



**Arab Academy**

for Science , Technology and Maritime Transport



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Towards \_\_\_\_\_  
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# The efficiency of river port logistics and its role in improving inland water transport operations in Egypt

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according to  
topics

- ## Introduction

- The length of the Nile River inside Egypt is about 1,530 kilometers. River ports in Egypt are distributed along the navigation course of the Nile River on four main axes as internal river navigation routes: the Alexandria-Cairo axis, the Damietta-Cairo axis, the Cairo-Aswan axis, and the Aswan-Wadi Halfa axis.
- Egypt has about 47 river ports along the internal navigation routes of the Nile River in Egypt. These ports are also owned by several companies, except for the ports of Nahda in Alexandria and Athar al-Nabi in Cairo on the Nubarria Canal, which are owned by the General Authority for River Transport.



# Research aim and objectives

- Research aim



Discussing the mechanisms for developing and improving the river transport system and river ports planned to be established in Egypt, in addition to presenting the benefits of operating river transport for transporting passengers and goods in Egypt and the economic returns from it, examining the possibility of linking the Nile River in Egypt to the rest of the Nile River course in neighboring African countries such as Sudan and others, which helps in strengthening intra-African trade.

# Research objectives

- Improving the logistical services provided in the river ports in Egypt and raising the efficiency and quality of the performance of logistical activities in the river ports.
- working to transform the infrastructure in river ports, including (ports - docks - warehouses - container terminals - arsenals for building and repairing river ships - fuel tanks to smart , Automated infrastructure
- Connecting the river transportation with other modes of transport within the framework of multimodal transport systems.

## Conclusion of the previous studies

- Due to the high costs of expanding, developing and maintaining land roads, in addition to the accidents and damage to lives and goods they cause, in addition to the high emissions harmful to the environment, such as carbon dioxide rising from cars used for transportation passengers and goods, in addition to the high cost of laying railway lines and the inability of air transport to transport large quantities of goods
- Many countries have resorted to relying on inland water transport. Including India, China, the Netherlands, the United States, Egypt, Germany and Bangladesh, as an alternative to road and rail transportation. In the Netherlands, the percentage of inland freight, whether for passengers or goods via inland waterways, is about 46%, in Bangladesh the percentage is 32%, in the United States the percentage is 14%, and in China the percentage is about 9%. Inland water transport is considered a relatively cheaper and environmentally friendly natural means of transport that achieves economies of scale in the tonnage of ships used to transport passengers and goods.

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- The competitiveness and commercial capacity of ports, including river ports that play an important role in international trade, depends on the efficiency of logistics services and the efficiency of transportation operations. Therefore, the inefficiency of logistics services and transportation operations negatively affects trade development due to increased flight costs, increased flight time, higher cost of logistics activities, and decreased delivery speed. Therefore, the efficiency of river ports supports reducing the cost of logistics activities, especially transportation costs, thus linking global supply chains and supporting international and intra-regional trade.
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## Gap analysis

- Neglecting to study the impact of improving logistics operations and logistics services for river ports in Egypt and mechanisms for linking river transport to other transport networks such as land and railway transport, while paying attention to aspects of environmental sustainability in Egyptian river ports.

# Contribution

- Studying the possibility of linking the Alexandria Sea port to the Nile River and the Damietta Sea port to the Nile River and using them to transport goods at larger levels up to Aswan and then transporting them overland by land roads to Sudan and other African countries, especially after the completion of the extension of the Cairo-Cape Town Road, which will connect Cairo to Cape Town, the capital of South Africa. All of this helps in activating the multimodal transport system and increasing the rates of intra-African trade, especially after Egypt's accession to the Land Transport on International Roads (TIR) Agreement under the International Land Transport Cards.
- Improving efficiency of logistics services and efficiency of operations in river ports and improving the capabilities of those ports, including berths, modern trading equipment, stations, warehouses, and automated smart management systems based on the latest Internet of things applications (IOT).

## Research problem

- The decrease in the volume of goods transported internally in Egypt via the Nile River, as well as the decrease in passenger transport rates on Nile ships along the course of the river, in addition to the weakness the capabilities of the Egyptian day ports necessary to handle, store and transport goods, in addition to the decrease in the logistical performance indicator (LPI) in the Egyptian river ports and the weakness of the logistical services provided in river ports, in addition to the weak role of river transport between different modes of transport, where land and railway transport is relied upon to a greater extent in transporting passengers and goods internally in Egypt.

# Research methodology and analysis

- The research methodology was based on a review of many literatures with the aim of describing the current situation of river transport to identifying the strengths, weaknesses, opportunities and threats related to the application of river transport in Egypt, while identifying several relevant future studies that must be strengthened.
- The methodology also relied on conducting a questionnaire containing a set of questions discussing the possibility of using river transport in Egypt as an alternative to land transport or railway transport for transporting passengers or goods in addition to the above, interviews were conducted with several freight carriers in several freight transport companies to obtain their opinion on the possibility of implementing river transport and to determine the most important features that encourage shippers to use river transport other means of transport.



# Conclusion

- The researchers presented the most important river transport capabilities in Egypt in its four axes, in addition to presenting the most important river ports along the course of the Nile River in Egypt and their current capabilities, in addition to present the most important previous studies that dealt with river logistics and ways to improve the efficiency of logistical activities in river ports and the role of transportation inland waters globally in international trade operations, especially in the transport of goods in China, Europe, and others in addition to presenting the possibilities of linking river transport in Egypt with the rest of Africa and increasing the rates of river transport in Egypt by improving the infrastructure in the river ports and transforming them into smart, automated infrastructure and the obstacles, challenges and threats that prevent this.

# Research recommendations

- The necessity of developing inland water transport in Egypt, implementing an independent and comprehensive inland river transport system, and working to develop smart infrastructure (ports - docks - loading and unloading equipment - container terminals - stores and warehouses - floating and dry docks).
- Introducing digitization and automation into all river port operations to achieve digital transportation and apply smart management systems and smart operating systems
- Working to raise the efficiency of operations within river ports, which contributes to improving international trade and the global supply chain, in addition to developing coastal cities adjacent to the river's course, improving their economies and providing job opportunities for citizens.

- Paying attention to the maintenance of the Nile River course and providing the minimum depth along the distance from Alexandria to Aswan in proportion to the draft and loads of ships used to transport goods.
- Raising the efficiency of river transport infrastructure by developing the already existing river ports, increasing the number of berths in them, providing them with the necessary equipment for handling goods, and increasing the capacity of the berths. And stations, and providing the necessary stores and warehouses to store goods and facilitate carrying out additional activities on them.
- Providing fuel stations for river ships along the course of the Nile River, as there are no fuel stations for ships except in Cairo and Luxor governorates, which means that ship and yacht owners buy diesel from the black market, which causes an increase in the cost of transporting passengers and goods.

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- Supporting Egyptian arsenals operating in the industry of building and repairing river transport units, whether used in transporting goods or tourist yachts, goldfish, and floating hotels used in transporting passengers, and facilitating investment and financing procedures for their owners and facilitating the necessary licensing procedures for these arsenals
  - Working to quickly implement tracking and monitoring systems for floating river units (RIS) in the Nile River and providing the necessary supplies for them in emergency situations or in cases of stranding, deterioration, or fuel depletion, which ensures the safety of passengers and goods along the river journey.
  - The necessity of applying environmental sustainability practices in Egyptian river ports and working to integrate environmentally friendly initiatives and technologies into all logistical activities within river ports.
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*Thank You*

