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A Comprehensive Study of Transportation/Logistics Challenges in Kakinada, AP (India)

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Abstract –

Every manufacturing Organisation is dependent on the movement of the material in every step of the operations. Whether it is procurement material, movement of the material inside the facility of dispatch of the material out of the factory to other plants or dealers / customers. Movement of material is very important task and essential for running any organization. Kakinada is a district and city in situated Kakinada District of Andhra Pradesh (India). Maximum industries are driven or dependent on Agriculture, Poultry and Fisheries. The researcher has collected the information from these companies, brokers and transporters, book, periodicals, customer, suppliers and have done analysis and presented this research paper. There are many challenges in this area related to transportation and logistics. The researcher has more than 35 years of experience in Logistics and transporter.

1. INTRODUCTION

The transportation is the process of loading, packing, protecting, moving and delivery of the material from the supplier to the customers safely.
Mode of Transportation –

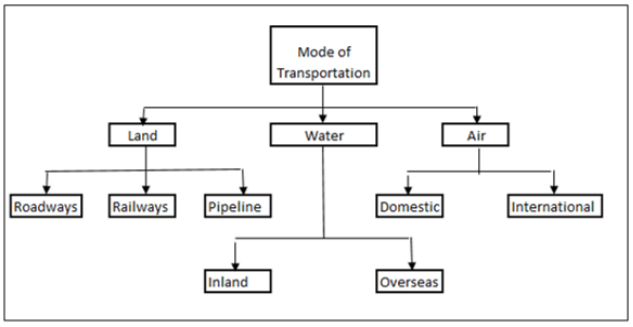


Figure1- By Author

Transportations are of five type –

- Road Transportation – By Trucks, Containers, trailers
- Rail Transportation – By Open Wage, Rail Tankers, Rail Containers, Rail Rake
- Sea Transportation – By Boat, Ferry and Ship
- Air Transportation – By Aircraft
- Pipe Line Transportation – By Pipe (Oil and Gas)

National Waterways in AP – (1078km) In the state of AP, The Kakinada-Puducherry stretch of Canals integrated Bhadrachalam - Rajahmundry stretch of River Godavari and Wazira Vijayawada stretch of River Krishna

Figure 2 – AP Sea Ports (Source-Mapsofindia)

Major port are – Bhavanapadu, Meghavaram, Visakhapatnam, Gangavaram, Nakkapalli, Tondangi, Kakinada, Narsapuram, Machilipatnam, Nizampatnam, Vodarevu, Ramayyapatnam, Krishnapatnam, Duggarajupatnam.

AP state has total rail network of 7715 km, 1078km of National Waterways to support inland water transportation, 974 km of 2nd largest coastline in India after Gujarat, 45831 km of road network (with 4300km of National Highways), it has 6 Airports connecting other Indian cities

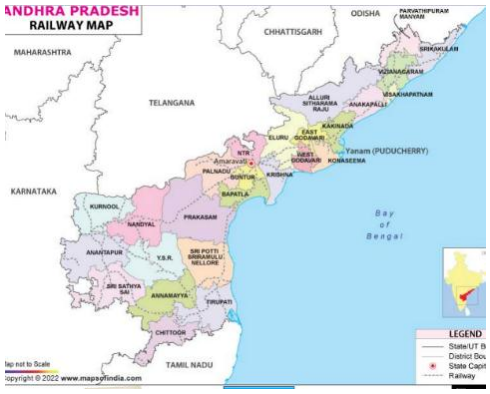


Figure3 – AP Railways (source-mapofindia)

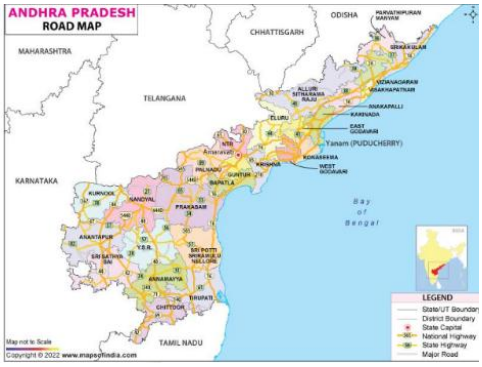


Figure 4- AP Roads (source-Mapofindia)

Road Network In AP – National Road (4423km), State highways Road (6167km), Major District Roads (19674km), Rural Roads (15567km) = 45831km

Figure 5 – AP Airport (source-mapofindia)

Airports in AP – Vishakhapatam, Vijayawada, Tirupati, Kurnool, Kapada, Rajamundry, Puttaparthi

2. Literature Review

There is no literature available related to Kakinada district of Andhapradesh.

Umamaheshwara Rao (2021), Vishakapatnam, Vijayawada, Kakinada and Nellore are short of warehouse capacities, due to which there huge of delay of timely delivery of the consignments. Further the paper describes high toll cost and diesel hike has increased the logistics cost in this area and industry is face tough competition in the market.

AP Logistics Policy 2022-27 – To have a national logistics policy, government of India has launched GatiShakti and have proposed to bring all the central and state governments agencies under one umgrallea. Government has proposed to work on the following infrastructures –

- Infrastructure related to transportation, Roadways, Railways, Airways, port infrastructure, green fields harbors and inland waterways.
- Multimodal Logistics Parks
- Enhancing Warehousing Capacity
- Development of Cold Storage
- ICDs (Inland Container depots)
- Development of Gas distribution networks

The document also talk about the skill development of the professionals, which is need to be started in the educational institutes to prepare the youth for running logistics functions with ease and efficiently.

AP has 13.38 Lacs MT warehousing Capacity, 15.67 Lacs MT of Cold Storage, 3 Inland Depots (ICDs), 17 Container Freight Stations (CFSs), 5 air cargo Terminals, 283 Rail Road Goods Sheds, 16 Logistics Training Centres, 4 Agri Export Zones, 25 Special Economic Zones and 70 Export Orient Units (EOUs). AP is the 3rd Largest States in terms of cargo traffic of 173 MMT.

According to Alan Rushton, Phil Croucher, Peter Baker 4th Edition(2014), Transportation cost is the major cost of the logistics of material in any supply chain. It depends on the volume and value of the product. Fuel cost and maintenance cost of the vehicle has the lion's share of transportation cost.

Michał Adamczak et al (2019), interpretate in their book that the transportation has to be digitalised, else the objective of the Supply Chain 4.0 can't be full filled. IoT in the logistics is must, which includes the intelligent mobility into the vehicles. Vehicle should have the monitoring system for the fuel efficiency, safe driving by monitoring the sleeping or drowsy moments of the drive, air pressure of the tires and other safety measure in the vehicles. Tracking of the vehicle is foremost.

Sunil Chopra, Peter Meindl Kepos (2016). Defines transporation policy of any country or company as a direction for the funds (natural resources) going to be invested in establishing or improving transporatation infrastructure. IT also aims to prevents abuse of monopolistics practices, promote fair and transperant

competition, balance socio-environmental concerns in transportation.

3. Research Methodology

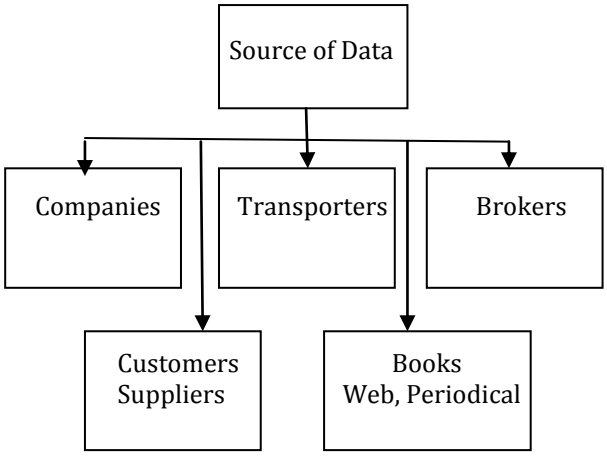
Very less publication has been found on the challenges in logistics sector in Kakinada / AP. Therefore in this research is solely based on the primary data. In Kakinada district, as per the GM (DIC, Kakinada), there are 60 Medium and Big industries and more than 9000 MSME in Kakinada district of AP state in India. Approx. 50 no of small and big transporters are operating here. More than 35 vehicle suppliers (Brokers) are operating in this region to supply the vehicle to the industry and the transporters. There are 4 Lorry operators Union in Kakinada. Kakinada is connected to the Kakinada port for sea transportation, a good road connectivity is also in place. There is no inland waterways in this districts. Relience and Gas Authority of India operate oil and Gas pipeline logistics. Only Kakinada and Samalkota has cargo services in this area. To find out the challenges, researcher has floated a questionnaire (MCQ – Agree, Don't Agree, Cannot say) and Open-ended Quesitons amongst the main companies and transporters in these regions. Many were contacted over phone to fillup the format. Data is collect from all in the format and again entered into the excel.

Tools used for analysing the data, Tabulation of the data, Mean, Average, Graphical representation like Bar Chart, Pie Chart, Line diagram, Venn diagram, Etc.,

4. Data Collection, Interpretations, Findings and Results

30 Logistics concerned were identified and framed into a questionnaire. 65 executives from various companies and 35 executives from the transporters located in Kakinada district.

4.1. **Data Collections** - The questionnaire are either sent through email of manual filled by the research while meeting the respondent. The questions were related to the company, the vehicle, transporter, govt. rules and regulations, geography and demography of the area. The questionnaire is a mixure of these key area to make it more versatile and exhaustive so that challenges from all the field are find out. The data is then feed into the computer in excel in the designed format. Statistical tools are used for the analysis of the data.



S.no.	Concerned	Agree	Some times	Not Agree	Don't Know	TOTAL	A+B	Conclusion
		A	B	C	D			
1	Kakinada, Pedapuram, Samalkota Lorry Union Intervention	97	3	0	0	100	100	Challenges
2	Lorry union rates are 15-40% higher than the open market	84	10	0	6	100	94	Challenges
3	Illitrate transporters and Drivers	72	10	12	6	100	82	Challenges
4	Condition of the Vehicle NOT GOOD	45	38	7	10	100	83	Challenges
5	Road Condition is very poor	41	33	12	14	100	74	Challenges
6	Labour Charges is higher (Loading)	21	31	43	5	100	52	Challenges
7	Labour Charges is Higher(Unloading)	28	39	30	3	100	67	Challenges
8	Seasonality effects the availability of Vehicle	78	11	6	5	100	89	Challenges
9	Availability of Vehicle big Vehicles (> 25 Mt) Less	34	17	37	12	100	51	
10	Availability of Vehicle small Vehicles (< 25 Mt) Less	65	10	24	1	100	75	Challenges
11	Loading not in time	15	12	71	2	100	27	
12	Unloading not in time	35	23	39	3	100	58	
13	Vehicles and Goods are Safe in transit	69	21	7	3	100	90	
14	Loading of un-authorised material	12	23	65	0	100	35	
15	Police Intervention	11	15	73	1	100	26	
16	Toll Taxes are very High	67	23	6	4	100	90	Challenges
17	Vehicle Tracking is done	45	22	27	6	100	67	Challenges
18	Breakages / Damages happens in the consignment	20	29	51	0	100	49	
19	Theft Happens during Transit	12	6	78	4	100	18	
20	Trucks doesn't have insurances when come for loading	10	5	84	1	100	15	
21	Bank Instalments are not given in Time	7	7	81	5	100	14	
22	Material is insured by the companies	85	12	2	1	100	97	
23	Maintenance of the Vehicles is Done	81	7	12	0	100	88	
24	Over Loading of the material	27	32	39	2	100	59	
25	FTL Vehicles are available	88	4	8	0	100	92	
26	PTL Vehicles are available	62	12	11	15	100	74	Challenges
27	Good Warehouses available in the area	32	22	34	12	100	54	Challenges
28	Vehicles are placed in Times	79	10	10	1	100	89	
29	Vehicles are fitted with GPS Devices.	15	17	61	7	100	32	Challenges
30	Companies have rest rooms and food facilty for Drivers	12	18	66	4	100	30	Challenges
	Average	45	17	33	4			

Table1 – Data Collected for different Transportation/Logistics Concerned.

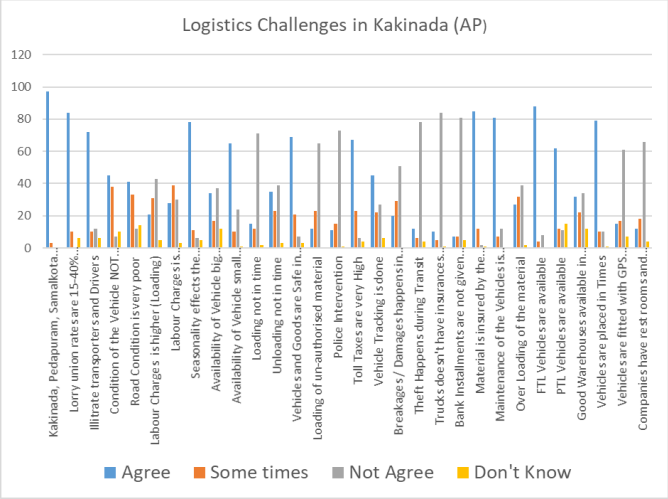


Figure – 6 (Bar Chart of Data)

Out of thirty concerned, 15 concerend are probable logistics Challenge in Kakinada, AP.

4.2. Data Interpretation

The Logistics concerned are tabulated into the format. Four choices were given to the respondent. First is that they "Agree" with the concern, second choice is they "Agree Sometimes", third option is "Don't Agree" and fourth is "Don't Know". If we total 1st and 2nd option, if it comes more than 60%, it means the respondent agree with the concern, else he/she doesn't agree. More than 60% is considered as the "Challenge" for the Logistics and Transportation, which we have to discuss and conclude those challenges and are the outcome of this research work.

4.3. Finding and Results

Local lorry unions are the biggest challenges in Kakinada, AP. As per the survey and the questionaire the rates of all the unions are higher than the open market, which makes the competition more stiffers for the companies located in the regions. Anoth Challenge is non-availability of the vehilces during the harvesting season. East Godavari is called the bowl of the state. 78.9% of the total crop grown in AP is of Rice (Paddy) which is grown in East and West Godavari areas, which are part of Kakinada Dist. These are grown in Kharif and Rabi season. So almost 4 months in an year dedicated to the Rice and Paddy logistics. In these months, the vehicles are less in supply for the Industry, due to which rates become very high, un-competitive, and unviable. After from that, during April to June, due to mango season again there is scarcity of vehicle. In the month of Oct-Nov due to festive season, there is heavy demand for supply of coconut in North, east and west India. Therefore if we seas almos 6 - 8 months there is low supply of vehicles in the market making the industry to survive. Rail service is only available for Kolkota only. Due to strong union in Kakinada Port, transportation becomes very expenses and therefore thes industries are dependent on Visakhapatanam Port for Export and Import. The transporters are not ready to adopt the tracking system due to the higher cost of GPS system in the vehicles. The vehicles are tracked with the help mapping of driver's mobile no. That too, will stop if the driver switch off the phone or the driver is changed in the vehicle.

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15	Companies have rest rooms and food facility for Drivers	12	18	66	4	100	30	Challenges

Figure 7 – Finals Challenges

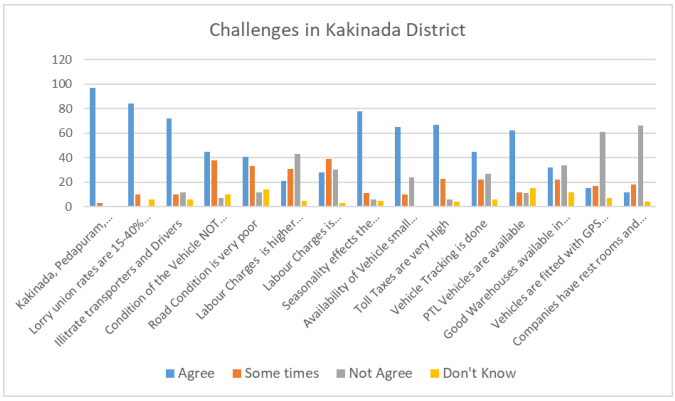

Figure 8 – Final Concluded Challenges

5. Conclusion

The state of AP in line with the Government of India is formulating an integrated Logistics Policy to address the infrastructure gaps in the logistics to promote trade and to bring in transparency and accountability into the system. Govt. is also bringing in private partnership to develop green, sustainable, energy efficient logistics, and supply chain ecosystem. The transporters union must be more supportive to the industry and should provide the vehicles on market rates, else there may be huge losses. Tracking of the vehicle is also very crucial has to be implemented soon. The toll taxes need to be reduced, road conditions need to be improved for the smooth running of the vehicles, rest rooms with fooding facilities need to be in place in the factories or on the route on dhabas or near the petrol pumps. Education of the drivers is must, since the future driving is going to be

very intelligent and IoT based. AP has such a long coastal area, but is not taking liverage of the same. Gujarat, Maharastra and Kerala are taking the full advantage of the seashores and doing business and promoting the industries and businesses. On the sames lines AP government also plan on the sames line.

6. ACKNOWLEDGEMENT

I acknowledge all the industrial colleagues, GM (DIC) who provided me the list of industries and my colleague in my current job. Without their help this research could have been a difficult task for me.

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