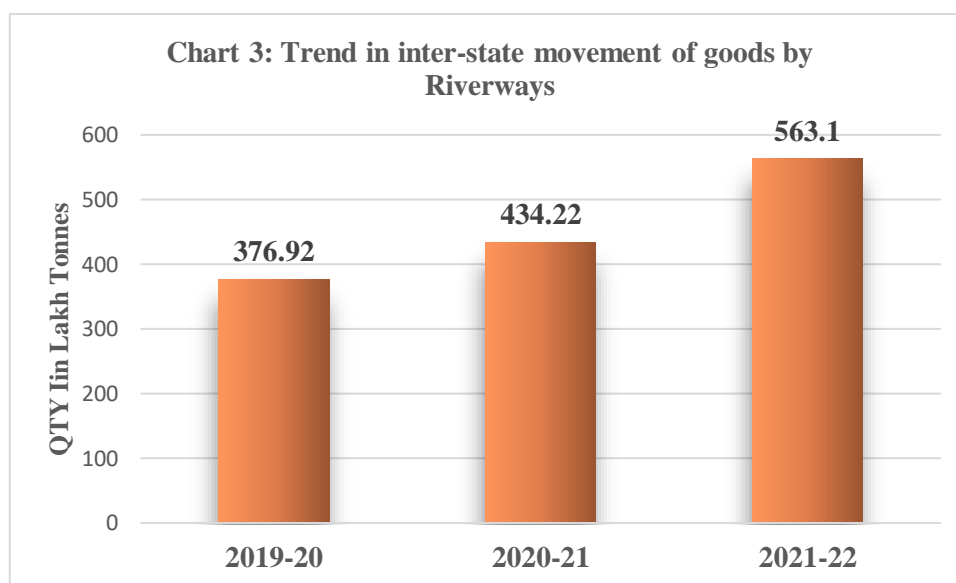


Chapter III

Inter-state movement/flow of goods by Waterways (River ways) in 2021-22

Waterways/River ways are the cheapest means of transport and are most suitable to carry heavy and bulky goods. It is a fuel-efficient and environment-friendly mode of transport.

During 2021-22, total 563.11 lakh tonnes of goods were transported by river ways within India, including internal movement, which is a rise by 29.68% over 434.22 lakh tonnes of goods transported by river ways in 2020-21.



During 2021-22, total outward/inward movement of goods by river ways was of 270.23 lakh tonnes, a rise by 22.48% over 220.64 lakh tonnes of outward/inward movement of goods in 2020-21.

State wise movement by River ways

Outward Movement by River ways

Table E1: Trend in outward movement of goods by Riverways (Quantity in lakh tonnes)

| States | 2019-20 | 2020-21 | 2021-22 | % Share in 2019-20 | % Share in 2020-21 | % Share in 2021-22 | % Growth in 2021-22 over 2020-21 |
|----------------|---------------|---------------|---------------|--------------------|--------------------|--------------------|----------------------------------|
| Gujarat | 37.41 | 99.51 | 158.90 | 16.00 | 45.10 | 58.80 | 59.69 |
| Odisha | 92.70 | 54.81 | 44.27 | 39.64 | 24.84 | 16.38 | -19.23 |
| Andhra Pradesh | 90.86 | 47.54 | 41.55 | 38.85 | 21.55 | 15.38 | -12.60 |
| Jharkhand | 7.55 | 11.32 | 16.87 | 3.23 | 5.13 | 6.24 | 49.02 |
| Maharashtra | 0.89 | 4.40 | 4.74 | 0.38 | 1.99 | 1.75 | 7.60 |
| West Bengal | 1.15 | 2.05 | 3.22 | 0.49 | 0.93 | 1.19 | 56.68 |
| Goa | | | 0.56 | | | 0.21 | |
| Bihar | | 0.00 | 0.07 | | 0.00 | 0.03 | 2150.47 |
| Tamil Nadu | | | 0.05 | | | 0.02 | |
| Others | 3.29 | 1.00 | | 1.41 | 0.45 | 0.0 | |
| Total | 233.87 | 220.64 | 270.23 | 100.00 | 100.0 | 100.0 | 22.48 |

In India, 09 states are contributing towards outward movement of goods in 2021-22. Four out of these 09 states namely Gujrat, Odisha, Andhra Pradesh and Jharkhand contributed more than 96.8% of the total outward movement of goods by riverways in 2021-22. All participating states except for Odisha and Andhra Pradesh registered year-on year growth in 2021-22 over 2020-21.

Inward Movement by Riverways

| Table E2: Trend in Inward movement of goods by Riverways (Quantity in lakh tonnes) | | | | | | | |
|-------------------------------------------------------------------------------------------|----------------|----------------|----------------|---------------------------|---------------------------|---------------------------|-----------------------------------------|
| States | 2019-20 | 2020-21 | 2021-22 | % Share in 2019-20 | % Share in 2020-21 | % Share in 2021-22 | % Growth in 2021-22 over 2020-21 |
| Maharashtra | 90.67 | 81.52 | 92.43 | 38.77 | 36.95 | 34.21 | 13.38 |
| Andhra Pradesh | 4.13 | 49.79 | 81.69 | 1.77 | 22.57 | 30.23 | 64.05 |
| Odisha | 0.88 | 34.24 | 66.17 | 0.38 | 15.52 | 24.49 | 93.25 |
| Bihar | 7.55 | 12.35 | 16.51 | 3.23 | 5.60 | 6.11 | 33.68 |
| Karnataka | 1.79 | 5.46 | 2.72 | 0.77 | 2.47 | 1.00 | -50.23 |
| Goa | 0.73 | 2.54 | 2.61 | 0.31 | 1.15 | 0.96 | 2.72 |
| Tamil Nadu | 1.55 | 1.59 | 2.26 | 0.66 | 0.72 | 0.84 | 42.70 |
| Kerala | | | 2.25 | | | 0.83 | |
| West Bengal | | 0.67 | 2.03 | | 0.30 | 0.75 | 204.32 |
| Gujarat | 126.46 | 32.12 | 1.48 | 54.07 | 14.56 | 0.55 | -95.39 |
| Others | 0.09 | 0.37 | 0.10 | 0.04 | 0.17 | 0.04 | -72.82 |
| Total | 233.87 | 220.64 | 270.23 | 100.0 | 100.0 | 100.00 | 22.48 |

Total 12 states are involved in inward movement of goods. Four out of these states namely Maharashtra, Andhra Pradesh, Odisha and Bihar contributed more than 95% in total inward movement of goods in 2021-22. All participating states except for Karnataka and Gujarat registered year-on year growth in 2021-22 over 2020-21.

Internal Movement by Riverways

Table E3: Trend in internal movement of goods by Riverways (Quantity in lakh tonnes)

| States | 2019-20 | 2020-21 | 2021-22 | % Share in 2019-20 | % Share in 2020-21 | % Share in 2021-22 | % Growth in 2021-22 over 2020-21 |
|----------------|---------------|---------------|---------------|--------------------|--------------------|--------------------|----------------------------------|
| Maharashtra | 115.52 | 84.88 | 157.38 | 80.75 | 39.74 | 53.73 | 85.42 |
| West Bengal | | 41.92 | 52.41 | | 19.63 | 17.90 | 25.04 |
| Goa | | 60.09 | 45.78 | | 28.13 | 15.63 | -23.82 |
| Gujarat | 19.31 | 15.92 | 17.64 | 13.50 | 7.45 | 6.02 | 10.85 |
| Kerala | 5.46 | 7.34 | 16.95 | 3.82 | 3.44 | 5.79 | 130.92 |
| Assam | 1.90 | 2.06 | 2.27 | 1.33 | 0.97 | 0.78 | 10.13 |
| Odisha | | | 0.30 | | | 0.10 | |
| Andhra Pradesh | 0.82 | | 0.13 | 0.57 | | 0.04 | |
| Uttar Pradesh | | | 0.02 | | | 0.01 | |
| Others | 0.05 | 1.38 | | 0.03 | 0.65 | | |
| Total | 143.06 | 213.58 | 292.88 | 100.00 | 100.00 | 100.00 | 37.13 |

Among a total 9 states using waterways for internal movement of goods, and top 5 states contributed more than 99% of it in 2021-22. Maharashtra is highest in internal movement of goods by riverways in 2021-22. All participating states except Goa registered year-on year growth in 2021-22 over 2020-21.

Commodity wise movement by River Ways

State to State Movement by River ways

Total state-to-state movement of top 10 commodity groups by river was 269.69 lakh tonnes, contributing 99.8% of total state-to-state movement of goods during 2021-22.

Table B1: Trend in state-to-state movement of goods of top 10 commodity groups by Riverways (Quantity in lakh tonnes)

| Commodity | 2021-22 | Share in Total |
|--------------------------------|---------------|----------------|
| IRON ORE | 226.52 | 83.82% |
| OTHER COMMODITIES | 14.52 | 5.37% |
| IRON AND STEEL | 11.14 | 4.12% |
| COAL, COKE AND BRIQUITTES ETC | 5.29 | 1.96% |
| CMNT, CLINKR AND ASBSTOS CMNT | 4.97 | 1.84% |
| GRANIT, NATRL STONE AND PRODCT | 4.40 | 1.63% |
| INDL. MACHNRY FOR DAIRY ETC | 1.44 | 0.53% |
| PROCESSED MINERALS | 0.82 | 0.30% |
| VEGETABLE OILS | 0.39 | 0.14% |
| ORGANIC CHEMICALS | 0.20 | 0.07% |
| Others | 0.54 | 0.20% |
| Total | 270.23 | 100.0% |

Table B1 shows that 'IRON ORE' and 'OTHER COMMODITIES' were two dominant items transported from one state to another state in 2021-22 with a share

of 89.20% in total state-to-state movement of goods together. 'IRON AND STEEL' with share of 4.12%, 'COAL, COKE AND BRIQUITTES ETC' with share of 1.96% and 'CMNT, CLINKR AND ASBSTOS CMNT' with shares of 1.84% in total state-to-state movement of goods in 2021-22 were other important items transported through River ways.

Internal movement by River ways

Total internal movement of top 10 commodity groups by river was 279.72 lakh tonnes, contributing 95.51% in total internal movement of goods during 2021-22.

| Table B2: Trend in internal movement of top 10 commodity groups by rail (Quantity in lakh tonnes) | | |
|----------------------------------------------------------------------------------------------------------|----------------|-----------------------|
| Commodity | 2021-22 | Share in Total |
| COAL,COKE AND BRIQUITTES ETC | 125.10 | 42.71% |
| IRON ORE | 90.68 | 30.96% |
| OTHER COMMODITIES | 15.42 | 5.27% |
| CMNT, CLINKR AND ASBSTOS CMNT | 14.10 | 4.81% |
| CERAMICS AND ALLIED PRODUCTS | 11.23 | 3.83% |
| RAILWY TRNSPRT EQUIPMNTS, PRS | 5.35 | 1.83% |
| INORGANIC CHEMICALS | 4.91 | 1.68% |
| IRON AND STEEL | 4.72 | 1.61% |
| MOTOR VEHICLE/CARS | 4.38 | 1.50% |
| FERTILEZERS MANUFACTURED | 3.83 | 1.31% |
| Others | 13.16 | 4.49% |
| Total | 292.88 | 100.0% |

Table B2 shows that 'COAL, COKE AND BRIQUITTES ETC' and 'IRON ORE' were major items transported within states in 2021-22 with a combined share of 73.67% of total internal movement of goods. 'OTHER COMMODITIES' and 'CMNT, CLINKR AND ASBSTOS CMNT' were other major items transported internally through River ways in 2021-22 with shares of 5.27% and 4.81% respectively in 2021-22.

Commodity by State wise movement by River ways

Table C1 shows the States involved in Outward movements of top commodities through River ways in 2021-22

| Table C1: Outward movement of top 5 commodities from different states (Quantity in lakh tonnes) | | |
|------------------------------------------------------------------------------------------------------------|----------------|----------------|
| Commodity | State | 2021-22 |
| IRON ORE | Gujarat | 142.44 |
| | Odisha | 43.46 |
| | Andhra Pradesh | 37.54 |
| | West Bengal | 1.78 |
| | Maharashtra | 1.29 |
| | Total | 226.52 |
| OTHER COMMODITIES | Jharkhand | 12.53 |
| | West Bengal | 1.23 |
| | Maharashtra | 0.73 |
| | Gujarat | 0.04 |
| | Total | 14.52 |
| IRON AND STEEL | Gujarat | 11.06 |
| | West Bengal | 0.05 |
| | Maharashtra | 0.03 |
| | Total | 11.14 |
| COAL,COKE AND BRIQUITTES ETC | Maharashtra | 2.57 |
| | Gujarat | 1.36 |
| | Odisha | 0.80 |
| | Goa | 0.56 |
| | Total | 5.29 |
| CMNT, CLINKR AND ASBSTOS CMNT | Andhra Pradesh | 3.50 |
| | Gujarat | 1.47 |
| | Total | 4.97 |

Table C2 shows the States involved in Inward movements of top 05 commodities through River ways in 2021-22.

**Table C2: Inward movement of top 5 commodities from different states
(Quantity in lakh tonnes)**

| Commodity | State | 2021-22 |
|--------------------------------------|----------------|----------------|
| IRON ORE | Maharashtra | 84.50 |
| | Andhra Pradesh | 80.35 |
| | Odisha | 60.29 |
| | Gujarat | 1.27 |
| | Tamil Nadu | 0.08 |
| | Goa | 0.02 |
| | Total | 226.52 |
| OTHER COMMODITIES | Bihar | 12.04 |
| | West Bengal | 1.72 |
| | Tamil Nadu | 0.73 |
| | Maharashtra | 0.04 |
| | Total | 14.52 |
| IRON AND STEEL | Odisha | 3.63 |
| | Maharashtra | 3.38 |
| | Karnataka | 2.72 |
| | Tamil Nadu | 1.36 |
| | Assam | 0.05 |
| | Total | 11.14 |
| COAL,COKE AND BRIQUITTES ETC | Goa | 2.58 |
| | Maharashtra | 1.38 |
| | Andhra Pradesh | 0.89 |
| | Odisha | 0.25 |
| | Gujarat | 0.19 |
| | Total | 5.29 |
| CMNT, CLINKR AND ASBSTOS CMNT | Kerala | 2.25 |
| | Maharashtra | 1.45 |
| | Odisha | 1.27 |
| | Total | 4.97 |

Table C3 shows the States involved in Internal movements of top 05 commodities through River ways in 2021-22

**Table C3: Internal movement of top 5 commodities from different states
(Quantity in lakh tonnes)**

| Commodity | State | 2021-22 |
|--------------------------------------|--------------|----------------|
| COAL,COKE AND BRIQUITTES ETC | Maharashtra | 102.28 |
| | West Bengal | 17.29 |
| | Goa | 4.48 |
| | Gujarat | 1.05 |
| | Total | 125.10 |
| IRON ORE | Maharashtra | 53.63 |
| | Goa | 36.57 |
| | Gujarat | 0.48 |
| | Total | 90.68 |
| OTHER COMMODITIES | West Bengal | 14.27 |
| | Assam | 0.83 |
| | Maharashtra | 0.29 |
| | Kerala | 0.02 |
| | Gujarat | 0.02 |
| | Total | 15.42 |
| CMNT, CLINKR AND ASBSTOS CMNT | Gujarat | 14.08 |
| | West Bengal | 0.01 |
| | Total | 14.09 |
| CERAMICS AND ALLIED PRODUCTS | West Bengal | 11.23 |