

Transportation Sustainable Development in Egypt: New Suez Canal Project

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Abstract

Sustainable Development (SD) became an essential requirement for any national project in order to maintain and improve the quality of life by making sure that decisions made today consider social, economic, and environmental consequences. It is about finding ways to organize the usage of resources without making it hard to meet future needs. Different disciplines have applied the principles of SD due to its importance, such as in ecology, economics, politics and culture. The term Sustainable Transport (ST) came into use as a logical follow-on from sustainable development as it allows the basic access and development needs of individuals, companies and society to run their operations fairly and efficiently. Recently, the Egyptian government has started new mega projects such as New Suez Canal Project. This paper aims to discuss how such a project can attain ST through integrating and balancing social, economic and environmental objectives. This project is guided by the following principles: highest possible safety and security of life; efficient movement of goods to support economic prosperity; and respect for the environmental legacy of future generations. An explanatory methodology is applied to understand the concept of SD and ST in the New Suez Canal project.

Keywords

New Suez Canal, Sustainable Development (SD), Sustainable Transportation (ST),
Maritime Industry

1. Introduction

Over the past decade, countries have become increasingly aware of the social and environmental pressures facing them. Many scholars and consultants have argued that such pressures offer enormous opportunities for progressive development overtime through which countries can achieve “sustainable development” (Hall & Vredenburg, 2012).

The main goals of sustainable development are to promote development that enhances the natural and built environment in ways that are compatible with (Blewitt, 2014);

- The requirement to conserve the stock of natural assets, through offsetting any unavoidable reduction by a compensating increase.
- The need to avoid damaging the regenerative capacity of the world's natural ecosystems.
- The need to achieve greater social equality
- The avoidance of the imposition of added costs or risks on succeeding generations.

The concept of sustainable development supports a wide range of practical initiatives and causes. However, it confirms the need for ongoing consideration of whose interests are encompassed in particular kinds of policy and practical intervention of governments, especially in the mega national projects such as New Suez Canal project in Egypt. (Elliott, 2012).

2. Problem Statement

Sustainable development is commonly conceptualized as having three dimensions which are overlapping; environmental, social and economic. As sustainable transportation is one of the pillars of sustainable development, the paper has sought out to answer the following question: *Can New Suez Canal project achieve sustainable development in transportation?* In order to answer this question, the following set of issues should be examined;

- Discussing the main pillars of sustainable development.
- Discussing building blocks of a Sustainable Transport.
- Determining the main key indicators that can be used to measure a performance of sustainable transportation.
- Applying these indicators on New Suez Canal Project and identifying how can they match the main aims of the project?

3. Research Objective

The main objective is to identify whether New Suez Canal project- as a one of the National Mega Projects in Egypt - shows progress towards sustainable development. To achieve such objective it is necessary to examine its role in linking; environmental protection, economic efficiency and social progress.

For that reason, performance indicators of sustainable transport (from environmental, economic and social perspectives) will be applied in order to assess whether transportation in New Suez Canal has been mostly moving towards sustainable development.

4. Methodology

The methodology of this research is a deductive methodology for both; philosophical and practical implications. A deductive methodology helped to answer the main research question which is whether New Suez Canal project can achieve a sustainable development in transportation. The philosophical justification exists in the review of literature that has produced reoccurring themes emphasizing the importance of sustainability development. There are extensive overviews of conceptually oriented papers on this issue. For practical implications, a deductive methodology is more appropriate to fit the sustainability of the maritime transport system.

The research is deductive and it works from the more general to the more specific ,which is known as a top-down approach. It starts by sustainability development before narrowing these down into sustainable transportation. A deductive approach aims to design a strategy to achieve the research objectives, and is positivist in nature. Positivism reflects the research philosophy that implies observable reality of the New Suez Canal Project as a case study.

The strategy for carrying out this research is a case study strategy as it considers the use of data and involves investigation of the New Suez Canal Project. This strategy helps to generate answers to „how“, „what“ and „why“ questions through providing a rich understanding of the real environment. It is argued that a case study that is qualitative in nature can help to understand certain phenomena and can be used for empirical testing. Hence, the New Suez Canal project is used as a case study as data was readily available to comprehend how the New Suez Canal Project can achieve sustainability.

5. Literature Review:

The literature review is divided into the following categories;

- 5.1. Sustainable Development Overview
- 5.2. Sustainable Transportation (ST)
- 5.3. Sustainable Transportation (ST) Performance Indicators

5.1. Sustainable Development Overview

Sustainable development is a widely used term, which has been increasingly influential on countries' planning, housing and urban policy in recent years. Debates about sustainability no longer consider sustainability solely as an environmental concern, but also incorporate economic and social dimensions (Dempsey et al., 2011).

Sustainable Development (SD) is defined as balancing the protection of the natural environment with the fulfillment of human needs so that these needs can be met not only in the present, but in the indefinite future (Lopez, 2008).

The term has prompted a global recognition of the close linkage between environmental health and human development, as well as the need to alter social and economic policies to minimize the human impact on the planet.

It first came to prominence in 1980 by the International Union for the Conservation of Nature¹ (Reid, 2013). The promotion of sustainable development opens up the debates surrounding the relationship with the natural world, what

¹IUCN is the world's oldest and largest global environmental organization, with more than 1,200 government and NGO Members and almost 11,000 volunteer experts in 160 countries. For more details: <http://www.iucn.org/>.

constitutes social progress, and the character of development in the present and into the future (Baker, 2006).

"Sustainable development" came into general usage following publication of the 1987 report of the Brundtland Commission². The commission defines sustainable development as economic and social growth that "meets the needs of the present without compromising the ability of future generations to meet their own needs". *It contains within it two key concepts (WCED,1987):*

- *The concept of **needs**, in particular the essential needs of the world's poor, to which overriding priority should be given; and*
- *The idea of **limitations** imposed by the state of technology and social organization on the environment's ability to meet present and future needs."*

- It states, "A global agenda for change" to propose long-term environmental strategies for achieving sustainable development (UN, 1987);

- To recommend ways concern for the environment may be translated into greater co-operation among developing countries and between countries at different stages of economic and social development and lead to the achievement of common and mutually supportive objectives that take account of the interrelationships between people, resources, environment, and development;

- To consider ways and means by which the international community can deal more effectively with environment concerns; and to help define shared perceptions of long-term environmental issues and the appropriate efforts needed to deal successfully with the problems of protecting and enhancing the environment, a long term agenda for action during the coming decades, and aspirational goals for the world community.

The concept of sustainable development integrates social, economic, and environmental policy. It considers both development (a traditional economic and political goal) and sustainability (an ecological goal). In other words, United Nations refer to the "interdependent and mutually reinforcing pillars" of sustainable development as economic development, social development, and environmental

2- It is originated from the United Nations World Commission on Environment and Development (WCED) and published in 1987. Its targets were multilateralism and interdependence of nations in the search for a sustainable development path.

protection (UNCSD, 2005). The three pillars of sustainable development – economic growth, environmental stewardship, and social inclusion – carry across all sectors of development, from cities facing rapid urbanization to agriculture, infrastructure, energy development and use, water availability, and transportation (WB, 2014).

In brief, Sustainable development is commonly conceptualized as having three pillars - pillars which are often symbolized as overlapping circles: environmental and social and economic. Hence, sustainable development involves (ICE, 2014):

- the integration of economic, environmental and social elements
- minimizing the trade-offs that have to be made between those element

5.2. Sustainable Transportation (ST)

Transportation and mobility are central to the sustainable development of developing countries. Sustainable transportation can enhance economic growth, promote trade opportunities and improve accessibility. Sustainable, reliable and safe transportation achieves better integration of the economy while respecting the environment (UN, 2014). Consequently, the term **Sustainable Transportation (ST)** came into use as a logical follow-on from sustainable development, and is used to describe modes of transport, and systems of transport planning, which are consistent with wider concerns of sustainability.

Moreover, The Secretary General has made transport as one of the six building blocks for sustainable development In the Five Year Action Agenda in order to support global, regional and national strategies all over the world (UN, 2012).

According to The European Union Council of Ministers of Transport, Sustainable Transportation (ST) has to (EU, 2001):

- Allow the basic access and development needs of individuals, companies and society to be met safely and in a manner consistent with human and ecosystem health, and promotes equity within and between successive generations.
- Operate fairly and efficiently, offer a choice of transport mode, and support a competitive economy, as well as balanced regional development.

- Limit emissions and waste within the planet's ability to absorb them, use renewable resources at or below their rates of generation, and use non-renewable resources at or below the rates of development of renewable substitutes, while minimizing the impact on the use of land and the generation of noise.

Thus, the concept of sustainable transportation has three major dimensions (Rodrigue, 2013):

- **Environment.** A reduction of the environmental impacts of transportation is a likely strategy for sustainability. Transportation significantly contributes to harmful emissions, noise and to climate changes. However, vehicles are becoming more environmentally efficient but they are more of them around. An improvement of the land use impacts of transportation, especially the impacts of infrastructure construction and maintenance, is also a strategic goal to achieve. The transportation system is also a generator of wastes (vehicles, parts, packaging, etc.) that must be reduced.
- **Economy.** Transportation is a factor of economic growth and development. A sustainable strategy would aim to efficiently use transportation for the purpose of growth and for the creation of jobs. Transportation should also have a fair pricing strategy, meaning that users are bearing the full costs (direct and indirect) of their usage of the transport system. A transport system where competition is fair and open is likely to promote modal choice and efficiency. In a system where transport is a public or private monopoly, price distortions and misallocations of capital are created which on the long run are likely to render the system unsustainable.
- **Society.** Sustainable transportation should benefit the society. It should be safe, should not impair human health and should minimize disturbance on communities. Access and equity are also two important principles as transportation should promote the access to goods and services for as many people as possible.

Briefly, Sustainable transport systems make a positive contribution to the environmental, social and economic sustainability of the communities they serve. Transport systems exist to provide social and economic connections, and people quickly take up the opportunities offered by increased mobility. The advantages of increased mobility need to be weighed against the environmental, social and economic costs that transport systems pose (Schafer, 1998).

5.3 Sustainable Transportation (ST) Performance Indicators

Addressing the sustainability of transportation systems is an important activity as evidenced by a growing number of initiatives around the world to measure sustainability in transportation (Jeon & Amekudzi, 2005).

Thus, the following is a set of sustainable transportation performance indicators (STPI) which developed to measure the progress achieved towards the sustainable transportation in countries (CST, 2002). These indicators can be classified into three categories: environmental indicators, economic indicator and social indicators:

5.3.1. Environmental indicators:

- ***Energy use for transport***

A *sustainable transportation system* is one that “minimizes consumption of non-renewable resources”. A good indicator of progress towards sustainable transportation is thus one that shows consumption of *non-renewable resources* by transport. When this consumption goes down, there is progress towards sustainable transportation.

- ***Transport emissions***

A *sustainable transportation system* is one that “limits emissions ... within the planet’s ability to absorb them”. A good indicator of progress towards sustainable transportation is thus one that shows emissions from transport. When these emissions decline, there is progress towards sustainable transportation.

5.3.2. Economic indicators:

- ***Relative transit costs***

This indicator addresses one aspect of the *affordability* of transport.

- ***Movement of People and Freight***

This indicator shows the total people and freight that can be easily moved from one place to another. This, in turns, is a cost to business. Also, the average value of goods carried varies greatly among the different modes.

5.3.3. Social indicators

- ***Injuries and fatalities***

A *sustainable transportation system* is one that "allows the basic access needs of individuals to be met safely". A good indicator of progress towards sustainable transportation is thus one that shows injuries and fatalities from transport. When injuries and fatalities decline, there is progress towards sustainable transportation.

- ***Urban Land Use***

As transport uses land directly, it allows the development of urban areas increasingly.

6. Maritime Industry and Shipping Lines

The maritime industry plays an important role in serving the world trade as more than 92% of world trade is transported by sea in volume term and about 86% in value term in the year 2014. The industry consists of three elements mainly; ports, ships and cargo. In the Mediterranean basin, the industry is representative of worldwide practices where the main ports and terminals are dominated by major shipping companies such as CMA and evergreen, supported by the local and regional shipping industry made up of smaller operators.

Services by the latter focus on inter-regional and specialized traffic. The restructuring of maritime traffic in the Mediterranean basin since the nineties created a dual maritime traffic/port system where the biggest shipping companies incorporated few Mediterranean hub ports (such as Gioia Tauro, Italy) or specialized transshipment ports (such as Algeciras, Spain) into their oceanic routes (JICA, 2008).

Instantaneously, some of commercial ports (such as the large ports of Genoa, Italy; Barcelona, Spain, or Marseille, France) were restructured their infrastructure and facilities to attract more port clients. The Egyptian ports in the Mediterranean basin included in the list of hub ports; including Alexandria, Damietta and Port Said ports.



Source: Iga D. Foschi: *The maritime container transport structure in the Mediterranean and Italy* University of Piza Discussion Papers, Nr 24, 2003

Figure 1: Main Hub Ports in Mediterranean Basin

Shipping lines, ship owners and freight forwarders select critically hub ports according to certain criteria such as a geographical advantage, service quality, and total costs for feeder networks. In the Eastern Mediterranean area, Port Said, Gioia Tauro and Marsaxlokk are considered as the busiest hub ports in terms of container activities as these ports are located close to the busy Suez Canal and at the junction of three continents. Hence, Egypt has been playing an important role by linking transshipments for Asia-Europe trunk lines with feeder ports in the East Mediterranean, Black Sea, and East Africa.

Annually, more than 40 million TEU crossing Mediterranean basin, and about 40% of these volumes crossing the Suez Canal (JICA, 2008). This high volume of containers represents trade and the main shipping routes that are located between the Far East, Northern Europe and North America. Few ports are suitable to accommodate larger size container ships owned by these shipping lines; include ports of Port Said, Tanger Med (Morocco) and Algeiras, as well as more centrally located facilities at Marsarxlokk and Gioia Tauro.

This specific structure underlies that the role of Mediterranean ports is clearly influenced by different factors, such as the service patterns of the world's biggest maritime operators, container transport flows, and the New Suez Canal Project. The "Liner Shipping Connectivity Index" quantifies the availability of maritime networks for a country. The Index is calculated considering available liner services in both quantity and quality. In 2009, Egypt ranked 17th among 162 countries (Table 1):

Economy	2004	2005	2006	2007	2008	2009	Rank 2009	Change 2009/2008	Change 2009/2004
China	100.00	108.29	113.10	127.85	137.38	132.47	1	-4.91	32.47
Hong Kong (China)	94.42	96.78	99.31	106.20	108.78	104.47	2	-4.30	10.05
Singapore	81.87	83.87	86.11	87.53	94.47	99.47	3	5.01	17.60
Netherlands	78.81	79.95	80.97	84.79	87.57	88.66	4	1.09	9.85
Korea, Republic of	68.68	73.03	71.92	77.19	76.40	86.67	5	10.28	18.00
United Kingdom	81.69	79.58	81.53	76.77	77.99	84.82	6	6.83	3.14
Germany	76.59	78.41	80.66	88.95	89.26	84.30	7	-4.96	7.71
Belgium	73.16	74.17	76.15	73.93	77.98	82.80	8	4.82	9.64
United States	83.30	87.62	85.80	83.68	82.45	82.43	9	-0.02	-0.87
Malaysia	62.83	64.97	69.20	81.58	77.60	81.21	10	3.61	18.38
Spain	54.44	58.16	62.29	71.26	67.67	70.22	11	2.56	15.78
Italy	58.13	62.20	58.11	58.84	55.87	69.97	12	14.10	11.84
France	67.34	70.00	67.78	64.84	66.24	67.01	13	0.77	-0.33
Japan	69.15	66.73	64.54	62.73	66.63	66.33	14	-0.30	-2.82
Taiwan Province of China	59.56	63.74	65.64	62.43	62.58	60.90	15	-1.67	1.34
China									
United Arab Emirates	38.06	39.22	46.70	48.21	48.80	60.45	16	11.65	22.40
Egypt	42.86	49.23	50.01	45.37	52.53	51.99	17	-0.55	9.12
Saudi Arabia	35.83	36.24	40.66	45.04	47.44	47.30	18	-0.14	11.47
Oman	23.33	23.64	20.28	28.96	30.42	45.32	19	14.90	21.98
Greece	30.22	29.07	31.29	30.70	27.14	41.91	20	14.77	11.68
Canada	39.67	39.81	36.32	34.40	34.28	41.34	21	7.06	1.68
India	34.14	36.88	42.90	40.47	42.18	40.97	22	-1.21	6.83
Morocco	9.39	8.68	8.54	9.02	29.79	38.40	23	8.61	29.02
Malta	27.53	25.70	30.32	29.53	29.92	37.71	24	7.78	10.17
Thailand	31.01	31.92	33.89	35.31	36.48	36.78	25	0.30	5.77
Sri Lanka	34.68	33.36	37.31	42.43	46.08	34.74	26	-11.34	0.06
Portugal	17.54	16.84	23.55	25.42	34.97	32.97	27	-2.00	15.43
Panama	32.05	29.12	27.81	30.53	30.45	32.66	28	2.21	0.60
South Africa	23.13	25.83	26.21	27.52	28.49	32.07	29	3.58	8.94
Turkey	25.60	27.09	27.09	32.60	35.64	31.96	30	-3.66	6.38

Source: UNCTAD "Transport Newsletter No.43", 2009

Table 1: Liner Shipping Connectivity Index

The Egyptian government has to enhance a long term transport strategy that supports a transport policy and guarantee its sustainability by translating the policy objectives into concrete and feasible action plans that can be easily adapted to changing socio-economic conditions. JICA (2010) claimed that any government must supports the sustainability of its transport policy by incorporating initiatives for hardware, software and human-ware. This can be displayed in four conceptual building blocks as shown in the following figure;



Figure 2: Four Conceptual Building Blocks

In other words, the new transport strategy defines capacity needs and specifies the conditions of using capacity available now or in the future. There are some considerations that can be considered when formulating a sustainable strategy for maritime transport industry. This includes:

- Modernization of transport sector that leads to high performance
- High rate of handling cargo volume
- Infrastructure and equipment
- Operational efficiency
- Economic and social mobility
- A sustainable regularity framework

Generally, a Sustainable Maritime Transportation System needs the support of a sound financial system to support its evolving requirements for economic, social and environmental sustainability. The financial sector should be properly appraised of the evolving nature of the Maritime Transportation System, so as to allow for the efficient long-term allocation of resources to advance all three pillars of sustainable development.

Furthermore, a Sustainable Maritime Transportation System must actively occupy with Classification Societies, academic organizations and other research and development bodies, in order to embrace new technologies and new operational practices that will allow it to continually progress towards attaining higher efficiency, environmental goals and economic developments.

International Maritime Organization (IMO) (2013) claimed that a Sustainable Maritime Transportation System requires coordination at national and international levels. At the national level, coordination for environmental protection must always take into account the other pillars of sustainable development, namely, social needs, including the health and safety of seafarers, as well as the economy of the shipping industry, and it should be pursued through a national consultation process on issues being discussed at IMO. At the international level, processes of consultation and coordination among Governments and other multilateral, inter-governmental and international bodies should follow from national coordination and consultation with the various stakeholders through the formal discussion process at IMO.

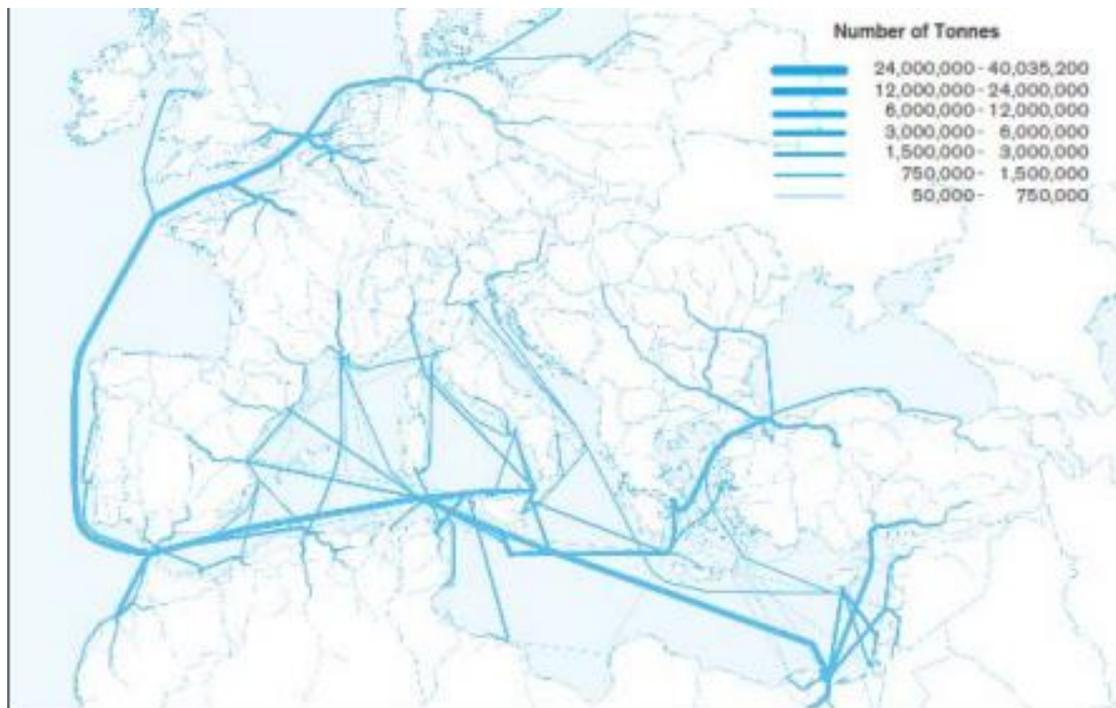
A list of actions has been stated by the IMO (2013) in order to ensure the sustainability of the maritime transport. These actions are as follows:

- Safety culture and environmental stewardship. It aims to minimize the environmental impact of shipping and activities of maritime industries. Environmental stewardship should be reflected in the development and implementation of global standards for pollution prevention and protection of the marine environment.

- Education and training in maritime professions and support for seafarers.
- Energy efficiency and ship-port interface
- Energy supply for ships
- Maritime traffic support
- Maritime security
- Technical co-operation
- Ocean governance

7. Suez Canal and Sustainable Transportation (ST)

Traffic passing the Mediterranean basin can be divided into three categories: Transit traffic, (south) European countries traffic and traffic between Mediterranean countries. Traffic in the south Mediterranean region is dominated jointly by Turkish trade and the long-haul liner services servicing in particular Europe. Much of this traffic passes through the Suez Canal and represents an important contribution to the Egyptian GDP. Figure (3) displays the Traffic passing the Mediterranean basin.



Source: Christian Reynaud "The Components of Maritime Transport in the Mediterranean"; in MED 2009 Panorama

Figure 3: Mediterranean Basin Traffic Patterns

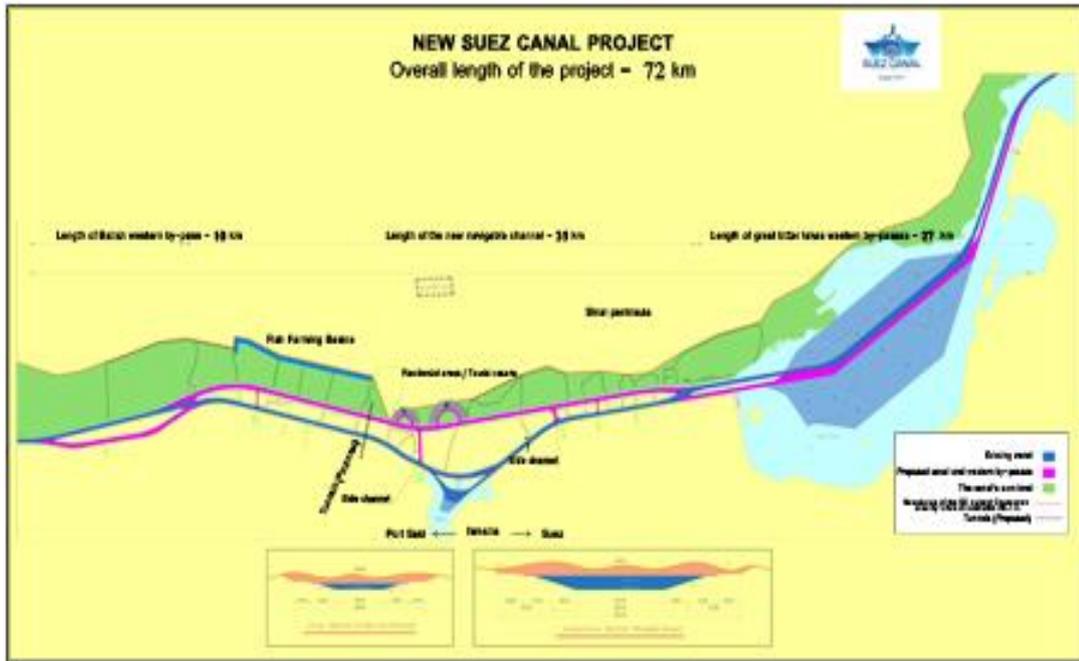
Regarding the **Sustainable Transport** (ST) concept, the Suez Canal plays an essential role in providing sustainability as it operates fairly and efficiently the traffic crossing its Canal, supporting a competitive economy, as well as balanced regional development. On the other hand, the Canal limits emissions and waste of fuel through providing shortest distance between the Far East and Europe. Hence, the canal makes a positive contribution to the environmental, social and economic sustainability of the communities they serve.

Port Said is located at the mouth of the Suez Canal. Therefore, Port Said is a very strategic located directly along the main route from Asia to Europe. Some 9% of the worldwide trade is passing through Suez canal. Suez Canal can accommodate 100% of the present container fleet, almost 100% of the present bulk and some 60% of the present tanker fleet.

New Suez Canal Project

As the shortest link between the East and the West, the Suez Canal is an important international navigation canal linking between the Mediterranean Sea at Port Said and the Red Sea at Suez, due to its unique geographical position.

Accordingly, it provides saving in distance, time and in operating costs for vessels that transit the Canal. Hence, the Egyptian government has started to establish a New Suez Canal by doubling the lanes that links the Mediterranean Sea with the Red Sea as shown in figure (4):



Source: <http://www.suezcanal.gov.eg/sc.aspx?show=69>

Figure 4: New Suez Canal Project

New Suez Canal project aims at (SCA, 2014):

- Increasing the Egyptian national income of foreign currency
- Achieving a greater proportion of the duplication of the Suez Canal and increase by 50% of the length of the waterway
- Reducing transit time to be 11 hours instead of 18 hours for the north convoy
- Reducing waiting time for ships to be 3 hours in the worst conditions, rather than to be (8 to 11 hours), which is reflected on reducing the cost of the voyage of the ship owners and raising the degree of valuation of Suez Canal
- Contributing to the increased demand for the use of the Canal corridor major global navigation and increase the degree of classification
- Increasing the capacity of the passage of ships in the channel to meet the expected growth of the volume of world trade in the future.

The idea of the project is to create a new channel parallel and optimize the channel current and ramifications in order to achieve a greater proportion of duplication for the conduct of vessels in the two-way non-stop in the waiting areas within the channel. This will result in reducing the transit of ships passing time, and

increasing the absorptive capacity of the passage of ships in the light of the expected growth of the volume of world trade in the future.

In addition, the project aims to reduce the value of thought in alternative and competitive channels and also raises the degree of confidence in the willingness of Egypt for the successful development of the Suez Canal Area. As a sustainable development driver, the project will provide direct access to the largest number of job opportunities for young people and the creation of new communities.

Operationally, the project aims to increasing the capacity of the channel to be a record 97 ships in 2023 instead of the 49 ships in 2014, achieving direct transit without interruption for 45 vessels in both directions with the possibility of allowing for the transit vessels up to 66 feet in all parts of the channel, and increase the Suez Canal return of 259% in 2023 to be 13,226 billion dollars, compared to the current returns \$ 5.3 billion resulting in a direct positive reflection on the Egyptian national income of hard currency.

Applying the sustainable transportation performance indicators (STPI) to the New Suez Canal Project, it became obvious that the New Canal will enhance minimizing vessels consumption of fuel and energy by minimizing waiting times and crossing times. When this consumption goes down, there is progress towards sustainable transportation. Accordingly, this will lead to limit emissions, organizing traffic at the Canal which limits injuries, and minimize operation and transit cost.

On the other hand, the project will enhance the movement of people and freight easily moved from one place to another, by increasing the number of vessels crossing the Canal. Beside this, new communities and job opportunities will raise as the development of urban areas.

Therefore, Sustainable Transportation in new Suez Canal is supporting the interactions and the development of environmental protection, economic efficiency and social progress. **Under the environmental dimension**, it aims to understanding the reciprocal influences of the physical environment and the practices of the canal and that environmental issues are addressed by all aspects of the transport industry. **Under the economic dimension**, the project aims to orienting progress in the sense of economic efficiency. Consequently, Transport will be cost-effective and capable of adapting to changing demands. **Under the social dimension**, the objective is to

upgrade standards of living and quality of life through the prospective communities in such area.

Briefly, through applying Sustainable Transport Indicators to the New Suez Canal Project, it is evident that the project will achieve sustainable development by attaining sustainable transportation.

8. Discussion

Sustainable transportation is considered as one of the building blocks for sustainable development as it has a significant impact on environment, society, and economy. Therefore, it aims to; upgrade standards of living and quality of life with equity within and between generations; to Support vibrant and sustainable economic activity; and minimizing the consumption of non-renewable resources along with minimizing the transport emissions. As largest mode of transport, sea transport carries almost 92% of world trade in volume term Therefore, it plays important role in enhancing sustainable development dynamics around the world. In Egypt, more than 10% of seaborne trade is crossing the Suez Canal. Hence, Canal and any other related development projects will accordingly improve sustainability.

In order to determine whether a progress is achieved towards the sustainable transportation, a set of performance indicators classified into three categories; environmental, economic and societal is applied on one of the national mega projects in Egypt; New Suez Canal. Such project aims to optimize the channel current and ramifications in order to achieve a greater proportion of duplication for the conduct of vessels in the two-way non-stop in the waiting areas within the channel, which will minimize gas emissions. In addition, the prospective industrial and service projects in this area will create more job opportunities which needs more labor. As well as, potential new communities surrounding the canal will contribute to a fundamental shift in the distribution of the population by relocating large segments of the population to the region of the canal.

9. Conclusion

At any business enterprise, **Sustainable Development (SD)** aims to promote development that enhances the natural and built environment. The concept of sustainable development integrates social, economic, and environmental policy. The three pillars of sustainable development are economic growth, environmental stewardship, and social inclusion, which carry across all sectors of development. The term **Sustainable Transport (ST)** came into use as a logical follow-on from sustainable development, and is used to describe modes of transport, and systems of transport planning, which are consistent with wider concerns of sustainability.

A number of performance indicators including limits emissions, facilitate the flow of freight and passengers, and develop urban areas and new communities, are developed to measure the progress achieved towards the sustainable transport. According to sustainable development concept, these indicators can be classified into three categories; environmental, economic and social indicators. When such indicators are applied on New Suez Canal Project, it shows that progress has been made towards sustainable transportation. In conclusion, New Suez Canal Project has been moving towards achieving sustainable development in transportation since it supports the economic and social development while it is minimizing the negative environmental impact.

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