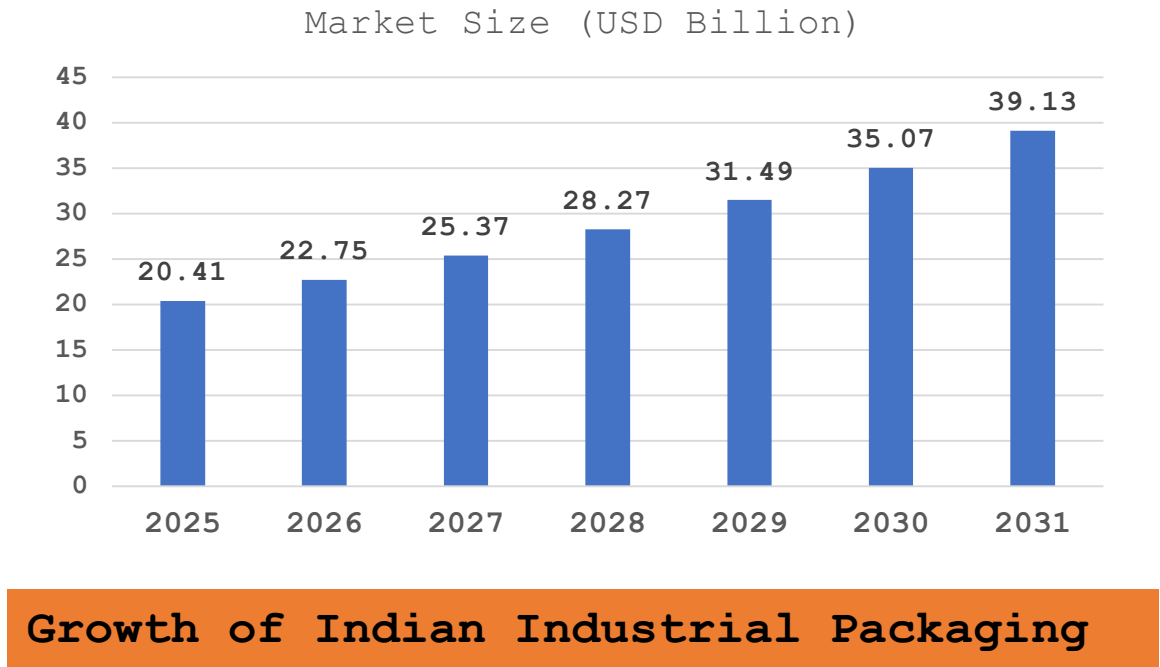
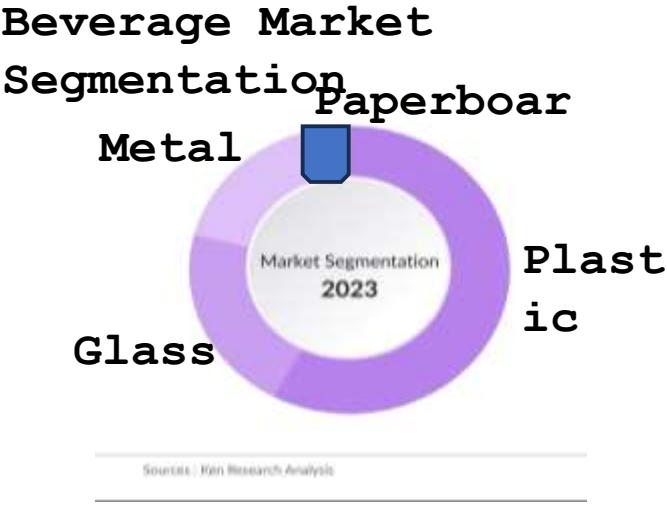
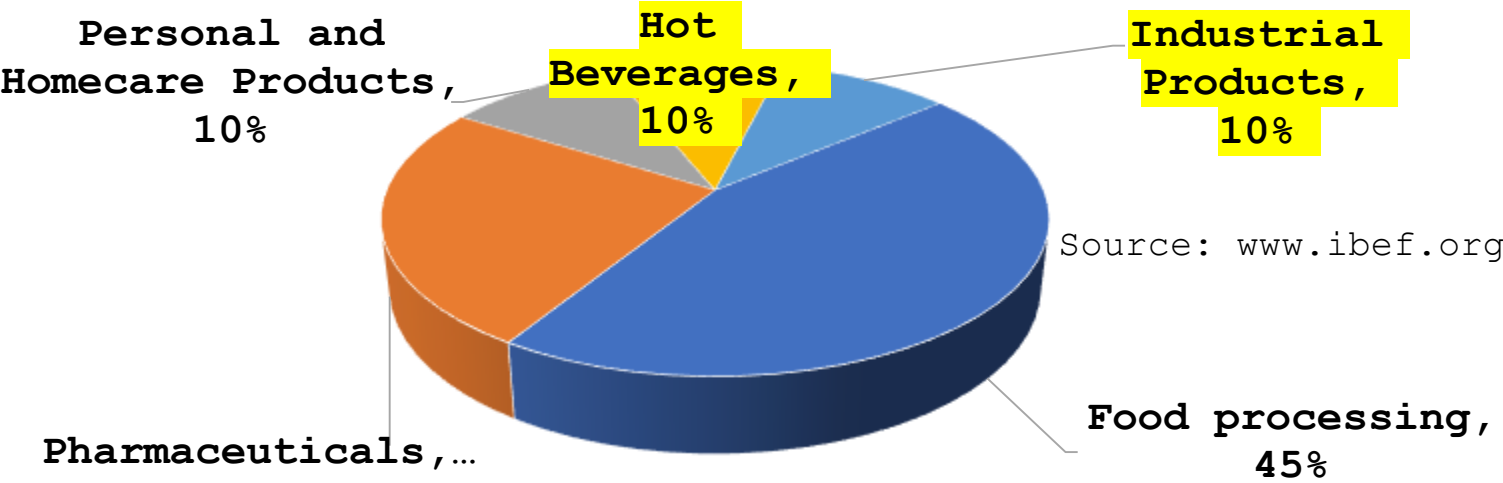


Growth of Indian Food Packaging Industry (US\$ billion)

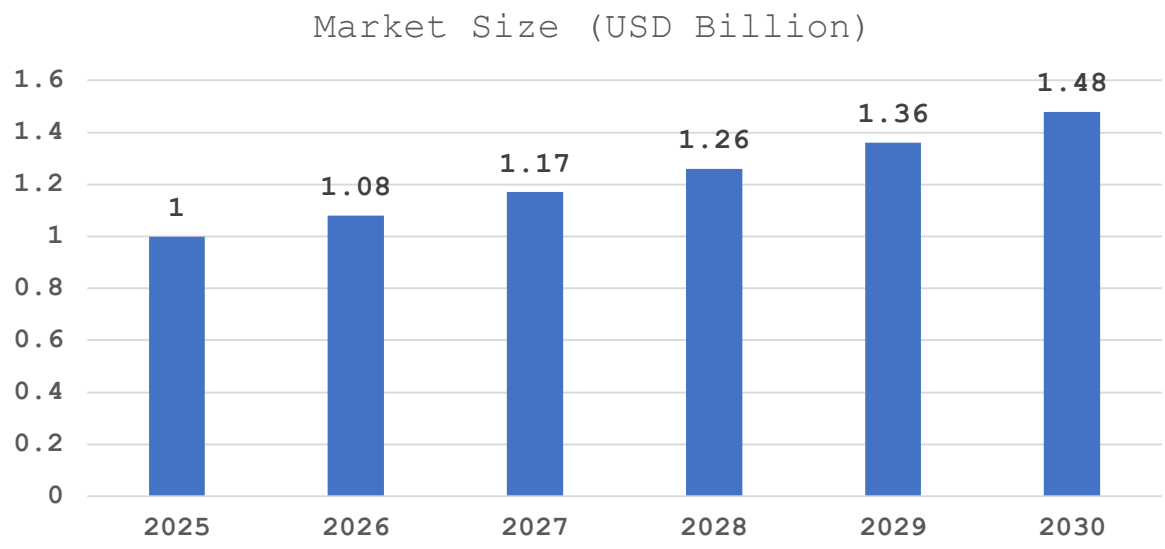
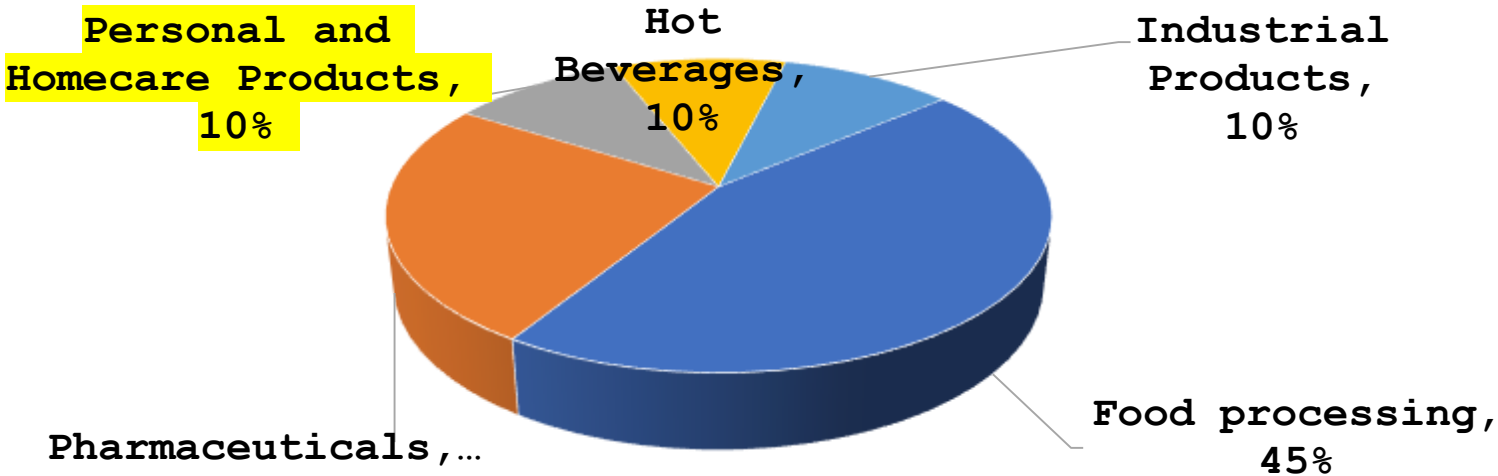


Growth of Indian Pharma Industry Packaging (US\$ billion)

Rising Consumer Demand for Packaging Growth Drivers.....



Rising Consumer Demand for Packaging Growth Drivers.....



Year	Market Size (USD Billion)	Growth Rate (CAGR)
2025	1.00	8.01%
2026	1.08	8.01%
2027	1.17	8.01%
2028	1.26	8.01%
2029	1.36	8.01%
2030	1.48	8.01%

Growth of Indian Personal and Homecare Packaging (USD Billion)

Growing FMCG and Retail Sectors

- The FMCG sector in India is experiencing robust growth, driven by increasing urbanization, rising incomes, and changing consumer preferences. The market is projected to reach significant levels in the coming years, with a focus on both rural and urban areas.
- The Indian FMCG market is projected to grow significantly in the coming years, with some forecasts suggesting a compound annual growth rate (CAGR) of around 27.9% from 2021-27. (Source: [IBEF](#))

2024	2027	2030
US\$ 400 Billion	US\$ 615.87 Billion	US\$ 1288 Billion

Growing FMCG and Retail Packaging Sectors

Growth Drivers.....

Indian FMCG Market Growth

Year	Market Size (USD Billion)	Growth Rate (CAGR)
2020	110.5	7.2%
2021	118.5	7.2%
2022	127.0	7.2%
2023	136.2	7.2%
2024	146.0	7.2%
2025	156.5	7.2%
2030	220.3 (Projected)	7.2%

Indian Retail Packaging Market Growth

Year	Market Size (USD Billion)	Growth Rate (CAGR)
2020	35.2	9.1%
2021	38.4	9.1%
2022	42.0	9.1%
2023	45.8	9.1%
2024	50.0	9.1%
2025	54.6	9.1%
2030	85.0 (Projected)	9.1%

Key Growth Drivers

- **E-commerce Boom** - Increased demand for **secure and innovative packaging** for online deliveries.
- **Sustainability Trends** - Shift toward **biodegradable and recyclable packaging**.
- **Premiumization & Convenience** - Growth in **ready-to-use and luxury packaging**.

Urbanization & Rising Disposable Income

Higher spending on packaged goods

Analysis of Demand Drivers and Growth Rate Projection for Next 10 Years

5 years

Education Sector & Govt Initiatives - Demand for W&PP

e-Commerce and Retail Activities - Boost Packaging Industry

Health Care Awareness - Growth in Tissue Segment

Growth Projections-
8-10%

Tissue to lead

Demand Drivers

Growth Projections

10 years

Environmental Regulations - Sustainable practices to influence production and demand

Technological Advancements & Digitalization for efficiency and quality

Sector Diversification - Pharma and Food Services requiring specialized

Growth Projections-
7-9%

Focus on Specialty Grades

Analysis of Demand Drivers and Growth Rate Projection for Next 20 Years

15 years

Rapid urbanization -
increased consumption of
tissue and sanitary
papers

Innovative & Sustainable
Packaging Solutions -
will drive the paperboard
market.

Demand Drivers

**Growth
Projections-**
6-8 %

Tissue & Sanitary
products to lead

20 years

Sustainable practices:
will lead to prevalence of
eco-friendly paper.

- Infrastructure Development:
will drive demand for
paperboard and industrial
paper.

- Population Growth: will
continue to boost overall
demand for paper products.

**Growth
Projections-**
5-7 %

Focus on
Hygiene, Sp.

Growth Projections

Issues and Challenges to meet the Demand

- ❑ Development of a sustainable raw material base (wood, agro-residues and waste paper)
- ❑ Enhancement of the industry's competitiveness to face global competition
- ❑ Achieving economies of scale
- ❑ To comply with environment standards and regulatory compliances
- ❑ Modernization of mills
- ❑ Productivity enhancement and building new capacities
- ❑ Quality benchmarking and enhancement to meet global standards



Raw material scarcity

- India is fiber deficient country.
- Challenges due to inadequate domestic supplies of wood, agro residues, and waste paper.
- Reliance on import of wood pulp and recovered paper.
- Indigenous wastepaper collection and recovery - only 50%.
- Mainly due to a weak system, operating predominantly in the **informal sector**.
- The rising costs of raw materials, fuels, and other inputs have led to a considerable increase in the domestic production costs of paper and paperboard.



Export & Import of Paper, Paperboard & Newsprint (2023-24)

(Thousand Tonnes)

HS Code	Product Description	Exports	Imports
4801	Newsprint	6.2	664.5
4802	Uncoated Paper & Paperboard for WP or Other Graphic Work	352.2	494.8
4803	Toilet or Facial Tissue Stock, Towel or Napkin Stock	24.3	19.0
4804	Uncoated Kraft Paper & Paperboard	185.9	383.6
4805	Other Uncoated Paper & Paperboard	418.6	193.9
4808	Paper & Paperboard, Corrugated, Creped, Crinkled, Embossed or Perforated	4.2	7.7
4810	Paper & Paperboard Coated on One / Both Sides	568.8	830.1
Total		1,560.2	2,593.6

Source: DGCI&S

Threat from Rising Imports - Imports of Paper & Paperboard

Data includes HS Codes
4802, 4803, 4804, 4805,
4808 & 4810

Year	Thousand Tonnes				INR Crores				
	Total	China	ASEAN	S Korea	Total	China	ASEAN	S Korea	
2010-11	535.2	155.6	28.8	6.2	3,411	677	159	31	
2011-12	694.1	189.3	49.1	11.9	4,422	870	240	64	
2012-13	787.0	193.2	39.6	31.2	4,914	931	226	161	
2013-14	874.6	233.7	83.0	22.2	5,987	1,188	426	135	
2014-15	1,011.0	258.3	107.0	48.5	7,223	1,293	589	288	
2015-16	1,112.8	234.2	146.9	82.9	7,014	1,192	782	458	
2016-17	1,417.7	323.5	249.8	96.7	8,237	1,586	1,332	525	
2017-18	1,719.7	399.9	331.2	118.6	9,702	2,252	1,810	654	
2018-19	1,478.2	253.8	290.8	105.2	9,134	1,831	1,830	715	
2019-20	1,637.5	289.4	342.7	114.2	8,973	1,853	1,966	668	
2020-21	1,084.7	145.9	145.2	63.8	6,140	1,136	835	373	
2021-22	1,145.8	145.8	148.3	64.7	7,839	1,497	1,028	465	
2022-23	1,436.5	341.0	266.5	81.7	12,531	3,430	2,267	779	
2023-24	1,929.1	411.4	514.1	103.4	13,248	3,455	3,122	811	
Y-o-Y Growth (%)	34.29	20.65	92.91	26.56	5.72	0.73	37.72	4.11	
13 Year CAGR (%)	10.37	7.77	24.82	24.17	11.00	13.36	25.74	28.41	

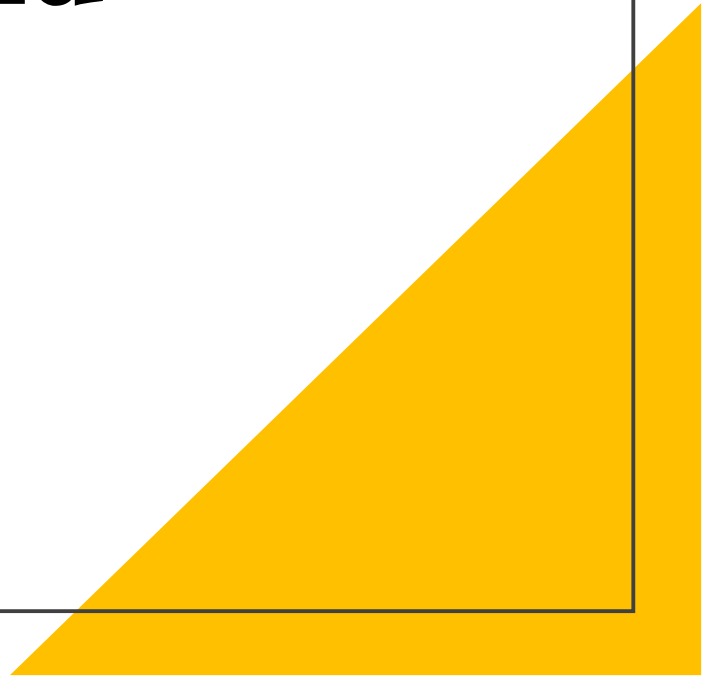
Source: DGCI&S

Impact of Duty Free Imports on Domestic Paper Sector

Following detrimental impacts are witnessed on the domestic paper industry.

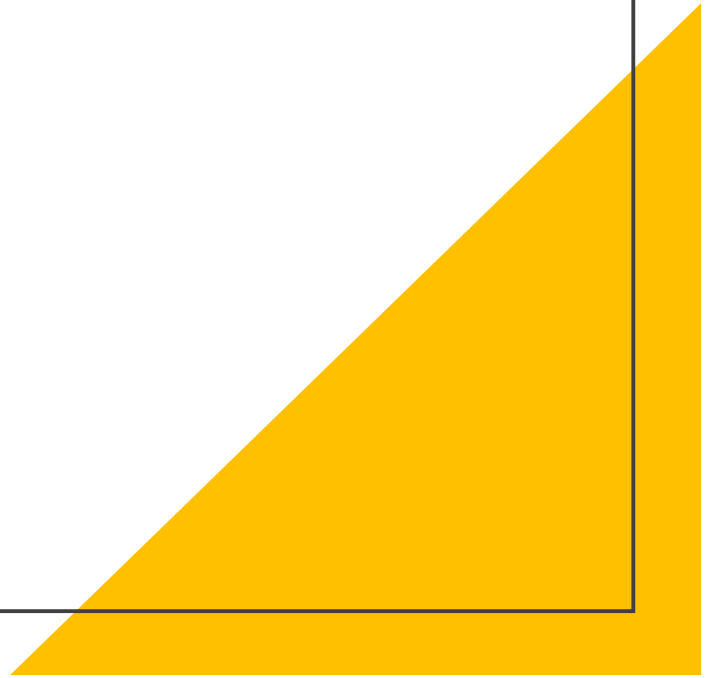
- **Financial Viability:** Most small and medium-sized paper mills in India are becoming financially unviable.
- **Endangered Livelihoods:** Numerous families reliant on waste paper collection, thousands of farmers engaged in agroforestry or farm forestry, and many individuals involved in the paper supply chain are affected.
- **Decline in Profit Margins:** Making it difficult for the paper industry to fulfill financial commitments, leading to the closure of several paper mills.
- **Reduced Investments:** The paper industry is dissuaded from making necessary investments in capacity expansion.
- **Adverse Effects on Farming Community:** Compounded adverse effect on the Indian farming community due to reduced investments.
- **Increased Imports:** Significant outflow of foreign exchange due to increased imports of paper and paperboard.
- **Contradiction to National Initiatives:** This trend runs counter to the initiatives of "Make in India", "Aatmanirbhar Bharat", "Vocal for Local", and "Viksit Bharat@2047".

Influence of e-Commerce on Future Paper Demand



Expansion of e-Commerce and Its Impact on Paper Demand

- e-commerce is likely to be the main catalyst for the demand for paper and paperboard in India.
- It may lead to increased Demand for
 - Wrapping paper,
 - Packaging paper & paperboard and
 - carton board
- Growth in Customized and Specialty Papers



Merits and Demerits of e-Commerce on Paper Demand

Merits	Demerits
<ul style="list-style-type: none">• Innovation<ul style="list-style-type: none">• New packaging materials• New Paper Packaging designs for<ul style="list-style-type: none">• Lightweight• Durable• Eco-friendly options• Biodegradable and recyclable packaging• Sustainability in packaging• Diversification<ul style="list-style-type: none">• Specialized wrapping papers and paperboard• Customized and specialty papers for different e-commerce segments• Increased Revenue Streams• Enhanced Brand Visibility	<ul style="list-style-type: none">• Environmental Concerns<ul style="list-style-type: none">• Biodiversity loss from social farm forestry and captive plantation• Inadequate Waste management system to address improper disposal leading to pollution and landfill.• Carbon footprint related with production and distribution• Lack of sustainable sourcing of raw materials from certified traceable sources.• Market Volatility<ul style="list-style-type: none">• Supply chain disruptions• Consumer preferences• Global market trends• Investment in sustainability



Environmental Impacts of Rising Paper Demand

Biodiversity and Habitat Loss

- Wood for paper production is primarily sourced from social farm forestry and captive plantations managed by paper mills.
- A minor fraction from natural forest felling - does not contribute to deforestation.
- Possibility of biodiversity and habitat loss, as only high-yield plantations in designated regions may be promoted.
- The impact of this loss on natural habitats is minimal and would have little effect on climate change.



Environmental Impacts of Rising Paper Demand

Challenges in Waste Management

- Substantial packaging waste, creating waste management issues.
- Environmental pollution and increased reliance on landfills.

Environmental Impact

- Adding to overall Carbon Footprint – due to manufacturing and transportation
- GHG emissions, - may contribute to climate change.

Strategies to Mitigate Environmental Impacts

Adopting Sustainable Practices

- Circular Economy
- Adopt sustainable manufacturing methods.
 - Sourcing raw materials from certified sustainable forests,
 - reducing water and energy consumption, and
 - implementing recycling programs.
- In India, all sectors are complying with the Environmental Protection Act (EPA) regulations to align with the proposed standards for sustainable practices.

Advancements in Eco-Friendly Packaging

- To minimize ecological damage.
- To reduce waste and improve sustainability by adopting biodegradable and recyclable alternatives.
- To lower environmental footprint.



Strategies to Mitigate Environmental Impacts

Investment in Research and Technology

- Dedicating resources to research and technology.
- Advancements in cleaner production techniques, alternative materials, and improved recycling methods
- The sector must utilize available resources to develop tailored solutions for the unique challenges Industry will face.
- Promote partnerships among industry players, research organizations, and academic institutions – for sector's long-term development.



Way forward...



- **Influence of e-Commerce is creating both challenges and opportunities.**
- **Evolution and Transformations to shape the industry.**
- **Future Demands to gear up with requirements of various service and industrial sectors.**
- **Innovation and Growth with focus on environmental issues.**
- **Need to adopt sustainable practices to develop eco-friendly packaging solutions, by investing in research and technology. – Solutions will tackle challenges and capitalize on the opportunities presented by e-commerce.**
- **Main attention on collaborations and Commitments towards sustainability**

- Thanks for your attention.
- Your support is invaluable to the Paper Sector.
- Questions and feedback are welcome.

Contact :

bipin_thapliyal@yahoo.com

