Chapter 1

Prologue

1.1. Introduction:

The development and civilization of each nation is measured by the scope of development of transportation and its economic, political and security effectiveness. There is a direct proportion between the knowledge and civilization dimensions and community transportation which directly reflects on the effective exploitation of the time and material resources, specialization rationality, architectural extension and the scope of benefiting from the inventive applications, deepening the democratic and liberalization, facilitation of production elements and technical and managerial experiences, investments and coming together civilizations, peoples and economic gatherings.

The importance of Transportation mediums come out from the facilitation of the human communication, social connection, peoples and civilizations meeting, increasing trading exchanges, enhancing human relations and internationalizing economy and major incorporations and participations within economy liberalization, competition, launching free market activities, curbing monopolizing, removing barriers and restrictions and activating huge economic gatherings as no place for minor gatherings, this pushes a further interlocking and exchange dependence. Further, it pushes consuming and production patterns benefiting human interests within specialization and labor division.

The current civilization dimensions have enhanced according to acceleration of culture on the importance of transportation and communications led to human accumulation of scientific knowledge. Human has benefited hugely in terms of reconstruction, development, production, distribution and consumption through different types of transportation mediums including vehicles, railways, air and marine transportation. All these mediums provide proper exploitation of resources, travel, tourism, investment influx, creating labor opportunities, sustainable development
programs and structural corrections plans, in addition it provides better exploitation of ignored resources and ensure frontiers, entries and sovereignty dimensions.

However, the international commercial system has witnessed a numerous developments and many changes have been accessed to this system and changed the rules managing international commerce activities.

In the last two decades, there comes a trend called for a comprehensive introduction of transportation, storing and distrusting of goods in order to reduce cost and improve quality and performance level and consequently increasing the profitability. This trend is known with logistics. This trend aims to provide correct things with correct quantities at the correct place with reasonable cost.

Logistics is a planning, execution and controlling of the effective storage and influx of goods with whatever related from services and informations by reduced cost from origin point to consumption point in order to achieve customers requirements. This includes transport, procurement and distribution elements.

The role of logistics is based on connecting between transport, procurement and distribution elements. The management of logistics pays attention to manage a comprehensive system to achieve orientation and control on the raw materials influx and full manufactured productions to achieve the outmost objectives.

There is an intimate relation between transportation and logistics, that’s Transport is one of the most important elements of logistics. Transport forms third to two thirds of the total cost of logistics series. The transport is important as it is the main management in which we can move commodities and raw materials from the production place to consumption place.

The relationships between transportation and the economy are very complex and poorly understood. Transportation is a massive enterprise with substantial direct and indirect effects on economic productivity and economic growth. Transportation industries - the provision of transportation services, the manufacture of vehicles, and the construction of infrastructure -are major economic activities in themselves. Transportation is a cost, to a greater or lesser extent, of virtually every other good or service in the economy. High transportation costs prevent economies from developing at their potential rates. Therefore, a major consideration in any economic development strategy is to ensure the minimization of transportation costs to target industries.
Transportation is an enabler of economic activity and a facilitator of international trade. It is a measure of economic activity as a whole: in many instances, it may be a leading indicator, in as much as physical movements precede financial transactions. On the other hand, transportation considers as a reflection of economic activity, in as much as products must be moved to markets. Some of these relationships are clearly circular: transportation affects.

The interface between transportation investment and economic development has broad ramifications that go beyond transportation’s basic purpose of moving goods and people from one place to another. Whereas there is no doubt that transportation is essential in the operation of a market economy, much still needs to be understood about ways in which an efficient transportation system can improve the productivity of the economy.

Transportation also has a broader role in shaping development and the environment. Policy concerns should focus on the effects of transportation on where people live and on where businesses locate; and on the effects that these location decisions have on land use patterns, congestion of urban transportation systems, and use of natural resources, air and water quality, and the overall quality of life. Issues of urban sprawl, farmland preservation, and air and water quality have already pushed their way to the forefront of policy debates at both the national and local levels.

To make prudent decisions, policy makers must be equipped with the best information and analysis possible about the interactions among these various factors. The questions asked by policy makers are two sided. Not only do they want to know the effect of transportation on additional economic development, they also want to know the transportation needs of future growth.

It is therefore necessary to investigate through research important factors in examining the relationship between transportation and economic development; these factors may include the following: (a) relevant type of transportation investment, (b) data necessary to analyze the economic effect of the investment, (c) appropriate methodology to analyze the economic effect, and (d) the proper dissemination of the results and education of professionals as to the economic effects of transportation investment.
When transport systems are efficient, they provide economic and social opportunities' and benefits that result in positive multipliers effects such as better accessibility to markets and additional investments.

1.2 Evolution of transportation in Yemen:

1.2.1 The Ancient, Medieval and the Modern:-

The ancient Yemen is the main home of the major old Arab civilizations; the ancient Greeks has named the area of Yemen (Alarabia felix) that is to its geographical importance that overlooks the Strait route of Bab al-Mandab, which overlooks the Red Sea, Gulf of Aden and the Arabian Sea and the island of Socatra which overlooks the Indian Ocean and its control over the overland and marine Trade routes between east and west, north and south of the ancient world; its production of incense and frankincense, perfumes and many agricultural crops, helped in establishing flourishing civilizations which forms a distinct relations with neighboring old Arab civilizations and had other links with the neighboring civilization in East and North Africa, South and East Asia, which made it a major center of all centers of civilization in the ancient world. The population of Yemen has taken two types of housing representing in the following:-

(1) **The pattern of urban areas**: It means the urban population who has settled in the highlands, plains, valleys and coasts which is suitable for establishment of the necessary port to sail; people in such areas worked in commerce and took over the roads, land and marine of which they took good fortunes and it made them enjoy a stable and civilized life.

(2) **Bedouin style**: It is a Bedouin who lived in the desert and lived in search of new land available of pasture and water sources; some of them work in trade and also as guards of convoys, they provided transportation of the trade with animals such as camels, horses and donkeys, these animals also being used as guards for overland convoys; the trade and its overland and marine routes and its markets on the island and abroad were the main entrance which connect Yemen to other Arab civilizations cultures in order to market their products, particularly perfumes and incense, swords, textiles and other goods of Oriental and African which pass through the ports and
cities of Yemen. In the following the researcher will highlight the stages over the transport in Yemen through ages.

**The Ancient Age:**

Yemen has traded by land and sea since the ancient times, Yemen population started the process of road transport since about the fifth millennium BC; when the camel was domesticated and it was used for the carriage of goods since the early twelfth century BC and thus developed the caravan trade routes and became well-known.

The overland trade routes had an important role in the prosperity of civilizations of the north and south of Arabian Peninsula, it linked the production of incense in the southern Arabian Peninsula (Yemen) to beyond markets in the east of the Arabian Gulf, Mesopotamia, the Mediterranean and the Nile Valley, in addition to incense, the caravans roamed the steppes of the Arabian Peninsula carrying luxury goods from East Asian countries such as silk and soft clothes and precious stones, it was carrying these goods to the ports of southern and the east of Arabia (Yemen).

In this context, it should be noted that there were four main ways of overland trade and convoys in the Arabian Peninsula which are as follows:

**The first road:** The road that starts from Qena Hadramout (Yemen) which has two branches the distance between each branch is about 160 miles, the first one headed east along the valley of Mayfa'a and then to Shabwah, and the second section starts moving from Qena to the Valley of Al Hejer then passes the Valley of Armah, which is located in Shabwah and the way is heading from Shabwah to Aden and then continue to Najran.

**The second road:** Starts from the south-western corner of the Arabian Peninsula where the kingdoms of Sheba and Ma'een, Himyar, Osan, Qtaban (Ancient Yemeni's Kingdoms – Ma'een 1300 BC to 650 BC. Sheba 950 BC Himyar 155 BC to 525 AC Osan 765 BC to 545 BC Kataban Unspecified to 410) and heading north, breaking

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the northern border region of Sheba, and then take the form of a narrow corridor which is located in the land of Ma’eenis, then continues north to the road and then to the debtor Raydan and then continue to march to Ayla (Aqaba now). on this road Quraish was moving its convoys before Islam in its two famous trips one in the winter to Yemen and the other in summer to the Levant – Al Sham.3

The commercial caravans were penetrating north and south of Yemen and its east and west, and the Qurayshis have two trips one in winter and the second in summer which did not stop until the conflict broke out between Islam and the Arab ignorance representing in Quraish and there were trade relations between the characters and personalities of Quraishis and Yemenis.4

The third road is the one which comes from a region of Hadramout and Oman and heading to the oasis of Yprin through the eastern quarter desert and then continue to the Gulf from Iraq and moving from Yprin to Yamamah. (Al Yamamah: An area in Yemen)

The fourth road runs through the Arabian Peninsula in the north where it starts from Mecca and ends with the Valley of Two Rivers, better known as the path of (Al Herah) which has become a major route for pilgrimage and trade in Early period of Islam which also known as the path of Zubaydah. the most important states and tribes that used these trade routes overland, State of Sheba and Ma’een in the southern Arabian Peninsula.

With the beginning of the second century BC, Al Laheenis shared Al Maenis the government and their kingdom was in Jawf Al Yemen and this kingdom was the most active, they also excelled on the kingdoms of Sheba and their business reached to the Gulf and Ella5, a superior civilization in Hadramout was emerged during the flourishing trade of Gum as a sacred good and frankincense trade in incense makes Hadramout names passes borders of the place and became famous in the ancient centers of world civilization. He built around 65 Stations which the ancient incense trade convoys crossed by and that is before two thousand years, these stations start from Dhofar in Oman and passes in Yemen, to Alexandria in Egypt and Gaza in

3 The centennial book of the Ministry of Transport in KSA
4 Shujaa Abdul rahmanAbdulwahed , History of Yemen in Islam , Al Ehsan for modern techniques 2009 P. 46.
Palestine.\textsuperscript{6}

In the early years of the fourth century the caravans trade was deteriorated because of incense inflation in south of Arabian Peninsula (Yemen) because of spread of Christianity, security looseness on the incense route due to weakness of Roman Empire, and local wars among the small states of Arabian Peninsula\textsuperscript{7}.

Nevertheless, Yemen played a leading role in the ancient history on land transportation and controlling the business caravan's routes that were cutting Yemen from north up to south and from east up to west and this made it a famous name and enchases its connection to other civilizations.

Yemen location at the south of Arabian Peninsula gave it various features which shared with the territories that located outside Arab peninsula and that ones within Arabian Peninsula too. These features played an important role in Yemen history. Although the natural capabilities (the plain land and waters) are limited and affected this role, Yemenis exploited the navel location of Yemen for the interest of creating a kind of balance between economical capabilities and mankind.

As a result, many seaports were established at the beach of Red Sea such as Mocha and Oklais. The first time of which mocha seaport was mentioned during the period of the king Karb Alewater, the king of Sheba, Dtheraidan, Hdramout and Yementat. on the contrary many other coastal areas on the red sea were suitable for anchoring ships. This is clear evidence that the sailors knew this places Mocha before. Mocha seaport may also be a commercial station of which the trade moving from one region to another. The commercial job of Mocha seaport “mowza'a" was connected to local surplus production. Its trade with India and Egypt was very active and played an important role in securing the recruitments of imports. Many other Yemeni's ports were also established on the Arab sea such as Aden Kana and Samharm seaports\textsuperscript{8}.

Aden, since the sixth century BC, was a very important seaport on Arab sea on the commercial routes that were coming from Egypt and eastern coast of Africa and heading to India

\textsuperscript{6} Al-ashmawi, Ibrahim-Yemen as I saw – Ministry of Tourism & Culture ,2000, P. 135
\textsuperscript{7} \url{http://www.mot.gov.sa/L-handradbook-first-1-Basp}
\textsuperscript{8} National Information Center website, \url{http://www.yemen-nicifo/contents/studies}. 

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Chapter 1: Prologue

The important location of Aden seaport on the naval routes between India and Europe forced rulers to work hard to control it in different periods of the history. Aden was also known as Arabian Endueman; it was also a transit point for business on the Red sea, but in first century AC, Aden suffered too much because of the change of business routes on sea⁹; and there is Kana seaport "Al Gorab Stronghold" which was the old seaport of Hadramout at the Arab sea¹⁰ this seaport "Kana" has a very significant role throughout the history¹¹. Himyrians used this seaport in the last years of the century BC till the last years of the first century AC¹². In the early years of the first century AC this seaport became more active and that is because of its connection directly to the expansion of the naval business between Romans, Egypt and India; this sea port was also distinguished by its natural stronghold and its strategic location in addition to the agricultural areas of that located very close to it.

At the end of the second century and first years of the third century, Kana became one of the biggest Mamalek's seaports in the south of Peninsula; during this period it was one of the main entrances for the naval commodity especially those ones which came form the countries located at Arab gulf and Africa and Indian peninsula¹³.

The economy has been dominated by the southern Arabian Peninsula along trade routes, both the land or sea ones as well as the coasts on South and West. The importance of ports returns to its old job; the case of seaports and developed navigation led to find other ways to let the production takes its breathe, especially the production areas, so a number of maritime trade centers emerged, each associated with internal city.

Yemeni ports monopolized world trade and the most important goods in the world and this led to a situation of competition between the ancient kingdoms of Yemen on Ports.¹⁴ In 525 m Abyssinian occupied Yemen under the pretext of protecting Christianity but the real goal of the occupation was the port of Aden and capture of the trade of goods of Yemen which produced locally and thus control the

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⁹ - http://www.ejabat.google.com/ejabat/thread
¹¹ - Al-ashmawi, Ibrahim-Yemen as I saw,2000 , Ibid,  P. 49
trade routes on the sea and land built between Yemen and the Levant. After the Abyssinian went out of Yemen in 578, the Persians took control of the Aden port and the Persian occupation continued up to the year 632, till the uprising led by Black Ansi of which he expelled them from Yemen at the period when Islam entered Yemen. Aden port at the period of Persian reign recalled its business position and merchant ships began to come loaded with many different items coming from Iran and Gulf and the ports of Africa and the Red Sea. However, this did not eliminate the essential role of the common commercial interests of Bzintien and the Abyssinian and their maritime activities, which threatened Yemen, this also coincided with the role played by the Abyssinian community and Christian collaborators in worsening the political and economic situation in the south of the Arabian Peninsula.

**Medieval Ages:**

In this period of history Yemen known to its business activity at the internal and external levels; the trade routes and pilgrimage stretching from Aden to Mecca through the mountains where going through the ranks from Aden to Janad to "Dhe Ashrak" Najed Ahmer to "Nqil Samara" to Dthar to Sana'a to Saada to Taif and Mecca; there were two ways in Tihama, one is the coastal sea and the other on the average between the sea and the mountains and there are secondary roads associated with these main roads from different regions of Yemen either from Hadramout or Mocha. Port of Aden remained playing a leading role between East and West till the Islamic Dawa emerged in Mecca and spread in the Arabian Peninsula and then Port of Aden became an Islamic one; exchange of goods and trade continued at the port of Aden and the movement of vessels that were coming and leaving it in the Islamic era, Heidi marks that the markets in the port of Aden packed with goods such as spices, pepper, coconut and cactus wood, ivory, porcelain and others; the port of Aden continued to play its leading role between East and West till Islamic

Dawa emerged in Dawa Mecca and spread in the Arabian Peninsula and then Aden Port became an Islamic one\(^{21}\), trade and commodity exchange and the movement of ships coming to and leaving it continues at the port of Aden in the Islamic era, Heidi stated that markets at the port of Aden congested with multiple commodities such as musk and spices, pepper, coconut wood and cacti and the Ivory, porcelain and others; in Rashidiya and Umayyad period the justice has prevailed in all parts of Yemen and Yemen kept its commercial shipping centers;\(^{22}\) the researcher Mohammad Hussein al-Safi mentioned the geographic importance and its impacts in the history of relations between East and west, particularly in the field of trade and economic that gave Yemen and the Red Sea the ability to control the trade routes and in this historical period the east exported to the west dozens of commercial goods the most important was spices and medicinal drugs that Europe was in dire need of them, then the product of wheat came in the second rank as a very important commodity for Europe, especially in periods of drought and epidemics, additionally, the goods on which the European industries are based on such as the raw materials as silk, dyes, glue and other

At the end of the of the Umayyad dynasty, Abbasid nominated Dowd Ali as a ruler to the Hijaz and Yemen including the port of Aden and Yemen kept under the control of the Abbasid Empire

The worsening economic conditions and poor living, drought, hunger, disease and violence prevailed. Yemen has not seen a rupture situation in its long history; it deteriorated in the ninth and tenth century politically, economically and socially like the one which has never witnessed in its all times. In the early years of the ninth century Yemenis began heading towards the phenomenon of establishing independent states from the Abbasid state, where a number of states have emerged inside Yemen.

These States were the state of Ziyadiyah and the Ayyubid and Rasoliah and the State of Tahiriya. Yacoubi visited Aden at (282 - 896) at the reign of Ziyadiyah in the middle of the third century AH corresponding to 874 AD and described it in his History of Yacoubi as Farthat of Yemen * where merchant ships coming from

\(^{21}\) Zaidi: the History of Eastern Commerce in the mediaeval age, Lighteege, 1925, P. 379.
Ethiopia and Jeddah and Al Ain anchored in its harbor.

It is clear that Aden port witnessed a prosperous commercial movement and most of southern Arab and others entered this city and did their business activity; the position of Aden starts increasing till it became a commercial mediator between the east and the west; the Indian commodity were exported to Aden and then to the west through the desert and on the back of caravans up to the north of the peninsula; these caravans move from Aden to Hejaz and then to sham and Gaza after that it comeback to Aden carrying European industries which are to be sent from Aden to Indian and Abyssinia. Aden port flourished at the reign of Zoraih state; most of the sailors and merchants brought their commodities to Aden because of the high profits they got when they sold their commodities in its markets.

During the reign of Zoraih state, Aden continued its commercial inside the region and outside it; it was a place where most of the merchants meet from all over the world; procurement and sell were done with a complete security. This seems clear from what Abu Makhrama wrote (1531) that the Zorains rulers control over Aden port and that to insure its constant activity. And secure the navigation route, so he said" if a ship arrived to Aden port, the observer on top of the mount cries heria".

India and China after it passed by a number of commercial ports in the Gulf and sometimes, it directly sailed from Aden Port to the Indian coast ports and then to china. However things changed. During the last period of the Eyopians rule, the taxes increased to a degree unbearable by the merchants. Therefore it was natural that sea merchants were disattracted by Aden Port and they started looking for other ports with relatively low taxes near Yemen. During the Resolian state rule (1229-1552) era, maritime navigation and transportation witnessed significant development and progress. This era of the Resolians and Mmaliks is considered the best and most prosperous era of the Yemen and red sea route.

During the Bani Rasol rule, the ships arriving and departing the port of Aden had sometimes been targeted by pirates who used Socotra Island as their hideout from

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24 Abu Makhrama, Taiz and Aden History, Madbuli library, Cairo, Second Edition, 1991, the first section, pp.1
which they attacked commercial ships sailing to Aden Port. Despite these serious attacks on ships and merchants bonded to Aden port, none of them pay great attention to the resulting risks and troubles. This was mainly due to the huge revenues and profits they used to gain by trading in Aden markets.

In the meanwhile, the Rulers of Bani Rasol tried to expand their foreign and external relations in late 13th century. They sent some delegations with letters of appraisal to the kings and rulers of eastern nations in order to instruct their merchants to sail to Aden Port.

The results were that Aden got a great share of these countries foreign trade. But this commercial activity didn’t last for a long period. The number of Indian ships arriving at Aden Port decreased due to the ill-treatment of sailors and crews by the Bani Rasol representatives at Aden port. The Chinese ships stopped to sail to the Aden Port in early 14th century. This in addition to the unbearable tariffs posed on merchants coming from China and India. Therefore, the eastern merchants couldn’t bear further ill-treatment, injustice and loses so that some of them have had to transfer and change their activities into the red sea ports and tried to find other markets for their goods refused to be admitted by Aden Port.27

Aden had regained its status and importance during the rule of the Bani Taher (1455) since almost all of their rulers loved trade and encouraged it and paid special attention to the goods arriving into the Port from East Africa, India, China and the Gulf coasts, as well as those goods coming from the various ports of the red sea. The representatives of Bano Taher had cancelled the unbearable taxes. The efforts of the Bano Taher Emperors and representatives include their personal interference and mediation to solve and settle down any disputes erupted between Adeni merchants from one side and the foreign arriving merchants. This was mainly to encourage both types of merchants to trade in Aden as well as to encourage ships to land in the Port.

Due to this prosperous and vigorous commercial and maritime activities, Aden Port has taken the lead and became better than Jeddah Port and even better than some Egyptian Ports. This means that the relations between the Bano Taher Rulers and The Mamlokian State Rulers in Egypt began to improve and flourish, apart from

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the illegal competition.

This situation lasted till late 15th Century, when the Portuguese started targeting the East and their Geographical Exploration missions reached eastern ports in their endeavors to invade and occupy eastern nations.

- **Modern and Contemporary Age:**

The Portuguese interests in Yemen started with the occurrence of what is known as the geographical Explorations, the real purpose and motive behind it were basically to accomplish and fulfill political and economical goals in the explored countries for the benefit of the Europeans. The Portuguese were suffering of the Mamliks monopolization of trade routes between the East and the West. The Indian trades and goods were assembled in Aden then transported on camels by Arabs to Valenie and the Mediterranean where Venice State monopolized the right of transporting these goods into European Markets.

After the Portuguese successfully reached India via the Cape de Hope in 1498, they decided to change the route of the Indian trade into this new route they control. Their goals were to take control over sea ports located in this maritime route. To this end, the Portuguese had invaded Socatra Island in 1407, Yemen’s Coria Moria Islands in 1506. Later on they realized that Socotra was not enough to control and close the Red Sea route, then they decided to invade Aden in 1513, due to its key importance and role as a commercial port serving commercial vessels on the red sea route and vessels bound to Africa, India and the Arabian Gulf. Therefore, the Portuguese prepared a force on 20 vessel carrying 1700 Portuguese and 800 Indians to attack Aden.\(^\text{28}\)

After the Geographical Explorations, the Portuguese had fulfilled their goals in less than two decades (1499-1509) and they manifested their dream in monopolizing the Eastern trade and formed the first European occupying authority “government” in the East outside their country\(^\text{29}\).

The Portuguese activity at that time was focused on enhancing their control of the coasts of the Indian Ocean and the Gulf of Aden, on one hand, and on attacking

\(^{28}\) Moqbel Saif Ali, Brief History of Yemen, Ibid, p.(164-165)

Arab and Eastern commercial vessels and markets in the Arabian Gulf, Gulf of Aden, Red Sea and Indian Ocean, on the other.

However, the change of international trade routes into the Cape de Hope route had deprived Arabs and the inhabitants on the Yemeni coasts of their most important source of income. This had helped to the collapse of their inherited economy and therefore the Southern parts of the Arabian Peninsula and Aden in particular has suffered similar consequences to those suffered by Arab countries located on the old land trade route. Trade in these areas became stagnant and dull due to the change of international trade routes. This had led to a general economical penalization in south Arabian Peninsula since vessels almost stopped to come to the port of Aden. The inhabitants relying on the port either as merchants or workers suffered too much and their living conditions deteriorated badly. This was a direct economical result of the European invasion and occupation of the East in general and of Yemeni coasts in particular\(^{30}\). Some Rulers and governors of some Indians provinces, such as Cograt and Kalikot, had sent a call of help to the Mamlukian Sultan of Cairo, “alGhorî”, to support them and fight the Portuguese, since the Mamlukian State in Cairo was one of the most powerful Islamic States that had numerous interests in India\(^{31}\).

When the Mamliks realized the fact that the Portuguese were keen and insisted to invade Yemeni ports, the Egyptian interest to confront the Portuguese threat in the eastern seas. Therefore, they prepared a force to reach India in coordination with the Indian Kings and rulers of the Muslim Indian provinces. However, these forces did not go to India, but it remained in Yemeni coasts. By this the Egyptians refrained from their ambitions to go to India. Their only option was to build castles and forts on the Yemeni coasts for two reasons: the first was to use Aden, with its strategic location, as a station for the Mamlukian expansion activities in the Indian Ocean and the Gulf of Aden, the second was to close and block the Red Sea entrances so that the Portuguese commercial vessels cant enter the Red Sea.

So it is now clear that the Mamliks Policies were intended to ensure their control over the port of Aden and make it a base for their operations to the south of the Red Sea.

\(^{30}\) Bawazeer, Aden Port, Ibid., P.43
\(^{31}\) Abaza: Aden and British Policy, Egyptian Book Authority, Cairo 1987. P. 33,34.
After the collapse of the Mamliks in 1517, the Ottomans inherited them and took the task of fighting the Portuguese in the Indian Ocean, the red sea and Yemeni coasts, despite the economic difficulties they faced in Egypt due to the change of the international trade routes to the Cape de Hope32.

The Ottomans direct relationship with Yemen started in 1538, when they sent a campaign led by Suliman Alkhadem with the goal to kick and drive the Portuguese away out of the west southern waters. The Ottomans succeeded in controlling both the eastern and southern coasts of the red sea so that it became a closed Ottoman sea and they didn’t allow Christian vessels in the red sea. In modern times, the Ottoman had controlled key red sea ports such as Jeddah, Mocha and Aden on the Asian coasts, and Swaken, Akik and Moswa’a on the African coast where they stationed military forces in all of these ports.

The Ottoman control over Yemen didn’t last for more than one century, since they were faced by the Imams when they tried to expand their control over the wider inner parts of Yemen. The fight between the Ottomans and the imams lasted for long period till the Ottomans were forced to withdraw from Yemen in 1635. However, the Ottomans retained the sovereignty rights over the both the Asian and African coasts and they had left no chance to go without using it to reaffirm this33.

When the British had established their commercial company with India in Aden, the French were trying to control the remaining key sites in the red sea, Indian Ocean and the Gulf of Aden. They commenced their presence with the establishment of a company by “Rashulla”, who became the supervisor on maritime trade on 1627.

In 1664, the East India French Company was established and it had asignificant presence in a large number of Arab ports and in the ports of the African coasts.

However, the French presence in Aden was in 1620 and their active presence started in 1709.

The governor of Aden allowed two French vessels to trade in Mocha at day time only. He also allowed the French to perform their religious rituals in the Yemeni

32 Alsroji: the Policy of Egypt in the second half of the 19th Century, Arts College Magazine, Alexandria University, December 1955, p. 93.
ports, as well as building places of worship there. All of these had led to strong completion between the French and the British on the Yemeni coasts\textsuperscript{34}.

When the Bonaparte campaign started, the British economy was under strong pressure due to the French presence in the region. Therefore, the British government in India initiated efforts to strengthen its presence in the red sea and it built forts and castles that would enable it to face the French military operations at key sites such as the Bab Almandab. To this end a British Indian force sailed and invaded the Yemeni Mion “Brim” island which overlooks the Bab Almandab Strait. However this force had retreated quickly due to portable water shortage as well as the difficulty to find suitable coastal sites for the British artillery.

In 1760, the Netherland commercial agencies left the Yemeni coasts and therefore the British were able to export coffee and other Yemeni products to European markets. However the Indian merchants and traders had been trying to control internal trade activities, in partnership with Yemeni traders and merchants from Hadramout and the coast. The Indian British government had taken advantage of a dispute that had erupted in Mocha in 1817 when the local residents gathered and marched to the British agency staff, threatened and insulted them. Furthermore they looted the Agency’s warehouse and deported the Company Agent to India. The British government of India requested that the responsibility of that incident should be identified. Later on it sent a military force to Mocha to implement the 1802 Treaty. The British had besieged the port with their warships for a while, and then they started shooting at the port with their heavy guns. Then the Zaidi Imams realized the threat and they ordered the governor of Mocha not to allow any kind of aggression against the English nationals. Later on, the Zaidi Imam had signed the complete version of the treaty in 1821.

The above mentioned treaty had enabled the British east India Company to impose its presence in Mocha and to expand its activities in the remaining Yemeni ports. No doubt that the first Lahj Treaty of 1802 is considered to be the actual beginning of the British Military and political colonialism influence on the Yemeni coasts\textsuperscript{35} and also as a result of the British efforts to find and establish stations and

\textsuperscript{34} Bawazeer, Aden Port, Ibid., P.58
centers on the way to India to secure its colony there as well as to secure this road itself\textsuperscript{36}.

England had hastily controlled the Arab Rout, particularly its coastal margins: Aden, and the Southern and eastern coasts. This was due to the potential importance of the Arabian Peninsula. England, as a maritime power, was mainly interested in invading and controlling coastal areas. This importance had become greater after the creation of the Suisse Canal and this route became “the Imperial Artery” to the Asian Empires and kingdoms\textsuperscript{37}.

No doubt that any occupation or invasion of the commercial and maritime routes constitutes a dangerous threat to the British interests. Furthermore, the modern development in Ships and vessels industry by using the steam power necessities that some stations should be made available to supply vessels with coal at various locations on maritime routes. In addition, the European competition between Giant countries such as France, Austria, and Russia, on one hand, and the competition with the USA, on the other were threatening the British interests. Therefore, Britain has had to be prepared to confront and face all of these challenges by looking for some strategic locations that would enable it to move forward.

England didn’t find any other port more suitable than Aden Port to serve its goals. Being satisfied with the economical feasibility and strategic location of the Aden Port, England had hastily controlled this port, regardless of the expenses and coasts.

The Aden Port enjoys an excellent location midway between Bombay and the Suisse and is located on the Gulf of Aden which is distinguished by its calm tides that enable the port to receive vessels to do supply and handling activities.

This location has made Aden Port the best port to control the land route going alongside the maritime route in the red sea with Aden on its southern entrance\textsuperscript{38}.

Yemen coffee had significant demand in American markets during the first half of the 19\textsuperscript{th} Century and was one of the highly demanded commodities. Therefore, the American merchants became very dangerous competitors with the British East India

\textsuperscript{36} Salem, Yaseen Mustafa, The formation of modern Yemen, Guidance Bookshop, 2007, P. 51S
\textsuperscript{37} Hamdan, Jamal, A Study of The Arab World,Yemen&World , Alnahdha Bookshop, Cairo, 1958, P. 27
\textsuperscript{38} Bawazeer, Aden Port, 2001,ibid,. P.81,82,83
Company in the Yemeni coasts. This made the British to quicken and hasten their efforts to take control over Aden Port to monopoly the trade activities not only in this port but in the surrounding area as well and to put an end to the American competition which was apparently a very dangerous one. Many references had discussed the reasons behind the arrival of Mohammed Ali Bash’s forces to Yemeni coasts in 1833, just after they defeat the Wahabians. His goal was similar, to control the Yemeni coffee trade. These sources also mentioned that the Mohammed Ali forces had imposed high taxes, up to 7.5%, on the British merchants of the British East India Company, while the Americans had 50% percent of the trade volume in the Yemeni coasts.

After the British occupation of Aden in 1839, this area had become a competition area between major colonialist powers. This interest in the area became stronger after the opening of the Suisse Canal in 1869.

However, after the opening of the Suisse Canal in November 17th, 1869, the red sea rout regained its historical global importance as the shortest route linking the West and the East. This event had a great influence on Yemen and the red sea region and had led to a competition between major powers to have and control some influenced centers in this region by which it will protect its political, economical and military interests.

After it cooperated with Britain to destroy and make an end to the Egyptian influence in the Arabian Peninsula and The Sham Region, the ottoman Empire was eager and looking forward to regain its control over Yemen, especially since the Suisse Canal has made the distance between Istanbul and the Red Sea coasts much more shorter than it was. Therefore, 3 years later, the ottomans sent a military campaign to invade Yemen for the second time.

During Imams rule, worth mentioning here that the transportation system didn’t gained any important progress because the fact that the Imam was politically, economically and military weak.

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39 A- Albitriq: of Modern Yemen history (1517-1840), Arab research and studies institute, Cairo, 1966, p. 71 ;
40 Alabdali: Time Gift in the news of the kings of Lahj and Aden, Salfian Printing House, Cairo, 1351 hijri, p.142
41 BinBurik, Ahmed Mohammed, Yemen and international Competition, Ibid, p. 13
42 Bin Burik, Ahmed Mohammed, Yemen and international Competition, Ibid, p.103
However, it was subjected to negligence since the state policy was contradicting with the establishment of roads and the creation of modern transportation system. Until 1960, Yemen has no paved roads and no modern airport to accommodate airplanes\textsuperscript{43}.

Since the main and key factors that lie behind any real growth of the trucks transportation sector is based on the creation of new paved roads and also because of the occupation in the south and the tyranny Imamate regime in the north, Yemenis had suffered the lack of modern paved roads. Therefore, the trucks based transportations in Yemen are very recent compared to many countries, except in the city of Aden and its suburbs because Aden was the military and administrative base for the British colonialism.

The 1970’s is considered to be the true and real beginning not only of land transportation sector but also to the various national economy sectors. However land transportation sector was preceding other sectors due to the fact that this sector enjoys the possibility for individual investment by individuals such as to buy a single car or truck. This is the prevailing norm in the formation of the transportation sector in Yemen with an exception of small sized companies for passengers, land transportation established by the private and the public sectors; however these companies proved to be a significant failure with a cumulative budget defeat of 654,927,000 YR for the period (1972-1997)\textsuperscript{44}.

The transportation sector with its various forms and activities is considered to be an important element of the national economy and a key pillar of the comprehensive economical and social development. The availability of a modern and complete transportation network for various transportation means (land, sea and air) is a very important element in identifying the sites of new economical activities trends in a given country and between a given groups of countries. This is especially true for developing countries of which Yemen is one. The development of the transportation sector during the 1970s and the 1980s all over Yemen was in path with the growth and development requirements in society with the lowest level of basic structures

\textsuperscript{43} Al-odyni, Maresh Ahmed. S., An introduction to the geography of transportation and international trade in the republic of Yemen, first edition 2004, Obadi studies and publishing house, p. 11.

\textsuperscript{44} Transportation (current situation, challenges, and future prospective), The Republic of Yemen. The consultative council., 2000, P. (8, 26)
and facilities that are considered to be of great importance in development. Therefore, development plans and programs had focused on and given priority to provide basic infrastructure for economy and development, especially the basic transportation facilities such as roads, sea and airports in Yemen as well as other countries.

Developing the transport sector was the second relatively high shares of investment in applications of framework and development plans that have been implemented with the beginning of the integration of planned development in the early nineties and even now; the high shares of the transport sector investments in the early stages of development plans and its directions to the relative decline in the advanced stages; confirms the fact that the volume of demand for transport is growing normally at high levels in the early stages of the development process which exceeds increasing rates of the national income.

As a result, there have been concrete achievements represented in the longest road networks with about 2938 km only in 1972 to about 52,263 km in 1992, that is, they grew and multiplied 18 times more during the last two decades of the eighties and nineties with an average annual growth rate of about 16.4%; the total increase was divided in the longest road networks with about 49,325 km between 72 and 92 and that is according to the types of roads as follows:

* 4265 km asphalt roads by 8.6% in the overall increase.
* 186 km rocky roads by 3.8% in the overall increase.
* 43,200 km soil roads by 87.6% in the overall increase.

In addition, many concrete achievements in other transportation facilities, ports and airports have been achieved to meet the increasing growth in the movement of maritime and air transport, where the total number of vessels that have reached the commercial ports of the Republic of Yemen in 1990 was 2977 ships and an oil tanker, while the volume of unloaded and shipped dry cargo was about 3993000 tons, discharged & loaded oil was 17039 ton in the same year.

The number of arriving and departing passengers through the international airports of the Republic was about 121100 passengers and internal and external
cargo tonnage through the international airports was about 16421 tons in the same year.45

After the blessed reunification of Yemen in May 22, 1990, an independent entity was established for transport sector represented in the independent Ministry of Transport and that is in the first formed government after the unification of Presidential Decree No. "1" of 1990, as assigned to the task of promoting the capabilities and transport capacities and enhances its services externally and internally, support economic integration and the growth of trade and export activities.46

But as direct consequences of the country poverty, Yemen compares unfavorably with its Middle Eastern neighbors in terms of transportation infrastructure and communications networks. Roads are generally poor, although several projects are planned to upgrade the system, there is no rail network, efforts to upgrade airport facilities have languished, and telephone and internet usage and capabilities are limited, the ports of Aden has shown a promising recovery from a 2002 attack container through put increased significantly in 2004 and 2005, however, the expected imposition of higher insurance prominent for shippers in 2006 may result in reduced future through put. The announcement in summer 2005 that the ports main facility, Aden container terminal (ACT) would for the next 30 or more years be run by Dubai Ports international rings with it the prospect of further expansion.47

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45 Transportation (current status, challenges, and future prospects) ibid, p.42
46 Transport is the vital of development -Transport Ministry of Yemen,2009, P. 13
1.3 Concept of Transportation:

- **First: The Semantic Concept of Transportation:**

  To transfer something is to move it from its place to another place. It also means a shortcut.\(^{48}\) Transportation is carried out by different means on land, sea or air. For significance of transport, the concept of transfer things has been mentioned in the Quran in 23 verses referring to movement the people and luggage by land transportation. In all these verses the means of transportation are animals. Other verses, 41 verses, have mentioned ships as a device for transporting people and goods; rivers have been mentioned in 54 verses while 25 verses talked about the travel of birds from which then man learned to invent the airplane.\(^{49}\)

- **Second: The Concept of Transportation as an Economical Service:**

  Transportation means to take or carry people, luggage, goods and knowledge from one place to another by different means of different speed and capacities at low cost, safety and speed based on the available elements that support it.\(^{50}\) Transportation aims to generate and organize time and place benefits as well as the civilized, economical, social, political, military, security, and cultural advantages. Transportation also enhances the international humanitarian and economical ties and how to best use resources and wealth. It also helps to increase productivity and trade exchange to share experiences and achieve cooperation and integration between nations with the ultimate aim of increasing the welfare of nations.\(^{51}\)

  From an economical point of view, transportation process is directly linked with the various economical and social activities. The importance of transportation lies in creating the economical congestion of productivity. Therefore, it is a motive for economical development as it carries raw material and work force into all economical sectors. Further, it takes products into markets. So transportation connects all economical sectors together. We can say that transportation contributes, in general, to the economical growth since it increases productivity and affects

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\(^{48}\) Anis. E., Al Mujam Al Waseet. Dar Al Fiker.2000 Cairo ,pp.949  
\(^{50}\) Al Mashwakhi. A.S., Economies of Transportation,Ibid,pp.22  
\(^{51}\) Abdul Aziz., Economies of Transportation , Al Nadha. Cairo. 1936, p.6
consumed goods and export.\textsuperscript{52}

Transportation is considered a productive activity because it shortens distances. Further, it gives an economical value for itself through the transportation of goods and individuals from one place to another. Therefore, transportation is considered an effective tool for the distribution of economy. It plays a great role in the exchange and delivery of goods. We may say that values' transportation from one person to another may take place without "transportation'. In addition, the transfer of people and goods from one place to another may take place without interchange. Thus, we can say that transportation services the factor of interchange on place distance.\textsuperscript{53}

Therefore, we find that transportation is a time measurement for place dimensions. Ideal transportation is measured by the saved time and cost because the cost of transportation normally constitutes 15% - 20% of goods' cost. It may increase into 30% - 40% in developing countries as a result of other direct and indirect operational costs.\textsuperscript{54}

In the following, the researcher is going to illustrate in detail the transportation's status in Yemen according to its branches:

1.4 Types of transportation systems in Yemen:

1.4.1 Land Transportation (Current status & recent technologies):

Transporting commodities and passengers in Yemen based completely on land transportation. This kind of transportation suffered too much because of the absence of good management and organization. Land transport law faced for along time a lot of difficulties that stopped its issuance which lasted from 1992 up to 2003. The Ministry of Transport also faced a lot of difficulties that crippled organizing and improving land transport in its two sides the passengers and commodity transport. The privet single sector presents its service with a limited entities, institutions and companies that are working in this sector while the authority focused on availing illegal entities representing in land transport syndicates. Especially after the deterioration of the public transportation for land transport that was contributing in

\textsuperscript{52} Al Odayni. M. introduction to the Geography of Transportation and International Trade. P7. Obadi Centre 2004
\textsuperscript{53} Mahmoud. A., Economies of Marine Transport. . Al Esh'a Printing, p .7
\textsuperscript{54} Al- mashukhi,S,Economies of Transportation and transfer, Ibid,pp.22

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presenting transport services for passengers between cities. But through the survey conducted by researcher, he found that the public transportation doesn’t contribute in respect of development land transport, public transport has only three buses for transporting people between cities, and these buses lacks of urgent maintenance*, where as number of private transport companies are 28 company55. in spite of existing of many transport companies are useful for upgrading the system but the lacking of the law that organize the transportation contributed to create monopoly of private companies**. In such situation, it will be very complicated to organize and improve land transport especially because it lacks for infrastructures and services which complete its role such as departure and reception stations, organized parking, refreshment stations, maintenance centers…etc.56

However, the public corporation of land transportation, as it is one of public sector corporations contributed by less percentage in respect of transporting the people and goods because of the technical, economical and human problems. Especially after declining its trucks and minibuses from 569 trucks and bus in 1995 to 402 truck and bus in 2000, 90% of this number of truks and buses was out of order57, recently in 2012 the corporation currently possesses only three buses as the researcher mentioned above.

On the other hand, Relative to Yemen's size the road transportation system is very limited. Yemen has 11, 300 km of roads, only 6200 km of which are paved, in the north roads connecting Sana'a, Taiz and Hoddiadah are good, as they are having intercity services. In the south, roads are generally poor and in need for repair except Aden – Taiz road58

Additionally, asphalt roads are not enough and it was built in different styles by different contractors and companies; the authorities cannot regularly present suitable maintenance for the roads and this leads to deteriorating its efficiency especially with the increase of transportation movement and weights. The traffic jam happened at the entrance of the sub-towns lied on the roads, the weekly markets set up on the

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55 Transport is the vital of development, Transport Ministry of Yemen, Ibid, Pp.32
* Survey conducted by researcher.
** This will be discussed sufficiently through transportation policy in republic of Yemen
56 - Transport is the vital of development - Ministry of Transport, op. cit, P. 31.
57 The development and planning ministry, the second year plan 2001-2005 p. 185.
roads by the people who are living close to it also represent another factors for deterioration the road network. As absolute result of congestion, the emissions and pollution problems arise immediately to affect adversely air quality and environments aspects as whole.

On the other hand, poor roads lack modern techniques in respect of security, safety and traffic regulation aspects because of ineffective transportation management, in this context, traffic accidents have been increased to reach up to 14131 in 2010\(^5^9\), this huge number of traffic accidents caused damage of goods and vehicles, exposed life of people for danger and hampered logistics flow of goods and services, as well as destroyed road networks itself. There are also some administrative and organizing obstacles that increase the problem of land transport. The most important ones are those two obstacles mentioned in the working paper presented by the General Association of Commercial Chambers in the national conference for administrative and financial improvements and reformation.

**The first one**: related to monopolizing transport offices which impose high tariffs on transportation per each ton or km which is the highest in the world, this leads to weaken the industrial and commercial activity.

**The second obstacle**: is represented in security checkpoints that hinder the fluidity of commodities into Yemen lands and also made an additional cost to transportation; these checkpoint were put just to collect money by imposing extra fees on the commodity.\(^6^0\)

However, on the other hand, Yemen lacks the modern techniques with regard to transport management which applied in many countries, that’s called intelligent transportation systems (ITSs), there are a lot of advantages for using such systems, all the studies have proven that future of transportation embody effective applying of these systems, the most important advantages are:

- The safety and security
- Saving time
- Provide the necessary information to the driver to avoid the congested paths to

\(^5^9\) [http://www.cso_yemen.org/content.php?lng=Arabic&cid=131](http://www.cso_yemen.org/content.php?lng=Arabic&cid=131)

\(^6^0\) Transport (the reality – aspiration – future horizons) Republic of Yemen consultative council, ibid, P. 67, 70
reach to target point with minimum time.\textsuperscript{61}

That’s also reduce the cost and improves the performance, and these are the main objectives of logistic management and transportation.

TABLE No (1.1) : Elements of (ITS)

<table>
<thead>
<tr>
<th>Europe</th>
<th>United states</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated Urban Traffic Management</td>
<td>Advanced Traffic Management</td>
</tr>
<tr>
<td>Demand Management</td>
<td>System(ATMS)</td>
</tr>
<tr>
<td>Integrated Inter/Urban Traffic Management</td>
<td>Advanced Road Transport System</td>
</tr>
<tr>
<td>Traffic and Travel Information</td>
<td>ARTS(ARTS)</td>
</tr>
<tr>
<td>Driver Assistance and Cooperative Driving</td>
<td>Advanced Vehicle Control</td>
</tr>
<tr>
<td>Public Transport Management</td>
<td>System(AVCS)</td>
</tr>
<tr>
<td>Freight and Fleet Management</td>
<td>Advanced Public Transportation</td>
</tr>
<tr>
<td></td>
<td>System(ARTS)</td>
</tr>
<tr>
<td></td>
<td>Commercial Vehicle Operations</td>
</tr>
</tbody>
</table>

Source: Hani lashine, The modern concepts of logistics, P. 355

Intelligent transportation systems are intended to offer a variety of technological solutions to the growing surface transportation problems being experienced by more and more cities. Many countries have done a great deal of work in ITS.

Japan had major activities in this area under the VERTIS organizing group.\textsuperscript{62} ITS offers a wide range of technology –based solutions. Advanced traveler information systems, known most recently by the 511 phone number, provide information about specific high ways that may be affected by accidents, weather and constriction. The traveler accessing this information can choose to travel by alternative rout or delay travel journey, there by Lessing congestion, incident management programs, built upon cooperative efforts among transportation law enforcement and ire personal rely upon faster identification, response and clearance times to further reduce the impact of non-recurring congestion. Advanced traffic management system can provide coordinated traffic signal control efforts across

\textsuperscript{61} Lashin, Hani, Organization experts group. Under guidance, Fathi Lashin, modern concepts of logistics and transportation services management, 2007, Arabian organization for managerial development. pp. 352, 353

\textsuperscript{62} Chenming Sun Yuming , Agent based intelligent transportation mgt system, 2006, the international conference on ITS telecommunication proceedings Shanghai-China, p. 190
jurisdictional boundaries, especially when accidents significantly increase on alternative road ways. Commercial weigh-in-motion sensors means that trucks traveling across state lines don’t have to experience in section delay since they can be weighed while traveling past in section points. Electronic toll collection permits vehicles to make payment weight stopping at a toll collection booth. Thereby reducing pollution and lowering travel times. In addition to adding capacity and dealing more effectively weigh contention, ITS based technology can improve safety in vehicle collision avoidance systems can signal drivers when other vehicles are traveling too closely. Camera installed at intersection can reduce the number of vehicles that run red lights. Freeway management systems that employ ramp metering reduce the number of crashes.

ITS have acted as free way service patrols. The use of the technology has increased understanding of innovative ways to solve problems and provide better service quality.\(^{63}\)

The five-years plan realized transport shortages and expanded its goals in this field to include completing construction roads and those non-completed international ones that pass through Yemen; secure the free competition in land transportation instead of the associative system known as "turn", preparing suitable studies to determine the expected demand on land transportation services and also to put sound plans that aim at improving this kind of activity.

Five-year plans also contained various goals and procedures that will lead into increasing the efficiency of land transport\(^*^{64}\). The responsible authority represented in Ministry of Transport did not save any efforts in putting some procedures that focused on the interest of improving this sector; the most important ones are as follows:\(^{65}\)

Issuance of the executive list of the law, in addition to a number of lists and procedures that organize the activity and service of land transport (passengers – commodities) as well as the financial lists which has been summarized in the

\(^{63}\) Jeremy F. Plant, Van R. Johnston, Cristina E. Ciocirlan, Handbook of transportation policy and administration,2007,Taylor and Francis group, llc,pp. 80

\(^{64}\) The transport (the reality, as aspiration, future prospects), Republic of Yemen Consultative Council, Ibid, P.No. 70

\(^*\) All policies will be critically illustrated while discussion transports policy in Yemen. (Chapter no. 3)

\(^{65}\) The transport is the vital of development, Ministry of Transportation, Ibid, p. no. 21-32

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Chapter 1: Prologue

The following:

- A list that organizes land transportation by trucks for commodities and its amendments issued in 2007.
- A list of land transport for passengers by buses issued in 2008.
- A list that organizes land activity by Taxi companies.
- A list that organizes the facilities of renting cars.
- To decrease the fees of transporting the commodities and passenger to shrink the costs of production
- To convert the branches of the public corporations for land transportation which are financed by the State in the cities into local corporations worked under the control of Local Councils and supervised by the minister of transport and that is to reorganize activity of these corporations and at the same time opening the way for the private sector and workers to share in its capital.
- To coordinate with different authorities to improve the traffic safety programs and go on improving transport means in addition to make a study for that substances that pollute the environment because of the vehicles and determine the level of pollution.
- To set up the national committee to facilitate business and commerce: this committee is important at the time of challenges
- To expand using computers so that all treatments should be achieved by computer's systems.
- To establish the general corporation for organizing land transport which will be in charge of organizing and improving the activities and service of land transport.66
- To encourage the private investments in the field of land transportation of its all types, to exempt passengers' transporting means such as buses from customs and treat it according to the investment law, to increase the number of the companies determined for transporting passengers" international transport" from two companies to 28 company in the current situation; the number of the companies that transport passengers by buses have also increased and present good service for the

people, that is through improving the service of land transportation and the gradual change inside cities from small buses with small capacities into bigger one; additionally to connect all main cities through regular trips to the neighboring countries and improving the service that pace up with the economical developments and the free requirements and integration with the neighboring countries. With regard to The number of the registered cars in Yemen, in 1962 was 300 vehicles, and according to the available statistics, the vehicles in 1995 was 721158 and the number has been increased from 96-2005 around 532547, out of this number, 227431 related to trucks of transporting goods and 79629 vehicles related to private taxi for transporting people at the beginning of 2010 the increasing in trucks of transporting goods was 41206 truck, the increasing of private taxi has reached 35403.

In fact, increasing of vehicles doesn’t mean that the system is sustainable, the system is upgrading where existing the rules which regulate this system, more over, applying effective transport management through practising modern activities have great impact for making land transportation buoyant one.

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68 Annual Statistic book, 2006, international cooperation and planning ministry pp. 166.
TABLE No (1.2) : Statistics Of Vehicles In Yemen from 2001 to Dec. 2011

<table>
<thead>
<tr>
<th>Years</th>
<th>Trucks and Lorries of Goods</th>
<th>Taxi</th>
<th>Private Cars</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>16507</td>
<td>6457</td>
<td>30943</td>
<td>53907</td>
</tr>
<tr>
<td>2002</td>
<td>9082</td>
<td>4546</td>
<td>13780</td>
<td>27408</td>
</tr>
<tr>
<td>2003</td>
<td>6659</td>
<td>2650</td>
<td>7930</td>
<td>17239</td>
</tr>
<tr>
<td>2004</td>
<td>19934</td>
<td>4307</td>
<td>27535</td>
<td>51776</td>
</tr>
<tr>
<td>2005</td>
<td>22742</td>
<td>5830</td>
<td>37079</td>
<td>65651</td>
</tr>
<tr>
<td>2006</td>
<td>12940</td>
<td>7123</td>
<td>28636</td>
<td>48699</td>
</tr>
<tr>
<td>2007</td>
<td>10150</td>
<td>11014</td>
<td>28744</td>
<td>49908</td>
</tr>
<tr>
<td>2008</td>
<td>9009</td>
<td>10149</td>
<td>29025</td>
<td>48183</td>
</tr>
<tr>
<td>2009</td>
<td>9107</td>
<td>7117</td>
<td>26647</td>
<td>42871</td>
</tr>
<tr>
<td>2010</td>
<td>9902</td>
<td>6747</td>
<td>36884</td>
<td>53533</td>
</tr>
<tr>
<td>2011</td>
<td>6844</td>
<td>12324</td>
<td>23759</td>
<td>42927</td>
</tr>
<tr>
<td>Total</td>
<td>132873</td>
<td>78264</td>
<td>290962</td>
<td>502099</td>
</tr>
</tbody>
</table>

Source: The table has been prepared by the researcher after collecting statistics from different sources as follows:

* Annual statistic book2003, ministry of planning and international cooperation, pp.143
* Annual statistic book2006, ministry of planning and international cooperation, pp.161,166
* Annual statistic book2009, ministry of planning and international cooperation, pp.243,248
* http://www.cso_yemen.org/content.php?lng=Arabic&cid=131

CHART No (1.1) : Statistics Of Vehicles In Yemen from 2001 to Dec. 2011
As looking at the above table and chart the researcher observed that through out 11 years the total number of carriers of goods was 132873, and this number is low comparison with other types, as total number of taxi was 78264, while total number of private cars through out mentioned years was 290962.

However, shortage of numbers of goods carriers adversely affects logistics activities in respect of moving goods and services as whole.

In general, it is fair to say that although all the procedures mentioned above prescribed by transport ministry, it seems that it just ink on a papers because land transportation still visibly unsustainable and degradable up to now.

Building on that, the researcher has discussed sufficiently challenges faced by land transportation due to inadequate policy while discussion policy of transportation in Yemen and illustrating the lacking aspects of it.

1.4.2. Marine transport (Reality and performance measures):

Yemen is geographically and strategically located on Bab E-Mandab, the strait linking the Red Sea and the Gulf of Aden. Enabled Yemen to control the international shipping coming from the Indian Ocean route to the Mediterranean as well as the trade route from Europe and heading to open water in the Indian Ocean, making it the connecting link between the continents of Asia and Africa from the perspective of the Horn of Africa and a conduit for international shipping coming from the European continent.70

Maritime transportation and navigation are very old in Yemen and Yemenis are well known of these two things since the ancient ages and that is because Yemen is overlooking on a very vast water areas that expands up to 2000 km on the western and eastern coasts. Many seaports, therefore, were set up through the history, the most important ones are Aden seaports, Hodeidah Seaport, Mocha Seaports, Beer Ali Seaport, Al Mukalla Seaport …etc. some of these seaports have extincted while some others have some traces and some other are still alive up to the moment and practise its activities and jobs. Yemen has several seaports with different production capacities. The government gave seaports since the eruption of revolution the

70 Yemen and big states, issued by Yemeni news agency, Sheba, 2004, the second part, pp15.
suitable care but not the same care that it gave for land transport structure (Roads) in the field of allocated investment according to the general budget of the government during the last years.⁷¹

Yemen's main ports are Aden, Al Mukallah, Al Hoddiadah and Mocha; Aden is the primary port, Ras Esa serves as the loading point for oil exports, and small amount of cargo passes through Nishtun. ⁷²

Al Saleef Seaport locates 65km to the north of Al Hoddiadah; it is distinguished by a natural drowning and also it is suitable to receive big ships that are unable to anchor at Hoddiadah seaport. ⁷³

The ports are considering to be the most important outlets through which the imported and exported commodities are passed that has been clear through contribution the marine transport to the economy comparison with other modes (land and air), the contribution of marine transport through the sea ports in Yemen in respect of the imports for years, 2008, 2009, 2010 was 86.06%, 79.35%, 82.09% respectively, where as contribution of land transport to the economy through dry ports in respect of imports for same years was 9.22%, 11.90%, 11.98% respectively. While contribution of air transport in same respect was 4.72%, 8.76%, 5.93%.

With regard to exports for same years, contribution of sea transport for same years was 97.39%, 96.55%, 96.09% and contribution of land transport was 2.33%, 2.97%, 3.18% while contribution of air transport was 0.28%, 0.48%, 0.73% ⁷⁴*, that due to marine transportation accommodates large number of commodities more than air transport and land transport, high cost of air transportation comparison with other outlets. Moreover, air transportation usually related to commodities which involve speed transportation or for transporting valuable commodities, hence, the importance of marine transport arises from.

In light of growing transportation activities globally and especially after the progress and development role of the transporting most of the goods by containers

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⁷⁴ http://www.cso_yemen.org/content.php?lng=arabic&cid=131(official website of central statistics authority Yemen)
* All these aspects has been discussed in detail in chapter 2,(impact transportation on Yemen economy)
and using multimodal transport as part of the advance of technology and electronic data interchange and delivery of goods on time, all of this led to the complexity of the transport processes greatly.

However, Emerging of the multimodal carrier which is taking over the transportation processes (door to door), takes care of selection of the appropriate transportation modes which ensure the speed, safety, with less costs, has led to new era of movement goods with high performance and timely delivery with safety.

According to united nation convention signed in 1980, the multimodal transport defined as:

"Transporting the goods at least by two different modes of transportation on basis carriage contract from one place in a State, takes the hauler the cargo in his charge to the place of ultimate delivery in the other State"

The importance of Multi-transport comes from several advantages which return to the carrier, shipper and the national economy. use of more than one mode of Transportation modes in the form of an integrated transport of goods, absolutely leads inevitably to benefit from the advantages enjoyed by every means in terms of cost, speed and safety, so The end result is access to transportation service at a lower cost and higher quality with optimal use of Transport means, affecting positively to the national economy.75

The growing role of multi transport in supporting the International Trade, which is based on transport the goods by containers through using at least more than one mode transportation means (land, marine, air) and through one contract of carriage covering all phases of transportation.

This kind of system involves availability of many requirements and necessary ingredients for its activation may show as under:

- Providing appropriate infrastructure (roads networks compatible with the international standards, networks of railways, developed seaports, airports equipped for air freight services)
- Provision of sophisticated equipment to handle containers at ports, airports, as well

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75 Lashin, Hani- Group of expers,under supervision ,the modern concepts of logistics and transport services,2007,ibid.,pp.173,344
as connectivity stations, (special cars transport of containers) and aero planes and equipped to transport the goods.

Handle information technology systems and provide a mechanism that would simplify the procedures of customs and shipping documents.

Reconsider many of the current legislations to keep up with this system.\(^\text{76}\)

Though the ports represents good service for business, the maritime activity in Yemen decreased during the years from 1990 up to 1996; the number of ships that came into the seaports are 2271 in 1996, while the number of ships that came into the seaports in 1990 are 2616; the total size of the dry commodities that came into the seaports is 190 thousand ton in 1996 while it was in 1990 216 ton\(^\text{77}\). The first five-years plan (1996 -2000) for social and economical development noted the decrease and determined to improve the seaports till it copes with commercial and economical development; so the government works hard to improve loading and unloading services at ports and that is through renewing the equipments and facilities, encouraging establishing a maritime commercial convoy with the participation of the private sector and enhancing the maritime transport activity and improving the services of ships basins.\(^\text{78}\).

The government inaugurated a new seaport in Al Salef in 1997 which consists of a wharf with a length of 350 m and 14 depth, it can receive big ships with a cargo of 50 thousands ton. This project aims at releasing the crowd on Hoddiadah seaport, and also is specialized for loading and unloading some materials such as salt, wheat and the polluted material such as cement and asphalt. In 1996, Aden container terminal was also inaugurated. The ACT is going to be built with its all facilities. In the first stage, two wharfs built with a depth of 15m and length of 700m which is able to lift the containers with the weight of 50 ton with a total cost of 187 Million YR.

The government, at the same time, takes care of the capacities and capabilities of other working seaports either through deepening the seaport or renewing the seaport's facilities such as stores or equipments such as new boats for sea guidance.

\(^{76}\) Transport is the vital of development, 2009, Ibid., pp.29

\(^{77}\) Transport is the vital of development - Ministry of Transport, Ibid, P. 60, 61

\(^{78}\) Transport (the reality_aspiration_future prospects), Ibid , p. 72
as well as especial equipment for containers.

The Yemeni seaports, according to these constant efforts, developed rather. This development represented in increasing the number of arrival ships and the size of the commodities. The number of arrival ships in 1998 is 310 and the total of dry commodity is 5, 5 million ton while the number of containers is 95,000. The number of government working companies in the navigation field is three companies which are Yemen Maritime lines Company, which focuses its activities in sea transportation especially inter-transportation; the National Maritime Company that practises maritime agency activities and delivering commodities and the last company is National Ships Basin Company that presents maintenance and repair services for ships.79

The capacity of three national ships in respect of maritime transportation, is (1000 gross registrar tons (GRT) or over) totaling 12059 GRT/ 18563 metric dead weight tons (DWT) (one cargo ship and 2 petroleum tanker" 80

Through survey conducted by researcher, he found out that the equipments of National Ships Basin Company are deteriorated, three national ships are out of order, and services of Yemen maritime lines company is deactivated. These problems hampered the efficiency of maritime transportation if it is not tackled. The capacity and administrative shortage and not keeping in line with maritime developments resulted in increasing the costs of maritime transportation into Yemeni seaports. Some estimates that this costs equals triple costs of that ones in the neighboring countries* these dilemmas deepened the shortages of services in maritime transportation and show its deficiency in participating effectively in improving the foreign commerce.81

In respect of private sector participation, the government is encouraging the private sector to invest in the sea sector, so, through privatization program, it worked hard to attract global specialized company to participate in the field of maritime transportation and presenting maintenance services. The number of these companies

79 Republic of Yemen, ten years of give, 1990-2000, ministry of planning and international cooperation June 2000 P.229, 250
* This has been clarified in Chapter No. 2, (Impact transportation on the economy).
81 Transport (the reality-aspiration- future prospects), Ibid, P.72, 73..
is increased to 40 companies that are working in maritime proxy and fueling and repairing ships.\(^{82}\)

Though most policies and goals are achieved, these achievements do not include all the goals and therefore many difficulties rose and hindered the execution, these difficulties are clarified in the annual plan for the sector of transportation of the year 1999, which shows the deterioration of maritime transportation.\(^{83}\)

In November 2003, following the October 2002 bombing of the French super tanker Limburg off the Yemeni coast and the resultant dramatic drop in the transport at Aden port, the port of Singapore Authority sold its majority stocks in the (ACT) Aden Container Terminal) back to the Yemeni government. In June 2005, Dubai ports international was selected to manage and operate the ACT and possible Mualla terminal) under 30 years or longer contract, the Yemeni government will remain minority shareholder.\(^{84}\)

As a result of the explosions occurred in 2002, the researcher observed decreasing of arrival ships into Yemeni seaports were clearly noted during the years 2002, 2003 and 2004, the number of the arrival ships was 3351, 2817, 2813 respectively.\(^{85}\)

But in 2005, number of incoming ships increased somewhat up to 3089 ship, and continued to increase to reach up to 3177 ship in 2006.\(^{86}\)

In years 2007, 2008 and 2009 the number of calling ships shown dropping down, 3328, 3119, 2831 respectively, at the end of Dec, 2011, the indicator shown notable drop in this respect, the number of calling ships to the seaports of Yemen was 2114 ship.\(^{87}\)

Transportation notes of the international Maritime Bureau reports offshore waters in the gulf of Aden are higher risk for piracy, numerous vessels, including

\(^{82}\) Republic of Yemen, ten years of give, 1990-2000, ministry of planning and international cooperation June 2000 P.250
\(^{85}\) Statistics taken from (Transport is the vital of development), Ministry of Transport, 2009, ibid, P. 90
\(^{86}\) The Researcher illustrated policies of Transport and to what extent upgraded the system in Chapter (3)
\(^{87}\) Annual statistic book, 2006, cooperation and planning ministry, ibid, pp. 170

\* Number of calling ships to all seaports has been taken from:
\* Red sea ports corporation, port of hodeidah, planning and marketing department
\* Aden gulf ports corporation, port of Aden, media and marketing department.
\* [www.port of Mukalla.com](http://www.port of Mukalla.com)
commercial shipping and pleasure craft have been attacked and hijacked both at anchor and while underway crew, passengers, and cargo are held for ransom. * 89.

However, in may 2006 the London insurance market's Joint war Committee placed Yemen in its list of "areas of perceived enhanced risk" which is expected to add a war- risk insurance premium to ships operating in the country's coastal waters, this added premium, could with the availability of more secure ports in neighboring countries, will likely result in reduced the rough put in Yemen's ports in the near future. 90

The government represented by Ministry of Transport devoted to avoid such risks that may weaken the successful prospects of Yemeni seaports and maritime transport; therefore, it issued a number of procedures that aim at restructuring maritime transport; it also held a number of agreements with different regional and international associations; Yemen also joined a number of international and regional associations but most of those plans and policies were of a little avail because of unsound policies and plans.

However, The researcher has mentioned all these procedures and the reforms prescribed by the government in detail while discussion transportation policy in Yemen, and shed the light on its lacking aspects which led to degradability of maritime transport in particular and transportation system in Yemen as whole.

It is worth noted that in 2007 and the first half of 2009 the number of containers have increased in the Yemeni seaports with an average of 17, 5% and that is in comparison with the previous year. despite the Global economical crisis and piracy incidents, ships movement increased with an average of 31% in the same period. 91

89  www.ciafact book of Yemen
* The researcher has illustrated sufficiently risk of piracy and terrorism, in turn, role of Yemen and international efforts for combating it at chap. no. 3
91  26th of September Governmental Newspaper issued by guiding spirits Department MOD (a dialogue with minister of Transport) 2010. pp. 4
Chapter 1 : Prologue

TABLE No. (1.3): The important operations of maritime transportation from 2001 up to 2011

<table>
<thead>
<tr>
<th>No. of years</th>
<th>No. of Calling Ships</th>
<th>Discharged dry Cargo (Ton)</th>
<th>Landed dry Cargo (Ton)</th>
<th>No. of handled containers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>3516</td>
<td>15966000</td>
<td>288000</td>
<td>456887</td>
</tr>
<tr>
<td>2002</td>
<td>3381</td>
<td>6809000</td>
<td>312000</td>
<td>491106</td>
</tr>
<tr>
<td>2003</td>
<td>2830</td>
<td>7500000</td>
<td>314000</td>
<td>303380</td>
</tr>
<tr>
<td>2004</td>
<td>2828</td>
<td>6800000</td>
<td>308000</td>
<td>231171</td>
</tr>
<tr>
<td>2005</td>
<td>3089</td>
<td>7917000</td>
<td>309000</td>
<td>515740</td>
</tr>
<tr>
<td>2006</td>
<td>3177</td>
<td>7473000</td>
<td>400000</td>
<td>591164</td>
</tr>
<tr>
<td>2007</td>
<td>3328</td>
<td>7105000</td>
<td>388000</td>
<td>634965</td>
</tr>
<tr>
<td>2008</td>
<td>3119</td>
<td>6446000</td>
<td>42300</td>
<td>728991</td>
</tr>
<tr>
<td>2009</td>
<td>2831</td>
<td>7006000</td>
<td>400000</td>
<td>641936</td>
</tr>
<tr>
<td>2010</td>
<td>2813</td>
<td>8298000</td>
<td>487000</td>
<td>632075</td>
</tr>
<tr>
<td>2011</td>
<td>2152</td>
<td>6341000</td>
<td>377000</td>
<td>409939</td>
</tr>
</tbody>
</table>

Source: The table done by the researcher after collecting statistics from the following sources:

2. Development and planning ministry, annual statistic book, 2003, pp.147
4. Developing and planning ministry, annual statistic book, 2009, pp.253
5. Developing and planning ministry, annual statistic book, 2010, ch no12 table no8, p.246
6. Red sea ports corporation, port of hodeidah, department of marketing and planning.
7. Aden gulf ports corporation, port of Aden, media marketing department.
8. www.port of hodeidah.com
9. www.portofaden.net

CHART No. (1.2): The important operations of maritime transportation from 2001 up to 2011

[Graph showing the data from the table]
As looking at the table and charts above, the researcher has observed that the highest indicator of number of arriving ships was in 2002 (3381 ship), the indicator continued to show declining number of call ships beginning from (2007) (3328 ship), the number of ships decreased in 2008 to reach (3119 ship), in 2009, the number of ships was 2831 ship), the indicator continued to drop down to equal (2813 ship) in 2010, and continued to drop till (2152 ship) in the last Dec, 2011.

In respect of discharged cargo the indicator in 2001 was the lowest (5966000 tone) and continued to increase to 7000000 and 80000000, most of the years. The highest reading was in 2010 reached (8298000 tones), in 2011, the discharged cargo quantum was (6341000).

With regard to the loaded cargo, the researcher observed that quantum of exports fluctuate between 300000) and 400000), and that indicate that the exports operations very low, that from perspective of researcher attributed to poor economy, poor foreign trade of Yemen, concentration on agricultural exports and unsound policy of exports.

The handled containers at Yemeni seaports in 2004 was the lowest (231171 container), the indicator rose till (728991 container) in 2008, but the indicator continued to drop down till (409939 container) in 2011.

It is clear that the marine transportation in Yemen degradable because of many reasons led to current situation, beginning from poor economy, mismanagement, unstable situation in the country, obsolescence and non adequacy of equipments and lack of sound policies and plans in respect of maritime transportation, these reasons and more has been illustrated sufficiently in chapter 2 (marine transport structure).

1.4.3. Air Transport (upgrading efforts & drawbacks):

Air transport is considered the most important mean of transport in the modern world. Air transport has achieved a very advance step in the field of transportation especially after incremental demand of it, so it plays a very important role in the
Transportation infrastructure has always played an important role in the economic fate of regions. In particular, airline networks have dramatically decreased the geographic and temporal constraints of moving people, goods and information; all of which are increasingly crucial inputs for the information economy. As a result, regions have become more concerned with both the quantity and quality of airline connections. The flows that constitute the global economy range from the almost ethereal (Internet data packets or financial transactions), to the clearly tangible (cargo containers or people). Together these network infrastructures shape the contours of the globalization process in the twenty-first century. One of the more visible manifestations (particularly from an individual’s perspective) is the global airline network that connects thousands of airports and is used by millions of passengers every year. This dynamic and complex mesh is largely hierarchically constructed with dramatic differences in the frequency of service and connectivity between airports.

Air transport is one of the transportation branches in Yemen and distinct with various features that make it takes the first position in transporting passengers between Yemen and other countries. It competes land transport in transporting passengers between Yemeni Cities and also the commodities that need to be delivered to consumers as fast as possible. The government took care of this kind of transport since the beginning of revolution and built international and local airports; it also assigned a big amount of money in its five-year plan budget to be invested in this significant sector and that is to develop the performance, safety level and services in the airports. The General authority for civilian aviation and meteorology is the authority that is responsible for supervising civilian aviation, organizing, running and improving all facilities of civilian aviation and weather. Air transport distributed in transporting a big number of passengers in addition to small quantities of commodities for the passengers which is light and expensive.

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92 Transport is the vital of development, Ministry of Transport, Ibid, p P. 98.
94 Al-odyny, Maresh-The entrance to transport geography, Ibid, P. 40
95 Transport is the vital of development - Ministry of Transport, Ibid, P. 98.
Yemen has 46 airports\(^7\) eight of these airports are international which are Sana'a International Airport, Al Mukalla, Al Hodaidah, Taiz, Sayon, Socatra and Al Ghatha; there are also eight local airports which are Sa'adah, Ataq- Shabwah "asphalt", Baihan Shabwah, Mukairas – Dthe Naem Baitha, Amran, Marab, and Al Jawf local airport.\(^8\) There are also a number of local airports which do not work because it does not comply with technical conditions.\(^9\)

**Yemeni Airlines Company:**

In 1996, the two national companies "Yemenia and Yamda" have been integrated into Yemen Airline Company – the national transporter.\(^{10}\) Yemen Airline Company is a Yemeni distributive company with a mutual capital, the tribute of Yemeni government is 51% while the other 49% is owned by Saudi partner.\(^{11}\) "will eventually be privatized, but these have been resistance by the Saudis".

The company, in the last years, overcame many difficulties and problems that faced many airlines companies. It has passed all problems of the two companies "Yemenia and Yamda" and therefore became one of the most competitive companies in Middle East area. The company has worked hard to build modern convoy that contains huge airplanes such as Airbus and Boeing; this step has distributed effectively in increasing the safety and capacity of Yemeni convoy.

However, Yemen government has invested 2, 2 billion YR to modernize air convoy and started this in 1997; it renewed all convoy and entered four Airbus airplanes (310) and three Boeing Airplanes (737). To improve passengers and commodity service, Yemeni has entered two new Airbus airplanes (330/200). Yemeni could reach up to 5 terminals and has the desire to add three new ones. Moreover, the company has raised remarkable increase in the number of passengers and quantity of loaded commodity in 2004; the number of passengers rose to one million passengers while the loaded commodity rose to 15 thousand ton. The administration council of the company with the attendance of the two partners

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\(^7\) Al-odyni, Maresh, Geography of Yemeni Seaports, Obadi Center for Studies and Publications, Ibid, P.134.
\(^8\) Transport is the vital of development - Ministry of Transport, Ibid, P. 98.
\(^9\) Al-odyni, Maresh-Geography of Yemeni Seaports, Obad Center ,op, cit, P.134
\(^11\) Transport is the vital of development - Ministry of Transport, Ibid, P. 118.
'Yemeni and Saudi' decided in 2005 to raise the capital of the company to 40 million YR and that is according to the orders of the two leaderships of the company\textsuperscript{102}

At present, Yemen Airlines Company takes over activities of international air transport and monopolizes all the ground services at Yemeni air ports.

According to the latest statistics of transportation ministry the current convoy of the company consists of ten modern aero planes as follows:

**Table No. (1.4) : Models and number of aero planes:**

<table>
<thead>
<tr>
<th>Model</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airbus (300-310)</td>
<td>4</td>
</tr>
<tr>
<td>Boeing (800-737)</td>
<td>4</td>
</tr>
<tr>
<td>Airbus (200-330)</td>
<td>2</td>
</tr>
</tbody>
</table>

On the other hand, as policy of encouraging the private sector adopted by the ministry, Alsaeeda airlines has been existed to share with Yemen airlines company operation of some local terminals.

However, after Al Saeedah Airlines Company completes its convey, Yemen airlines company will only operate in three local terminals which are Sana'a, Aden and Mukalla and leave the other terminals Taiz, Socotra, Taiz, Hodeida, Gaithah, to Alsaeeda airlines company\textsuperscript{103}.

In the last three decades, air transport in Yemen witnessed great efforts to cope with the international developments. In this context, the government exerted tangible efforts to improve the service level presented by air transport. Therefore, it works hard to qualify, develop and expand all Yemeni international airports in particular and the local ones in general; it also provided these airports with the necessary navigation equipment, communications, air controlling devices, as well as qualifying cadres working in it and trains them in different administrative and technical specializations.\textsuperscript{*} This development seemed very clear through watching air transport movements at all the international airports specially Sana'a International Airport

\textsuperscript{102} \url{http://en.wikipedia.org/wiki/transport-in-yemen}

\textsuperscript{103} the transport is vital of development, ministry of transport, Op, cit., 2009, pp.118-120
which monopolizes more than 50% of the trips number and more than 65% of passengers' movement at Yemeni airports.¹⁰⁴

In this respect, to cope up with fast development in the field of air transportation at the global level, and after the experience proved that it is impossible to develop air transportation with limited liberalization for 'air transport market'; basically air transport liberalization means enhancing comprehensive development and opening scope of air transportation, for that, Yemen Government adopted the policy of air opening gradually at international Yemeni airports according to a timetable program. The government started this program in 2006 at Aden, Hodeida Airports. In 2007 at Taiz and Sayeon Airports and in 2008 at Mukalla Airport, and by the end of 2009 this program will be completed with opening Sana'a Airport as a last airport. The government doubles its interest in this sector and worked hard to raise the efficiency and capacity level of the airports to present better services and that is through restructuring process and availing the necessary facilities to attract transporting companies to its airports.

Sana'a airport is taken to be one of the vast regions because it contains the sovereignty air of Yemen Republic as well as highest parts of seas; it also extends from the Red Sea to the west and at 60 G towards the east above the Indian Ocean. This region is run by Air Observing Center in Sana'a with Yemeni qualified and well-trained cadres. Sana'a Aviation region is surrounded by seven aviation regions which are connected with each other by mutual treaties aims at facilitating and organizing aviation movement and enhancing aviation safety among these high regions according to standardize rules and followed procedures in this sector. These seven regions are as follows:-

- Asmara Aviation Region
- Jeddah Aviation Region.
- Bahrain Aviation Region.
- Mumbai Aviation Region.
- Mogadishu Aviation Region.

* All these developments has been critically discussed in chapter 2(air transport structure)
Addis Ababa Aviation Region.

Air routes have been modernized in Sana'a region to match up International Organizations (ICAO) requirements and International Association for Transport Aviation (IATA). Modernizing the company has affected aviation transport company's economies; it also contributes in shortening the routes with full care of national requirements. The air observing center, which is in charge of providing movement services in Sana'a region, is connected with local airports and neighbor international air observing centers and also direct communication (hotlines) according to the international requirements.¹⁰⁵

MAP SHOWS POLICY OF OPEN AIR TRANSPORT

Although efforts of the governments to upgrade air transportation system, this branch of transportation still under desirable measure, its fair to say that the government strive to develop this sector through many procedures and some of these procedures has paid off but most of these procedures couldn’t to be accomplished to serve this sector, beginning from  lacking the priority of the procedures to be

¹⁰⁵ The transport is vital of the development, ministry of transportation, ibid, pp 108,109

* The researcher has explained critically obstacles of air transportation in chapter no 3(transport policy)
prescribed precisely, obsolescence of the equipments, poor infrastructure, finally and not last, mismanagement.*

All that has affected air transportation unfavorably, if we look at the Yemen airline company the researcher observed big inconsistence about it whether through the actual situation or through the available statistics.

With regard to the current situation, the Yemen airlines company confronts many troubles and burdens hampered its activities that has been distinct through personal observation and supported by declaration of minister of transportation recently. 106

Through the following points:

- The Yemen airlines company losses 40% out of its revenues because it has been strictly prohibited to carry freight to Europe because of the bombing parcels sent through Sanaa airport on 29 Oct., 2011.
- The Yemen Airlines Company couldn’t afford to pay prices of oil to Yemen oil company around (4 million), besides, couldn’t to pay fees of parking (4 million) to civil aviation authority for many years.
- The Yemen airlines company was possessing 13 aero planes, recently became 5 aero planes 2 out of this number rental.
- The Yemenia airlines claimed by insurance company (6 million dollar) added to its burdens.
- That proves undoubtedly that Yemeni’s development strategy is risky and mobilizes public funds. Due to that Yemenia faced financial difficulties.
- Moreover, The competition policy on the domestic market is ambiguous, that’s clear as the Yemenia gave the operation rights for local flights to Alsaeeda airlines because Alsaeeda possesses the majority of shares (75%) while yemenia invested only with (25%). 107

All the above mentioned has brought additional burdens to Yemenia airline.

106 Dialogue with present transport minister through Yemeni alsaaeda channel regarding the current situation of transportation sector on 2/2012.
107 MNA Knowledge Notes, Lessons from analytic and advisory activities, report of World Bank about air transportation in Yemen, September 2011, No.2.
In general, the current situation of air transportation in Yemen can be illustrated through the below table has prepared by the researcher after collecting statistics from various sources.

**TABLE No. (1.5) : Operations Of Air Transportation In Yemen During The Period (2001 - 2011)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Aircraft Traffic</th>
<th>Fright (Tons)</th>
<th>Passengers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Local</td>
<td>International</td>
<td>Total</td>
</tr>
<tr>
<td>2001</td>
<td>8469</td>
<td>12017</td>
<td>20986</td>
</tr>
<tr>
<td>2002</td>
<td>8524</td>
<td>11815</td>
<td>20339</td>
</tr>
<tr>
<td>2003</td>
<td>7529</td>
<td>11970</td>
<td>19494</td>
</tr>
<tr>
<td>2004</td>
<td>8544</td>
<td>13413</td>
<td>21957</td>
</tr>
<tr>
<td>2005</td>
<td>6809</td>
<td>13185</td>
<td>19994</td>
</tr>
<tr>
<td>2006</td>
<td>7647</td>
<td>12128</td>
<td>19775</td>
</tr>
<tr>
<td>2007</td>
<td>7522</td>
<td>12455</td>
<td>19977</td>
</tr>
<tr>
<td>2008</td>
<td>10064</td>
<td>14709</td>
<td>24773</td>
</tr>
<tr>
<td>2009</td>
<td>21174</td>
<td>15886</td>
<td>37060</td>
</tr>
<tr>
<td>2010</td>
<td>23237</td>
<td>19755</td>
<td>42992</td>
</tr>
<tr>
<td>2011</td>
<td>19216</td>
<td>15670</td>
<td>34886</td>
</tr>
</tbody>
</table>

Sources: The table has been prepared by the researcher after collecting statistics from different sources as following:
- http://www.mot.gov.ye
- http://www.camayemen.com
- http://www.cso-yemen.org/content.php?lng=arabic&cid=131
- Civil aviation and meteorology authority, department of statistics.
- Ministry of international cooperation and planning, annual statistic book, 2003, pp.149/150
- Ministry of international cooperation and planning, annual statistic book, 2006, pp.176
- Ministry of international cooperation and planning, annual statistic book, 2009, pp.259

* **CHART NO. (1.3) Shows Operation Of Air Transportation In Yemen During The Period (2001-2011)**
Through the table and chart shown above, the researcher observed that the indicator of movement of aircraft has been fluctuated between 19000 and 21000 throughout the first seven years, and this ocular proves that air transportation performance during this period is unsatisfactory because of long period and small number of aircraft, this reflect the poor performance in total, in same respect, the indicator was taking up in 2008 to reach 24773 aircraft, in 2009 and 2010 the indicator rose till 37060, 42992 respectively, that rising attributed to unstable situation of the country during this period which led to leaving most of foreigners and because of the diplomacy delegations, the number of aircraft traffic has been reduced up to 34886 in 2011.

In respect of the freight, the indicator has shown the degradable situation of the freight throughout the years, starting from small quantum of cargo in 2001(17469 ton) and the indicator continued to revolve around same amount 20000 ton and 19000, but in 2008 the quantum of freight shown a little rising to reach to 25166 ton. Soon after the number has reduced in 2009, 2010 to reach 22054, 23848 respectively, in 2011, the quantum of freight dropped down up to 17878 ton.

With regard to the passengers, the total number of arriving and departing passengers in 2001 was 1338000; this number has been in creased up to 2624000, soon after in 2011, total number of arriving and departing has been reduced to reach 2008000.

However, our concern focuses on quantum of loaded and discharged goods and impact of the effective logistics on movement of goods Which affect the economy.
of the country greatly.

Although transportation has met the economical and social development requirements to some extent in the last years, the current economical challenges at the regional and international level and the constant order to free the world commerce and open the national markets puts the transportation sector against various challenges which will not enable it to counter unless many technical and administrative procedures are applied to attract the suitable investments that secure its efficiency in presenting better service for business and enhance its ability to compete with others.

We do not need a concept that has properties to improve the transportation sector, instead we should take into account the significant role that this sector plays in improving the commercial efficiency and achieving the desired interest either it was at the level of local commerce or the foreign ones. The reason behind this is the high fees imposed on the commodity transported by air and at the same time most of expatriates preferred to transport their commodities by land the cheapest one.108

The main reason behind the deterioration in air transport is the various problems that this sector is still facing. The tremendous one is the old model of air observing equipment and loading and unloading problems as well as the low efficiency of Yemeni air convoy and that is because some of used airplanes are run out of service while the other ones are very old; therefore, the low efficiency affects the quality presented by this sector and its ability to compete other companies.

108 Al-odyni, Maresh, Entrance to Transport and international trade in Yemen, Ibid, pp. 72
1.5. Research Methodologies:

1.5.1. Problem of Study:

As a direct consequence of the country's poverty, Yemen compares unfavorably with its Middle Eastern neighbors in terms of transportation infrastructure and communication network. Roads are generally poor. Although several projects are planned to upgrade the system, there is no rail network. Efforts to upgrade airports facilities have languished, telephone and internet usage and capabilities are limited. Performance of the sea ports are unsatisfactory in spite of Yemen strategically and geographically located on Bab almandeb, the strait linking the Red sea and Gulf of Aden may making it one of the World's most active shipping lanes. Hence we should investigate the exact reasons which hampered the transportation system in Yemen and its reflection on the economy of Yemen.

1.5.2. Importance of Research:

Effective transportation system provides optimum utilization for economic and social utilities and potentials that generates better accessibility to the markets, additional investment, and social welfare which ensure accelerating economic growth rapidly.

Through this study, effective interfacing among efficient logistic management, and sound transportation policies and planning, it could be possible to upgrade transportation system in Yemen and making it sustainable.

1.5.3. Research Objectives:

- To study transportation systems in Yemen.
- To study efficacy of policies taken on road, marine and air transportation in Yemen.
To identify the problems which hamper the different transportation systems in Yemen.

To study the economic benefits of transport systems in Yemen.

To ascertain proper maintenance and management of the roads, airports and seaports can boost the economy of Yemen.

To establish if the government has invested enough funds in the modern technology equipments on different modes of transport.

1.5.4. **Research Hypothesis:**

- Logistic Management in Yemen is underdeveloped, it impact on lose revenue.
- The potential and capacity of the ports are underutilized.
- Poor road network in the country has hampered communication to rural Yemen.
- Transportation Policy of Yemen is inadequate.
- The government of Yemen had poor management of roads, seaports and airports.

1.5.5. **Research Methodology:**

Both primary and secondary methods of data collection were used in the present research for collection of information and data.

The questionnaire method was used to collect the primary data from the beneficiaries and the officer while interview technique was used to review the opinion of the managerial personnel.

1. **Type of Research:** Descriptive and explanatory

2. **Data collection sources:**

   (a) **Primary Data Collection sources:**

   (I) Beneficiaries of logistics

   (ii) Officers

   (iii) Consumers

   (b) **Secondary Data Collection sources:**

   Websites, magazines, Books, Reports, Surveys, Journals, Research
3. **Research Instruments:**

(a) Questionnaires.

(b) Interview Method.

4. **Sampling:**

The researcher has selected two categories as study sample to carry out the questionnaire related to his topic, these categories have been classified into:

1. **Beneficiaries:**
   a) Businessmen  
   b) Consumers.

2. **Decision and policy makers.**
   a) Land Transport.  
   b) Marine Transport.  
   c) Air Transport.

The questionnaire has been randomly distributed to targeted study sample size(350) including different fields of transportation(land, Marine and air) according to certain size of each sample to get their responses, hereby the researcher can analyze it for obtaining results of this study ,the below table may precisely illustrate sample categories, targeted study sample and sample size of this study.
### TABLE No. (1.6) : Sampling and Sample Size

<table>
<thead>
<tr>
<th>Sample Categories</th>
<th>Targeted study sample</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beneficiaries</strong></td>
<td>Business men</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>80</td>
</tr>
<tr>
<td><strong>Decision &amp; policy makers:</strong></td>
<td>Hodeida- Sana'a road and Taiz Aden road</td>
<td>10</td>
</tr>
<tr>
<td><strong>Land transportation</strong></td>
<td>Government officials of transportation ministry related to land transport</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Government officials of roads maintenance funds for 4 governorates (Hodeida – Sana'a – taiz – Aden )</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Government officials of local corporations of land transportation for 4 cities (Hodeida – Sana'a – taiz – Aden)</td>
<td>20</td>
</tr>
<tr>
<td><strong>Marine transportation</strong></td>
<td>3 main seaports in Yemen (Hodeida – Aden – Mukala)</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Government officials of transportation ministry related to marine transport</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Government officials of 3 main seaports in Yemen</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Personnel and workers of 3 main seaports.</td>
<td>25</td>
</tr>
<tr>
<td><strong>Air transportation</strong></td>
<td>Officials of two main airports in Yemen (Sana'a airports – Aden airports )</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Government officials of transport ministry related to air transportation</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Government officials of civil aviation authority .</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Personnel and workers of (Sana'a– Aden airports)</td>
<td>20</td>
</tr>
</tbody>
</table>
5. **Data Analysis:**

1. Coding
2. Statistical Analysis Techniques & Statistical Software
   * Frequency Distribution
   * Measures of Central Tendency
   * Measures of Variability.

6. **Tools and techniques by data collection:**

The researcher will undertake the research by use of;

1. Books,
2. Journals,
3. Commission reports,
4. Port reports, newspapers,
5. Magazines, periodicals,
6. Case commentaries,
7. Research papers,
8. Internet websites
9. Schedules, charts and maps.
10. Personal seaports, airports, roads visits and observation.

7. **Stage wise plan of research:**

* **Historical** the researcher will inquire into the transportation systems from its inception through its different stages and its relevance until the present day.

* **Comparative** the researcher will compare the working of different roads, seaports and airports and their status in handling
Chapter 1: Prologue

Introduction:

(a) Evolution Transportation in Yemen:
   • Ancient
   • Medieval
   • Modern

(b) Concept of Transportation

(c) Types of transportation Systems in Yemen.

(d) Research methodology:
   • Problem of the study
   • Importance of the study-Objective of the study
   • Hypothesis-Period-Limitation of the study
   • Sampling-Techniques-methodology

Chapter 2: Profile of study area and transportation Infrastructure in Yemen

(a) Yemen at Glance:
   • History and geographical set up of Yemen.
   • Economic study of Yemen.

(b) Transport structure:
1.5.7. **Scope of Research:**

The study shall cover the main modes of transport in the republic of Yemen. The study shall cover the main seaports of Yemen i.e. Aden, Hudaydah and Mukalla as in relation to water transportation.

The study shall also cover the main airports of Yemen i.e. Sanaa and Aden as in relation to air transport. On the part of land transport the study shall also cover the different road routes and look at a possible feasibility for railway as Yemen has none.